

Under the Patronage of His Majesty King Abdullah II Ibn Al-Hussein

تحت رعاية جلالة الملك عبدالله الثاني ابن الحسين المعظم

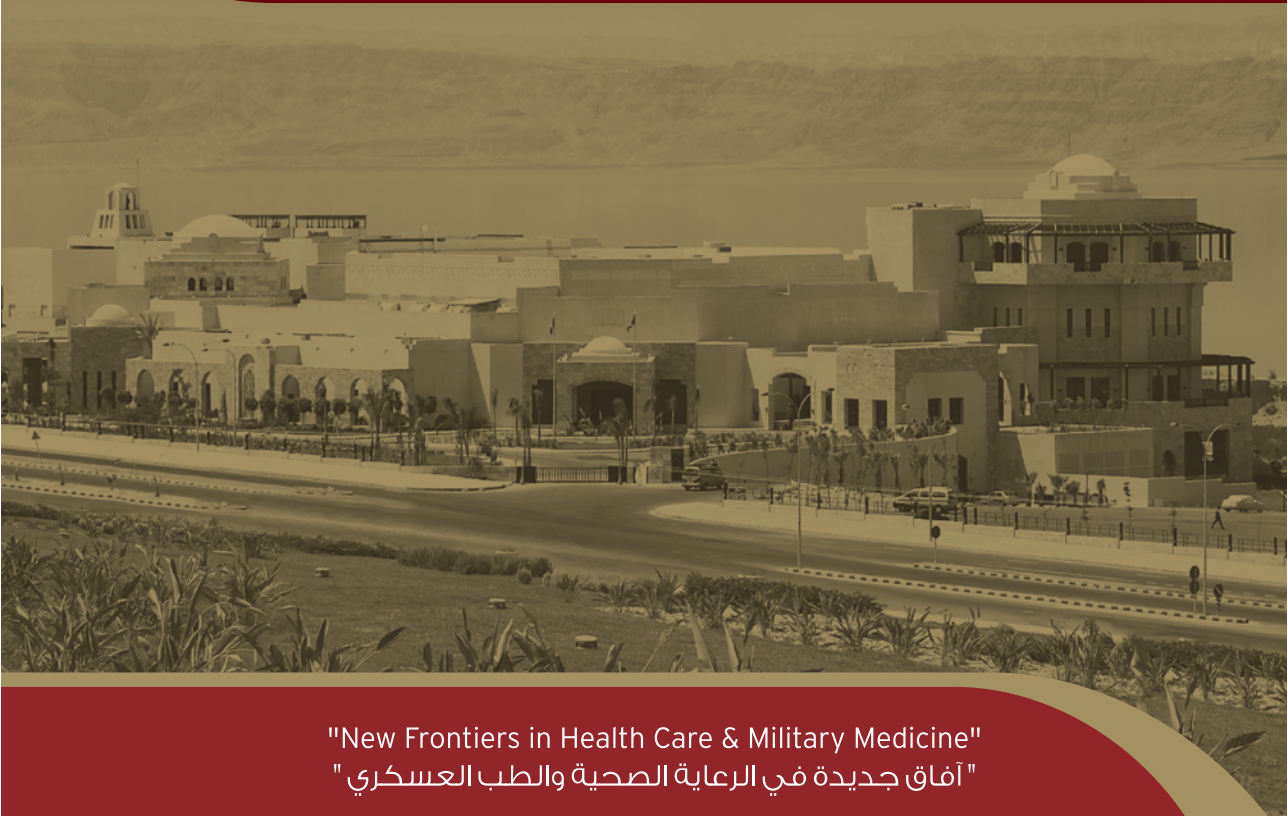


## 7<sup>th</sup> International Conference of The Royal Medical Services

المؤتمر الدولي السابع للخدمات الطبية الملكية

## 4<sup>th</sup> ICMM Pan Arab Regional Working Group Congress on Military Medicine

المؤتمر الدولي الرابع لمجموعة العمل الإقليمية العربية للطب العسكري



"New Frontiers in Health Care & Military Medicine"

"آفاق جديدة في الرعاية الصحية والطب العسكري"



## الملخصات العلمية Abstract Book



لغاية ٢٤ ساعة معتمدة للتعليم الطبي المستمر من المجلس الطبي الأردني

Up to 24 CME Hours Accredited by Jordan Medical Council



**His Majesty  
King Abdullah II Ibn Al-Hussein**







**His Royal Highness  
Crown Prince Al-Hussein Bin Abdullah II**





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## Prince Hashim Bin Abdullah II Military Hospital - Aqaba



Inaugurated by His Majesty King Abdullah II Ibn Al-Hussein  
1 September 2013

## Collaboration with International Organizations







## President's Welcome Note

Dear Colleagues and Friends,

It gives us great pleasure to invite you to the **7th International Conference of the Royal Medical Services** and **4th ICMM Pan Arab Regional Working Group Congress on Military Medicine** to be held at **King Hussein Bin Talal Convention Center - Dead Sea - Jordan**, under the Patronage of **His Majesty King Abdullah II Ibn Al-Hussein** during the period **4-7 November 2014**.

We are honored to host this international conference after the great success of previous RMS Biennial International Conferences. It will be attended by more than 4000 participants; local, regional and international in the fields of Medicine, Dentistry, Pharmacy, Nursing, Allied Health Professions, and Military Medicine.

Previous RMS Conferences have had active participation from many International Organizations and Societies. This Conference is no exception with participation from: **International Committee of Military Medicine (ICMM), Pan-Arab Regional Working Group for Military Medicine, Royal College of Surgeons of England, Royal College of Physicians, World Federation of Hemophilia, International Committee of the Red Cross, The International Spinal Cord Society, The National Arab American Medical Association, Centers for Disease Control and Prevention, Thomas Jefferson University, US Armed Forces Health Surveillance Center, US Military HIV Research Program, Walter Reed Army Institute of Research, Mediterranean Task Force for Cancer Control, International Diabetes Federation, Sidra Medical and Research Center, and Ponseti International.**

The Royal Medical Services is committed to ensuring that the **4th ICMM Pan Arab Regional Working Group Congress on Military Medicine** has a specific focus to identify the changes in Military Health Care practices needed to prepare Military Health Care providers for the new challenges ahead.

Many esteemed International Guest Speakers from all over the world from different specialties and backgrounds have been invited to give lectures and participate in panel discussions covering New Frontiers in Health Care & Military Medicine, as well as conduct a myriad of workshops.

I would also like to thank our many Sponsors for contributing generously to the conference whether by taking a part in the Medical Exhibition or by sponsoring Guest Speakers for the many workshops at hand.

Beyond the myriad scientific activities, we hope you enjoy your stay at the Dead Sea, where the weather this time of year is excellent, and also get a chance to explore some of the many other wonders of Jordan. A visit to Petra will give you the opportunity to get to know more about the beautiful Rose City along with its stunning scenery and unique history.

We wish you all a memorable scientific & social experience and a most enjoyable stay in Jordan.

President of the Conference

**Director General of the Royal Medical Services of Jordan**

**Major General Khalaf Al-Jader Al-Sarhan MD FRCP**



## ICMM Welcome Note

During more than ninety years of its existence, the International Committee of Military Medicine (ICMM) has always tried to facilitate contact between the Military Health Services all over the world, in order to strengthen mutual understanding and exchange of experiences and ideas somehow related to Military Medicine. Initially, this was achieved by organizing a biennial World Congress and by the publication of a scientific journal: the "International Review of the Armed Forces Medical Services".

In order to facilitate contact between members of different Military Health Services of the same region, the ICMM decided several years ago to create Regional Working Groups. These Regional Working Groups could, alternately with the ICMM World Congress, organize regional congresses and regional activities. The Pan Arab Regional Working Group is one of the six regional groups within the ICMM. This Regional Working Group has already organized now for several years very successful regional congresses.

The ICMM is very delighted that the Royal Medical Services of Jordan organizes this year the 4th ICMM Pan Arab Regional Working Group Congress on Military Medicine.

The Royal Medical Services of Jordan have experience in organizing military medical conferences: they organize this year at the same time for the 7th time the "International Conference of the Royal Medical Services".

The ICMM is therefore convinced that the organization of the 4th ICMM Pan Arab Regional Working Group Congress on Military Medicine will also be successful.

I hope that a lot of people - not only people of the Arab region but also of beyond - may make use of the opportunity for contact and exchange of experience between the members of the various Military Health Services.



ICMM is very grateful to His Majesty King Abdullah II Ibn Al-Hussein, for allowing to organize this congress under His Patronage.

ICMM also thanks the political and military authorities of the Kingdom of Jordan for their support to the 7th International Conference of the Royal Medical Services and the 4th ICMM Pan Arab Regional Working Group Congress on Military Medicine.

**Roger Van Hoof M.D.**  
**Major General (ret)**  
**Secretary General of the ICMM**



## ICMM Pan Arab RWG Welcome Note

It gives me great pleasure to welcome you all to the present scientific activities, organized by the Pan Arab RWG under the aegis of ICMM. During these conferences, not only do we have opportunities for relevant work-integrated learning experiences but also recent advances and research by extremely competent and experienced facilitators in the field of Military Medicine. Moreover, it has always been an excellent opportunity for delegates to share ideas, exchange their experiences and expertise in various aspects of field medicine.

Build on the previous successes of the ICMM Pan Arab RWG Conferences in Algeria 2008, Jeddah 2010 and Abu Dhabi 2012, I am certain that the next 4th ICMM Pan Arab Regional Working Group Congress on Military Medicine in Dead Sea - Jordan in November 2014 will not be an exception to the success story, but on the contrary, this congress will be an excellent addition to the successful chains of such events, bearing in mind that it will be organized by competent and experienced, professionals from the Royal Medical Services of Jordan.

Finally, I would like to convey my sincere greetings to all my colleagues in the organization and wish them all every success in the upcoming conference.

**Staff Brigadier Matar Saeed Al Neaimi**  
**Commander, Medical Services Corps**  
**Chairman of the Pan Arab Regional Working Group for**  
**Military Medicine**

# Scientific Program in Brief

## Symposia and Workshops

Time	Sea Floor					
	A1	A2	B	C	D	E
	Dead Sea 1	Dead Sea 2	Mount Nebo1	Mount Nebo2	Petra 1	Petra 2
Tuesday 4 November 2014						
1	09:00 - 11:00					
2	11:30 - 13:30					
	13:30 - 14:30					
17:00	Opening Ceremony					

Ground Floor					First Floor				
F	G	H	I		J	K	L	M	N
Wadi Rum 1	Wadi Rum 2	Mou'ta	Yamouk		Haranneh 1	Haranneh 2	Haranneh 3	Haranneh 5	Haranneh 6
					Pharmacy W33	Nursing W35			
					Pharmacy W34	Nursing W36			Community Medicine W23
							Lunch		

## Wednesday 5 November 2014

1 09:00 - 11:00	Nursing	Medicine GI	PM & R Rehab Management	WFH S05	Pulm Med & Chest Surgery
2 11:30 - 13:30	Nursing	Medicine HTN	PM & R SCI Management	Pediatrics Metabolic	Pulm Med & Chest Surgery
13:30 - 14:30		RCP-RMS S01 Clinical Guidelines			
3 14:30 - 16:30	Nursing	Medicine Psychiatry	PM & R SCI & Neurogen Advances	Pediatrics Neonatal	Organ Transplant
4 17:00 - 18:30	Nursing HCAC S12	RMS-IDF-RCP TIU-SIDRA - Training S02	SCI Management	Pediatrics FP	Organ Transplant

	Anesthesia	Hepato Biliary	Dermatology & Plastic Surgery	Interven Rad S10 + S11	Dentistry FP	ICMM	Ophth	AHP
	Anesthesia	Bariatric Surgery	Pediatric Surgery FP	Cardiac Surgery	Dentistry	ICMM	Ophth	AHP
	ICU	Breast Cancer S06	Pediatric Surgery	Medicine FP	Dentistry FP	ICMM	Ophth	PARWG Assembly Meeting
				FM & ER FP	Dentistry FP	ICMM	Ophth	PARWG Assembly Meeting

## Thursday 6 November 2014













1 09:00 - 11:00	Nursing	Medicine Hypercoag State	Lab Medicine	Pediatrics Cardiology	Obs & Gyn Gyn Ca
2 11:30 - 13:30	Nursing	Medicine Allergy & Oncology	Lab Medicine	Pediatrics Immunology, BM and SCT	Obstetrics
13:30 - 14:30		IG Serum Free Light Chains S08			
3 14:30 - 16:30	Dentistry	RMS-MTCC S03 Cancer Prevention	Lab Medicine	Pediatrics Infection & Vaccination	Gynecology
4 17:00 - 18:30	PARWG Closing Ceremony	Medicine Infection & Vaccination	Lab Medicine FP	Oral Anti-Platelets S04	Gynecology FP

	Radiology	Neurosurg	Community Medicine	Surgery FP	Pharmacy	ICMM	ENT	Ortho	AHP
	Radiology	Urology	Community Medicine	Vascular Surgery	Pharmacy	ICMM	ENT	Ortho	AHP
	Radiology	Surgery GI Cancer	FM & ER	Endovascular Therapy S09	Pharmacy	ICMM	ICMM	Ortho	AHP
	Radiology	Surgery GI Cancer	FM & ER	Surgery + Comm Med FP	Pharmacy	ICMM	ENT FP	Ortho	Vascular S07




## Friday 7 November 2014

## 10:00 - 13:30 Medical Response to Chemical Weapons Exercise






No	Specialty	Title	Moderators	Date	Time	Hall	Venue
S01	Medicine 	<b>Clinical Guidelines</b> (RMS & Royal College of Physicians) Matthew Foster MD (UK) Liz Avrial MSc (UK) <b>BY INVITATIONS ONLY</b>	Fares Haddad MD	5/11/2014	13:30 - 14:30	Hall B	KHBTCC
S01	Medicine 	<b>Joint RMS-IDF-RCP-TJU-SIDRA Symposium:</b> <b>Policy Making / Training</b> Michael Hirst, Sir (UK) David Warell MD (UK) Stephen Klasko MD (USA) Ali Jawad MD (UK) Abdulla Al-Kaabi MD (Qatar)	Azmi Mahaiza MD Ala' Al Hirsch MD Abdel-Hamid Najada MD	5/11/2014	17:00 - 19:00	Hall B	KHBTCC
S03	Medicine 	<b>Joint RMS-MTCC Symposium:</b> Cancer Prevention and Early Diagnosis Massimo Crespi MD (Italy) Ziad Sharaiha MD (Jordan) Feras Hawari MD (Jordan)	Stefano Iacobelli MD Kassab Harfoushi MD Zuhair Shawagfeh MD	6/11/2014	14:30 - 16:30	Hall B	KHBTCC
S04	Medicine 	<b>Oral Anti-Platelets: Where we are Coming from and Where we are Heading to</b> (Sponsored by AstraZeneca)	Marwan Nimri MD Ayman Odeh MD Hatem Al-Abbadi MD	6/11/2014	17:00 - 18:00	Hall D	KHBTCC
S05	Hematology 	<b>World Federation of Hemophilia Symposium</b> Assad Harfar MD (Canada) Bernadette Garvey MD (Canada) Nagdy El Ekaby MD (Egypt)	Basem Kiswani MD Mousa Bargawi MD Mufeed Hemmoury MD	5/11/2014	09:00 - 11:00	Hall D	KHBTCC
S06	Breast Onco-Surgery 	<b>Defining Treatment Standards in HER2+ Breast Cancer</b> (Sponsored by Roche)	Rami Yagan MD Khalidoun Haddadin MD Ali Elebos MD	5/11/2014	14:30 - 15:15	Hall G	KHBTCC
S07	Vascular Surgery 	<b>Peripheral Vascular Disease Management</b> Rajai Khoury MD (USA)	Mamoun Al-Basheer MD Kristi Janho MD	6/11/2014	17:00 - 18:30	Hall N	KHBTCC
S08	Laboratory Medicine / Oncology 	<b>Immunoglobulin Serum Free Light Chains (Freelite®) and Heavy Chain/Light Chain Specific Pairs (Heplyte®) Analysis as Cancer Markers in Monoclonal Gammopathies</b> Nuno Barbosa MD (UK) (Sponsored by Siemens Healthcare Establishment)	Nazmi Kamal MD Hassan Annab MD	6/11/2014	13:30 - 14:30	Hall C	KHBTCC
S09	Vascular - Interventional Radiology 	<b>Endovascular Therapy</b> Piergiorgio Cao MD (Italy) (Sponsored by Micromed, Medtronic)	Saber Rawashdeh MD Omer Zoubi MD Kristi Janho MD	6/11/2014	14:30 - 15:30	Hall I	KHBTCC
S10	Neuro Intervention Radiology 	<b>Subarachnoid Hemorrhage (SAH) Management: Percutaneous Embolectomy in stroke + New Trends in the Treatment of SAH</b> Jacques Moret MD (France) Hazem Habboub MD (Jordan) (Sponsored by Al-Waed Medical Supplies, Micro Venton Terumo USA)	Jacques Moret MD Munir Al-Dahiyat MD	5/11/2014	09:00 - 10:00	Hall I	KHBTCC
S11	Neuro Intervention Radiology 	<b>Endovascular Management of Abdominal Aortic Aneurysm (AAA) with Stent Grafts</b> Mohammad Hamady MD (UK) Hazem Habboub MD (Jordan) (Sponsored by Al-Waed Medical Supplies, Bolton Medical USA)	Izzedin Qtiash MD Jan Shishani MD	5/11/2014	10:00 - 11:00	Hall I	KHBTCC
S12	Nursing 	<b>Quality Management in Health Care</b> Dalal Abu Al Rob MSc (Jordan) Health Care Accreditation Council (HCAC)	Ahmad Maharmeh MSc Randa Hababbeh PhD	5/11/2014	17:00 - 18:30	Hall A	KHBTCC

# Workshops










No	Specialty	Title	Moderators / Liaison Officer	Date	Time	Hall	Venue
W01 *	Basic Surgical Training	 <b>Basic Surgical Skills Course (BSS)</b> Royal College of Surgeons of England (UK) Fawaz Khammash MD (Jordan) Ahmad Uraiqat MD (Jordan)	Fawaz Khammash MD Ahmad Uraiqat MD	1/11/2014 2/11/2014	08:30 - 16:00	BEI	KHMC
W02 ***	General Surgery	 <b>Video Assisted Ano Fistula Treatment (VAAFT)</b> Piercarlo Meinero MD (Italy) (Sponsored by Jordan Medicare Corp.)	Amer Amireh MD	2/11/2014	08:30 - 12:00	KHHOR	KHMC
W03 **	General Surgery	<b>Liver Resection Surgery</b> Jan Schmidt MD (Switzerland)	Khaled Ajarma MD	3/11/2014	08:30 - 16:00	PH	KHMC
W04 **	Urology	<b>Urethral Stricture Surgery</b> Abdel-Wahab El-Kassaby MD (Egypt) Mohamed Kotb MD (Egypt)	Adnan Abu-Qamar MD	3/11/2014	08:30 - 16:00	PHCIOT	KHMC
W05 **	Pediatric Surgery	<b>Lower Urogenital and Intesex Reconstruction</b> Alaa El-Ghoneimi MD (France)	Najeh Omari MD	2/11/2014 3/11/2014	08:30 - 16:00 08:30 - 16:00	QRPHA	KHMC
W06 ***	Orthopedic Surgery	 <b>Ponseti Method of Clubfoot Management</b> Jose Morcuandi MD (USA) Yasser Ali Elbatrawy (Egypt) (Ponseti International)	Firas Al-Ibrahim MD	2/11/2014 3/11/2014 4/11/2014	08:30 - 16:00 08:30 - 16:00 08:30 - 12:00	NCAR	KHMC
W07 **	ENT	<b>Neuro-Otology</b> Michael McGee MD (USA)	Mefleh Al-Jader MD	1/11/2014 2/11/2014	08:30 - 16:00 08:30 - 16:00	KHHL	KHMC
W08 **	ENT	<b>Rhinoplasty</b> Gilbert Nolt MD (Netherlands)	Salman Al-Assaf MD	3/11/2014 4/11/2014	08:30 - 16:00 08:00 - 12:00	KHHL	KHMC
W09 **	Ophthalmology	<b>Trauma and VR Surgery</b> Cesare Forlini MD (Italy)	Mohannad Al-Bdour MD	1/11/2014	08:30 - 16:00	Ophth Dep	KHMC
W10 **	Ophthalmology	<b>Glaucoma</b> Karajit Koener MD (USA)	Mohannad Al-Bdour MD	2/11/2014	08:30 - 16:00	Ophth Dep	KHMC
W11 **	Ophthalmology	<b>Refractive Surgery</b> Dominique Pietrini MD (France)	Issam Bataineh MD	4/11/2014	08:00 - 12:00	LASIK	KHMC
W12 **	Ophthalmology	<b>Oculoplastic and Orbit Surgery</b> Saj Ataulleh MD (UK)	Mohannad Al-Bdour MD	3/11/2014	08:30 - 16:00	Ophth Dep	KHMC
W13 **	Ophthalmology	<b>Complicated Phaco Surgery and Triple Surgery</b> Brad Feldman MD (USA)	Mohannad Al-Bdour MD	4/11/2014	08:30 - 12:00	Ophth Dep	KHMC
W14 **	Gastroenterology	<b>Submucosal Resection (SMR) and Submucosal Diathermy (SMD) in GI Endoscopy</b> Pradeep Bhandari MD (UK)	Enad Ghzawi MD	3/11/2014	08:00 - 12:00	GI Unit	KHMC
W15 ***	Dermatology	<b>Botulinum Toxin Injection</b> Abdullah Aleisa MD (KSA)	Hussein Oudibat MD	4/11/2014	08:30 - 12:00	KHHL2	KHMC
W16	Radiology	<b>MRI</b> Mamdouh Mahfouz MD (Egypt)	Imad Athamneh MD	7/11/2014 8/11/2014	08:30 - 16:00 08:30 - 12:00	PHA	KHMC
W17	Pediatrics	<b>Antimicrobial Stewardship : A Successful Story</b> Walid Abuhammour MD (UAE)	Ahmad Abuzeid MD	4/11/2014	08:00 - 12:00	QRPHA	KHMC
W18	Pediatrics	<b>Diagnostic Considerations in Unsolved Cases Suspected with Metabolic Disease</b> Kefah Alqa'qa' MD (Jordan) Wajdi Amayreh MD (Jordan)	Kefah Alqa'qa' MD	4/11/2014	08:00 - 12:00	QRPHL	KHMC
W19	Pediatrics	<b>Primary Immunodeficiency Disorders</b> Tayfun Gungör MD (Switzerland)	Adel Wahadneh MD Raed Alzyoud MD	3/11/2014	09:00 - 13:30	QRPHL	KHMC

## Workshops

No	Specialty	Title	Moderators / Liaison Officer	Date	Time	Hall	Venue
W20 ***	Pediatric Cardiology 	<b>Melody Valve Workshop</b> Tarek Momenah (KSA) (Sponsored by Palm Medical Supplies, Medtronic)	Abed Al-Fattah Abu Haweleh MD	1/11/2014	08:30 - 16:00	QAHI	KHMC
W21 ***	Anesthesia	<b>Ultrasound Guided Regional Anesthesia</b> Humam Akkik MD (USA)	Ghazi Aldehayat MD Mohammad Kilani MD	3/11/2014	09:00 - 16:00	KHOR	KHMC
W22	Physical Medicine & Rehabilitation 	<b>Better Spinal Cord Injury Management for Better Society</b> Ali Otom MD (UK) Aheed Osman MD (Jordan) Stanley Ducharme PhD (USA) Lisa Harvey PhD (Australia) Jean Jacques Wyndaele MD (Belgium) Ronald Reeves MD (USA) Fiona Stephenson RN (UK) Stephen Eisenstein MD (UK) Stephen Muldoon RN (Ireland) Elma Burger OT (South Africa) Moh'd Rami Al-Ahmar MD (Jordan) Moh'd Al-Shorman RN (Jordan) Ala'a Rawabdeh PT (Jordan) Marwan Abu Rummam OT (Jordan) (In Collaboration with The International Spinal Cord Society - ISCoS)	Ali Otom MD Aheed Osman MD Moh'd Rami Al-Ahmar MD	3/11/2014 4/11/2014	08:00 - 16:00 08:00 - 12:00	PHA	KHMC
W23	Community Medicine 	<b>Global Health Security and Infectious Diseases</b> Kashef Ijaz MD (USA)	Anwar Bateha MD Malek Dabbas MD Mahmoud Abdallat MD	4/11/2014	11:30 - 13:30	Hall N	KHBTCC
W24 ***	Vascular - Interventional Radiology 	<b>Update of Emergency EVAR</b> Hazem Habboub MD (Jordan) (Sponsored by Micromed, Medtronic)	Hazem Habboub MD	3/11/2014	09:00 - 12:00	Cath Lab	KHMC
W25 ***	Neuro Intervention Radiology 	<b>Percutaneous Embolectomy in stroke + New trends in treatment SAH</b> Jacques Moret MD (France) (Sponsored by Al-Waed Medical Supplies, Micro Vention Terumo USA)	Amer Al-Shurbaji MD Munir Al-Dahiyat MD	4/11/2014	09:00 - 12:00	Cath Lab	KHMC
W26	Vascular - Interventional Radiology 	<b>Interventional Radiology Simulator Hands-On Workshop</b> Mr Hussein Hammoud (Lebanon) Mr Mustapha Fattouh (Lebanon) (Sponsored by Micromed, Medtronic)	Hazem Habboub MD	5/11/2014 6/11/2014	09:00 - 17:00 09:00 - 17:00	Medtronic Exhibition Booth	KHBTCC
W27 ***	Neuro Intervention Radiology 	<b>Hands-On Training: Basic Concepts in Neural Cath</b> Mohammad Hamady MD (UK) (Sponsored by Al-Waed Medical Supplies, Bolton Medical USA)	Hazem Habboub MD	3/11/2014	09:00 - 15:00	Cath Lab	KHMC



# Workshops

No	Specialty	Title	Moderators / Liaison Officer	Date	Time	Hall	Venue
W28	Neuro Intervention Radiology	 <b>Endovascular Abdominal Aortic Aneurysm (AAA) Hands-On Simulation</b> Mohammad Hamady MD (UK) (Sponsored by Al-Waed Medical Supplies, Bolton Medical USA)	Hazem Habboub MD	5/11/2014 6/11/2014	09:00 - 17:00	Jerash Hall	KHBTCC
W29 ****	Dentistry	 <b>The Use of Direct Composite Restoration in Modern Dentistry</b> Edward Lynch PhD (UK)	Nader Masarwa DDS	2/11/2014	09:00 - 17:00	DENT	KHMC
W30	Dentistry	 <b>Implant-Argon System</b> Frank-Michael Maier MSc (Germany) (Sponsored by Hijazi Medical Supplies)	Ghadeer Moqattash DDS	3/11/2014	08:00 - 12:00	BEI	KHMC
W31	Dentistry	 <b>Treatment Planning Workshop Seminar for Dental Implants</b> Fahen Tamimi PhD (Canada)	Ayesh Dwairi DDS	3/11/2014	13:00 - 16:00	BEI	KHMC
W32	Dentistry	 <b>Principles of Bone Graft Placement in Oral and Maxillofacial Region</b> Gilbert Tripplet PhD (USA)	Zohair Mhalidat DDS	4/11/2014	08:00 - 12:00	BEI	KHMC
W33	Clinical Pharmacy	 <b>Anti-Microbial Stewardship</b> Joseph Dipiro PhD (USA)	Abeer Rababa'h PhD Wafa'a Nsour MSc Nadia kasawneh MSc Enad Nsour MSc	4/11/2014	09:00 - 11:00	Hall J	KHBTCC
W34	Pharmacoeconomics	 <b>Pharmacoeconomics from Theory to Practice</b> Ibrahim Al-Abbadi PhD (Jordan)	Adnan Masa'adeh PhD Ahmed Hawadi MSc Omar Khalil MSc	4/11/2014	11:30 - 13:30	Hall J	KHBTCC
W35	Nursing	 <b>Leadership in Nursing</b> Caroline Alexander PhD (UK)	Haifa Abu Jassar RN Imad Al-Jarrah PhD	4/11/2014	09:00 - 11:00	Hall M	KHBTCC
W36	Nursing	 <b>Interprofessional Communication</b> Kay Ely PhD (UK)	Raed Shudifat PhD Rima Al-Majali RN	4/11/2014	11:30 - 13:30	Hall M	KHBTCC
W37	Audiology	 <b>Problem in using Narrow Band Noise for Measuring Hearing Threshold</b> Daniel Rowan PhD (UK)	Hussein Qasem PhD	3/11/2014	08:00 - 12:00	AUDIO	KHMC

**KHMC** (King Hussein Medical Center - Amman), **KHBTCC** (King Hussein Bin Talal Convention Center - Dead Sea), **BEI** (Biomedical Engineering Institute), **KHHOR** (King Hussein Hospital Operating Room), **PH** (Physiology Hall), **PHCUOT** (Prince Hussein Center for Urology and Organ Transplant), **QRPHA** (Queen Rania Pediatric Hospital Auditorium), **NCAR** (National Center for Amputees Rehabilitation), **KHHL** (King Hussein Hospital Library Lecture Hall), **Ophth Dep** (Ophthalmology Department), **LASIK** (Lasik Center), **GI Unit** (Gastroenterology Unit), **KHHLZ** (King Hussein Hospital Library Main Hall) **PHA** (Prince Hanzah Auditorium), **QRPHL** (Queen Rania Pediatric Hospital Library), **QAHJ** (Queen Alla Heart Institute), **Cath Lab** (Catheterization Laboratory), **DENT** (Dentistry Department), **AUDIO** (Audiology Department).

\* Separate Registration  
\*\* Live Surgery Transmission inside KHMC  
\*\*\* Live Surgery or Cases  
\*\*\*\* RMS Restorative Dentistry Only

## Congress Themes

Refugees Health:  
When Military Medicine takes the lead.

Humanitarian Missions:  
How we make it a success.

Military Preventive Medicine:  
Mobilization and Deployment

Medical Aspects of Chemical and Biological Warfare

Acute Trauma & Emergency Medicine:  
The Core of Military Medicine

Military Medical Ethics & Legal Issues

**Wednesday 5 November 2014**

## ICMM - Pan Arab Regional Working Group Assembly Meeting

Hall M - Harraneh Hall 5

14:30 - 16:30 - Session 3

16:30 - 17:00 Coffee Break

17:00 - 18:30 - Session 4

ICMM PARWG Delegates Only

**Thursday 6 November 2014**



## ICMM - Pan Arab Regional Working Group Closing Ceremony

Hall A1 - Dead Sea Hall 1

17:30 - 18:30 - Session 4

Public Invitation for conference participants

**Wednesday 5 November 2014**

## Hall K

Harraneh Hall 2

09:00 - 11:00 - Session 1

### ICMM - Military Medicine in Humanitarian Missions

Moderators:

Brig Gen Issa Hazza , MD – Jordan, Maj Gen Khalid Ali Al Khalifeh MD (Bahrain)  
Maj Gen (Ret) Marc Morillon MD, ICMM (France)

09:00 - 09:20  
199 Jordan 2013 – Ukraine 2014 – Comparison of two Humanitarian Assistance Missions Accomplished by the Bundeswehr Medical Service  
Col Christoph Rubbert MD (Germany)

09:20 - 09:40  
200 Mobile Technologies to Support Humanitarian Missions  
Col (Ret) James Fike MD (USA)

09:40 - 10:00  
201 The Role of Jordanian Royal Medical Services in Humanitarian Missions  
Brig Gen Nawaf Khzaleh MD (Jordan)

10:00 - 10:20  
202 Building Medical Capacity through Humanitarian Missions  
Col (Ret) James Fike MD (USA)

10:20 - 10:40  
203 Military Medico-Legal and Ethics in Health Diplomacy  
Col (Ret) Johan Crouse, ICMM (South Africa)

10:40 - 10:50  
204 Advances in Pandemic Preparedness: "Think Global – Act Local"  
Shakir Jawad MD, CDHAM (USA)

10:50 - 11:00  
205 Extreme Heat Related Illness in Armed Forces: Clinical Presentation, Management and Prevention Strategies  
Maj Gen Ghaleb Bin Huraib MD (KSA)

11:00 - 11:30 Coffee Break

11:30 - 13:30 - Session 2

### ICMM - Military Medicine in Refugee

Moderators:

Maj Gen Khalaf Al-Jader Al-Sarhan MD (Jordan), Staff Brig Matar Saeed Al Neairi (UAE)

Maj Gen (Ret) Roger Van Hoof MD, ICMM (Belgium)

11:30 - 11:50  
206 Royal Medical Services Role in Refugees Crisis  
Maj Gen Khalaf Al-Jader Al-Sarhan MD (Jordan)

11:50 - 12:10  
207 Bioethical Issues in Military Medical Care and Research  
Col Nelson Michael MD (USA)

12:10 - 12:30  
208 Jordanian Armed Forces Role in Refugees Crisis Management  
Brig Gen Mohammed Mawajdeh (Jordan)

12:30 - 12:50  
209 Military Medico-Legal and Ethics in Respect of Refugees  
Col (Ret) Johan Crouse, ICMM (South Africa)

12:50 - 13:10  
210 The "Lost" Generation – Access to Literature, Cultural Material, and Education in Syrian Refugee Camps  
Linda Johnson MBA (USA)

13:10 - 13:20  
211 Are we prepared for CBRN casualties (Chemical, Biological, Radiological and Nuclear)  
Ysir Salim AL-Touqi MD (Oman)

13:20 - 13:30  
212 Developing Surveillance and Situational Awareness of an Emerging Pathogen for the U.S. Military: MERS-CoV  
Stic Harris MPH (USA)

13:30 - 14:30 Lunch Break

14:30 - 16:30 - Session 3

### ICMM - Military Medicine in Deployment and Pre-Deployment

Moderators:

Maj Gen Moen Habashneh MD (Jordan), Brig Gen Salem Bin Naser Bin Hamad Al-Salmi MD (Oman), CAPT Kevin Russell MD (USA)

14:30 - 14:50  
213 The U.S. Army Medical Research Institute of Infectious Diseases, an Insurance Policy for the Nation and the World  
Col Erin Edgar MD (USA)

14:50 - 15:10  
214 The Global Health Security Agenda: What Is It, and Why Is It Relevant to Us?  
CAPT Kevin Russell MD (USA)

15:10 - 15:30  
215 Vaccine Countermeasure for Diseases of Military Medicine Relevance  
Col Nelson Michael MD (USA)

15:30 - 15:40  
216 Peacekeeping Psychiatry; is it Different from Military? Lessons from Jordanian Participation in Peace Keeping Operation  
Col Mohammad Ali Zaubi MD (Jordan)

15:40 - 15:50  
217 Arthropods of Military Importance in Saudi Arabia  
Abdulrahman Al Asmari MD (KSA)

15:50 - 16:00  
218 Difficulties Experienced by Turkish Military Medical Forces for Humanitarian Assistance in Afghanistan  
Col Bilal Bakir MD (Turkey)

16:00 - 16:10  
219 Use of the Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE) in the US Military Us?  
CAPT Kevin Russell MD (USA)

16:10 - 16:20  
220 The effect of use of Royal Jordanian Helicopter Emergency Medical Services in health care quality and survival during aeromedical evacuation  
Col. Ali M. Refai MD (Jordan)

16:20 - 16:30  
221 The US Military's Response to Emerging Pathogen Detection: Epidemiologic Surveillance and Assay Development – "The Case of MERS-CoV"  
CAPT Michael Cooper PhD (USA)

16:30 - 17:00 Coffee Break

17:00 - 18:30 - Session 4

### ICMM - ICMM Related Lectures, Delegations Talks & Free Papers

Moderators: Brig Gen Isam Haddadin MD (Jordan), Maj. Gen. Khalid Alsaedi MD (KSA), Col (Ret) Johan Crouse – ICMM (South Africa)

17:00 - 17:20  
222 The need to Rehabilitate civilian victims with post-traumatic stress disorder (PTSD) : The Gaza experience  
Prof Imad Al-Khawaja MD (KSA)

17:20 - 17:40  
223 Health Care Waste Management (HCWM) during Operations: New Sound Solutions to a Challenging Commitment  
Col Claudio Zanotto, Pharm (Italy)

17:40 - 17:50 224	Acute Trauma & Emergency Improvement Project: Lessons Learned , Armed Forces Hospital - Southern Region (AFHSR) <i>Col Abdullah M Al-Ghamdi MD (KSA)</i>
17:50 - 18:00 225	New Education Model of Law Enforcement – Tactical Medical Training System <i>1st Lt Mark Vajda MD (Hungary)</i>
18:00 - 18:10 226	Health Hazards During Deployment: Risk Factors, Prevention and Management <i>Pharm Khalid Al Yahya (KSA)</i>
18:10 - 18:20 227	A Survey of the Status Quo of the Chinese People's Liberation Army's Pre-deployment Training for Peacekeeping Medical Contingents <i>Col Wang Jiusheng MD (China)</i>
18:20 - 18:30 228	How to move the quality of pharmaceuticals in missions - a scientific approach to good military transportation practice <i>Col. Thomas Zimmermann PhD (Germany)</i>

## Hall N

Harraneh Hall 6

17:00 - 18:30 - Session 4

### ICMM - ICMM Related Lectures, Delegations Talks & Free Papers

Moderators:

*Brig Gen Nawaf Khazaleh MD (Jordan) , Maj Gen (Ret) Mohammed Al-Quran MD (Jordan),*

*Major General Khalil Al-Naqeeb MD (Palestine)*

17:00 - 17:10 273	The Future of Electronic Medical Records in the United States <i>Col Jennifer Marrast-Host MD (USA)</i>
17:10 - 17:20 274	Military Trauma System: Urgent Need in the Region <i>Lt Col Saleh Saif Al-Ali MD (UAE)</i>
17:20 - 17:30 275	Combat Related Acute Renal Failure: A Study on Risk Factors, Diagnosis and Management <i>Maj Gen Abdulrahman Al Elaiwi MD (KSA)</i>
17:30 - 17:40 276	Reasons for Unfitness for Military Service at Turkish Armed Forces between 2008 And 2010 <i>Col Selim Kilic MD (Turkey)</i>
17:40 - 17:50 277	A Model Design about Health Promotion and Prevention in First Class Students of Turkish Military Academy <i>Lt. Col. Turker Turker (Turkey)</i>
17:50 - 18:00 278	Pathophysiology of Underwater Activities and Decompression Illness: A Naval Forces Perspective <i>Col. Ahmad Al Buraiddi MD (KSA)</i>
18:00 - 18:10 279	Assessment of Military Satisfaction about Armed Health Service in Abidjan Ivory Coast, February 2013 <i>Lamine Outtara MD (Ivory Coast)</i>
18:10 - 18:20 280	Mental Health Care In Theater (OEF), 2001 to 2014 <i>Lt Col Tammy M Savoie PhD (USA)</i>
18:20 - 18:30 281	Lower Limb Injuries Caused by Improvised Explosive Devices <i>Capt Saeed Ali MD (Iraq)</i>

**Thursday 6 November 2014**

## Hall K

Harraneh Hall 2

09:00 - 11:00 - Session 1

### ICMM - Medical Aspects of Chemical and Biological Warfare

Moderators: *Maj Gen Taisir Shubeilat MD (Jordan), Maj Gen Saeed Al Asmary MD (KSA)*

*Brig Gen Timothy Hodges MD (UK)*

09:00 - 09:20 515	Medical Aspects of Chemical Warfare <i>Maj Gen Saeed Al Asmary MD (KSA)</i>
09:20 - 09:40 516	Field Management of Chemical/Biological Casualties: A Medical Planner's Perspective <i>Col (Ret) James Pillow (USA)</i>

09:40 - 10:00 517	The Belgium Medical CBRN Defense Development Initiative <i>Col Erwin Dhondt MD (Belgium)</i>
10:00 - 10:20 518	Chemical/Biological Triage: Zone Offense or Defense <i>Col (Ret) James Pillow (USA)</i>
10:20 - 10:40 519	CBRN Medicine--Clinical Challenges and Advances <i>Brig Gen Timothy Hodgets MD (UK)</i>
10:40 - 11:00 520	Hospital Preparedness: Contamination on the Run <i>Col (Ret) James Pillow (USA)</i>

11:00 - 11:30 Coffee Break

11:30 - 13:30 - Session 2

### ICMM - Acute Trauma and Emergency Medicine

Moderators:

*Brig Gen Salah Halasa MD (Jordan), Col Mark Mavity MD (USA),*

*Lt Gen Ömer PAÇ MD (Turkey)*

11:30 - 11:50 521	Combat Care, Battle Care and the Most Recent Development on Tactical Combat Casualty Care (TCCC) <i>Col Mark Mavity MD (USA)</i>
11:50 - 12:10 522	A Revolutionary Approach to Improving Compact Casualty Care <i>Brig Gen Timothy Hodgets MD (UK)</i>
12:10 - 12:30 523	Acute Pain Management in Battlefield Trauma <i>Brig Gen Mustafa Beano MD (Jordan)</i>
12:30 - 12:50 524	Vector Born Disease During Combat Operations, Risk Factors and Preventive Measures <i>Maj Gen Saeed Al Asmary MD (KSA)</i>
12:50 - 13:10 525	Acute Trauma and the US Special Operation Forces <i>Col Harlan Walker MD (USA)</i>
13:10 - 13:30 526	Advances in Military Trauma Care: UK Current Military Medical Research <i>Brig Gen Timothy Hodgets MD (UK)</i>

13:30 - 14:30 Lunch Break

14:30 - 16:30 - Session 3

### ICMM - ICMM Related Lectures, Delegations Talks & Free Papers

Moderators: *Brig Gen Farhan Kasasbeh MD (Jordan), Maj Gen (Ret) Mohammad Al-Abbadi MD (Jordan), Bruce Eshaya-Chauvin MD, ICRC (Switzerland)*

14:30 - 14:50 527	Frontline Medical Support and the Way Belgium has Implemented the new NATO Medical Planning Timelines <i>Col Erwin Dhondt MD (Belgium)</i>
14:50 - 15:10 528	Health Care in Danger: Moving to Solutions <i>Bruce Eshaya-Chauvin MD, ICRC (Switzerland)</i>
15:10 - 15:30 529	Principles from Military Medicine Translated into Civilian Emergency Care Practice <i>Col Erwin Dhondt MD (Belgium)</i>
15:30 - 15:40 530	Permanent Flying Disqualification of Saudi Military Pilots and Aircrews <i>Maj Gen Yahya Al Aql MD (KSA)</i>
15:40 - 15:50 531	Joint-Service Infectious Diseases Surveillance for US Military Deployed in Kuwait: Progresses and Challenges in 2014 <i>Capt Xiaoxu Lin PhD (USA)</i>
15:50 - 16:00 532	The Saudi Experience in Controlling Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Infection <i>Lt Col Ali Alkinani, Pharm (KSA)</i>
16:00 - 16:10 533	Mental Stress Among Deployed Military Personnel <i>Saeed Kadasah MD (KSA)</i>
16:10 - 16:20 534	Mobilization of Medical Education Program by Field Hospital Command to Zayed Military City Community <i>Lt Col Ahmed Mubarak Humaid MD (UAE)</i>
16:20 - 16:30 535	Epidemiological and Clinical Study on Scorpion Stings in Saudi Arabia <i>Abdulrahman Al Asmari MD (KSA)</i>
16:30 - 17:00	Coffee Break

## Hall L

Harraneh Hall 3

14:30 - 16:30 - Session 3

## ICMM - Free Papers

Moderators: Brig Gen Jameel Al-Refaei MD (Jordan), Hussain Almussabi MD (UAE), Brig Gen Abdelkareem Dergham MD (Jordan)

14:30 - 14:40 546	The Impact of the 2009 Jazan War on Saudi Children: A Community Retrospective Cohort Study <i>Mohamed Khaled Mohamed Elhatw, MD (KSA)</i>
14:40 - 14:50 547	Two Cases of Cerebral Arterial Gas Embolism (CAGE) during Hypobaric Hypoxia Training at the Armed Forces Aeromedical Centre (AFAMC), Dhahran, Saudi Arabia <i>M G Koshy MD (KSA)</i>
14:50 - 15:00 548	Gravity Induced Loss of Consciousness: Retrospective Survey in Royal Saudi Air Force <i>Mohammed Siraj Abdul Hameed MD (KSA)</i>
15:00 - 15:10 549	Long Waiting Times in Hamad Medical Corporation (HMC) Out Patient Department (OPD) Clinics: The Causes and Solution using Six Sigma Approach before the Implementation of Fixed Time Appointment System (FATS) <i>Brig Gen Mohammed R Almarri MD (Qatar)</i>
15:10 - 15:20 550	Laser Eye Injuries in the Military Setup <i>Rashid Alsaïdi MD (Oman)</i>
15:20 - 15:30 551	Expanded Sexually Transmitted Infection Surveillance Efforts in the United States Military: A Time for Action <i>Col (Ret) Jose L. Sanchez MD (USA)</i>
15:30 - 15:40 552	Prisoners of War: Back to the Islamic Ethics <i>Lt Col Abdulrahman Hummadi MD (KSA)</i>
15:40 - 15:50 553	Incidence of Non-Battle Injuries (NBI) Sustained During Operational Training in SOCOM Units in Jordan <i>Col Samir Mohamed Al-Ofeishat MD (Jordan)</i>
15:50 - 16:00 554	Establishing and Deploying a Medical Platoon in United Nation Mission in Haiti 2006 <i>Col Ali M Refai MD (Jordan)</i>
16:00 - 16:10 555	Combat Related Hearing Loss: Risk Factors, Management and Preventive Measures <i>Khabti Al Muhanna MD (KSA)</i>
16:10 - 16:20 556	Depression and Paranoid Ideation as Correlates of Substance Abuse among Nigerian Military Personnel Deployed for United Nations Peace Support Operation <i>Olalekan Taoreed Kazeem MD (Nigeria)</i>
16:20 - 16:30 557	Rubella in Young Adults, Need to Immunise to Minimize Loss of Training Manhours : Outbreak in a Military Training Institute <i>Col VK Bhatti MD (India)</i>
16:30 - 17:00	Coffee Break

# Hall A

Dead Sea Hall

## Under the Patronage of HRH Princess Muna Al Hussein Nursing Opening Ceremony

09:00 - 09:30

09:30 - 11:00 - Session 1

## Nursing Free Papers

Moderators: Arwa Oweis PhD RN, Omar Malkawi PhD RN, Abila Suhaiba RN

09:30 - 09:40 1	Using the Nursing Care Plan as a Learning Tool: The Experience of Jordanian Nursing Students <i>Ra'ed M. Shdefat PhD RN (Jordan)</i>
09:40 - 09:50 2	Perceived Stressors among First Year Nursing Students: A Case of Jordan <i>Raya Yousef Al-Husban PhD RN (Jordan)</i>
09:50 - 10:00 3	Effect of Breast Feeding and Maternal Holding in Relieving Painful Responses in Full Term Neonates <i>Mona A. Nsour PhD RN (Jordan)</i>
10:00 - 10:10 4	Maternal Attachment: Comparison between Breastfeeding and Bottle Feeding Infants <i>Adlah. M. Hamlan PhD RN (Jordan)</i>
10:10 - 10:20 5	Jordanian Pregnant Women and Nurses Interaction During the Antenatal Visits <i>Huda F Habtoosh MSc RN (Jordan)</i>
10:20 - 10:30 6	Antenatal Screening for Hypothyroidism: Jordanian Study (Part I) <i>Omymah Zain Al-Din Al-Rajabi RN (Jordan)</i>
10:30 - 10:40 7	Barriers to, and Facilitators of, Research Utilization among Registered Nurses in Taif City, Saudi Arabia <i>Khaled Abdallah Khader PhD RN (Saudi Arabia)</i>
10:40 - 10:50 8	Jordanian Nurses' Perceptions of their Work Environment and Level of Intent to Stay at Work <i>Randa Al-Hababbeh PhD RN (Jordan)</i>
10:50 - 11:00 9	Psychosocial Predictors of Suicidal Ideation among Patients Diagnosed with Chronic Illnesses in Jordan <i>Nuha Remon MSc RN (Jordan)</i>
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2

## Nursing - Nursing Competence

Moderators: Fathia Abu Mughli PhD RN, Mohammed Al-Momani PhD RN, Hazem A. Fanash MSc RN

11:30 - 11:50 10	Enhancing Nursing Competence at Royal Medical Services <i>Hazem Fanash MSc RN (Jordan)</i>
11:50 - 12:20 11	Nursing Competence and Clinical Guidelines <i>Caroline Alexander PhD RN (UK)</i>
12:20 - 12:50 12	Nursing Role in Development and Application of Clinical Guidelines <i>Liz Avital MSc (UK)</i>
12:50 - 13:10 13	Advance Practice Nurses: Jordanian Nursing Council Role in Developing and Implementing the Advanced Roles <i>Muntaha Gharaibeh PhD RN (Jordan)</i>
13:10 - 13:30 14	Accreditation as a Tool for Institutionalizing Quality Assurance <i>Thaira Madi PhD (Jordan)</i>
13:30 - 14:30	Lunch Break

14:30 - 16:30 - Session 3

## Nursing - Patient Safety

Moderators: Huda Gharaibeh PhD RN, Ahmad Al- Momani RN, Atalla Hababbeh MSc RN

14:30 - 15:00 15	Patient Safety Culture <i>Atalla Hababbeh MSc RN (Jordan)</i>
15:00 - 15:30 16	Initiatives in Patient Safety <i>Kay Riley PhD RN (UK)</i>
15:30 - 16:00 17	Licensure and Patient Safety <i>Mohammad Hatamleh MSc RN (Jordan)</i>
16:00 - 16:30 18	Safe Management for Patients Following a Spinal Cord Injury in the Disaster or Battlefield Context <i>Fiona Stephenson RN (UK)</i>
16:30 - 17:00	Coffee Break

17:00 - 18:30 - Session 4

## Nursing - HCAC Symposium

S12

Moderators: Ahmad Maharmeh MSc RN, Randa Hababbeh PhD RN

17:00 - 18:30	Quality Management in Health Care <i>Dalal Abu Al Rob MSc (Jordan)</i>
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# Hall B

Mount Nebo Hall 1

09:00 - 11:00 - Session 1

## Medicine - Gastroenterology

Moderators: Ziad Sharieha MD, Waleed Obeidat MD, Emad Ghzawi MD

09:00 - 09:30 19	Early Colonic Lesions and Endoscopic Management <i>Pradeep Bhandary MD (UK)</i>
09:30 - 10:00 20	The Role of Impedance in the Diagnosis and Management of Gastroesophageal Reflux Disease (GERD) in Children <i>Abdallah Ghanma MD (Jordan)</i>
10:00 - 10:30 21	New Advances in Colonic Cancer <i>Pradeep Bhandary MD (UK)</i>
10:30 - 11:00 22	Gut Microbiome: Lessons Learned in Pediatric Gastroenterology <i>Fareed Khadair MD (Jordan)</i>
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2

## Medicine- Hypertension and Complications

Moderators: Nayef Hababbeh MD, Abdelkarim Khawaleh MD, Husni Sadiq MD

11:30 - 12:00 23	Hypertension and the Kidney <i>Mohammad Rababbeh MD (Jordan)</i>
12:00 - 12:30 24	Management of Acute Stroke: Current Practice Illustrated by Clinical Cases from the First Acute Stroke Unit in Jordan <i>Maurice Dahdaleh MD (Jordan)</i>
12:30 - 13:00 25	Eighth Joint National Committee (JNC 8): Clinical Implications and Drawbacks <i>Abdallah Omeish MD (Jordan)</i>
13:00 - 13:30 26	Hypertension in Diabetic Patients: How Far we Should Control? <i>Nadim Jarrah MD (Jordan)</i>

13:30 - 14:30 - Lunch Time

## Clinical Guidelines Symposium S01

(Royal College of Physicians)

National Center for Clinical Guidelines (NCCG)

In Collaboration with Jordan (RMS)

Mathew Foster MD (UK), Liz Avital MSc (UK)

Moderator: Fares Haddad MD

By Invitations Only



Royal College  
of Physicians

14:30 - 16:30 - Session 3

**Medicine - Adult and Pediatric Psychiatry**  
*Moderators: Tewfik Daradkeh MD, Radwan Ali MD, Majed Hababbeh MD*

14:30 - 15:00 27	Non-Epileptic Seizures <i>Tewfik Daradkeh MD (Jordan)</i>
14:50 - 15:30 28	The use of Antipsychotics and the Development of Metabolic Syndrome in Patients with Severe Mental Disorders <i>Mohammad Aqeel MD (Jordan)</i>
15:30 - 16:00 29	Evaluation of Mental Health Services in Jordan <i>Tewfik Daradkeh MD (Jordan)</i>
16:00 - 16:30 30	Understanding Autism: Diagnostic Criteria, Etiology and Early Warning Signs <i>Amjad Jumai'an MD (Jordan)</i>
16:30 - 17:00 Coffee Break	

17:00 - 18:30 - Session 4

**Policy Making /Training Symposium: S02**  
 Joint Royal Medical Services (RMS) - International Diabetes Federation (IDF) - Royal College of Physicians (RCP) - Thomas Jefferson University (TJU) - SIDRA Medical and Research Center  
*Moderators: Azmi Mahafza MD, Ala' Al Hirsh MD, Abdel-Hamid Najada MD*



17:00 - 17:20 31	The Global Impact of Diabetes: How is the International Diabetes Federation Responding to the Challenge? <i>Michael Hirst, Sir (UK)</i>
17:20 - 17:40 32	Aspects of Future Collaboration of Training Fellows <i>David Warell MD (UK)</i>
17:40 - 18:00 33	The Internationalization of Healthcare: What We can Learn From Apple, Google, Facebook and the Airline Industry <i>Stephen Klasko MD (USA)</i>
18:00 - 18:20 34	Tips and Tricks of PACES Exam <i>Ali Jawad MD (UK)</i>
18:20 - 18:40 35	Sidra Medical & Research Center: A Leading Regional Academic Medical Center <i>Abdulla Al-Kaabi MD (Qatar)</i>
18:40 - 19:00	Panel Discussion And Recommendations

## Hall C

Mount Nebo Hall 2

09:00 - 11:00 - Session 1

**Physical Medicine & Rehabilitation Rehabilitationa Management**  
*Moderators: Ziad Al Zoubi MD, Marzouq Khair MD, Jane Kavar MD*

09:00 - 09:30 36	Towards a Roadmap in Brain Protection and Recovery – How to Bridge Acute to Long Term Neurorehabilitation / Neurorecovery Treatment. <i>Dafin Muresanu MD (Romania)</i>
09:30 - 09:50 37	The Use of Virtual Reality Techniques in the Management of Phantom Limb Pain (PLP) Following Amputation <i>Imad Al-Khawaja MD (KSA)</i>
09:50 - 10:10 38	Recent Developments in Computer Assisted Rehabilitation Environments <i>Rob van der Meer MD (Netherlands)</i>
10:10 - 10:30 39	Principles of Shoulder Rehabilitation and Rehabilitation after Rotator Cuff Repair <i>Ziad Hawarneh MD (Jordan)</i>
10:30 - 10:40 40	A Double Blind Controlled Trial using Corticosteroid versus Xylocaine Injection in the Treatment of Adhesive Capsulitis (Frozen Shoulder) <i>Qaisar Al-Shami MD (Iraq)</i>
10:40 - 11:00	Discussion
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2

**Physical Medicine & Rehabilitation Spinal Cord Injury (SCI) Management**  
*Moderators: Jean Jacques Wyndaele MD, Sameer Mustafa MD, Ali Otom MD*

11:30 - 12:00 41	Scientific Rationale for using Locomotor Training in Spinal Cord Injuries <i>Ali Otom MD (Jordan)</i>
12:00 - 12:30 42	Recent Advances in Spinal Cord Injury (SCI) Management <i>Aheed Osman MD (UK)</i>
12:30 - 13:00 43	Sexuality and Spinal Cord Injury <i>Stanley Ducharme PhD (USA)</i>

13:00 - 13:10 44	Comparison of Bacterial Strains of Infected Pressure Ulcers in Spinal Cord-Injured Patients from the Community and Health Care Associated Infection and its Impact on Antibiotic Therapy <i>Moh'd Rami Al-Ahmar MD (Jordan)</i>
13:10 - 13:30	Discussion
13:30 - 14:30	Lunch Break

14:30 - 16:30 - Session 3

**Physical Medicine & Rehabilitation SCI and Neuroregenerative Advances**  
*Moderators: Khalil Hamed MD, Khalidoun Al Adwan MD, Wael Thunaibat MD*

14:30 - 15:00 45	Regeneration in Spinal Cord Injury (SCI) <i>Aheed Osman MD (UK)</i>
15:00 - 15:30 46	Utilization of Autologous Purified Stem Cells in Treatment of SCI: A 7-Year Jordanian Experience <i>Addeeb Al-Zoubi PhD MD (Jordan)</i>
15:30 - 16:00 47	Background, Dissemination and Further Development of www.elearnSCI.org <i>Stephen Muldoon RN (Ireland)</i>
16:00 - 16:30 48	Spinal Cord Injury (SCI) Physiotherapy Research from Down Under <i>Lisa Harvey PhD (Australia)</i>
16:30 - 17:00	Coffee Break

17:00 - 18:30 - Session 4

**Advances in Spinal Cord Injury (SCI) Management**  
*Moderators: Faleh Al-Naser MD, Ali Al-Rjoub MD, Abdallah Al-Akayleh MD*


17:00 - 17:30 49	Management of Spinal Cord Injury <i>Christopher Kepler MD (USA)</i>
17:30 - 18:00 50	Functional Rehabilitation of Chronic LBP <i>Yusef Sarhan MD (Jordan)</i>
18:00 - 18:30 51	Molecular Basis of Disc Degeneration and Discogenic Back Pain <i>Christopher Kepler MD (USA)</i>

## Hall D

Petra Hall 1

09:00 - 11:00 - Session 1

**Pediatrics - World Federation of Hemophilia (WFH) Symposium S05**  
*Moderators: Basem Kiswani MD, Mousa Bargawi MD, Mufeed Hammoury MD*



09:00 - 09:30 52	Gene Therapy in Hemophilia: An Overview <i>Bernadette Garvey MD (Canada)</i>
09:30 - 10:00 53	Platelets Disorders in Children <i>Magdy El-Ekiaby MD (Egypt)</i>
10:00 - 10:30 54	Joint and Muscular Bleeding in Hemophilia <i>Magdy El-Ekiaby MD (Egypt)</i>
10:30 - 11:00 55	WFH Future Work in Jordan <i>Assad Haffar MD (Canada)</i>
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2

**Pediatrics - Metabolic Disorders**  
*Moderators: Faisal Abu-Ekteish MD, Ruwaida Hijazeen MD, Kefah Alqa'qa' MD*

11:30 - 12:00 56	Identification of Novel and Recurrent Mutations in Patients with Errors of Metabolism in Jordan: A Collaborative Effort Between KHMC and PHBC <i>Saied Jaradat PhD (Jordan)</i>
12:00 - 12:30 57	Lysosomal Storage Diseases <i>Kefah Alqa'qa' MD (Jordan)</i>
12:30 - 13:00 58	An update of Mitochondrial Disorders <i>Mohammed Al-Raqad PhD (Jordan)</i>
13:00 - 13:30 59	Tyrosinemia Type 1 with a Look at the Clinical and Biochemical Profile of Patients at Queen Rania Al-Abdullah Hospital for Children <i>Wajdi Amayreh MD (Jordan)</i>
13:30 - 14:30	Lunch Break

14:30 - 16:30 - Session 3		
<b>Pediatrics - Neonatal Disorders</b>		
Moderators: Samir Faouri MD, Matrouk Al-Aun MD, Mahmoud Al-Kaabneh MD		
14:30 - 15:00 60	Anemia and Transfusions <i>Edward Bell MD (USA)</i>	
15:00 - 15:30 61	Congenital Chylorthorax <i>Hashem Aqrabawi MD (Jordan)</i>	
15:30 - 16:00 62	Trends in Respiratory Management of Preterm Infants <i>Edward Bell MD (USA)</i>	
16:00 - 16:30 63	Oxygen Use in Neonatal ICU <i>Edward Bell MD (USA)</i>	
16:30 - 17:00	Coffee Break	

17:00 - 18:30 - Session 4		
<b>Pediatrics - Free Papers</b>		
Moderators: Emad Al-Qudah MD, Hiyam Shamoon MD, Nayef Rawabdeh MD		
17:00 - 17:10 64	Developmental Assessment of Early Preterm -Born Children in King Khaled Military City, Saudi Arabia, using the Ages and Stages Questionnaire: A Retrospective Cohort Study <i>Mohamed El-Hatw MD (KSA)</i>	
17:10 - 17:20 65	Coagulopathy, Hepatic Failure post Rota Virus Gastroenteritis, Rare presentation <i>Hiyam Shamoon MD (Jordan)</i>	
17:20 - 17:30 66	The Clinical Pattern of Hyperoxaluria in Pediatric Patient at Queen Rania Abdulla Children Hospital- Jordan <i>Reham Almardini MD (Jordan)</i>	
17:30 - 17:40 67	The Potential Impact of Static Non Contrast Magnetic Resonance Urography on the Diagnosis and Management of Children with Impaired Renal Functions <i>Mohamed El-Hatw MD (KSA)</i>	
17:40 - 17:50 68	Antenatal Hydronephrosis at Queen Alia Hospital <i>Jwahr Albderat MD (Jordan)</i>	
17:50 - 18:00 69	Clinical and Electroencephalographic Study of Children with Monosymptomatic Nocturnal Enuresis <i>Mohamed El-Hatw MD (KSA)</i>	

Hall E

Petra Hall 2

09:00 - 11:00 - Session 1	
<b>Pulmonary Medicine &amp; Chest Surgery</b>	
Moderators: Saeed Al-Fayoumi MD, Abdelmunem Sharara MD, Fawaz Khammash MD	
09:00 - 09:30 70	VATS Lobectomy for Early Stage Lung Cancer Thomas Kyriess MD (Germany)
09:30 - 10:00 71	Combined Use of Conventional Transbronchial Needle Aspirate (TBNA) and Endobronchial Ultrasound (EBUS-TBNA) in Diagnosis and Staging of Lung Cancer Grigoris Stratakis MD (Greece)
10:00 - 10:30 72	Rib Osteosynthesis by Plates and Screws for Blunt Chest Trauma Thomas Kyriess MD (Germany)
10:30 - 11:00 73	Thoracoscopic Thymectomy for Myasthenia Gravis: The Right Sided Approach Fawaz Khammash MD (Jordan)
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2		
<b>Pulmonary Medicine &amp; Chest Surgery</b>		
Moderators: Bashir Khasawneh MD, Nayef Freiwan MD, Jafar Al-Momani MD		
11:30 - 12:00 74	Interventional Management of Central Airway Obstruction <i>Grigoris Stratakis MD (Greece)</i>	
12:00 - 12:30 75	Introduction to the Third Generation of Thoracoscopic Surgery <i>Thomas Kyriess MD (Germany)</i>	
12:30 - 13:00 76	The Role of Pulmonologist in the Management of Primary Spontaneous Pneumothorax <i>Grigoris Stratakis MD (Greece)</i>	
13:00 - 13:10 77	Evaluation of 95 Patients Who Underwent Thoracic Sympathectomy Due to Regional Hyperhidrosis <i>Turgut Isitmangil MD (Turkey)</i>	

13:10 - 13:20 78	Pneumothorax Post CT-Guided Fine Needle Aspiration Biopsy for Lung Nodules; Our Experience at King Hussein Medical Center <i>Ala Mohammad Qayet MD (Jordan)</i>
13:20 - 13:30 79	Evaluation of 74 Patients who Underwent Central Venous Port Catheterization for Chemotherapy <i>Fatih Candas MD (Turkey)</i>
13:30 - 13:40 80	Clinical Evaluation of 87 Patients who Underwent Tube Thoracostomy <i>Omer Yavuz MD (Turkey)</i>
13:40 - 14:30	Lunch Break

14:30 - 16:30 - Session 3	
<b>Organ Transplantation</b>	
Moderators: Ibrahim Bani-Hani MD, Fayeeg Haddadin MD, Ibrahim Smadi MD	
14:30 - 14:50 81	Immunosuppressants and Organ Transplant <i>Ayham Haddad MD (Jordan)</i>
14:50 - 15:10 82	Role of Radiology in Organ Transplant <i>Mohammad Ghatasheh MD (Jordan)</i>
15:10 - 15:30 83	Role of Medicine in Kidney Transplant <i>Munther Hijazi MD (Jordan)</i>
15:30 - 15:50 84	Role of Vascular Surgery in Kidney Transplant <i>Omar Alzoubay MD (Jordan)</i>
15:50 - 16:10 85	Advances in Kidney Transplant Surgery <i>Adnan Abu-Qamar (Jordan)</i>
16:10 - 16:30	Discussion
16:30 - 17:00	Coffee Break

17:00 - 18:30 - Session 4		
<b>Organ Transplantation</b>		
Moderators: Abdullah Al-Bashir MD, Abdelhadi Braizat MD, Khaled Ajarma MD		
17:00 - 17:15 86	Role of Medicine in Liver Transplant <i>Emad Ghzawi MD (Jordan)</i>	
17:15 - 17:30 87	Role of Anesthesia in Organ Transplant <i>Ali Obeidat MD (Jordan)</i>	
17:30 - 17:50 88	New Advances in Liver Transplant Surgery <i>Jan Schmidt MD (Switzerland)</i>	
17:50 - 18:10 89	Liver Transplant: Donor Outcome at King Hussein Medical Center <i>Abdelaziz Ziadat MD (Jordan)</i>	
18:10 - 18:30 90	Liver Transplant Surgery: The Experience at King Hussein Medical Center <i>Sameer Smadi MD (Jordan)</i>	

Hall F

Wadi Rum 1

09:00 - 11:00 - Session 1	
<b>Anesthesia</b>	
Moderators: Sami Rababa MD, Munir Shawagfeh MD, Ibrahim Khasawneh MD	
09:00 - 09:30 91	Regional Anesthesia and Nerve Block <i>Humam Akbik MD (USA)</i>
09:30 - 10:00 92	Central Nervous System CNS Monitoring <i>Dan Longrois MD (France)</i>
10:00 - 10:30 93	Recent Advances in the Management of Perioperative Arrhythmias <i>Islam Massad MD (Jordan)</i>
10:30 - 11:00 94	Anesthetic Management of Critically Ill Patient <i>Imad Swaisi MD (Jordan)</i>
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2		
<b>Anesthesia</b>		
Moderators: Marwan Jumean MD, Abdel-Aziz Amre MD, Ali Obeidat MD		
11:30 - 12:00 95	Recent Advances in Chronic Pain Management <i>Humam Akbik MD (USA)</i>	
12:00 - 12:30 96	Recent Advances in Fluid Management <i>Dan Longrois MD (France)</i>	
12:30 - 13:00 97	Hemodynamic Monitoring: An Update <i>Dan Longrois MD (France)</i>	



13:00 - 13:20 98	Royal Medical Services (RMS) Experience of Pediatrics Cardiac Anesthesia <i>Yaser Alghoul MD (Jordan)</i>
13:20 - 13:30 99	General Anesthesia versus Spinal Anesthesia for Laparotomy: A Comparison Study <i>Luai Daklalah MD (Jordan)</i>
13:30 - 14:30	Lunch Break

14:30 - 16:30 - Session 3

### Intensive Care

Moderators: Simi Bhullar MD, Jamal Al-Shareef MD, Hussein Shaalan MD

14:30 - 15:00 100	Acute Respiratory Distress Syndrome <i>Simi Bhullar MD (USA)</i>
15:00 - 15:30 101	Severe Sepsis: Review of Current Guidelines <i>Simi Bhullar MD (USA)</i>
15:30 - 16:00 102	Weaning Protocol in the ICU <i>Bashir Khasawneh MD (Jordan)</i>
16:00 - 16:30 103	Nutrition in Critically Ill Patients <i>Hussein Shalan MD (Jordan)</i>
16:30 - 17:00	Coffee Break

## Hall G

Wadi Rum 2

09:00 - 11:00 - Session 1

### Surgery - Hepatico - Pancreatic - Biliary Surgery

Moderators: Mohammad Al-Kofahi MD, Mohammad Al-Zoubi MD, Sameer Smadi MD

09:00 - 09:30 104	Pancreatico-Gastrostomy vs Pancreatico-Jejunostomy in Whipple Procedure <i>Sameer Smadi MD (Jordan)</i>
09:30 - 10:00 105	New Advances in Pancreatic Surgery <i>Jan Schmidt MD (Switzerland)</i>
10:00 - 10:30 106	Royal Medical Services (RMS) Experience in Liver Resection <i>Khaled Ajarma MD (Jordan)</i>
10:30 - 11:00 107	Recent Advances in Liver Surgery <i>Jan Schmidt MD (Switzerland)</i>
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2

### Surgery - Bariatric Surgery

Moderators: Mahmoud Abu-Khalaf MD, Tahsin Muhajer MD, Wael Nasan MD

11:30 - 11:55 108	Complication and Management of Bariatric Surgery <i>Muhammad A. Jawad MD (USA)</i>
11:55 - 12:20 109	Body Contouring after Massive Weight Loss <i>Mustafa Eid MD (USA)</i>
12:20 - 12:45 110	Ideal Procedure for Obesity <i>Muhammad A. Jawad MD (USA)</i>
12:45 - 13:05 111	Bariatric Surgery: Our Experience at King Hussein Medical Center <i>Wael Nasan MD (Jordan)</i>
13:05 - 13:30 112	Management of Failed Bariatric Procedure <i>Muhammad A. Jawad MD (USA)</i>
13:30 - 14:30	Lunch Break

14:30 - 16:30 - Session 3

### Surgery - Breast Cancer

Moderators: Rami Yagan MD, Khalidoun Haddadin MD, Ali Elebos MD

#### Breast Cancer Symposium

##### S06: Defining Treatment Standards in HER2 +ve Breast Cancer

14:30 - 15:15  
*Matti Aapro MD (Switzerland) S06 (Sponsored by Roche)*



15:15 - 15:25 113	Surgery as a Treatment Option for Breast Cancer <i>Ali Elebos MD (Jordan)</i>
15:25 - 15:55 114	Breast Reconstruction Update <i>Mustafa Eid MD (USA)</i>

15:55 - 16:05 115	Optimizing Surgical Margin in Breast Conserving Surgery: Our Experience at King Hussein Medical Center <i>Ali Abusini MD (Jordan)</i>
16:05 - 16:20 116	Breast Reconstruction in Jordan <i>Khalidoun Haddadin MD (Jordan)</i>
16:20 - 16:30 117	Mammography of the Male Breast: Our Experience at King Hussein Medical Center <i>Arnal Smadi MD (Jordan)</i>
16:30 - 17:00	Coffee Break

## Hall H

Mou'ta Lounge

09:00 - 11:00 - Session 1

### Dermatology & Plastic Surgery

Moderators: Lua'i Khaleifeh MD, Mohammad Abu-Samen MD, Hussein Odaibat MD

09:00 - 09:30 118	Cutaneous Malignancies: Diagnosis and Management <i>Mustafa Eid MD (USA)</i>
09:30 - 09:50 119	A Dermatologist Perspective on the Diagnosis and Management of Cutaneous T-Cell Lymphoma <i>Nidal Obaidat MD (Jordan)</i>
09:50 - 10:20 120	What is New in Cosmetic Botulinum Toxin Type A <i>Abdullah Al-Eisa MD (Jordan)</i>
10:20 - 10:40 121	Reconstructive Surgery: Optimization of Results <i>Laith Akkash MD (Jordan)</i>
10:40 - 11:00 122	Puzzling Non-Infectious Cutaneous Granulomas <i>Mohammad Tawara MD (Jordan)</i>
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2

### Surgery - Pediatric Surgery Free Papers

Moderators: Imad Habaibeh MD, Ibraheem Al-Daradka MD, Ahmad Al-Raymoony MD

11:30 - 11:40 123	Laparoscopically Assisted Ano-Rectal Pull-Through for High Imperforate Anus <i>Emad Habaibeh MD (Jordan)</i>
11:40 - 11:50 124	Surgical Management of Ambiguous Genitalia in Children: Our Experience at King Hussein Medical Center <i>Ibrahim Daradka MD (Jordan)</i>
11:50 - 12:00 125	Experience with Minimally Invasive Surgery in Children and Infants <i>Ahmad Al-Raymoony MD (Jordan)</i>
12:00 - 12:10 126	Pediatric Laparoscopic Surgery: Review of 800 Cases <i>Najeh Alomari MD (Jordan)</i>
12:10 - 12:20 127	Role of Ultrasonography in Boys with a Non-Palpable Testis <i>Majed Sarayra MD (Jordan)</i>
12:20 - 12:30 128	Thoracoscopic Decortication in Children: Our Experience at the Royal Medical Services <i>Waseem Al-Meflih MD (Jordan)</i>
12:30 - 12:40 129	Antibiotic Prophylaxis for Surgical Site Infection in Pediatric Surgery <i>Amer Alibraheem MD (Jordan)</i>
12:40 - 12:50 130	Laparoscopic Near-Total Pancreatectomy for Persistent Hyperinsulinemic Hypoglycemia in Children: Extended Report <i>Mohamad Dajah MD (Jordan)</i>
12:50 - 13:00 131	Intersex Surgical Reconstruction <i>Najeh Alomari MD (Jordan)</i>
13:00 - 13:10 132	Advanced Gastro-Intestinal Laparoscopic Surgery in Children: Extended Report <i>Yanal Abaza MD (Jordan)</i>
13:10 - 13:20 133	Management of trichobezoar and Rapunzel Syndrome in Children Experience at Queen Rania Al-Abdullah Hospital for Children <i>Gaith Kasawneh MD (Jordan)</i>
13:20 - 13:30 134	Vascularized Dorsal Dartos Flap for Preventing Fistula In Hypospadias Repair: Extended Report <i>Samir Karadsheh MD (Jordan)</i>
13:30 - 14:30	Lunch Break

14:30 - 16:30 - Session 3

## Surgery - Recent Advances in Pediatric Surgery

Moderators: Mazin Nseir MD, Nabil Hamati MD, Najeh Al-Omari MD,

14:30 - 15:00 135	Minimal Invasive Surgery in Pediatric Urology <i>Alaa El-Ghoneimi MD (France)</i>
15:00 - 15:30 136	Management of Disorders of Sex Development (DSD) (Intersex Abnormalities) <i>Alaa El-Ghoneimi MD (France)</i>
15:30 - 16:00 137	Diaphragmatic Hernia in Children: State of the Art Lecture <i>Mohammed Omari (Jordan)</i>
16:00 - 16:30 138	Management of Urinary Bladder Exstrophy <i>Alaa El-Ghoneimi MD (France)</i>
16:30 - 17:00	Coffee Break

# Hall I

Yarmouk Lounge

09:00 - 11:00 - Session 1

## Interventional Radiology

### 09:00 - 10:00 Subarachnoid Hemorrhage (SAH) Management S10

Moderators: Jacques Moret MD,

Munir Al-Dahiya MD

(Sponsored by Al-Waed Medical Supplies, Microvention Terumo)



Percutaneous Embolectomy in Stroke  
*Jacques Moret MD (France)*

New Trends in the Treatment of SAH  
*Hazem Habboub MD (Jordan)*

10:00 - 11:00

### Endovascular Management of Abdominal Aortic Aneurysm (AAA) with Stent Grafts Symposium S11

Moderators: Izzedin Qtiash MD, Jan Shishani MD

(Sponsored by Al-Waed Medical Supplies, Bolton Medical USA)



Endovascular Management of Abdominal Aortic Aneurysm  
*Mohammad Hamady MD (UK)*

New Trends in the Treatment of Abdominal Aortic Aneurysm  
*Hazem Habboub MD (Jordan)*

11:00 - 11:30

Coffee Break

11:30 - 13:30 - Session 2

## Surgery - Heart Transplantation and Updates in Cardiac Surgery

Moderators: Yaqdan Obeidat MD, Saed Jaber MD, Yahya Badaine MD

11:30 - 12:00 139	Recent Advances in Heart Transplant <i>Adnan Laham MD (Jordan)</i>
12:00 - 12:30 140	Donor Management in Heart Transplant <i>Razi Abu-Anzeh MD (Jordan)</i>
12:30 - 13:00 141	Valvular Heart Disease in Jordan <i>Moaath Alsmady MD (Jordan)</i>
13:00 - 13:30 142	Surgery for Acute Aortic Syndrome, Where We Draw the Lines <i>Salah Eldien Altarabsheh MD (Jordan)</i>
13:30 - 14:30	Lunch Break

14:30 - 16:30 - Session 3

## Medicine Free Papers

Moderators: Imad Tahboub MD, Ahmad Al-Omari MD, Ayham Haddad MD

14:30 - 14:40 143	A Model to Evaluate Diabetes Self-Management Programmes in Saudi Arabia <i>Abdullah Alshehri MD (Saudi Arabia)</i>
14:40 - 14:50 144	Correlation of Tumor Temperature with Treatment Outcome in the Therapy of Abdominal Sarcomas with Chemotherapy and Regional Hyperthermia (RHT) <i>Abdel-Rahman S. MD (Germany)</i>

14:50 - 15:00 145	Short and Long Term Follow up of Unprotected Left Main Coronary Artery Stenting at Queen Alia Heart Institute <i>Abdallah Omeish MD (Jordan)</i>
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15:00 - 15:10 146	Computed Tomography Guided Transthoracic Fine Needle Aspiration Cytology in the Diagnosis of Pulmonary Masses not Diagnosed by Bronchoscopy <i>Adnan Al Suleihat MD (Jordan)</i>
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15:10 - 15:20 147	Triple Tine Fork Technique A Novel Jordanian Technique Addressing Trifurcation Coronary Artery Stenosis <i>Abdallah Omeish MD (Jordan)</i>
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15:20 - 15:30 148	Genetic Basis of Ulcerative Colitis and Crohn's Disease among Armed Forces <i>Abdulrahman Al-Robayyan MD (Saudi Arabia)</i>
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15:30 - 15:40 149	Knowledge about HIV/AIDS and Attitudes Toward HIV/AIDS Patients among Medical Students at Mutah University, Jordan <i>Fadi Al Nimri MD (Jordan)</i>
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15:40 - 15:50 150	Rare Variants of Guillain-Barre' Syndrome: A 6-Year Experience at KHMC <i>Majed Hababbeh MD (Jordan)</i>
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15:50 - 16:00 151	Queen Alia Heart Institute Experience of Palliative Balloon Aortic Valvotomy in Adults <i>Abdallah Omeish MD (Jordan)</i>
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16:00 - 16:10 152	HbA1c as a Predictor of Cardiovascular Disease in Type 2 Diabetes: A Single Center Experience <i>Suzan Eteivi MD (Jordan)</i>
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16:10 - 16:20 153	Beneficial Effects of Valproic-Acid but not 5-Azacytidine on Lung Damage Induced by Mustard <i>Ahmet Korkmaz MD (Turkey)</i>
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16:20 - 16:30 154	Prevalence of Hepatitis C Virus Antibodies among Patients Receiving Chronic Dialysis at Royal Medical Services in Jordan <i>Munther Al-Hijazat MD (Jordan)</i>
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16:30 - 17:00 Coffee Break

17:00 - 18:30 - Session 4

## Family & Emergency Medicine - Free Papers

Moderators: Osama Halalsheh MD, Tariq Al-Momani MD, Kamal Aburreish MD

17:00 - 17:10 155	Elements of Save and Rescue in Acute Trauma and Emergency <i>Hassan M. H. Jaber MD (Saudi Arabia)</i>
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17:10 - 17:20 156	Family Doctors the Key to Fight Non-Communicable Diseases (NCDs) <i>Mohammed Ibrahim Tarawneh MD (Jordan)</i>
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17:20 - 17:30 157	Non-Urgent Visits among Patients seen at the Emergency Department at King Hussein Medical Center <i>Abdallah Al-Mherat MD (Jordan)</i>
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17:30 - 17:40 158	Primary Care Doctors' Perceptions, Attitudes and Implementation Obstacles of Evidence Based Medicine at King Fahd Armed Forces Hospital, Jeddah, Saudi Arabia <i>Nayef Abdulrahman Aljohani MD (KSA)</i>
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17:40 - 17:50 159	Discussion Diagnosis and Treatment of Acute Coronary Syndrome and Arrhythmia in the ER by Structure Answer Questions <i>Ahmad Aldhoun MD (Jordan)</i>
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17:50 - 18:00 160	Evidence Based Therapy for Pain in Emergency Department <i>Mohammad A Bajubair MD (Yemen)</i>
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18:00 - 18:10 161	Mass Casualty Training Held on 2012 By Jordanian Level 3 Hospital/ Liberia: Discussion & Review <i>Mohammed Ziad Alhasan MD (Jordan)</i>
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18:10 - 18:20 162	A Critical Analysis of National Disaster Management Act- 2005, India <i>Zuber M. Shaikh MD (KSA)</i>
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# Hall J

Harraneh Hall 1

09:00 - 11:00 - Session 1

## Dentistry Free Papers

### Maxillo-Facial Surgery & Periodontics

Moderators: Ghazi Bqeen DDS, Jaser Maaytah DDS, Reem Dababneh DDS

09:00 - 09:10 163	Treatment of Aggressive Periodontitis with Dental Implant: A Case Report <i>Najwa Nassrawin DDS, Periodontics (Jordan)</i>
09:10 - 09:20 164	Chronological Age versus Corrected Age of First Tooth Eruption in Jordanian Premature Infants <i>Yehya Draidi DDS, Periodontics (Jordan)</i>
09:20 - 09:30 165	The Interrelationships Between Periodontal Diseases and Diabetes <i>Hazem Mahmoud Khraisat DDS, Periodontics(Jordan)</i>
09:30 - 09:40 166	The Role of Maxillofacial Surgery in Osteo-Odonto-Keratoprosthesis Oookp <i>Zaid Alzoubi DDS, Oral &amp; Maxillofacial Surgery (Jordan)</i>
09:40 - 09:50 167	Submandibular Salivary Gland Neoplasm: A Retrospective Clinicopathological Review of Twenty Seven Patients at King Hussein Medical Center, Amman- Jordan <i>Hytham Al-Rabadi DDS, Oral &amp; Maxillofacial Surgery (Jordan)</i>
09:50 - 10:00 168	Prevalence of Denture-Induced Fibrous Hyperplasia among a Sample of Jordanian Royal Medical Services Dental Outpatients <i>Rana Ahmad Alomor DDS, Periodontics (Jordan)</i>
10:00 - 10:10 169	Submental Intubation: A Case Report <i>Mashhoor Abdo AL-Wraikat DDS, Oral &amp; Maxillofacial Surgery (Jordan)</i>
10:10 - 10:20 170	The Prevalence of Barodontalgia Among Jordanian Military Pilots <i>Manal Abu Al Ghanam DDS, Periodontist (Jordan)</i>
10:20 - 10:30 171	Cystic Lesions of the Jaws: Current Concepts of Treatment <i>Ahmad Mustafa Al-Tarawneh DDS, Oral &amp; Maxillofacial Surgery (Jordan)</i>
10:30 - 10:40 172	The Knowledge of Pregnant Women About The Relation Between Pregnancy and Periodontal Diseases <i>Marwan Showayter DDS, Periodontics (Jordan)</i>
10:40 - 10:50 173	Dental Health Status and Oral Hygiene among Tafilah Children (Age 6-12 Years) <i>Rania Rodan DDS, Periodontics (Jordan)</i>
10:50 - 11:00	Discussion
11:00 - 11:30	Coffee Break

11:30 - 12:30 - Session 2

### Dentistry - Conservative Dentistry & Prosthodontics

Moderators: Elham Abo Al-Hajja PhD, Aref Momani DDS, Ayman Ihyasat DDS

11:30 - 12:00 174	Initial Bone Loss around Implants <i>Frank-Michael Maier MSc (Germany)</i>
12:00 - 12:30 175	Allogenic Bone Grafts <i>Frank-Michael Maier MSc (Germany)</i>
12:30 - 12:40 176	Measuring Pocket Depth: A Comparison between Automated and Standard Periodontal Probes. <i>Nader Alfred Masarwa DDS, Conservative Dentistry, (Jordan)</i>
12:40 - 12:50 177	Development and Efficacy of a Novel Intra-Oral Lubricating Device for Dry Mouth Patients <i>Talal N. Alrawashdeh DDS, Conservative Dentistry (Jordan)</i>
12:50 - 13:00 178	Characteristics of Posed Smile among Young Jordanian Adults <i>Sarah Alsrour DDS, Periodontics (Jordan)</i>
13:00 - 13:10 179	Post Insertion Adjustments in Patients Treated with Acrylic Resin versus Cobalt- Chromium Removable Partial Dentures: A Retrospective Comparative Study. <i>Moath Quftan Momani DDS, Prosthodontics (Jordan)</i>
13:10 - 13:20 180	Biological Width: Importance, Evaluation, and Correcting its Violation <i>Tamara Trad Al-Zoubi DDS, Conservative Dentistry (Jordan)</i>
13:20 - 13:30	Discussion
13:30 - 14:30	Lunch Break

14:30 - 16:30 - Session 3

### Dentistry Free Papers - Orthodontics & Endodontics

Moderators: Marwan Habashneh DDS, Reyad Batikhi DDS, Omar Al Majali DDS

14:30 - 14:40 181	Functional Appliances in RMS <i>Ayman Ihyasat DDS, Orthodontics (Jordan)</i>
14:40 - 14:50 182	The Art In Orthodontic Treatment Planning Especially In Adults <i>Mohammed Odeh Al-Ma'ani DDS, Orthodontics (Jordan)</i>
14:50 - 15:00 183	The C-Shaped Root Canals: Anatomical Features and Clinical Implications <i>Nidal M. Al Hababbeh DDS, Endodontics (Jordan)</i>

15:00 - 15:10 184	Chelating Agents Use in Endodontics <i>Moeeen Al Weshah DDS, Endodontics (Jordan)</i>
15:10 - 15:20 185	The Number of Roots and Canals in The Maxillary Second Premolars In a Group of Jordanian Population: A Clinical Study <i>Muna Mahmoud Fahhad Al-Ghananeem DDS, Conservative Dentistry (Jordan)</i>
15:20 - 15:30 186	Morphological Variations of the Maxillary Arch Forms in Relation to Different Types of Malocclusions <i>Raghda W. AL-Shamout DDS, Orthodontics (Jordan)</i>
15:30 - 15:40 187	Torque Measures as Orthodontic Microimplants Stability Indicators <i>Raed Helal Alrbata DDS, Orthodontics (Jordan)</i>
15:40 - 15:50 188	Science and Technology of Rotary Endodontic Files <i>Ali H. Otoum DDS, Endodontics (Jordan)</i>
15:50 - 16:00 189	Pre-surgical Nasoalveolar Molding Therapy in Infants Born with Unilateral Cleft Lip and Palate: Does it Worth the Effort? <i>Bashar Reyad Elmomani DDS, Orthodontics (Jordan)</i>
16:00 - 16:30	Discussion
16:30 - 17:00	Coffee Break

17:00 - 18:30 - Session 4

### Dentistry Free Papers - Pedodontics

Moderators: Ahmad Hyasat PhD, Samir Al Qudah DDS, Ehab Rasas DDS

17:00 - 17:10 190	Mineralization Disturbances in Children and Adolescents with Celiac Disease <i>Maan Alfar DDS, Pedodontics (Jordan)</i>
17:10 - 17:20 191	Dental Management for Paediatric Patients under General Anesthesia at Queen Rania Al Abdullah Hospital for Children in Jordan <i>Basma K. Alsakarna DDS, Pedodontics (Jordan)</i>
17:20 - 17:30 192	Developmental Enamel Defects of Permanent Incisors in Jordanian Children with Molar-Incisor Hypomineralization <i>Farouk Bassam Rihani DDS, Pedodontics (Jordan)</i>
17:30 - 17:40 193	Different Modalities for Treatment of Immature Traumatized Permanent Central Incisors <i>Reham Adel Hijazeen DDS, Pedodontics (Jordan)</i>
17:40 - 17:50 194	Prevalence of Dental Caries in Obese Children <i>Enas Fawwaz Othman DDS, Pedodontics (Jordan)</i>
17:50 - 18:00 195	Sugar Containing Snacks and Drinks, Tooth brushing And DMFT in Children Attending Marka Military Hospital <i>Taghreed Falah Jaradat DDS, Pedodontics (Jordan)</i>
18:00 - 18:10 196	Dental Occupational Hazard in Jordan <i>Salem Al-Saraireh DDS, Pedodontics (Jordan)</i>
18:10 - 18:20 197	The Attitude of Parents Toward The Oral Hygiene in Their Children <i>Moa'th Ghozlan DDS, Pedodontics (Jordan)</i>
18:20 - 18:30 198	Reasons For Placement and Replacement of Restorations in Primary and Young Permanent Teeth in Children Attending Pediatric Dental Clinic at Prince Hashim Bin Al Hussein Military Hospital <i>Ayman Aleleimat DDS, Pedodontics (Jordan)</i>

## Hall K

Harraneh Hall 2

09:00 - 11:00 - Session 1

### ICMM - Military Medicine in Humanitarian Missions

Please refer to 4th PARWG Congress Section

11:00 - 11:30 Coffee Break

11:30 - 13:30 - Session 2

### ICMM - Military Medicine in Refugee

Please refer to 4th PARWG Congress Section

13:30 - 14:30 Lunch Break

14:30 - 16:30 - Session 3

### ICMM - Military Medicine in Deployment and Pre-Deployment

Please refer to 4th PARWG Congress Section

16:30 - 17:00 Coffee Break

17:00 - 18:30 - Session 4

## ICMM - ICMM Related Lectures, Delegations Talks & Free Papers

Please refer to 4th PARWG Congress Section

# Hall L

Harraneh Hall 3

09:00 - 11:00 - Session 1

## Ophthalmology - Oculoplastic, Orbit, and Lacrimal Drainage Apparatus

Moderators: Saj Ataullah MD, Saamir Kharma MD, Khalil Al-Rawashdeh MD

09:00 - 09:20 229	Assessment & Management of Adult Epiphora <i>Saj Ataullah MD (UK)</i>
09:20 - 09:40 230	Paediatric Oculoplastic, Lacrimal & Orbital Disorders <i>Saj Ataullah MD (UK)</i>
09:40 - 10:00 231	Cosmetic Oculoplastic Procedures: An Update <i>Saj Ataullah MD (UK)</i>
10:00 - 10:20 232	Vision Threatening Emergencies in Oculoplastic Surgery <i>Saamir Kharma MD (Jordan)</i>
10:20 - 10:40 233	Life Threatening Cases in Oculoplastic Surgery <i>Saamir Kharma MD (Jordan)</i>
10:40 - 10:50 234	Ocular Blast Injuries Related to Explosive Military Ammunition <i>Fatih Cakir Gundogan MD (Turkey)</i>
10:50 - 11:00	Discussion
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2

## Ophthalmology - Glaucoma

Moderators: Karanjit Kooner MD, Janit Hina MD, Mohannad Al-Bdour MD

11:30 - 11:50 235	Role of Trabeculectomy in Glaucoma <i>Karanjit S. Kooner MD (USA)</i>
11:50 - 12:20 236	Glaucoma Shunt Surgery: Practical Points to Consider <i>Karanjit S. Kooner MD (USA)</i>
12:20 - 12:45 237	Glaucoma Laser Therapy: A Critical Analysis <i>Karanjit S. Kooner MD (USA)</i>
12:45 - 12:55 238	Pediatric Glaucoma Suspects <i>Mohannad Albdour MD (Jordan)</i>
12:55 - 13:05 239	Eye as a Mirror of Systemic Disease: A Noninvasive Method for Prediction of Risk of Vascular Diseases/ <i>Hamoud Al-Shahrani MD (KSA)</i>
13:05 - 13:15 240	Role of Environmental Factors and Genetic Makeup in Pathogenesis of Ocular Pseudoxfoliation Syndrome in Saudi Military and Their Families <i>Sulaiman Al-Saleh MD (KSA)</i>
13:15 - 13:30	Discussion
13:30 - 14:30	Lunch Break

14:30 - 16:30 - Session 3

## Ophthalmology - Refractive Surgery, Cornea, and Keratoconus

Moderators: Muawiyah Bdour MD, Ahmad Al-Shobaki MD, Issam Bataineh MD

14:30 - 14:50 241	Intra-Corneal Ring Segments for Keratoconus: How it Works and how to Choose the Ring <i>Dominique Pietrini MD (France)</i>
14:50 - 15:10 242	Indications of Topo Guided PRK in Keratoconus <i>Dominique Pietrini MD (France)</i>
15:10 - 15:30 243	Femtosecond Laser Cataract Surgery <i>Dominique Pietrini MD (France)</i>
15:30 - 15:50 244	Ocular Surface Disease and Dry Eye <i>Muawiyah Al-Bdour MD (Jordan)</i>
15:50 - 16:10 245	Modern Cataract Surgery <i>Brad Feldman MD (USA)</i>
16:10 - 16:30 246	Updates in Corneal Surgery <i>Brad Feldman MD (USA)</i>
16:30 - 17:00	Coffee Break

17:00 - 18:30 - Session 4

## Ophthalmology - Ophthalmic Trauma and Vitreo-Retina

Moderators: Forlini Cesare MD, Ahmad Hassouneh MD, Bassam Al-Nawaiseh MD

17:00 - 17:07 247	Concepts of "Pole to Pole" Surgery <i>Cesare Forlini MD (Italy)</i>
17:07 - 17:17 248	MIVS in Trauma <i>Cesare Forlini MD (Italy)</i>
17:17 - 17:27 249	PKP in "Pole to Pole" surgery in Trauma <i>Cesare Forlini MD (Italy)</i>
17:27 - 17:34 250	Traumatic Cataract <i>Cesare Forlini MD (Italy)</i>
17:34 - 17:49 251	Save the Iris <i>Matthew Forlini MD (Italy)</i>
17:49 - 18:04 252	Artificial Iris <i>Matthew Forlini MD (Italy)</i>
18:04 - 18:14 253	From Evisceration to Visual Rehabilitation: A Vision Saving Journey <i>Nancy Al-Raqad MD (Jordan)</i>
18:14 - 18:24 254	The Outcome of the First 1000 Case of Lasik Performed at King Hussein Medical Center <i>Wajih Abdallat MD (Jordan)</i>
18:24 - 18:34 255	Refractive Outcome of Toric Intraocular Lens Implantation for Correction of Astigmatism during Cataract Surgery <i>Amal Althawabi MD (Jordan)</i>

# Hall M

Harraneh Hall 5

14:30 - 16:30 - Session 3

## ICMM - Pan Arab Regional Working Group Assembly Meeting

Please refer to 4th PARWG Congress Section

16:30 - 17:00 Coffee Break

17:00 - 18:30 - Session 4

## ICMM - Pan Arab Regional Working Group Assembly Meeting

Please refer to 4th PARWG Congress Section

# Hall N

Harraneh Hall 6

09:00 - 11:00 - Session 1

## Allied Health Professions Speech Pathology & Audiology

Moderators: Soha Garadat PhD, Mohammad Dia Mustafa MSc, Husien El-Qassem PhD

09:00 - 09:30 256	Hearing –Critical Military Tasks and Towards a New Measures of Fitness for Duty <i>Daniel Rowan PhD (UK)</i>
09:30 - 09:50 257	Palatal Lift Prosthesis Effect on Speech Clarity in Patients with Flaccid Dysarthria <i>Firas Alfwares PhD (Jordan)</i>
09:50 - 10:20 258	The Effect of Background Noise on READING and What is can tell us about Auditory Processing <i>Daniel Rowan PhD (UK)</i>
10:20 - 10:40 259	Electrochleography and Meniere's Disease <i>Mohammad Al-Hanada PhD (Jordan)</i>
10:40 - 11:00 260	Fresh Pomegranate Juice decreases Fasting Serum Glucose and Ameliorates Insulin Resistance in Type 2 Diabetic Patients <i>Saleem Bani-Hani PhD (Jordan)</i>
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2

## Allied Health Professions Radiology & Laboratory Sciences

Moderators: Ali Al-Radaideh PhD, Ahmad Al-Marafi MSc, Elian Aljboor BSc

11:30 - 11:45 262	Prevalence of Vitamin B12 Deficiency in Helicobacter Pylori infected Patients in Jordan <i>Saad Al-Fawaeir PhD (Jordan)</i>
11:45 - 12:15 263	Image Quality and Radiation Dose Studies of Clinical Images from Single, 16 and 64 Slice CT Scanners <i>Haytham Al-Ewaiddat PhD (Jordan)</i>
12:15 - 12:45 264	Venous Scorpions of Jordan and the Epidemiology <i>Zuhair Amr PhD (Jordan)</i>
12:45 - 13:15 265	Estimating of Post Mortem Time by Development of Immature of Lucilia Sericata and Calliphora (Diptera: Calliphoridae) <i>Hazem Shareef PhD (Jordan)</i>
13:15 - 13:30 266	Renal Ultrasound and CT Scanning <i>Wafa'a Salama RT (Jordan)</i>
13:30 - 14:30	Lunch Break

#### 14:30 - 16:30 - Session 3

### Allied Health Professions Occupational Therapy, Social Workers, Dental Technology, Prosthetic & Orthotic

Moderators: Mikheil Maayah PhD, Alia Algwiri PhD, Zaid Hayajneh MSc

14:30 - 14:50 267	Cross Cultural Adaptation of the American National Institutes of Health Stroke Scale (NIHSS-A) Clinical Implications for the Arabic Speaking Professionals and Patients <i>Mohammad Subhi Nazzal PhD (Jordan)</i>
14:50 - 15:10 268	The Influence of Omani Culture on Occupational Therapy Practice: Views and Experiences of Therapists in Oman. <i>Najat Al-Busaidy OT (Oman)</i>
15:10 - 15:30 269	Phantom Pain: Incidence, Causes, and Levels of Amputation <i>Walid Darneh DIP (Jordan)</i>
15:30 - 15:50 270	Effectiveness of Counseling Services Provided to the Parents of Children's with Mental Retardation in Reducing their Burdens (Applied Study at Queen Rania Al-Abdullah Hospital for Children) <i>Fayha' Nofan Mryan, Social Worker (Jordan)</i>
15:50 - 16:10 271	Therapeutic Riding in Occupational Therapy Rehabilitation <i>Najat Al-Busaidy OT (Oman)</i>
16:10 - 16:30 272	The Development of the Traditional Method in Teaching of Applied Science through Three Phases <i>Saleh A Al-Saidat BMT (Jordan)</i>
16:30 - 17:00	Coffee Break

#### 17:00 - 18:30 - Session 4

### ICMM - ICMM Related Lectures, Delegations Talks & Free Papers

Please refer to 4th PARWG Congress Section

## Hall A1

Dead Sea Hall 1

#### 09:00 - 11:00 - Session 1

### Nursing - Free Papers

Moderators: Nooreldin Shugirat PhD RN, Ahmad Al-Duhni PhD RN, Hala Obeidat PhD RN

09:00 - 09:10 282	Perceived Stress and Coping Strategies among Jordanian Nursing Students during Clinical Practice in Psychiatric/Mental Health Courses <i>Abdulkarim Alzayyat RN (Jordan)</i>
09:10 - 09:20 283	A literature Review of Factors Impact QOL of Spinal Cord Injured (SCI) Adult <i>Rola Allahaweh RN (Jordan)</i>
09:20 - 09:30 284	Prevalence of Chronic Complications of Type 2 Diabetes Mellitus in Outpatients: A Cross-Sectional Hospital Based Survey at KHMC <i>Reem Mohammad Al-Qaddah MSc RN (Jordan)</i>
09:30 - 09:40 285	Normal Saline Instillation Prior Suctioning Patients on Mechanical Ventilator <i>Faisal Foudeh RN (Jordan)</i>
09:40 - 09:50 286	Socio-Demographics, Predisposing, Enabling and Reinforcing Factors Associated with Cervical Cancer Screening Uptake among Jordanian Women <i>Suzanne Alamro RN (Jordan)</i>
09:50 - 10:00 287	Parent's Satisfaction with Care Provided in the Pediatric Intensive Care Unit of a Tertiary Children's Hospital in Amman <i>Maram Abu-Qamar MSc RN (Jordan)</i>

10:00 - 10:15 288	Nurses' Perception of Recognition and Empowerment in a Tertiary Hospital of Saudi Arabia <i>Osama Al-Dib'i RN (Jordan)</i>
10:15 - 10:30 289	Correlates of Stress and Coping Among Jordanian Nursing Students During Clinical Practice in Psychiatric/Mental Health Course <i>Abdulkarim Alzayyat RN (Jordan)</i>
10:30 - 11:00 290	Rehabilitation Post Critical Illness <i>Carmel Gordon-Dark RN (UK)</i>
11:00 - 11:30	Coffee Break

#### 11:30 - 13:30 - Session 2

### Nursing - Free Papers

Moderators: Mona Hadaddin RN, Abdula Abo Elfal MSc RN, Hikmat Akash MSc RN

11:30 - 11:40 291	The Effectiveness of Basic Wound Care Courses on Knowledge of Registered Nurses at King Hussein Hospital <i>Lina Rahhal RN (Jordan)</i>
11:40 - 11:50 292	Identifying Patients at Risk for Chronic Kidney Disease at Marka Military Medical Center <i>Ahmad Kamel Al-Omari RN (Jordan)</i>
11:50 - 12:00 293	Safety and Efficiency of Adaptive Support Ventilation Mode (ASV) as a Weaning Mode for COPD and Chest Trauma Patients <i>Samira Bader RN (Jordan)</i>
12:00 - 12:10 294	Fall Risk Assessment for Patients in General Surgical Ward at King Hussein Hospital <i>Maysa, a M. Al-Khateeb RN (Jordan)</i>
12:10 - 12:20 295	Risk of Cesarean Delivery with Induction of Labor <i>Bothaina Qatamin RN (Jordan)</i>
12:20 - 12:30 296	College Students' Satisfaction towards Clinical Practice Settings and Clinical Instructors <i>Ibrahim Khalaf Al-Jbour RN (Jordan)</i>
12:30 - 12:40 297	Assessment of Mothers Knowledge regarding Children's Vaccinations in Prince Zaid Bin Al-Hussein Military Hospital <i>Myasser Al-Awabdeh RN (Jordan)</i>
12:40 - 12:50 298	Attitude of Jordanian Family Members toward Withholding Life Sustaining Support Treatments at End Stage of Life <i>Rawana M Alswalhaf RN (Jordan)</i>
12:50 - 13:00 299	What's Jordanian People Know about Autism and Intervention Modalities? <i>Amani Almomai MSc RN (Jordan)</i>
13:00 - 13:10 300	An Argumentative Essay: Ethical and Legal Issues in Health Care Restrain Use in Psychiatric Settings <i>Rami Sami Elshalabi RN (Jordan)</i>
13:10 - 13:30 301	Knowledge about Middle East Respiratory Syndrome (Corona Virus ) <i>Luma A Almasri RN (Jordan)</i>
13:30 - 13:40 302	How to Reduce the Cancellation Rate in the Vascular Surgeries Department at the Royal Medical Services? <i>Neeveen Al-Zeriny RN (Jordan)</i>
13:30 - 14:30	Lunch Break

#### 17:30 - 18:30 - Session 4

### ICMM PARWG Congress Closing Ceremony

Please refer to 4th PARWG Congress Section

# Hall A2

Dead Sea Hall 2

09:00 - 11:00 - Session 1

## Dentistry - Restorative Dentistry & Endodontics

Moderators: Yassin Hosban DDS, Ibraheem Tarawneh DDS, Safwan khasawneh DDS

09:00 - 09:30  
303  
Successful Posterior Composite Resin Restorations  
Edward Lynch PhD (UK)

09:30 - 10:00  
304  
New Technologies for Clinical Dentistry  
Edward Lynch PhD (UK)

10:00 - 10:30  
305  
Ozone's Uses in Clinical Dentistry  
Edward Lynch PhD (UK)

10:30 - 10:45  
306  
Vital Pulp Therapy: A Paradigm Shift from Treatment of Permanent Teeth with Carious Pulp Exposure  
Nessrin Taha PhD (Jordan)

10:45 - 11:00  
Discussion

11:00 - 11:30  
Coffee Break

11:30 - 13:30 - Session 2

## Dentistry - Dental Implantology & Prosthodontics

Moderators: Ahd Wahadneh PhD, Tal'at Eskandar DDS, Sami Jebreen DDS

11:30 - 12:00  
307  
Management of Severely Atrophic Maxilla  
Faleh Tamimi PhD (Canada)

12:00 - 12:15  
308  
Early Implant Failure Using Straumann AG Implant System For Fixed Partial Prosthesis  
Sami Jebreen DDS (Jordan)

12:15 - 12:45  
309  
Osteointegration Pharmacology  
Faleh Tamimi PhD (Canada)

12:45 - 13:00  
310  
Periodontitis as a Manifestation of Genetic Skin Disorders  
Reem Dababneh DDS (Jordan)

13:00 - 13:15  
311  
Implant Prosthodontics: Current Status and Future Trends  
Mohammad Al-Rababah PhD (Jordan)

13:15 - 13:30  
312  
Transplant versus Implant Dentistry  
Ayat Adel DDS (Algeria)

13:30 - 14:30  
Lunch Break

14:30 - 16:30 - Session 3

## Dentistry - Oral and Maxillofacial Surgery & Prosthodontics

Moderators: Rawhi Rasheed DDS, Kefah Jamani PhD, Mohammad Omari DDS

14:30 - 15:00  
313  
Bone Graft Reconstruction of Maxillofacial Region Using Conventional Bone Graft Materials and Growth Factors  
Gilbert Triplett PhD (USA)

15:00 - 15:15  
314  
Posttraumatic Missile Facial Injuries  
Tahrir N. Aldelaimi DDS, Maxillofacial Surgery & Laser Surgery (Iraq)

15:15 - 15:45  
315  
Use of Dental Implant in Reconstruction of Maxillofacial Complex  
Gilbert Triplett PhD (USA)

15:45 - 16:00  
316  
Reasons for Failures of Fixed Prosthodontic Works  
Amjad M. Al Rahamneh DDS, Prosthodontics (Jordan)

16:00 - 16:30  
317  
Management of Maxillofacial Injuries from Military Combat, Early Through Later Care  
Gilbert Triplett PhD (USA)

16:30 - 17:00  
Coffee Break

17:00 - 18:30 - Session 4

## Restorative Dentistry

Moderators: Awni Rehani DDS, Zaid Bqaeen PhD, Hani Telfah DDS

17:00 - 17:30  
318  
Tooth Whitening  
Faleh Tamimi PhD (Canada)

17:30 - 17:40  
319  
Analytical Study for Tooth Surface Loss in a Group of Jordanian Population  
Khattar S. Haddadin DDS, Conservative Dentistry (Jordan)

17:40 - 17:50  
320  
Effect of Tooth Loss and Denture Wearing on Oral Health-Related Quality of Life  
Osama Al-Jabrah DDS, Prosthodontics (Jordan)

17:50 - 18:00  
321  
Rothmond Thomson Syndrome Case Report  
Thamer Bsoul DDS, Prosthodontics (Jordan)

18:00 - 18:10  
322  
How Can an Edentulous Jaw be Restored?  
Mahasen S. Ajarmeh DDS, Prosthodontics (Jordan)

18:10 - 18:20  
323  
Esthetic Gingiva: An Orthodontic and Periodontic Procedure  
Mohammed Al-Qudah DDS, Periodontics (Jordan)

18:20 - 18:30  
Discussion

# Hall B

Mount Nebo Hall 1

09:00 - 11:00 - Session 1

## Medicine - Hypercoagulable State

Moderators: Khader Mustafa MD, Ahmad Telfah MD, Abdallah Omeish MD

09:00 - 09:30  
324  
Cancer and Thrombosis  
Hikmat Abdel-Razeq MD (Jordan)

09:30 - 10:00  
325  
Update in Pulmonary Embolism Management  
Mamoon Zihlif MD (Jordan)

10:00 - 10:30  
326  
New Oral Anticoagulants in Clinical Practice  
Hikmat Abdel-Razeq MD (Jordan)

10:30 - 11:00  
327  
Antiphospholipid Syndrome: 30 Years On  
Munther Khamashta MD (UK)

11:00 - 11:30  
Coffee Break

11:30 - 13:30 - Session 2

## Medicine - Advances in Allergy and Oncology

Moderators: Massimo Crespi MD, Ammar Daoud MD, Mansour Karadsheh MD

11:30 - 12:00  
328  
Allergen Immunotherapy: Past, Present and Future  
Mansour Karadsheh MD (Jordan)

12:00 - 12:30  
329  
Recent Advances in Personalized Oncology: Role of Antibodies  
Stefano Iacobelli MD (Italy)

12:30 - 13:00  
330  
Antibody Directed Nanoparticles to Improve Targeted Cancer Therapy  
Pier Giorgio Natali MD (Italy)

13:00 - 13:30  
331  
Recent Advances in Personalized Oncology: Role of Antibody-Drug Conjugates  
Stefano Iacobelli MD (Italy)

13:30 - 14:30  
Lunch Break

14:30 - 16:30 - Session 3

## Cancer Prevention and Early Diagnosis Symposium: S03

Royal Medical Services (RMS)- Mediterranean Task Force for Cancer Control (MTCC)

Moderators: Stefano Iacobelli MD, Kassab Harfoushi MD, Zuhair Shawagfeh MD

MTCC



14:30 - 15:00  
332  
Hepatocellular Cancer: A Preventable Disease  
Massimo Crespi MD (Italy)

15:00 - 15:30  
333  
Colorectal Cancer Screening  
Ziad Sharaiha MD (Jordan)

15:30 - 16:00  
334  
Tobacco Dependence Treatment: The Case for the EMR  
Feras Hawari MD (Jordan)

16:00 - 16:30  
335  
Crucial Educational Messages for Patients by Family Doctors for Cancer Prevention  
Massimo Crespi MD (Italy)

16:30 - 17:00  
Coffee Break

17:00 - 18:30 - Session 4

## Medicine - Infection and Vaccination

Moderators: Suleiman Mneizel MD, Gaiith Al-Hasan MD, Ahmad Al-Khawaldeh MD

17:00 - 17:30  
336  
Malaria: Current and Future Perspectives  
David Warell MD (UK)

17:30 - 18:00  
337  
Malaria in Jordan  
Khalil Kanani MD (Jordan)

18:00 - 18:30  
338  
Respiratory Viral Infections among Immunocompromised Patients  
Wail Hayajneh MD (Jordan)



# Hall C

## Mount Nebo Hall 2

09:00 - 11:00 - Session 1

### Laboratory Medicine - Facts & Update on Neuroendocrine Tumors (NET)

Moderators: Maysa Al-Hussaini MD, Fayez Hajjiri MD, Nabih Al-Kaisi MD

09:00 - 09:20 339	Classification of Neuroendocrine Tumors <i>Sylvia Asa MD(Canada)</i>
09:20 - 09:40 340	Grading and Staging Systems for Neuroendocrine Tumors <i>Sylvia Asa MD (Canada)</i>
09:40 - 10:00 341	Approaches to Therapy of Neuroendocrine Tumors <i>Sylvia Asa MD (Canada)</i>
10:00 - 10:30 342	Contribution of Molecular Pathology in Lung Cancer Diagnosis and Treatment <i>Maher Sughayer MD (Jordan)</i>
10:30 - 11:00 343	Next Generation Sequencing in Clinical Diagnostics <i>Abdelghani Tbakhi MD (Jordan)</i>

11:00 - 11:30 Coffee Break

11:30 - 13:30 - Session 2

### Laboratory Medicine - PS2 Update on Ovarian Tumors

Moderators: Ismail Matalaka MD, Mahmoud Habashneh MD, Nasrat Babouk MD

11:30 - 11:50 344	Recent Advances in the Pathology of Ovarian Epithelial Tumors <i>Mona El Bahrawy MD (UK)</i>
11:50 - 12:15 345	Borderline Ovarian Tumors <i>Mona El Bahrawy MD (UK)</i>
12:15 - 12:45 346	Pre-Analytical Variables in Laboratory Medicine <i>Aparna Ahuja MD (India)</i>
12:45 - 13:30 347	Meet the Expert: Gynaecological Pathology Slide Seminar <i>Mona El Bahrawy MD (UK)</i>

13:30 - 14:30

### Symposium S08

Immunoglobulin serum free light chains (Freelite®) and heavy chain /light chain specific pairs (HevyLite®) analysis as cancer markers in monoclonal gammopathies  
*Nuno Barbosa MD (UK)*  
Moderators: Nazmi Kamal MD, Hassan Annab MD

SIEMENS

14:30 - 16:30 - Session 3

### Laboratory Medicine - Hematology & Oncology

Moderators: Azmi Mahafzah MD, Salah Jitawi MD, Abdelrazzaq Wraikat MD

14:30 - 15:30 348	Meet the Expert : Endocrine Pathology Slide Seminar <i>Sylvia Asa MD (Canada)</i>
15:30 - 16:10 349	Myeloid Neoplasms with Eosinophilia <i>Nazmi Kamal MD (Jordan)</i>
16:10 - 16:30 350	Quality Indicators & Quality Control in the Pre-Analytical Phase <i>Aparna Ahuja MD (India)</i>

16:30 - 17:00 Coffee Break

17:00 - 18:30 - Session 4

### Laboratory Medicine - Free Papers

Moderators: Azmi Dwaikat MD, William Haddadin MD, Luma Fayyad MD

17:00 - 17:10 351	Muscle Disorders at King Hussein Medical Center: An 8-Year Experience <i>William Haddadin MD (Jordan)</i>
17:10 - 17:20 352	Impact of Individual Donor Nucleic-Acid Amplification Testing of Blood Donors in Interdicting the Transmission of Transfusion Transmitted HIV, Hepatitis B and Hepatitis C in India <i>Alok Deepak Sen MD (India)</i>
17:20 - 17:30 353	Congenital Deficiency of Coagulation Factors other than Hemophilia A and B Diagnosed at Princess Iman Research and Laboratory Sciences Center over Four Years <i>Raida Oudat MD (Jordan)</i>

17:30 - 17:40 354	Flow Cytometric Analysis of Acute Leukemia; A Two Year Experience at King Hussein Medical Center <i>Nabeeha Abbasi MD (Jordan)</i>
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17:40 - 17:50 355	Flow Cytometric Diagnosis of Chronic Lymphocytic Leukemia (CLL) <i>Hala A. Al-Sukhni MD (Jordan)</i>
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# Hall D

## Petra Hall 1

09:00 - 11:00 - Session 1

### Pediatrics - Pediatric Cardiology

Moderators: Mazin Naghawwi MD, Fakhri Al-Hakim MD, Abdel Fatah Abu-Haweleh MD

09:00 - 09:30 356	Transcatheter Pulmonary Valve Replacement: State of the Art <i>Ziyad Hijazi MD (Qatar)</i>
09:30 - 09:50 357	Transcatheter Closure of ASD In Adults <i>Abdel Fatah Abu-Haweleh MD (Jordan)</i>
09:50 - 10:20 358	Coarctation of the Aorta in Adult Patients: Treatment Strategy <i>Ziyad Hijazi MD (Qatar)</i>
10:20 - 10:30 359	Initial Experience of Percutaneous Balloon Aortic Valvuloplasty at Queen Alia Cardiac Center using Rapid Pacing Technique <i>Abdel Fatah Abu-Haweleh MD (Jordan)</i>
10:30 - 11:00 360	Paravalvular Leaks: Evaluation and Management Strategy <i>Ziyad Hijazi MD (Qatar)</i>

11:00 - 11:30 Coffee Break

11:30 - 13:30 - Session 2

### Pediatrics - Immunology, Bone Marrow and Stem Cell Transplantation

Moderators: Abd Allah Ewidi Al Abadi MD, Mahmoud Al-Sheyyab MD, Adel Wahadneh MD

11:30 - 12:00 361	Treatment of Chronic Graft-Versus-Host Disease (GVHD) <i>Tayfun Gungor MD (Switzerland)</i>
12:00 - 12:30 362	Stem Cell Transplantation (SCT) in Hemophagocytic Lymphohistiocytosis (HLH) <i>Tayfun Gungor MD (Switzerland)</i>
12:30 - 12:40 363	Preemptive Hematopoietic Stem Cell Transplantation for Severe Combined Immunodeficiency: Single Center Experience <i>Mohammad Almutereen MD (Jordan)</i>
12:40 - 12:50 364	Hematopoietic Stem Cell Transplantation as a Curative Treatment for Primary Hemophagocytic Lymphohistiocytosis in Children: Queen Rania Children's Hospital Experience <i>Raed Alzyoud MD (Jordan)</i>

12:50 - 13:10 365	Bone Marrow Transplantation for Bone Marrow Failure <i>Isam Haddadin MD (Jordan)</i>
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13:10 - 13:30 366	Hematopoietic Stem Cell Transplantation for B-Thalassemia Major in Children <i>Mufeed Hammoury MD (Jordan)</i>
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13:30 - 14:30 Lunch Break

14:30 - 16:30 - Session 3

### Pediatrics - Pediatric Infectious Diseases & Vaccination

Moderators: Najwa Khuri MD, Mjalli Ahmad MD, Ahmad Abu-Zeid MD

14:30 - 15:00 367	Laboratory Diagnosis in Respiratory Tract Infection <i>Walid Abu Hammour MD (UAE)</i>
15:00 - 15:30 368	Emergency in Pediatric Infection Disease <i>Walid Abo Homour MD (UAE)</i>
15:30 - 16:00 369	Invasive Fungal Infection <i>Montaser Bilbisi MD (Jordan)</i>
16:00 - 16:30 370	Immunization of Immunocompromised Children: Evolving Concepts <i>Wail Hayajneh MD (Jordan)</i>
16:30 - 17:00	Coffee Break

17:00 - 18:30 - Session 4	
<b>Satellite Symposium: Oral Anti-Platelets S04</b>	AstraZeneca 
Moderators: Marwan Nimri MD, Ayman Odeh MD, Hatem Al-Abbadi MD	

17:00 - 18:00	Oral Anti-Platelets: Where we are Coming from and Where we are Heading to Eric Bates MD (USA) (Sponsored by AstraZeneca)
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# Hall E

Petra Hall 2

09:00 - 11:00 - Session 1	
<b>Gynecology - Gynecological Cancers</b>	
Moderators: Issam Lataifeh MD, Hassan Malkawi MD, Mahmood Dabbas MD	

09:00 - 09:20	Imaging in Endometrial Cancer 371 Mamdouh Mahfouz MD (Egypt)
09:20 - 09:40	Histopathology of Endometrial Cancer 372 Mona El- Bahrawy MD (UK)
09:40 - 10:00	Surgical Treatment of Endometrial Cancer 373 Christhardt Köhler MD (Germany)
10:00 - 10:20	Role of Radiotherapy in Endometrial Cancer 374 Imad Jaradat MD (Jordan)
10:20 - 10:40	Recent Advances in Ovarian Cancer 375 Ghadeer Abdeen MD (Jordan)
10:40 - 11:00	Disease-Based Therapy of Women Diagnosed with Cervical Cancer 376 Christhardt Köhler MD (Germany)
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2	
<b>Obstetrics</b>	
Moderators: Mazen El-Zibdeh MD, Ghalib Al-Tayeb MD, Mohammed Hiasat MD	

11:30 - 12:00	Remarkable People, Remarkable Events! 377 Zaid Kilani MD (Jordan)
12:00 - 12:30	Birth Asphaxia 378 Edward Bell MD (USA)
12:30 - 13:00	Modern Management of Gestational Diabetes Mellitus (GDM) 379 Hassan Shehata MD (UK)
13:00 - 13:30	Lupus and Pregnancy 380 Munther Khamashta MD (UK)
13:30 - 14:30	Lunch Break

14:30 - 16:30 - Session 3	
<b>Gynecology</b>	
Moderators: Yosuf Tahat MD, Abdelrahman Al-Basher MD, Ziad Shraideh MD	

14:30 - 15:00	Stopping the Epidemic of IVF Multiple Births whilst Maintaining the Pregnancy Rate 381 Timothy John Child MD (UK)
15:00 - 15:30	Lymph Node Dissection in Gynecologic Oncology: Pelvic and Para-Aortic Anatomy and Common Anatomical Abnormalities 382 Christhardt Köhler MD (Germany)
15:30 - 15:50	Premature Ovarian Failure 383 Mazen El-Zibdeh MD (Jordan)
15:50 - 16:10	Preimplantation Genetic Screening (PGS) : Does it Increase IVF Success? 384 Timothy John Child MD (UK)
16:10 - 16:30	Training Opportunities in the UK 385 Hassan Shehata MD (UK)
16:30 - 17:00	Coffee Break

17:00 - 18:30 - Session 4	
<b>Gynecology - Free Papers</b>	
Moderators: Mohammed Qudah MD, Naser Malas MD, Amal Shamas MD	

17:00 - 17:10	Spontaneous Pregnancy Rate after Hysteroscopic Removal of Endometrial Polyps in Infertility patients: Experience at King Hussein Medical Center 386 Ziad Shraideh MD (Jordan)
17:10 - 17:20	Antenatal Diagnosis of Esophageal Atresia with the Upper Neck Pouch Sign: A Case Report 387 Vera Amarin MD (Jordan)

17:20 - 17:30	Gestational Thrombocytopenia / Pregnancy with Mild Immune Thrombocytopenic Purpura: A Low Risk Pregnancy 388 Amer Gharaibeh MD (Jordan)
17:30 - 17:40	Relationship between Reactive Oxygen Species (ROS), Malondialdehyde (MDA), Total Antioxidants (TAS), Leukocytes and Round Cells in Seminal Plasma and their Effect on Sperm Parameters and ICSI Outcome 389 Wael Al-Ma'ani MD (Jordan)
17:40 - 17:50	Effectiveness of Sacrocolpopexy at King Hussein Medical Center 390 Basil Khreisat MD (Jordan)
17:50 - 18:00	Cancer of Female Genital Tract: A Clinical-Pathological Review at King Hussein Medical Center 391 Ehab Al-Rayyan MD (Jordan)
18:00 - 18:10	Women's Attitude Toward Menstruation and Menstrual Supression in Tafelah Province - Jordan 392 Suhair Wreikat MD (Jordan)
18:10 - 18:20	Case-Based Review of MRI Cervical Cancer Staging 393 Suha Ghoul MD (Jordan)

# Hall F

Wadi Rum 1

09:00 - 11:00 - Session 1	
<b>Radiology I</b>	
Moderators: Hamzeh Omari MD, Abdallah Jameel MD, Imad Athamneh MD	

09:00 - 09:30	Brain Tumors: Pseudo-Progression and Pseudo-Response 394 Walter Kucharczyk MD (Canada)
09:30 - 10:00	Role of CMR in Hypertrophic Cardiomyopathy 395 Wael Jaroudi MD, American University of Beirut (Lebanon)
10:00 - 10:30	Viral and Prion Infections of the Central Nervous System 396 Walter Kucharczyk MD (Canada)
10:30 - 11:00	Stress CMR: Review and Cases 397 Wael Jaroudi MD, American University of Beirut (Lebanon)
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2	
<b>Radiology II</b>	
Moderators: Hassan Al-Balas MD, Mohammed Hiari MD, Samih Al-Khulaifat MD	

11:30 - 12:00	Susceptibility-Weighted Imaging of the Brain: Principles and Applications in Neuro-Imaging 398 Walter Kucharczyk MD (Canada)
12:00 - 12:30	Focal Liver Lesion 399 Mamdouh Mahfouz MD (Egypt)
12:30 - 13:00	Advanced MR Imaging of Brain Tumors 400 Asem Mansour MD (Jordan)
13:00 - 13:30	Renal Cystic Lesion 401 Mamdouh Mahfouz MD (Egypt)
13:30 - 14:30	Lunch Break

14:30 - 16:30 - Session 3	
<b>Radiology III</b>	
Moderators: Azmi Al-Hadidi MD, Michel Kakish MD, Amal Smadi MD	

14:30 - 15:00	Anatomy and Differential Diagnosis of Pituitary and Parasellar Lesions 402 Walter kucharczyk MD (Canada)
15:00 - 15:30	Pituitary Tumors: Experience in a Large Series at King Hussein Medical Center 403 Amer Al-Shurbaji MD (Jordan)
15:30 - 16:00	High Resolution MRI Quantitative Measurement in MS 404 Ali Al-Radaideh MD (Jordan)
16:00 - 16:30	Innovative Therapy Application of HIFU in Gyenecology-Oncology 405 Ilya Gipp MD (Finland)
16:30 - 17:00	Coffee Break

17:00 - 18:30 - Session 4	
<b>Radiology IV</b>	
Moderators: Alabad Al-Akaylih MD, Ihsan Hamarneh MD, Mohammad Ghatasheh MD	

17:00 - 17:30	Recent Advances in Radiotherapy Technique 406 Advanced Technology of Radiotherapy Jonathan Yao MD (USA)
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17:30 - 17:40 407	The Role of PET/CT in the Management of Patient with Nasopharyngeal Carcinoma <i>Hussam Al-Kaylani MD (Jordan)</i>
17:40 - 17:50 408	The Metabolic Joint Asymmetry Score derived from Conventional Bone Scintigraphy: A New Tool to Differentiate Psoriatic from Rheumatoid Arthritis <i>Abdullah Al-Zreiqat MD (Jordan)</i>
17:50 - 18:00 409	Comparison between Ga68-DOTATOC PET/CT and Conventional In111-Octreotide Imaging in Neuroendocrine Tumors <i>Mais Al-Halaseh MD (Jordan)</i>
18:00 - 18:10 410	18F-Choline PET/CT; A New Modality and Potential Values in Staging Prostate Cancer <i>Khaled Alkhawaldeh MD (Jordan)</i>
18:10 - 18:20 411	Quality of Life and Psychological Wellbeing of Breast Cancer Survivors in Jordan <i>Motaseem Al-Hanaqta MD (Jordan)</i>
18:20 - 18:30 412	Application of the 1994 WHO Classification to Jordanian Women <i>Hussam Al-Kaylani MD (Jordan)</i>

## Hall G

Wadi Rum 2

09:00 - 11:00 - Session 1

### Surgery - Recent Advances in Neurosurgery

Moderators: Adel Shraideh MD, Mohammad Al-Hosban MD, Amer Al-Shurbajji MD

09:00 - 09:30 413	Spinal Navigation: Where do we Stand? <i>Abdulkarim Masaddi MD (UAE)</i>
09:30 - 10:00 414	Spinal Cord Tumor Surgery: Experience at KHM <i>Abdallah Al-Akayleh MD (Jordan)</i>
10:00 - 10:30 415	Cervical Vertebroplasty: New Technique in Osteoporosis Spine Surgery <i>Abdulkarim Masaddi MD (UAE)</i>
10:30 - 10:40 416	Neurosurgery Surgical Treatment for Parkinson's Disease and Movement Disorders <i>Mohammad Samaha MD (Jordan)</i>
10:40 - 10:50 417	Neurosurgery Neuroendoscopy: King Hussein Medical Center Experience <i>Nidal H. Khasawneh MD (Jordan)</i>
10:50 - 11:00 418	Neurosurgery Meningioma: A Retrospective Study of 627 Cases Operated at KHM <i>Ra'ed M Aljoubour MD (Jordan)</i>

11:00 - 11:30 Coffee Break

11:30 - 13:30 - Session 2

### Surgery - Urology - Management of Complicated Urethral Stricture

Moderators: Muhammed Al-Ghazo MD, Saeed Al-Ajlouni MD, Adnan Abu-Qamar MD

11:30 - 11:50 419	Endoscopic Management of Urethral Stricture <i>Abdul-Naser Shunaigat MD (Jordan)</i>
11:50 - 12:10 420	Management of Bulbar Urethral Strictures <i>Abdel-Wahab El-Kassaby MD (Egypt)</i>
12:10 - 12:40 421	Management of Posterior Urethral Distraction Injuries <i>Abdel-Wahab El-Kassaby MD (Egypt)</i>
12:40 - 13:00 422	Diagnosis and Management of Urethral Injury <i>Ibrahim Bani-Hani MD (Jordan)</i>
13:00 - 13:30 423	Management of Urological Complication in Spinal Cord Injured Patient <i>Jean Jacques Wyndaele MD (Belgium)</i>

13:30 - 14:30 Lunch Break

14:30 - 16:30 - Session 3

### Surgery - Onco-Surgery GI Cancer

Moderators: Mahmoud Al-Masri MD, Jamal Hadad MD, Salah Halasa MD

14:30 - 14:50 424	Introduction: GI Cancer, Past, Present and Future <i>Salah Halasa MD (RMS - Jordan)</i>
14:50 - 15:20 425	Oesophagogastric (OG) Junction Cancer, Team Center <i>Rajab Kerwat MD (UK)</i>

15:20 - 15:40 426	Role of Radiology in Diagnosis of GI Cancer <i>Abdullah Al-Omari MD (Jordan)</i>
15:40 - 16:10 427	Recent Advances in the Treatment of Oesophageal and Gastric Cancer <i>Rajab Kerwat MD (UK)</i>
16:10 - 16:30 428	Spectrum of Ultrasound in Diagnosis of GI Cancer Pre-Operatively <i>Tareq Bisheh MD (Jordan)</i>
16:30 - 17:00	Coffee Break
17:00 - 18:30 - Session 4	
<b>Surgery - Onco-Surgery GI Cancer</b>	
Moderators: Jamal Khader MD, Nabeel Batarseh MD, Amer Amireh MD	
17:00 - 17:30 429	Preventive Surgery: Is it an Acceptable Strategy for Cancer Prevention? <i>Alberto Montori MD (Italy)</i>
17:30 - 17:50 430	Neoadjuvant Treatment for GI Cancer <i>Adnan Qasem MD (Jordan)</i>
17:50 - 18:10 431	Recent Advances in Colorectal Surgery <i>Tareq Al-Jaberi MD (Jordan)</i>
18:10 - 18:30 432	Adjuvant Treatment for GI Cancer <i>Laith Jabali MD (Jordan)</i>

## Hall H

Mou'ta Lounge

09:00 - 11:00 - Session 1

### Community Medicine

Moderators: Malek Dabbas MD, Mohammad Abdallat MD, Eqab Abuwandi MD

09:00 - 09:25 433	Global Emerging and Re-Emerging Infectious Disease Threats <i>Kashef Ijaz MD (USA)</i>
09:25 - 09:50 434	Monitoring Public Health Events Through Event-Based Surveillance <i>Kashef Ijaz MD (USA)</i>
09:50 - 10:15 435	Future of HealthCare: The Community Medicine Approach <i>Ahmad Mattar MD (USA)</i>
10:15 - 10:40 436	EBOLA: Recent Emergence and Global Implications <i>Kevin Russell MD (USA)</i>
10:40 - 10:50 437	Epidemiological and Clinical Characterization of Staphylococcal Food Poisoning: Report of an Outbreak <i>Mahmud Abdallat MD (Jordan)</i>
10:50 - 11:00 438	Epidemiological Characteristics of Cancer in Jordan (1996-2009) <i>Eqab Abu-Wandi MD (Jordan)</i>
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2

### Community Medicine

Moderators: Bassam Hijawi MD, Saleh Al-Adwan MD, Mahmud Abdallat MD

11:30 - 11:40 439	Epidemiology and Survival Analysis of Colorectal Cancer, Jordan 2005-2010 <i>Ghazi Faisal Sharkas MD (Jordan)</i>
11:40 - 11:50 440	Adherence to Medication and Healthy Behaviors among Patients with Coronary Heart Disease in Jordan <i>Sultan Mosleh MD (Jordan)</i>
11:50 - 12:00 441	Epidemiology and Survival Analysis of Breast Cancer Patients in Jordan, 2005-2010 <i>Kamal Arqoub MD (Jordan)</i>
12:00 - 12:10 442	Perceptions of Medical Students undergoing Cadaveric Training <i>Maarof Tahseen Hassan MD (Iraq)</i>
12:10 - 12:20 443	Treatment of Combat-Related Traumatic Chronic Osteomyelitis with Tigecycline: A Case Series <i>Jamal Wadi MD (Jordan)</i>
12:20 - 12:30 444	Epidemiology of Cervical Cancer in Jordan during the period from 2004 to 2009 <i>Marwan Alzaghal MD (Jordan)</i>
12:30 - 12:40 445	The Use of Red Blood Cell Indices in order to Detect Thalassemia Minor: Experience at Prince Ali Bin Al-Hussein Military Hospital in Al-Karak <i>Areej M Al-Asasfeh MD (Jordan)</i>
12:40 - 12:50 446	The Use of Red Blood Cell Indices in order to Detect Thalassemia Minor: Experience at Prince Ali Bin Al-Hussein Military Hospital in Al-Karak <i>Areej M Al-Asasfeh MD (Jordan)</i>
12:50 - 13:00 447	Obesity and Body Mass Index for age in Students in Military Education Schools <i>Amal F Khreisat MD (Jordan)</i>

13:00 - 13:10 448	Epidemiology of Mortality due to Cancer in Jordan -2011 (Jordan Cancer Registry (JCR) data) <i>Kamal Arqowb MD (Jordan)</i>
13:10 - 13:20 449	Corona Virus Up To Date <i>Hala Abuoruman MD (Jordan)</i>
13:20 - 13:30 450	The Importance of Breastfeeding for Child Growth: Experience at Prince Hashem Bin Al-Hussein Military Hospital <i>Mustafa A. Al-Zboun MD (Jordan)</i>
13:30 - 14:30	Lunch Break

#### 14:30 - 16:30 - Session 3 **Family & Emergency Medicine - Multi Injured Patients** *Moderators: Suleiman Abbadi MD, Jameel Refai MD, Atallah Hashem MD*

14:30 - 15:00 451	War and Violence: Role of Physicians in Care and Prevention <i>Mark Davis MD (USA)</i>
15:00 - 15:20 453	Emergency Medicine in the Field: Key Lessons from Recent Conflicts <i>Timothy Hodgetts MD (UK)</i>
15:20 - 15:40 454	Facial Fracture Management in the Multi-Injured Patient <i>Khalidoun Haddadin MD (Jordan)</i>
15:40 - 16:10 455	Controversies in Resuscitation of the Poly-Trauma Patient <i>Mark Davis MD (USA)</i>
16:10 - 16:30 456	Emergencies in Cardiac Trauma <i>Ali Aboruman MD (Jordan)</i>
16:30 - 17:00	Coffee Break

#### 17:00 - 18:30 Session 4 **Family & Emergency Medicine - Miscellaneous** *Moderators: Mohammad Rasol Altarawneh MD, Mustafa Gawasmeh MD, Ahmad Essalim MD*

17:00 - 17:30 457	The Pivotal Role of Family Medicine Residency Training in a Modern Healthcare: US Model <i>Ahmad Matter MD (USA)</i>
17:30 - 18:00 458	The Efficiency of the Well Trained Family Medicine Specialist in Providing Quality Care within the Public Health Sector <i>Suleiman Abbadi MD (Jordan)</i>
18:00 - 18:30 459	Screening in Family Medicine <i>Mazen Al-Bashir MD (Jordan)</i>

## Hall I

Yarmouk Lounge

#### 09:00 - 11:00 - Session 1 **Surgery - General + Cardiac + Plastic Free Papers** *Moderators: Ali Abusini MD, Ali Aburuman MD, Khalidoun Al-Abbadi MD*

09:00 - 09:10 460	Implementing Enhanced Recovery after Surgery Program in a Colorectal Unit at King Hussein Medical Center / Amman <i>Ahmad Uraiqat MD (Jordan)</i>
09:10 - 09:20 461	Pseudo Papillary Pancreatic Tumor <i>Sahel Hammouri MD (Jordan)</i>
09:20 - 09:30 462	Outcome of Thyroidectomy versus Lobectomy and Isthmusectomy in the Management of Papillary Thyroid Carcinoma <i>Osama T AbuSalem MD (Jordan)</i>
09:30 - 09:40 463	Endoscopic Pilonidal Sinus Treatment (EPSiT) <i>Mohammad Aljahmi MD (Jordan)</i>
09:40 - 09:50 464	Atypical Presentation of Diverticulitis <i>Sakher Mayyeh MD (Jordan)</i>
09:50 - 10:00 465	Auricular Reconstruction for Microtia with Two Stage Nagata Technique: Newly Introduced Procedure to King Hussein Medical Center - Case Presentation <i>Mohammed Aldabbas MD (Jordan)</i>
10:00 - 10:10 466	Chang Gung Cleft Lip Repair with Semi Open Rhinoplasty Technique: Case Series of a Newly Introduced Technique <i>Suzan Marouf Bakhit MD (Jordan)</i>
10:10 - 10:20 467	The Relation between Clinico-Pathological Variables and Axillary Lymph Status in Breast Cancer in a Single Cancer Center in Jordan <i>Majdi A. Al Souadi MD (Jordan)</i>
10:20 - 10:30 468	Clinicopathological Factors Influencing Lymph node Metastasis in Breast Carcinoma <i>Hani Kafaween MD (Jordan)</i>
10:30 - 10:40 469	Transcatheter Aortic Valve Implantation: our Hope for Inoperable Conventional Aortic Valve Replacement, Systemic Review <i>Haiham Akram Altaani MD (Jordan)</i>
10:40 - 10:50 470	Balloon Aortic Valvuloplasty before Aortic Valve Replacement in High Risk Groups <i>Salah Eldien Altarabshah MD (Jordan)</i>

10:50 - 11:00 471	Outcome Analysis of Redo Coronary Artery Bypass Graft in Patients above 70 Years Old <i>Razi Abuanzeh MD (Jordan)</i>
11:00 - 11:30	Coffee Break

#### 11:30 - 13:30 - Session 2 **Surgery - Vascular Surgery** *Moderators: Osama Hirzalla MD, Ziad Al-Quran MD, Mamoun Qaryote MD*

11:30 - 12:00 472	Acute and Chronic Venous Disease <i>Rajai Khoury MD (USA)</i>
12:00 - 12:10 474	The Role of Orbital Atherectomy in Critical Limb Ischemia (CLI) Patients, in the CONFIRM Trial <i>Tariq Haddadin MD (USA)</i>
12:10 - 12:20 475	Mesenteric Revascularization using Aortic Inflow for Chronic Mesenteric Ischaemia <i>Mamoun Al-Basheer MD (Jordan)</i>
12:20 - 12:50 476	Venous Stasis Ulcers: The Role of Vein Ablation <i>Rajai Khoury MD (USA)</i>
12:50 - 13:00 477	Comparison of Orbital Atherectomy Plus Balloon Angioplasty vs. Balloon Angioplasty Alone in Patients with Critical Limb Ischemia: Results of the CALCIUM 360 Randomized Pilot Trial <i>Tariq Haddadin MD (USA)</i>
13:00 - 13:30	Discussion
13:30 - 14:30	Lunch Break

#### 14:30 - 16:30 - Session 3 **Endovascular Therapy Symposium** *Moderators: Saber Rawashdeh MD, Omer Zoubi MD, Kristi Janho MD*

14:30 - 15:30	<b>Symposium S09: Vascular - Interventional Radiology Endovascular Therapy</b> (Sponsored by Medtronic, Micromed)	
	Endovascular Treatment of AAA – Endurant Clinical Evidence <i>Piergiorgio Cao MD (Italy)</i>	
	Evidence Based Decision-Making for TEVAR to Treat TAA and TBAD <i>Piergiorgio Cao MD (Italy)</i>	
15:30 - 15:40 478	Abdominal Aortic Aneurysm in Patients with Kidney Transplant <i>Yousef Omar Moshleh MD (Jordan)</i>	
15:40 - 15:50 479	Endovascular Management of Ruptured Aortic Aneurysm in Patients with Patent Sciatic Artery through the Sciatic Artery <i>Muhammad Jalookh MD (Jordan)</i>	
15:50 - 16:00 480	Extension of Landing Zone for Short Neck Aortic Aneurysms <i>Mamoun Al-Basheer MD (Jordan)</i>	
16:00 - 16:10 481	Congenital Venous Anomalies Presenting with Extensive Lower Limb Deep Venous Thrombosis: A Report of Two Cases <i>Mohammad Alrawashdeh MD (Jordan)</i>	
16:10 - 16:20 482	Perigraft Seroma in Arterial Graft Bypass Surgery <i>Eyad Al-Ajarmeh MD (Jordan)</i>	
16:20 - 16:30 483	Axillary-Basilic Prosthetic Vascular Access : A New Strategy to Prevent Steal Syndrome after Vascular Access Surgery for Hemodialysis <i>Heba Dboush Abbadi MD (Jordan)</i>	
16:30 - 17:00	Coffee Break	

#### 17:00 - 18:30 - Session 4 **Urology, Neurosurgery & Community Medicine Free Papers** *Moderators: Mohammad Al-Zoubi MD, Nidal Khasawneh MD, Firas Hammouri MD*

17:00 - 17:10 484	Positive Surgical Margin post Nephron-Sparing Surgery: Experience at Prince Hussein Urology Center <i>Awad Al-Kaabneh MD (Jordan)</i>
17:10 - 17:20 485	Comparison between Ultrasonic and Pneumatic Lithotripsy in Percutaneous Nephrolithotomy <i>Ahmad Al-Hiari MD (Jordan)</i>
17:20 - 17:30 486	Penile Implant as the Definite Treatment for Erectile Dysfunction: Our Experience at Prince Hussein Center for Urology and Organ Transplant <i>Ghaith Issam Gsoud MD (Jordan)</i>
17:30 - 17:40 487	Weight-for-Age and Wasted Boys and Girls in Military Funded Schools <i>Hussein Ismail Abuzeid MD (Jordan)</i>

17:40 - 17:50 488	Linear Growth for Students in Military Educational Schools <i>Sameer Kofahi MD (Jordan)</i>
17:50 - 18:00 489	Breast Feeding and Infant Infection Reduction <i>Ayat Abdel-Rahman Khasawneh MD (Jordan)</i>
18:00 - 18:10 490	Gamma Knife Radiosurgery in Jordan <i>Mohammad Samaha MD (Jordan)</i>
18:10 - 18:20 491	Pediatric Brain Tumors, Epidemiology and Management: King Hussein Medical Center Experience <i>Nidal Khasawneh MD (Jordan)</i>
18:20 - 18:30 492	Management Trigeminal Neuralgia MVD Vs. Radiosurgery <i>Mohammad Samaha MD (Jordan)</i>

## Hall J

Harraneh Hall 1

**Under the Patronage of  
Director General of the Royal Medical Services  
Major General Dr Khalaf Al-Jader Al-Sarhan  
Pharmacy Opening Ceremony**  
09:00 - 09:30

09:30 - 11:00 - Session 1

### Pharmacy

Moderators: Prof. Rula Darveesh, Pharm Hussien Al-Shaweeh, Pharm Emad Nsour

09:00 - 09:30	Introduction to the Day and Welcoming
09:30 - 10:00 493	Demonstrating Benefits From Clinical Pharmacy Services <i>Prof. Joseph Dipiro (USA)</i>
10:00 - 10:30 494	Counterfeited Drugs and the Role of the Pharmacist <i>Prof Tawfiq Arafat (Jordan)</i>
10:30 - 10:40 495	Antibiotics Use in a Military Hospital: Where is Clinical Pharmacy Interventions Mostly Needed? <i>Dr. Ayesha Al-Qasemi (UAE)</i>
10:40 - 10:50 496	How to Supply Medical Corps with Specific Medical Needs in Exceptional Circumstances: Experience of the Health services of Tunisian armed forces <i>Prof. Mehdi Dridi (Tunisia)</i>
10:50 - 11:00 497	Building a Research Program in the Pharmacy Department: Experience of King Hussein Cancer Center <i>Lama Nazer Bsc. Pharm (Jordan)</i>
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2

### Pharmacy

Moderators: Dr Yasser Bustanji, Pharm Khalil Ma ali, Pharm. Fawaz Al-Fawaz

11:30 - 12:00 498	Clinical Pharmacy Practice in 2014 <i>Prof. Joseph Dipiro (USA)</i>
12:00 - 12:30 499	New Trends in Pharmacy Education <i>Dr. Nahla Nasser Khoury (USA)</i>
12:30 - 13:00 500	Impact of Intellectual Property Rights and Data Exclusivity of Pharmaceuticals in Jordan <i>Prof Ibrahim Al-Abbadi (Jordan)</i>
13:00 - 13:10 501	Jordan Drug Information and Toxicology Center (JDITC) – Existing Trends of Inquiries during One Year of Operation <i>Kholoud. Z. Qoul MSc. Clinc.Pharm.(Jordan)</i>
13:10 - 13:20 502	Knowledge, Attitudes, and Practices (KAP) of Community Pharmacies Towards Proper Handling and Disposal of Unused/Expired Medications in Amman, 2013 <i>Rima Nsheiwat, MSc. Public Health (Jordan)</i>
13:20 - 13:30 503	Implementation of Good Governance for Medicines in Jordanian Health Sector <i>Dr. Rawan S. Al-Hiyari (Jordan)</i>
13:30 - 14:30	Lunch Break

14:30 - 16:30 - Session 3

### Pharmacy

Moderators: Prof.Tawfiq Arafat, Pharm Reem Qutob, Pharm Rasha Karadsheh

14:30 - 15:00 504	Update Review of Drug Delivery Systems <i>Dr. Nahla Nasser Khoury,(USA)</i>
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15:00 - 15:10 505	Setting Regulations of Biosimilars at Jordan Food & Drug Administration <i>Wesal Salm Alhaqaish, Bsc. Pharm (Jordan)</i>
15:10 - 15:20 506	Chemical Precursors and Narcotics <i>Heyam Wahbeh Ibrahim, Bsc. Pharm (Jordan)</i>
15:20 - 15:30 507	Pharmacy Practice and Medication Reconciliation <i>Dr.Lama Al-Rashdan (Jordan)</i>
15:30 - 15:40 508	Do Insulin Cartridges Really Provide a Lower Risk of Potential Diabetes Complications than Traditional Vials? <i>Mohammad Al-Sharayri MSc. Pharmacoeconomics (Jordan)</i>
15:40 - 15:50 509	RMS Anticoagulation Clinic: An Overview of its Goals and Roles <i>Nairooz H. Al-Momany MSc. Clinc. pharm (Jordan)</i>
15:50 - 16:00 510	An Audit Evaluating Anticoagulation Clinic Managed by Clinical Pharmacists <i>Nadia AL-Omari MSc. Clinc.Pharm.(Jordan)</i>
16:00 - 16:10 511	Antibiogram of Multidrug Resistant AcinetobacterBaumannii Isolated from different Clinical Specimens at King Hussein Medical Center, Jordan. A Retrospective Analysis <i>Adel Salem Batarseh MSc. clinc. pharm (Jordan)</i>
16:10 - 16:20 512	The Role of Clinical Pharmacist in Resolving/Preventing Drug Related Problems in ICU Patients who receive Anti-infective therapy <i>Attallah Abu-Oliem MSc. Clinc. pharm.(Jordan)</i>
16:20 - 16:30 513	Carvedilol in Children with Cardiomyopathy; Meta-Analysis Odds Ratio Study <i>Mai Mahmoud Abu-Salem, Bsc. pharm. (Jordan)</i>
16:30 - 16:40 514	Effect of Statin Therapy on Vaspin Levels among Type 2 Diabetic Patients <i>Jaafar Abu Abeelee, , MSc. Clinc. pharm.(Jordan)</i>
16:40 - 17:00	Coffee Break

## Hall K

Harraneh Hall 2

09:00 - 11:00 - Session 1

### ICMM - Medical Aspects of Chemical and Biological Warfare

Please refer to 4th PARWG Congress Section

11:00 - 11:30 Coffee Break

11:30 - 13:30 - Session 2

### ICMM - Acute Trauma and Emergency Medicine

Please refer to 4th PARWG Congress Section

13:30 - 14:30 Lunch Break

14:30 - 16:30 - Session 3

### ICMM - ICMM Related Lectures, Delegations Talks & Free Papers

Please refer to 4th PARWG Congress Section

16:30 - 17:00 Coffee Break

## Hall L

Harraneh Hall 3

09:00 - 11:00 - Session 1

### ENT - Neuro-Otology

Moderators: Tariq Mahafza MD, Sameer Zurikat MD, Mefleh Al-Jader MD

09:00 - 09:30 536	Cochlear Implant Infections <i>Michael McGhee MD (USA)</i>
09:30 - 09:50 537	The Unusual Cochlear Implant <i>Michael McGhee MD (USA)</i>
09:50 - 10:00 538	Cochlear Implantation: Ten Years Experience in the Royal Medical Services <i>Nemer Al-Khtoum MD (Jordan)</i>
10:00 - 10:30 539	Non Acoustic Tumors of the CPA <i>Michael McGhee MD (USA)</i>
10:30 - 11:00 540	Facial Nerve Neuroma <i>Michael McGhee MD (USA)</i>
11:00 - 11:30	Coffee Break

11:30 - 13:30 - Session 2

### ENT - Rhinoplasty & Rhinology

Moderators: Khalid Qudah MD, Salman Assafm MD, Mohanad Qudah MD

11:30 - 12:00 541	Rhinoplasty & Profileplasty <i>Gilbert Nolst MD (Netherlands)</i>
12:00 - 12:30 542	What I learned From My Mistakes <i>Gilbert Nolst MD (Netherlands)</i>
12:30 - 13:00 543	Revision Rhinoplasty & Challenging Cases <i>Gilbert Nolst MD (Netherlands)</i>
13:00 - 13:15 544	Reconstructive Rhinoplasty <i>Khaldoun Haddadin MD (Jordan)</i>
13:15 - 13:30 545	Surgical Management of Septal Perforation <i>Daifallah Al-Raggad MD (Jordan)</i>

13:30 - 14:30 Lunch Break

14:30 - 16:30 - Session 3

### ICMM - Free Papers

Please refer to 4th PARWG Congress Section

16:30 - 17:00 Coffee Break

17:00 - 18:30 - Session 4

### ENT - Free Papers

Moderators: Daifallah Al-Raggad MD, Hassan Al-Husban MD

17:00 - 17:10 558	Endoscopic Techniques in the Management of Pediatric Airway Disorders: Our Experience at Queen Rania Al-Abdullah Hospital for Children <i>Eyad Safadi MD (Jordan)</i>
17:10 - 17:20 559	Microbiological Findings in Children with Chronic Adenoiditis and Adenoid Hypertrophy <i>Osama Al-Elwan MD (Jordan)</i>
17:20 - 17:30 560	The Role of Nasal Polyps in the Development of Ear Diseases <i>Nabil Shawakfeh MD (Jordan)</i>
17:30 - 17:40 561	Endoscopic Orbital Decompression: Expect the Unusual <i>Qais Aljfout MD (Jordan)</i>
17:40 - 17:50 562	The Efficacy of using Fat Plug in Pediatric Myringoplasty <i>Osama Almomani MD (Jordan)</i>

## Hall M

Harraneh Hall 5

09:00 - 11:00 - Session 1

### Orthopedic Surgery - Cerebral Palsy Management

Moderators: Abdel-Karim Al-Qudah MD, Mohammad Al Daher MD, Mohammed Duwairi MD

09:00 - 09:20 563	Cerebral Palsy: An Update on Etiology and Management <i>Saleh Al-Ajlouni MD (Jordan)</i>
09:20 - 09:40 564	Rehabilitation of Cerebral Palsy, the Experience of Rehabilitation Team at National Center for Amputee Rehabilitation (NCAR) <i>Abdel-Fattah Al-Worikah MD (Jordan)</i>
09:40 - 10:00 565	Surgical Management of Crouch Gait in CP Patients <i>Thomas Wirth MD (Germany)</i>
10:00 - 10:20 566	Rotational Osteotomy with Submuscular Plating in Skeletally Immature Patients with Cerebral Palsy <i>Chang-Wug OH MD (Korea)</i>
10:20 - 10:40 567	Hip Disorders in Children with Cerebral Palsy <i>Mahmoud Odat MD (Jordan)</i>
10:40 - 11:00 568	The Psychological Impact of Cerebral Palsy on Children and their Families <i>Amjad Jumai'an MD (Jordan)</i>

11:30 - 13:30 - Session 2

### Orthopedic Surgery - Arthroplasty and Reconstruction

Moderators: Mahmoud Ababneh MD, Falah Harfoshi MD, Issam Dahabra MD,

11:30 - 11:50 569	Indications and Management of Residual Dysplasia of the Hip in Adolescents <i>Thomas Wirth MD (Germany)</i>
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11:50 - 12:10  
570

Infected Total Knee Replacement  
*Mohammed Duwairi MD (Jordan)*

12:10 - 12:30  
571

How to Overcome a Segmental Bone Defect ? A new Technique of Bone Transport  
*Chang-Wug OH MD (Korea)*

12:30 - 12:40  
572

Flaps for Closure of Soft Tissue Defects in Infected Revision Knee Arthroplasty  
*Alnold Suda MD (Austria)*

12:40 - 12:50  
573

Percutaneous Iliosacral Screw is a Safe, Reliable and Definitive Procedure  
*Malek Abu Al-Nadi MD (KSA)*

12:50 - 13:10  
574

Clinical Outcome of Mobile vs. Fixed Bearing Total Knee Replacement in the Same Obese Patient: Short-Term Results  
*Fayeq Darwish MD (Jordan)*

13:10 - 13:20  
575

Modified Dunn Procedure in Treating Patient with Slipped Capital Femoral Epiphysis: King Hussein Medical Center Experience  
*Fadi Alrousan MD (Jordan)*

13:20 - 13:30  
576

Total Joint Arthroplasty for Basilar Thumb Arthritis  
*Issam Dahabra MD (Jordan)*

13:30 - 14:30 Lunch Break

14:30 - 16:30 - Session 3

### Orthopedic Surgery - Sport and Trauma

Moderators: Fayeq Darwish MD, Mahmoud Odat MD, Issa Sawaqed MD

14:30 - 14:40  
577

Shoulder Joint Remodeling after Triangular Tilt Surgery in Patients with Obstetrical Brachial Plexus Palsy  
*Firas Al-Ibrahim MD (Jordan)*

14:40 - 15:00  
578

Subtrochanteric Fractures: How to Avoid Complications with Nailing?  
*Chang-Wug OH MD (Korea)*

15:00 - 15:10  
579

Endoscopic Carpal Tunnel Release Experience at King Hussein Medical Center  
*Issam Dahabra MD (Jordan)*

15:10 - 15:30  
580

Femoral Neck Fractures in Childhood  
*Thomas Wirth MD (Germany)*

15:30 - 15:40  
581

Surgery of Acute Rupture of Achilles Tendon for Marathon Men: Results of the Plasty by Plantaris Tendon (About 31 Patients)  
*Lotfi Nouisri MD (Tunisia)*

15:40 - 15:50  
582

Complications after Elective Aseptic Orthopedic Implant Removal - A Study of 1545 Patients  
*Arnold Suda MD (Austria)*

15:50 - 16:10  
583

Cementless Threaded Cups in Total Hip Arthroplasty  
*Mahmoud Ababneh MD (Jordan)*

16:10 - 16:30  
584

The Surgical Treatment of Thoracic Kyphosis Deformity  
*Stephen Eisenstein MD (UK)*

17:00 - 18:30 - Session 4

### Orthopedic Surgery

Moderators: Munther Soudi MD, Raid Wajoukh MD, Malek Ghnaimat MD

17:00 - 17:20  
585

Advances and Controversies in Anterior Cruciate Ligament Reconstruction  
*Issa Sawaqed MD (Jordan)*

17:20 - 17:30  
586

Palmaris Longus Tendon Absence in an Egyptian Population  
*Moayad Abu-Qa'oud MD (Jordan)*

17:30 - 17:40  
587

A Staged Technique of Bone-Grafting for Segmental Bone Loss  
*Omar Alajoulin MD (Jordan)*

17:40 - 17:50  
588

Vitamin D deficiency in Saudi Arabia: Between 2009-2013 a Meta-Analysis Study  
*Khalid A Bakarran MD (KSA)*

17:50 - 18:00  
589

Surgical Management of Supracondylar Humeral Fractures: Results with Pediatric Orthopedic Surgeons versus General Orthopedic Surgeons  
*Razi Altarawneh MD (Jordan)*

18:00 - 18:10  
590

Open Reduction though Medial Approach for Developmental Dysplasia of the Hip  
*Ahmed Almarzouq MD (Jordan)*

18:10 - 18:20  
591

Mini-Open Surgery for the Treatment of Chronic Refractory Lateral Epicondylitis (Tennis Elbow)  
*Saeb Al-Mistarihi MD (Jordan)*

18:20 - 18:30  
592

Functional Outcome of Mechanical Axis Correction using Annular Frames  
*Hatem Sharafeldin MD (KSA)*

18:30 - 18:40 593	Can MRI of the Knee be our Eye to Arthroscopy <i>Malek Ghnaimat MD (Jordan)</i>
18:40 - 18:50 594	Methods of Stabilization Post Medial Approach in Developmental Dysplasia of the Hip: Does it Make a Difference? <i>Ahmed Almarzouq MD (Jordan)</i>

## Hall N

### Harraneh Hall 6

09:00 - 11:00 - Session 1

#### Allied Health Professions - Laboratory Sciences

Moderators: Khaled AL-Gobaisi PhD, Najeh Jumaian PhD, Saleh Malkawi MSc

09:00 - 09:15 595	Microbiological and Parasitological Investigation among Food Handlers in Hotels in the Dead Sea Area, Jordan. <i>Renad M. Al Zou'bi Lab (Jordan)</i>
09:15 - 9:30 596	The Levels of Serum Ferritin Among Normal People, Diabetics, Hepatitis C, and those Diabetic Patients Concomitant with Hepatitis C <i>Ahmad H. Bani-Hani BSc (Jordan)</i>
09:30 - 09:45 597	Comparison between Quality Evaluation and Cost of Copper Sulfate Method and Automated Hematology Analyzer among Blood Donors at the Blood Bank of King Hussein Medical Center <i>Mohammad Q. Shamouni Lab (Jordan)</i>
09:45 - 10:00 598	The Frequency of Acute Myeloid Leukemia (AML-M2) Expressing Lymphoid Antigen CD19 in Association with t(8;21) (Experience at Princess Iman Research and Laboratory Sciences Center) <i>Manal Alabbadi MSc (Jordan)</i>
10:00 - 10:15 599	Molecular Diagnosis of HbC Disease in Jordanian Populations, Seven Years Experience at Princess Iman Research and Laboratory Sciences Center <i>Moath Alqaisi BSc (Jordan)</i>
10:15 - 10:30 600	Serum Lipid Profile in Helicobacter Pylori Infected Patients. <i>Saad Al-Fawaeir PhD (Jordan)</i>
10:30 - 10:45 601	The Effectiveness of Otoacoustic Emission Testing in Detection of Hearing Loss in Neonates <i>Yousef Sarireh, Audiology (Jordan)</i>
10:45 - 11:00 602	The Relationship between Leukocytosis, Lipids Profile, and Coronary Cardiac Diseases: Experience at Prince Rashed Bin Al-Hassan Military Hospital <i>Maysa'a Al-Shyyab BSc (Jordan)</i>

11:00 - 11:30 Coffee Break

11:30 - 13:30 - Session 2

#### Allied Health Professions - Physiotherapy & Nutrition

Moderators: Mohammad Jebri PhD, Fawaz Alkhwadeh DIP, Mohammad Khamash MSc

11:30 - 11:45 603	The Awareness of Hypertensive Patients for the Side Effect of Instant Soup Consumption. <i>Ahmed Lutfi Quraan, Nutrition (Jordan)</i>
11:45 - 12:00 604	Reliability and Validity of the Arabic-Dynamic Gait Index in People Post Stroke. <i>Alia Ali Alghwiri PhD (Jordan)</i>
12:00 - 12:15 605	Dietary Patterns Effect on Iron Deficiency Anemia among Pregnant Women. <i>Hall Yosef BSc Nut. Eng. (Jordan)</i>
12:15 - 12:30 606	Effectiveness of Stabilization Exercises on Patient with Chronic Low Back Pain: A Systematic Review <i>Sultan Alzubeidi PT (KSA)</i>
12:30 - 12:45 607	Assessment of Eating Disorder among Varied Body Mass Indexes <i>Saddam Mohammad Al-Swalha, Nut Eng (Jordan)</i>
12:45 - 13:00 608	Feeding by Commercially Prepared Cereals for Infants less than Six Months as a Breast Milk Substitution among Mothers at Prince Rashid Bin Al-Hassan Hospital <i>Feras Salameh, Nut Eng (Jordan)</i>
13:00 - 13:15 609	Effectiveness of Dynamic Hand Splint and Electrical Stimulation in Treating Incomplete Radial Nerve Injury <i>Mohammad F. Aljarrah OT (Jordan)</i>
13:15 - 13:30 610	The Effect of Kinesiotape on Shoulder with Acute or Chronic Supraspinatus Tendonitis <i>Zaid Hayajneh PT (Jordan)</i>

13:30 - 14:30 Lunch Break

14:30 - 16:30 - Session 3

#### Allied Health Professions - Biomedical Technology

Moderators: Enas AbdulHay PhD, Feras Kamal BSc, Ali Al Sawaeer BSc

14:30 - 14:55 612	Maintenance of Medical Devices using a Fiberglass-Reinforced Polymer Compound with Epoxy Putty <i>Abdallh N. Al-Smahdh BMT (Jordan)</i>
14:55 - 15:20 613	Algorithm for Automatic Angles Measurement and Screening for Developmental Dysplasia of the Hip (DDH) <i>Areen Al-Bashir PhD (Jordan)</i>
15:20 - 15:45 614	Offline Images Retrieval in PACs <i>Mohammadnour Al-Zaareer BMT (Jordan)</i>

15:45 - 16:30 Discussion

16:30 - 17:00 Coffee Break

17:00 - 18:30 - Session 4

#### Peripheral Vascular Disease Management S07

Moderators: Mamoun Al-Basheer MD, Kristi Janho MD

17:00 - 18:00	Peripheral Vascular Disease Management Symposium <i>Rajai Khoury MD (USA)</i>
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# 4th ICMM PARWG Congress on Military Medicine Guest Speakers



### **Bruce Eshaya-Chauvin MD**

*Medical Advisor Health Care in Danger Project  
Expert in international public health  
Head of Health and Care Department 2004-2008 Geneva  
(International Federation of Red Cross and Red Crescent National Societies)  
Anesthesiologist  
Master degree in Public health, Geneva  
Switzerland*

### **Christoph Rubbert MD**

*Colonel, Medical Corps  
DCOS, Directorate C, Hospital Management,  
Bundeswehr Medical Service Headquarters  
Head of Advisory Group, MEDEVAC UKR  
patients (Ukraine)  
Specialist for General Medicine  
Master in Public Health  
Medical Quality Management  
Germany*

### **Claudio Zanutto Pharm, Col**

*IT- Army Medical Service Officer  
Surgeon General staff officer and Head of the  
International Relations Office.  
Senior officer of the MMMP\_EP  
Italy*

### **Erin Edgar MD, Col MC**

*Commander,  
U.S. Army Medical Research Institute of  
Infectious Diseases (USAMRIID)  
USA*

### **Erwin Dhondt MD, Col**

*Colonel (OF-5) Erwin Dhondt, MD, SFS, MSc, MHA  
Internal medicine – Emergency & Intensive care medicine  
Visiting Professor of Emergency & Disaster Medicine  
BEL Defence Medical Component  
Staff of the Operational Command COMOPSMED  
Director Specialized Support to Operations  
Chairman BEL Defence Disaster & CBRN Medical Management EP  
BEL Delegate to NATO COMEDS EP on Emergency Medicine  
BEL Delegate to NATO COMEDS EP on Spec Ops Medicine  
Queen Elisabeth Barracks  
Belgium*

### **Harlan Walker MD, Col**

*H. M. (Hal) Walker II, MD, MPH, MA  
COL, US Army Medical Corps  
Aerospace and Dive Medicine Physician  
Command Surgeon for USSOCOM.  
USA*

### **Imad Al-Khawaja MD, MRCPI, Ph.D.**

*Professor of Musculoskeletal Medicine  
M.B., Ch.B. University of Mosul  
M.Sc. (Med. Science) University College Dublin  
L.R.C.P./L.R.C.S. Edinburgh, L.R.C.P&S.  
Glasgow  
European Board in Physical Medicine & Rehabilitation  
Jordanian Board in Physical medicine & Rehabilitation  
KSA*

### **James Fike MD (JIM) Col USAF (ret), MC, FS**

*President, Global Health Consultant at Fike Global Health  
Senior Advisor, Shoreland, Inc.  
Global Health Consultant  
Office of the Assistant Secretary of Defense for Health Affairs  
Director, International Health Specialist (IHS) program  
Consultant to the Air Force Surgeon General for the IHS program  
International Health Specialist Program  
Liaison to the Air National Guard Air Surgeon  
Many other positions as a consultant .  
Multiple Major Awards  
USA*

### **James Pillow MD, Col (Ret)**

*Medical Countermeasures Program Analyst  
PNCB  
(BS) in Biology from Middle Tennessee State University  
(MS) in Emergency & Disaster Management from Trident University  
Retired Army Colonel, Medical Service Corps officer  
USA*



**Johan Crouse MD, Col (Ret)**

*Advocate, Forensic Investigator and Labour Law  
Practitioner in Private South African Legal Practice  
served as Military Legal Officer (Lt. Col) before commencing full-time practice as an Advocate.  
South African*

**Kevin Russell MD, CAPT MD, MTM&H, FIDSA CAPT MC USN**

*Director, Armed Forces Health Surveillance Center (AFHSC)  
Home of the MSMR, DMSS, GEIS, and the DoDSR  
USA*

**Khalaf Al-Jader Al-Sarhan MD, Maj Gen FRCP**

*General Director of the Royal Medical Services of Jordan Armed Forces  
Senior Consultant of Urology  
Diploma in Urology, University College of London UK  
Jordanian Board in Urology  
Jordanian Board in General Surgery  
Jordan*

**Linda Johnson MBA**

*President & CEO Brooklyn Public Library, Brooklyn, NY  
University of Pennsylvania, Wharton School, MBA  
Suffolk University, J.D.  
Hamilton College, B.A.  
Chief executive national and middle-market organizations  
USA*

**Mark Mavity MD, Col**

*Command Surgeon United States Central Command.  
Senior Medical Advisor/Special Staff Director to the Commander of the United States Central Command,  
Responsible for establishing health policy supporting all Central Command operations and developing the health engagement strategy.  
board certified in the specialties of Aerospace Medicine and Preventive Medicine.  
USA*

**Mohammed Mawajdeh, Brig Gen**

*Director of JAF Crisis Management Center.  
Master degree in Science of Electrical Engineering.  
Member of the Committee for developing Master Risk Disaster Plan for Amman Municipality and Aqaba.  
Military observer in UN mission in Liberia and in the Peace Keeping mission in Sierra Leone.  
Jordan*

**Mustafa Beano MD, Brig Gen**

*Head of Pain and Palliative Care Speciality, Royal Medical Services  
Faculty of Medicine at University of Craiova Romania  
Jordanian Board in Anesthesia and Intensive Care  
Fellowship in Pain Management , Faculty of Medicine,  
University of Medicine and Law - Lille 2- France  
Jordan*

**Nawaf Khazaeleh MD, Brig Gen  
Consultant of family and aviation medicine.**

*Chief of field medicine.  
Former chief of medical facility air force.  
Former chief of aero medical evacuation.  
Royal medical services of Jordan.  
Jordan*

**Nelson Michael MD, Col , Ph.D.**

*Bioethical Issues in Military Medical Care and Research  
Colonel, Medical Corps, United States Army  
Director, U.S. Military HIV Research Program (MHRP)  
Walter Reed Army Institute of Research  
Silver Spring, Maryland, USA  
Professor of Medicine, Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA  
USA*



**Saeed Al-Asmary MD, Maj Gen FFCM,  
FSO**

*General Director Armed Forces, Medical  
Services Department,  
Ministry of Defense,  
Consultant Family Medicine  
Riyadh,  
KSA*

**Shakir Jawad MD HJF.CTR**

*Senior Adviser, International Health Systems.  
Center for Disaster and Humanitarian  
Assistance Medicine (CDHAM)  
Assistant Professor, Military and Emergency  
Medicine  
F. Edward Hébert School of Medicine  
Uniformed Services University of the Health  
Sciences  
USA*

**Timothy Hodgetts MD, Brig Gen CBE,  
PhD MMed, MBA, FRCP, FRCSEd,  
FCEM, FIMCRCSEd**

*Medical Director, UK Joint Medical Command  
Honorary Professor of Emergency Medicine,  
University of Birmingham  
Visiting Professor, School of Health Sciences,  
City University London  
UK*



# International Guest Speakers



## Medicine & Subspecialties

### **Abdullah Al-Eisa MD, FRCP(C), FAAP**

Consultant Dermatologist  
Canadian & American Boards of Dermatology  
KSA

### **Ali S M Jawad, MB, ChB, MSc, FRCP, DCH, DMedRehad**

Professor and Consultant Rheumatologist, the Royal London Hospital, Barts Health NHS Trust  
Associate International Director (Middle East & North Africa), Royal College of Physicians,  
Clinical Professor of Rheumatology, William Harvey Research Institute, Queen Mary University of London.  
UK

### **David Warell, MD, Professor**

International Director (Hans Sloane Fellow)  
Royal College of Physicians  
Emeritus Professor of Tropical Medicine and Honorary Fellow of St Cross College, University of Oxford  
Foreign & Commonwealth Office, Pro Bono Medical Panel  
Honorary Civilian Consultant Advisor in Malaria to the Army  
Honorary Medical Adviser, Royal Geographical Society  
Foreign & Commonwealth Office, Pro Bono Medical Panel (2002)  
Honorary Civilian Consultant Advisor in Malaria to the Army (1989)  
Honorary Medical Adviser, Royal Geographical Society (1993)  
Adjunct Professor, Xi'an Medical University, Xi'an, China  
Visiting Professor, Capital Medical University, Beijing, China  
UK

### **GRIGORIS STRATAKOS MD, FCCP**

Assistant Professor of Pulmonary Medicine & Head of the Interventional Pulmonology Unit in the 1<sup>st</sup> Respiratory Medicine Dept, University of Athens, "Sotiria" General Hospital, Athens Greece  
Coordinator of the working group of Thoracic Endoscopy of the Hellenic Thoracic Society Greece

### **Liz Avital MSc**

Associate Director and International Associate, overseas the development of guidelines for

the National Clinical Guideline Centre of the Royal College of Physicians in London  
Currently completing a PhD in the translation of evidence for implementation in other healthcare contexts and cultures.  
UK

### **Massimo Crespi, MD Professor**

Head of the Service of Environmental Carcinogenesis, Epidemiology and Prevention at the National Cancer Institute "Regina Elena" in Rome, Italy  
Professor of GI Oncology at the Postgraduate School of Gastroenterology at the University of Roma "La Sapienza"  
Italy

### **Mathew Foster MD**

Assistant Professor of Medicine at Division of Hematology and Oncology University of North Carolina at Chapel Hill  
UK

### **Sir Michael Hirst**

Member of the British Parliament  
President of the International Diabetes Federation (IDF) 2013-2015.  
Graduate in law of the University of Glasgow & a former partner in KPMG  
First non-medical Chairman of the Board of Trustees from 2001-2006.  
UK

### **MUNTER A KHAMASHTA MD, FRCP, PhD**

Director, Lupus Research Unit, St Thomas' Hospital  
Consultant Physician, St Thomas' Hospital London  
UK

### **Pier Giorgio Natali MD (Ph.D hc)**

President of the Italian Cancer Society and Scientific Director of the "Regina Elena" National Cancer Inst. Rome  
Fellow of the Collegium Ramazzini and Chairman of MTCC scientific Committee, Rome Italy

### **Pradeep Bhandari, Professor**

General Gastroenterologist  
Expert in advanced endoscopic procedures, screening and treatment of gastrointestinal cancers. Portsmouth  
UK



### **Stefano Iacobelli, Professor**

*Professor of Medical Oncology at the University "G. D'Annunzio" of Chieti-Pescara, Italy  
Coordinator of the PhD program in Molecular Oncology  
Italy*

### **Stephen K. Klasko, MD MBA**

*Dean of the Morsani College of Medicine at the University of South Florida and Chief Executive Officer of USF Health, has been appointed to the newly created position of President of Thomas Jefferson University and President and Chief Executive Officer of TJUH System  
USA*

## **Surgery & Subspecialties**

### **Abdel-Wahab El-Kassaby MD**

*Professor of Urology-Ain Shams University  
Cairo, Egypt  
President of the Pan-Arab Association of Urology  
President of the Egyptian Association of Pediatric Urology  
Egypt*

### **Abdulkarim Masaddi MD**

*Medical Director  
Head of Neurosurgical & Spinal Department,  
Neuro Spinal Hospital Dubai,  
UAE*

### **Alaa El-Ghoneimi MD, D.E.S. Chirurgie Infantile**

*Pediatric Urologist Department of Pediatric Surgery and Urology Hôpital Robert Debré.  
University Hospitals Paris, France  
Professor of Pediatric Surgery, Faculty of Medicine, University of Paris VII  
France*

### **Alberto Montori MD FACS (HON.) FASGE FRSM**

*Emeritus Professor Of Surgery Rome University "SAPIENZA"  
CAV. COMM.  
President of the European Academy of Surgical Sciences (EAcSS)  
Italy*

### **Eid Mustafa MD**

*Plastic Surgeon Brook Avenue, Wichita Falls, Texas USA*

### **American Board of Plastic Surgery**

*Professor Jan Schmidt MME  
Visceral and vascular surgeon Surgical center  
Zurich, Hirslanden hospitals, Switzerland  
USA*

### **Matti Aapro MD**

*Dean of the Multidisciplinary Oncology Institute, Genolier, Switzerland.  
Executive Director of the International Society for Geriatric Oncology (SIOG)  
Switzerland*

### **Mohamed Kotb MD**

*Assistant lecturer of urology (In General urology, Reconstructive urology, Oncourology, Pediatric urology, female and Neurourology Units).  
Ain Shams university hospitals, Cairo  
Egypt*

### **Muhammad Jawad MD FACES**

*Medical Director,  
Bariatric Surgery  
Orlando Regional Medical Center,  
Ocala Florida  
USA*

### **Piercarlo Meinero**

*Colorectal Surgeon  
Director of UCP (Coloproctology Unit)  
Santa Margherita Ligure – Chiavarese  
Italy*

### **Rajab Kerwat MB Bch FRCS (Eng) FRCS(Ed) FRCS (Gen Surg)**

*Honorary Consultant Upper GI surgeon at  
Guys & St Thomas Hospital Foundation trust,  
London  
Consultant General, UGI & Minimal Invasive Surgeon Queen Mary's Sidcup NHS Trust,  
South London Healthcare NHS Trust and  
Lewisham & Greenwich NHS Trust, South east  
London Cancer Network, London Cancer Alliance  
Examiner of the MRCS intercollegiate examination at the royal college of surgeons  
UK*

### **Rajai Khoury MD**

*Thoracic Surgery and Congenital Cardiac Surgery (Thoracic Surgery), in New Martinsville  
USA  
Affiliated with Wetzel County Hospital, Ohio  
Valley Medical Center and Wheeling Hospital.  
USA*





### **Thomas Kyriess MD**

Assistant Medical Director, Chief of Thoracic Surgery training program,  
Department of Thoracic Surgery- Shillerhoehe Hospital/ Robert Bosch Hospital- Stuttgart, Copenhagen Germany

## **Pediatrics & Subspecialties**

### **Assad Haffar MD MSc**

Deputy Programs Director and Regional Program Manager for Middle East and Africa for the World Federation of Hemophilia (WFH) Montreal, Canada

### **Bernadette Garvey MD**

Professor Emeritus of Medicine and of Laboratory Medicine and Pathobiology, University of Toronto  
Developer of the Comprehensive Care Hemophilia Program at St Michael's Hospital Canada

### **Edward Bell MD**

Professor of Pediatrics  
Vice Chair for Faculty Development.  
Department of Pediatrics  
University of Iowa, Iowa City, Iowa USA

### **Magdy El-Ekiaby MD**

WFH Medical Executive World Federation of Hemophilia (WFH) Montreal, Canada  
Member of the ISBT Working Party on Transfusion Transmitted Diseases  
Vice president for public policy and communication.  
Egypt

### **Tarek Momenah MD FAAP**

Head of Paediatric Cardiology Department  
Project Manager for the Development of the New Cardiac Cath Lab in the Paediatric Cardiology Dept.,  
Programme Director for the Departmental Educational Activities and Fellowship Training Programme Prince Sultan Cardiac Center Riyadh, Saudi Arabia KSA

### **Tayfun Güngör MD**

Head Blood and Marrow Transplantation  
Head of Stem Cell Laboratory  
University children's hospital Zürich Switzerland Division of Immunology

Hematology-BMT  
Switzerland

### **Walid Abuhammour MD Professor, MBA, FAAP, FIDSA**

Consultant of Pediatric Infectious diseases at Tawam Hospital.  
Professor of Pediatrics at Michigan State University-USA,  
Adjunct Professor of Pediatrics at the United Arab Emirates University  
Visiting professor of Pediatrics at the Hashemite University-Jordan.  
UAE

### **Ziyad M. Hijazi MD, MPH, FACC**

Consulting Pediatric Cardiologist  
Service Chief, Pediatrics, Sidra Medical & Research Center  
& Director, Sidra Cardiovascular Center of Excellence Doha, Qatar  
James A. Hunter, MD, University Chair, Professor of Pediatrics & Internal Medicine, Rush University Medical Center, Chicago, IL Qatar

## **Gynecology & Obstetrics**

### **Christhardt Köhler MD**

Head of department for special operative and oncologic gynecology AK Hamburg Harburg  
Expert in Laparoscopic therapy of benign gynecologic diseases Laparoscopy in gynecologic oncology Operative treatment of endometriosis & Radical surgery for gynecologic malignancies  
Awarded Briker-award 2012 Society of Pelvic surgeons  
Germany

### **Hassan Shehata MBBS FRCOG FRCPI**

Consultant & Head of Department Obstetrics, Gynecology and Obstetrics Medicine  
At Epsom & St. Helier NHS Trust  
RCOG Ambassador to the Gulf Region  
Clinical Director, Women's & Children's Directorate, Epsom & St Helier University Hospitals NHS Trust  
Clinical Lead and Consultant in Obstetric Medicine, Epsom & St. Helier University Hospitals NHS Trust  
Honorary Senior Lecturer, St George's Hospital Medical School, London, UK  
Director and Founder of the Miscarriage Clinic,



London & Surrey, UK  
Director and Founder of Newlife Fertility  
Centre, Epsom  
UK

### **Timothy John Child MA MD MRCOG**

Consultant Gynecologist in Oxford working in  
the John Radcliffe Hospital,  
The Institute of Reproductive Sciences and the  
Nuffield Manor Hospital.  
Expert Advisor on Women's Health to the  
UK Government Commission on Human  
Medicines.  
UK

## **Anesthesia & Intensive Care**

### **Dan Longrois MD Professor**

Anesthesiology and Intensive Care - Bichat  
university hospital (France),  
Member of the Scientific Board of the Ameri-  
can Hospital of Paris.  
Editor-in-Chief, intense times  
Guest speaker at many international confer-  
ences:  
France

### **Humam Akbik MD, FIPP**

Associate Professor of Anesthesiology,  
University of Cincinnati College of Medicine,  
Cincinnati, OH,  
Medical Director, Pain Management Specialists  
Mercy Health Physicians Fairfield,  
Chief, Division of Pain Medicine, University  
Hospital, Cincinnati, OH  
Since 2005 Reorganized the Pain Fellowship to  
become one of the top 5 programs in USA  
Lead Investigator for multi-center Cephalon/  
Fentora study for non-manageable pain  
USA

### **Simi Bhullar D.O., FCCP**

Section Chief, Pulmonary & Critical Care Medi-  
cine, Riverside Methodist Hospital  
Code Blue Chair, Ohio Health Hospital Systems  
Attending Physician, Riverside Methodist  
Hospital  
USA

## **Orthopedic Surgery**

### **Chang-Wug OH MD**

Orthopedic surgeon  
Professor & Director Department of Orthope-  
dic Surgery Kyungpook  
National University Hospital, Korea

Chairperson, Research Committee, AO trauma  
Asia-Pacific  
A member of AO trauma research committee  
A Board member of AO trauma,  
Korea

### **Christopher Kepler MD MBA**

ABOS Board Certified Spine Surgeon  
Faculty appointment at Thomas Jefferson  
University where he continues basic science  
and clinical research.  
Hospitals: Thomas Jefferson University Hos-  
pital  
Riddle Hospital  
Kennedy Health System  
USA

### **Jose Morcuandi MD**

Senior Consultant Orthopedic Surgeon  
Ponseti International  
USA

### **Thomas Wirth MD**

Director of the Department of Orthopaedics,  
Olga hospital, Klinikum Stuttgart, Germany  
President of German Speaking Association of  
Paediatric Orthopaedics (VKO)  
Treasurer of the European Paediatric Ortho-  
paedic Society (EPOS)  
Councilor of the German Speaking Association  
of Paediatric Orthopaedics (VKO)  
Germany

### **Yasser Ali Elbatrawy MD**

Senior Consultant Orthopedic Surgeon  
Egypt

## **Radiology**

### **Hussein Hammoud MD**

Business Manager, Endovascular Therapies,  
Middle East & N.Africa at Medtronic Demo-  
graphic info Lebanon | Medical Devices  
Lebanon

### **Ilya Gipp MD**

Business Development MR Therapy at Philips,  
Netherlands  
Radiologist, Deputy Chief Radiologist, PACS  
administrator  
Finland

### **Jacques Moret MD**

France



### **Jonathan Yao PhD**

*President LinaTech LLC, USA*

*Holds PhD in Bioengineering from Washington University in St. Louis, USA*

*EMBA from the College of Economic Management, Beijing University  
USA*

### **Mamdouh Mahfouz MD**

*Professor of Radiology, Faculty of Medicine, Cairo University.*

*Senior consultant at Cairo Radiology Center [Cairo scan] [private center]*

*Chairman of the Scientific Society of Radiology (Egypt)*

*General Director of the professional diploma in radiology and ultrasonography*

*Head of the Research and Continuous Education Unit, Radiology Department, Cairo University.*

*Egypt*

### **Mohammad Hamady MD**

*Consultant and Senior Lecturer in clinical and interventional radiology Imperial College – London*

*Works at Hammersmith Hospital St Mary's Hospital & Hammersmith Hospital - The Robert & Lisa Sainsbury Wing  
UK*

### **Mustapha Fattouh**

*Sales supervisor MENA Endovascular Aortic Therapies Medtronic  
Lebanon*

### **Piergiorgio Cao MD. FRCS**

*chief of Vascular Surgery at San Camillo Hospital, Rome, Italy.*

*Member of the Council of the European Society for Vascular Surgery.*

*Member of the International Society for Endovascular Surgery.  
Italy*

### **Wael Jaroudi MD**

*Staff Physician in the Division of Cardiovascular Medicine/Cardiac Imaging and Assistant Professor of Medicine and Diagnostic Radiology at the American University of Beirut Medical Center Lebanon*

*Representative of the society of Cardiac MRI Working Group: Middle East Chapter.*

*Involved in the Cardiac MRI program, advanced cardiovascular imaging, valvular heart disease, women preventive health services at*

*AUBMC*

*Lebanon*

### **Prof Walter Kucharczyk MD, FRCPC**

*Professor, Department of Medical and Department of Surgery, University of Toronto Director, Magnetic Resonance Imaging and Spectroscopy, Medical Imaging, Joint Dept of Medical Imaging (JDMI) at University Health Network, Mount Sinai Hospital & Women's College Hospital,*

*Staff Radiologist, Division of Neuroradiology, Medical Imaging, Joint Dept of Medical Imaging (JDMI) at University Health Network, Mount Sinai Hospital & Women's College Hospital, Senior Scientist, Toronto General Research Institute,*

*Graduate Faculty (Full Member), Medical Science, Institute of, University of Toronto, Toronto, Ontario, Canada*

## **Physical Medicine & Rehabilitation**

### **Aheed Osman M.B.Ch.B, F.R.C.S.UK (ISCoS)**

*Lead Clinician, Consultant Surgeon in Spinal Injuries Midlands Centre for Spinal injuries Robert Jones & Agnes Hunt Orthopedic Hospital NHS Foundation Trust, Oswestry  
Member of All Party Parliamentary Group on Spinal Cord Injury (APPG), UK  
UK*

### **Dafin F. Muresanu MD, PhD, MBA, FANA,**

*President of the Romanian Society of Neurology,*

*Professor of Neurology, Chairman of the Neurosciences Department, University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca, President of the Society for the Study of Neuroprotection and Neuroplasticity, Romania  
Awarded The Romanian Academy of Medical Sciences "Gheorghe Marinescu Award" for advanced contributions in Neuroprotection and Neuroplasticity  
Romania*

### **Elma Burger South Africa (ISCoS)**

*Ms at Gaudelli MCWMs Johannesburg Area, South Africa Medical Practice  
Rehabilitation coordinator for Gauteng Province South Africa  
Member of the ISCoS  
South Africa*



### **Fiona Stephenson RN, UK (ISCoS)**

*Specialist Spinal Nurse at the BMI Winterbourne, Dorchester*  
*Member of the International Spinal Cord Society (ISCoS) Education & Disaster Committees*  
*Member of the Faculty for the UK Emergency Trauma Register Team*  
*Ongoing Voluntary work with various groups & committees (Haiti)*  
*UK*

### **Imad Al-Khawaja MD Professor**

*Professor of Musculoskeletal Medicine, Faculty of medicine, Taibah University, Al-madinah Al-Munawwarah, KSA*  
*PhD the Robens Institute, University of Surrey, Guildford, Surrey*  
*European Board in Physical Medicine & Rehabilitation*  
*Jordanian Board in Physical medicine & Rehabilitation*  
*KSA*

### **Jean Jacques Wyndaele MD**

*Professor of Urology*  
*President of The International Spinal Cord Society (ISCoS)*  
*Chairman of the Department of Urology University of Antwerp and the University Hospital Antwerp.*  
*Chair of the Animal Research Laboratory of the Urological Department at the University of Antwerp and Vice Dean of the Faculty of Medicine at the same institution.*  
*He holds several positions in national and international organizations.*  
*Editor-in-chief of Spinal Cord and is on several Editorial Boards.*  
*Member of many professional societies*  
*Author or co-author of more than 220 publications in peer-reviewed international and national journals and 26 book chapters.*  
*Belgium*

### **Lisa Harvey Australia (ISCoS)**

*BAppSc, GradDipAppSc(ExSpSc), MAppSc, PhD*  
*Associate Professor Physiotherapist, Sydney School of Medicine, University of Sydney, Australia*  
*Chairperson of the Education Committee of the International Spinal Cord Society and on the Council of International Spinal Cord Society*  
*Australia*

### **Ronald Reeves (ISCoS)**

*USA*

### **Stanley Ducharme MD PhD**

*Military One Source Consultant, Crisis management and short term interventions for returning military personnel and their families*  
*QTC Consultant on Disability to Veteran's Administration.*  
*Optimum Care, Psychological Evaluations to US Military*  
*Consultant to Social Security Administration*  
*MFLC Consultant, MHN Government Service Program.*  
*Consultant on grant from Centers for Disease Control (CDC) to*  
*Develop telemedicine modules on depression and substance abuse (ISCoS)*  
*Member, Board of Directors, Paralyzed Veterans of America, Education Foundation*  
*USA*

### **Stephen Eisenstein MB BCh PhD FRCS (Edin) (ISCoS)**

*Spinal Surgeon*  
*Hon. Professor, Keele University*  
*PhD, Science Faculty, University of the Witwatersrand, Johannesburg, South Africa: THE HUMAN LUMBAR VERTEBRAL CANAL*  
*Published book: SPINAL DISORDERS FOR BEGINNERS*  
*Developed Oswestry Disability Index with John O'Brien and Judith Couper*  
*UK*

### **Stephen Muldoon Ireland (ISCoS)**

*Assistant Director, International and Complex Care Development, Livability (a non-profit organisation)*  
*Diploma in Nursing Studies, University of London*  
*MSC (Development Management) Open University. UK*  
*Ireland*

## **ENT**

### **Gilbert Nolst MD**

*Authority in rhinoplasty*  
*Editor in chief of Facial Plastic Surgery Monographs and member of the editorial board of Archives of Facial Plastic Surgery (AMA Journal)*  
*Netherlands*



### **Michael McGee MD Professor**

*ENT professor at the Hough Ear Institute  
Interested in all aspects of otology and neu-  
rotology  
Involved in bush medicine in Africa, and scien-  
tific medicine in Asia and the Middle East  
Netherlands  
USA*

## **Ophthalmology**

### **Brad Feldman USA (TJU)**

*USA*

### **Cesare Forlini MD**

*Chief of Department of Ophthalmology at  
Ravenna Hospital,  
Italy*

### **Dominique Pietrini MD**

*Ophthalmologist at Vision Clinic First French  
center in refractive surgery  
Also works at Milan Clinic,  
Clinique Sainte Geneviève, and the American  
Hospital (Neuilly  
Winner of the Faculty of Medicine Broussais  
Hotel Dieu  
Hospitals Former Intern Paris France  
France*

### **Karanjit Kooner, MD, MBA, PhD**

*Associate Professor, Glaucoma Service, the  
University of Texas Southwestern Medical Cen-  
ter Department of Ophthalmology Dallas  
Voluntary work at ORBIS (Flying Eye Hospital,  
New York, NY  
Awarded the Dr. AD Grover Memorial Oration  
Award, for outstanding achievement in oph-  
thalmology XXIV Annual Conference of The  
Chandigarh Ophthalmological Society, India  
USA*

### **Matteo Forlini MD**

*Italy*

### **Saj Ataullah MB BS, FRCOphth**

*Consultant Oculoplastic, Lacrimal & Orbital  
Surgeon at Manchester Royal Eye hospital UK.  
UK*

## **Laboratory Medicine**

### **Aparna Ahuja MD MBBS, MD, PG Hospital Management, IFCAP,**

*Head of Medical Affairs in Becton Dickinson  
(BD) Diagnostics – Preanalytical Systems (East-*

*ern Europe, Middle East & Africa).  
Member of the BD PAS leadership team of  
Eastern Europe, Middle East and Africa and  
BD Global Medical Affairs team.  
Certified inspector/auditor with ISO 15189  
(NABL  
India*

### **Mona El-Bahrawy MD PhD**

*Consultant Histopathologist and Adjunct  
Reader, Imperial College London.  
Department of Histopathology, Hammersmith  
Hospital, DuCane Road, London  
PhD from Imperial College, University of  
London, United Kingdom  
UK*

### **Nuno Barbosa MD PhD**

*Microbiologist,  
PhD in Biotechnology and a master in Pharma-  
ceutical marketing.  
Scientific Affairs Manager of Middle East &  
Asia-Pacific, the Binding Site  
UK*

### **Prof Sylvia Asa MD, PhD**

*Pathologist-in-Chief and Medical Director  
of the Laboratory Medicine Program at the  
University Health Network  
Professor in the Department of Laboratory  
Medicine and Pathobiology at the University  
of Toronto  
Senior Scientist at the Ontario Cancer Institute  
Clinician-Scientist with a focus on Endocrine  
Pathology  
Canada*

## **Family & Emergency Medicine**

### **Kevin Russell CAPT MD, MTM&H, FIDSA CAPT MC USN**

*Director, Armed Forces Health Surveillance  
Center (AFHSC)  
Home of the MSMR, DMSS, GEIS, and the  
DoDSR  
USA*

### **Mark Davis MD PhD MS**

*Director, Physician Performance/Professional  
Development and Institute for International  
Emerg. Med. and Health Department of Emer-  
gency Medicine  
Medical Director, Network Development  
Brigham and Women's Health Care  
Harvard Medical school  
Brigadier Timothy Hodgetts UK*



**CBE PhD MMed MBA**  
Medical Director, UK Joint Medical Command  
USA

## Community Medicine

### Ahmed Mattar (NAAMA)

Family medicine Wichita Falls, Texas and affiliated hospitals  
Clinical Interests: Education, Preventative medicine  
USA

### Kashef Ijaz MD MPH USA (CDC)

Principal Deputy Director Division of Global Health Protection Center for Global Health Centers for Disease Control and Prevention Atlanta, GA, USA  
Adjunct Associate Professor, Department of Epidemiology, Rollins School of Public Health, Emory University, Atlanta, Georgia.  
Adjunct Assistant Professor, Department of Epidemiology, School of Public Health, University of Arkansas for Medical Sciences  
Served as the Senior Regional Advisor for Field Epidemiology and Laboratory Training Program for the Middle East and North Africa Region in the Division of Public Health Systems and Workforce Development.  
USA

## Dentistry & Subspecialties

### Edward Lynch UK

Senior Clinical Lecturer  
Honorary Consultant in Restorative Dentistry,  
Editor-in-Chief Journal of Dentistry  
UK

### Faleh Tamimi PhD

Assistant Professor (Tenure-Track Faculty of Dentistry Division of Restorative Dentistry McGill University Montreal, Canada  
Holds DDS certificates, in Geriatric Dentistry, and in Implant-Prosthodontics,  
Ph.D. in Biomaterials  
Canada

### Frank- Michael Maier PhD MSc

Implantology - Parodontology – Aesthetics  
Hechinger Strasse, Tuebingen Germany  
Member of the board of the Gnathologic Circle Stuttgart  
PhD on the subject of all-ceramic restorations at the Department of Prosthodontics and Dental Materials Science, Eberhard-Karls-Uni-

versity-Tuebingen  
Germany

### Gilbert Triplett DDS. PhD USA

Regents Professor in the Department of Oral and Maxillofacial Surgery at Baylor College of Dentistry, Texas A&M Health Science Center in Dallas, Texas.  
Ph.D. in Physiology and Biophysics from Georgetown University, Washington, DC  
Areas of research interest are bone physiology, hyperbaric oxygen therapy, dental implants and maxillofacial reconstruction  
USA

## Pharmacy & Medical Logistics

### Joseph DiPiro USA

Professor and Executive Dean of the South Carolina College of Pharmacy  
Awarded Russell R. Miller Literature Award and the Education Award from the American College of Clinical Pharmacy  
Editor of the American Journal of Pharmaceutical Education  
USA

### Nahla Khoury (NAAMA)

PhD in Pharmaceutical Sciences from the West Virginia University School of Pharmacy  
Adjunct professor at both Wheeling Jesuit University and at West Liberty University  
USA

## Nursing

### Caroline Alexander

Regional Chief Nurse, NHS England (London) and Professor of Nursing Leadership  
Visiting Professor at Buckinghamshire New University.  
UK

### Kay Riley RGN, MBA

Honorary Visiting Professorship with City University, London  
Chief Nurse of Barts Health NHS  
Chair of the National AUKUH Directors of Nursing Forum London  
Research Fellow Professor, Chinese Hospital Management Research Center  
Non-Executive Director, North East and Central Local Education & Training Board  
UK



## Allied Health Professions

### **Daniel Rowan PhD**

*Lecturer at University of Southampton*

*Doctor of Philosophy (PhD), Psychoacoustic*

*from the University of Southampton*

*Primarily adult hearing and vestibular assessment, adult aural rehabilitation and pediatric testing*

*UK*





# National Guest Speakers



**Abdallah Al-Akayleh MD**

*Consultant Neurosurgeon  
King Hussein Medical Center  
Royal Medical Services*

**Abdallah Ghanma MD**

*Jordanian Board in Paediatrics.  
Consultant in Paediatric Gastroenterology and  
Hepatology.  
Fellowship in Impedance PH metry and GI  
motility disorders-Free University of Brussels  
-Belgium.  
Royal Medical Services.*

**Abdallah Omeish MD MRCP(UK)**

*FACC, FSCAI, FRCP(Edin), FRCP Lond JBIM, JBC  
Senior consultant, Internal medicine and  
Cardiology  
Fellow of the American College of Cardiology  
Fellow of the American society for cardiac  
angiography and intervention  
Royal Medical Services*

**Abdel Fatah Abu-Haweleh MD,  
MRCP (UK), BCCA**

*Chief of Congenital Cardiology  
Queen Alia Heart Institute, King Hussein  
Medical Center  
Royal medical Services*

**Abdelaziz Ziadat MD**

*Senior Consultant General Sugery  
Ex Team leader hepatobiliary Surgery  
Ex Director of the Royal medical services*

**Abdel-Fattah Al-Worikat MD**

*Consultant of Physical Medicine and  
Rehabilitation*

**Abdelghani Tbakhi MD**

*Chairman, Department of Cell Therapy &  
Applied Genomics,  
Consultant, Molecular and Immunopathology,  
Chairman, Research Council- King Hussein  
Cancer Center  
Inspection Team leader for the College of  
American Pathologists (CAP)*

**Abdullah Al-Omari MD**

*MbChB Mosul university,Iraq  
Jordanian board in diagnostic radiology  
Fellowship in body imaging, Royal Perth  
Hospital,Australia  
Senior specialist at diagnostic radiology  
department, KHMC*

**Abdul-Naser Shunaigat MD, FACS**

*Consultant Urologist, private sector  
Fellow of the American College of Surgeons  
President of the Jordanian Association of  
Urological Surgeons  
Participated in local and international  
urological congresses  
Have publications in various indexed journals  
in Urology  
Served as the Chairman of Urology section in  
RMS from 2010 till June 2014*

**Adeeb Al-Zoubi MD PhD**

*Assistant Professor of Regenerative Medicine,  
University of Illinois College of Medicine,  
Peoria, IL, USA  
Vice President & Chair-Middle East  
Branch of International Association of  
Neurorestoratology (IANR)  
Founder and CEO, Stem Cells of Arabia  
Network; Founding member,  
International Stem Cell Academy,USA*

**Adnan Abu Qamar MD**

*Consultant Urologist  
Jordanian board of general surgery  
Jordanian board of urology  
Head of urology Specialty  
Royal Medical services*

**Adnan Laham MD, FRCS**

*Senior Consultant Cardiac Surgeon  
X - Head of Department of Cardiac Surgery  
Cardiothoracic and Vascular Surgery  
fellowship,  
University of Texas Medical School at Houston,  
USAHeart Transplantation and Circulatory  
Mechanical Support Systems  
University of Emory, Emory University Hospital.  
USA  
Queen Alia Heart Institute-King Hussein  
Medical Center*

**Adnan Qasem MD**

*Consultant Radiation Oncologist.  
Ex head of head and neck and GI radiation  
oncology service at KHCC.*

**Ahmad Uraiqat . MD FRCS FACS.**

*Senior specialist in general and Colorectal  
surgery.  
Colorectal surgery fellowship at St Mark's  
hospital,  
Harrow, UK  
Royal medical services.*



### **Ala'a Rawabdeh**

Head of SCI Unit /Physiotherapy Dept.  
Royal Rehabilitation  
Center, King Hussein Medical Centre

### **Ali Aboruman**

Consultant Cardiac Surgeon  
Queen Alia Heart Institute  
Royal Medical Services

### **Ali Al Ebous MD**

FRCS (Edn.) FRCS (IR) FACS  
Senior consultant General surgery and breast  
and oncology  
Royal medical Services

### **Ali Abusini MD FRCS**

Senior consultant in general surgery and  
breast surgery  
Royal medical services

### **Ali Al-Radaideh Ph.D.**

Vice Dean of Faculty of Allied Health Sciences.  
Chairman of Department of Medical Imaging.  
The Hashemite University. Jordan  
Assistant Professor. Department of Medical  
Imaging  
Ph.D. in Academic Radiology (Magnetic  
Resonance Imaging MRI), The University of  
Nottingham, Nottingham, U.K.

### **Ali Obeidat MD, JBA**

Head of specialty, Anesthesia and intensive  
care King Hussein Medical centre.  
Head of scientific committee, Anesthesia and  
intensive care,  
Jordan medical council

### **Ali Otom MD. Med. Rehab (London), EB PRM, JB**

Senior Consultant in Spinal Injuries &  
Musculoskeletal Medicine  
Director of the Royal Rehabilitation Center  
Head of Spinal Unit  
Fellow of the International Spinal Cord Society  
(ISCOS)  
Founder President of Jordanian Association for  
Spinal Cord Injury Care (JASCIC)  
President of Jordanian Physicians Osteoporosis  
Society  
Board Member of PAN Arab Osteoporosis  
Society  
Chair, PRM Scientific Committee-Jordan  
Medical Council  
Core Member and Chairman of Membership  
Committee (IANR)

### **Amal Smadi**

Consultant Radiologist  
Breast Unit  
Royal Medical Services

### **Amer Al-Shurbaji MD**

Senior consultant Neurosurgery  
head of neurosurgery Division, KHMC  
Royal medical services

### **Amjad Jumai'an MD MRCPsych**

Brig Gen Senior Consultant Psychiatrist  
Clinical Doctorate in Child & Adolescent  
Psychiatry  
Psychiatry Department, Royal Medical Services  
(Jordan)

### **Asem Mansour MD FRCR ECNR**

Chairman, Department of Radiology-King  
Hussein Cancer Center.  
Director General –King Hussein Cancer Center.  
Jordanian Board in Radiology  
Fellowship of the Royal College of  
Radiologist, London  
European fellowship in Neuroradiology  
Master degree of medical management  
(MMM) from Carnegie Mellon University, USA

### **Atalla Hababbeh RN Ph.D.**

Head of staff development and training  
department, Nursing directorate  
Ex Quality Office Director , Queen Alia Heart  
Institute  
RN , Royal Medical Services  
Ex Medical Officer, Jordan Embassy-London

### **Ayham Haddad MD JBIM,**

JB (Nephrology), MMedSci (Nephrology)-  
Sheffield, UK  
Consultant Nephrologist  
Head of Nephrology Division  
King Hussein Medical Center  
Royal Medical Services

### **Bashir Khasawneh MD PhD**

Associate professor Pulmonology and critical  
care  
Deputy Manager KAUH  
JUST

### **Daifallah Al-Raggad MD**

Consultant Otolaryngology Head and Neck  
surgery  
(Rhinology and Endoscopic sinus Surgery)  
Fellowship in Otolaryngology Head and Neck  
surgery (Rhinology and Endoscopic sinus  
Surgery) USA



*Fellowship in Otolaryngology/ Neurotology, Massachusetts Eye and Ear Infirmary, Harvard University, USA, Fellowship in Rhinology and Endoscopic Sinus Surgery, Massachusetts Eye and Ear Infirmary, Harvard University, USA*

#### **Dalal Abu Al Rob MSc**

*Quality Director at Amman hospital  
Health Care Accreditation Council (HCAC)*

#### **Emad Ghzawi MD ASM,**

*MBBS(Lon),FRCP(E,FRCP(Lon).*

*Consultant Gastroenterologist and  
Hepatologist.*

*Head of GI and hepatology section of KHMC.  
Associate clinical professor of medicine  
university of Jordan.*

#### **Fareed Khdair MD**

*Assistant professor*

*Chief, section of pediatric gastroenterology,  
hepatology, and nutrition  
Department of pediatrics,  
University of Jordan School of Medicine*

#### **Fawaz Khammash MD**

*Consultant chest surgery*

*Head of chest surgery division  
Royal medical services*

#### **Fayeq Darwish MD MBBS FRCS FRCSed**

*MBBS, Garyounis University Benghazi,*

*Fellow of Royal College Of Physicians  
& Surgeons. Glasgow*

*Fellow of Royal College of Surgeons,  
Edinburgh*

*Jordanian Board in General Surgery*

*Jordanian Board in Orthopedic Surgery*

#### **Feras Hawari MD FCCP**

*Director Cancer Control Office King Hussein  
Cancer Center*

*Chief Pulmonary/Critical Care KHCC*

*Executive Council (Permanent Member) KHCC*

*Director Respiratory Unit and PFT/CPET lab  
KHCC*

*World Health Organization (WHO) expert  
consultant on cancer control*

*Member, Jordan Medical Council Pulmonary  
Diseases Examination Committee*

#### **Firas Alfwareess CCC-SLP ,PhD**

*Vice Dean at the Faculty of Applied Medical  
Sciences JUST*

*Assistant professor at the Audiology and  
Speech Pathology Division, JUST*

*Board Certified in Speech Pathology from the  
American Speech and Hearing Association  
Ph.D. Medical Speech Pathology from  
University of Cincinnati/Ohio – USA  
Board Certified in Speech Pathology from the  
Licensure Board/Ministry of Health/ Jordan*

#### **Ghadeer Abdeen MD**

*Consultant medical oncologist and  
hematologist*

*Breast and Gynaecology Oncology service*

*Head of Adult Ocular oncology service*

*King Hussein cancer center*

#### **Hashem Aqrabawi MBBS MRCPCH**

*head of neonatal unit Royal Medical Services  
Jordan Board in Pediatrics*

*Membership in pediatric from London UK*

*Fellowship in neonatology Liverpool Hospital/  
New South Wales/ Sydney Australia*

*Member of European Society of Intensive Care  
Medicine*

#### **Haytham Al-Ewaidat PhD, MSc, BSc**

*Assistant professor , Chairman of Allied  
Medical Sciences*

*Assistant Dean at the Faculty of Applied  
Medical Sciences JUST*

*Assistant professor at the Radiologic  
Technology Division JUST*

*PhD of philosophy (MEDICAL IMAGING: CT  
Dose from clinical and phantom study)*

*Charles Sturt University*

#### **Hazem Fanash RN MSN PhD**

*Director of the National Emergency Medical  
Services Educational center (NEMSEC)*

*Jordanian Royal Medical Services*

*Ex Head of Training & Staff Development-  
Nursing Directorate*

*PhD in Nursing- University of Jordan/ Amman  
–Jordan*

*Nursing Head Officer - UN peace keeping  
mission/ Monrovia- Liberia*

#### **Hazem Habboub MD DMRD FRCR FACR**

*Consultant interventional Radiology*

*Chairman of Radiology Department*

*Royal Medical Services*

#### **Hazem Shareef PhD**

*Instructor assistant, Faculty of Agricultural  
Technology, Al-Balqa' Applied University*

*Team research leader UNDP*

*Public University coordinator in National  
Agriculture Information System (NAIS) in*



*Ministry of Agriculture  
Dean Assistance for Planning and Developing  
and Quality insurance. Faculty Agricultural  
Technology, Al-Balqa' Applied University  
Ph.D in Plant Protection ,Forensic Entomology*

### **Hikmat Abdel-Razeq MD**

*Chief Medical Officer and Deputy Director  
General of King Hussein Cancer Center  
chairs the Department of Internal Medicine  
and the section of Hematology and Medical  
Oncology KHCC  
American Boards in Internal Medicine,  
Hematology and Medical Oncology  
King Hussein Cancer Center, Amman-Jordan*

### **Hussein Shalan MD, FCCP**

*Head of Intensive Care Unit  
Royal Medical Services  
KHMC*

### **Ibrahim Al-Abbadi RPharm, MBA, PhD**

*BSc. Pharmacy, MBA-Marketing, PhD  
PharmacoEconomics  
Dean, Faculty of Pharmacy – Yarmouk  
University – Irbid – Jordan  
ISPOR Arabic Network Chair - ISPOR Jordan  
President  
Associate Professor-Department of  
Biopharmaceutics & Clinical Pharmacy  
Faculty of Pharmacy – University of Jordan-  
Amman*

### **Ibrahim Bani-Hani MD**

*Professor and senior consultant of urology at  
king abdullah hospital  
Director of king abdullah hospital*

### **Imad Jaradat MD, PhD**

*Associate member  
Consultant ,radiation oncology  
Director, brachytherapy program, radiotherapy  
Department, king Hussein cancer center  
Head, gynecology oncology service, king  
Hussein cancer center*

### **Imad Swaiss MD,JBA,FRCAI(crit-care)**

*Fellow of royal college of anaesthetist  
Ex Examiner -Jordan board of anaesthesia  
Ex Chairman of ICU,KHMC  
Senior Consultant Anaesthetist& Intensivist  
Chairman Dept of Anaesthesia &ICU  
Farah New General Hospital*

### **Isam Haddadin MD**

*Senior Consultant Pediatric Oncology /  
Hematology*

*Head of Bone Marrow Transplant  
Royal Medical Services*

### **Islam Massad MD,**

### **Issa Sawaqed MD**

*JB General Surgery, JB Orthopaedics & Trauma  
Head of Orthopedic Specialty in RMS  
Consultant Orthopaedic , Trauma & Sports  
Medicine Royal Medical Services, Jordan Army  
Registrar Orthopaedic, Trauma and Sports  
Medicine, Nuffield Orthopaedic Centre & John  
Radcliffe Hospital , Oxford, UK  
ISAKOS member  
AO Trauma Middle East Member and  
Instructor.*

### **Kefah Alqa'qa' MD**

*Consultant metabolic pediatrician  
chief of the metabolic department at Queen  
Rania Al-Abdulla, Royal Medical Services.  
Jordanian Board in general pediatrics in 1998.  
Metabolic training at Newcastle Upon Tyne  
University and in NHS hospitals,  
Metabolic training at Iowa Children's Hospital,  
University of Iowa department of genetic and  
metabolic diseases.  
Clinical trainer at the Pediatric department of  
Jordan University of science and Technology  
member of the Middle East and North Africa  
Metabolic Group*

### **Khaldoun Haddadin Brig. Gen. Dr.,**

*BSc Saint Andrews University  
MB ChB Victoria University of Manchester,  
FRCS (Eng)  
Fellow of the Royal College of Surgeons of  
England  
Jordanian Boards of General Surgery & Plastic  
Reconstructive Surgery  
Consultant Plastic Reconstructive Surgeon  
Chairman Department of Surgery, King  
Hussein Medical Center - Jordan*

### **Khaled Ajarma MD**

*Jordanian board in general surgery  
Fellow of American college of surgeon (FACS)  
Consultant in Hepato-pancreatico-biliary  
surgery  
Consultant in liver transplantation team in  
RMS*



### **Khalil Kanani MD**

*Medical Doctor and Boarded in Community Medicine  
National Malaria and Bilharzia Control Program Manager  
Head of Parasitic and Zoonotic Diseases Division  
MOH – Jordan*

### **Laith Akkash MD**

*Head of the Division of Dermatology/Jordan University Hospital  
Consultant Dermatologist & Derasurgeon/ Jordan University Hospital  
Assistant Professor of Dermatology/ University of Jordan*

### **Laith Aljabali MD**

*Jordanian Board Certificate in Radiation Oncology  
Medical Officer , United Nation Mission in Haiti  
Member of Colorectal multidisciplinary clinic Royal Medical Services*

### **Maher Sughayer MD**

*American Board of Pathology in ,Anatomic Pathology, Clinical Pathology and Cytopathology.  
full member and chair of pathology at King Hussein Cancer Center  
consultant for the European Investment Bank on medical projects in the Middle East  
Ex Chair of Pathology at the Makassed Hospital in Jerusalem*

### **Mahmoud Ababneh MD**

*Senior Consultant Orthopedic Surgeon  
Associate Professor  
Jordan Unicersity*

### **Mahmoud Odat MD**

*Senior Consultant Orthopaedic & Trauma Surgeon  
Director, Academy of the Royal Medical Services  
Chair, Jordanian Orthopedic Board (Jordan Medical Council)  
Chair, Education AOTrauma Middle East  
Chair, Fellowship program AOTrauma Middle East  
Member, Board of Directors of the Jordan Advanced Machining Company "JAMCO"  
AO International Faculty Gold Member (Switzerland)  
AAOS International Affiliate Member*

*Overall Chair, Regional AOTrauma Courses 2013*

*Chair, AOTrauma Principles Davos Courses*

### **Mamoon Zihlif MD**

*Pulmonary/Critical Care and Sleep medicine attending at the  
dept. of internal medicine , Islamic Hospital  
American Board of Pulmonary diseases  
American Board of Critical Care Medicine  
American Board of Internal Medicine  
American Society of Critical Care Physicians  
American College of Chest Physicians  
American Medical Association  
Jordan Medical Association*

### **Mansour Karadsheh MB'BS, MRCP(UK), JBIM, JB A&I FRCP (Edin.)**

*consultant Physician and a consultant in Allergy and Immunology Jordanian Board of Medicine;  
Jordanian Board of Immunology& Allergy  
Royal Medical Services*

### **Marwan Abu Rumman OT**

*Occupational Therapy Department in the Royal Medical Services  
Supervisor on University Training course  
Royal Rehabilitation Center*

### **Maurice Dahdaleh MBBS (Lond), FRCP (Lond),**

*Consultant Neurologist, Acute Stroke Unit, Khalidi Hospital and Medical Center, Amman*

### **Mazen Al-Bashir MD, MSc. MRCP**

*CEO/ Chairman of the Board Istishari Hospital  
Director and founder of the Jordan Center for family medicine  
General Practice Department in Liverpool University*

### **Mazen El-Zibdeh MD MRCOG FRCOG**

*medical director at Gardens hospital  
member of the executive Board and the education committee of IFFS  
President of the Jordanian Ob gyn society*

### **Moaath Alsmady MD FRCS**

*Associate Professor. Consultant Cardiovascular Surgeon  
Chairman, department General Surgery.  
Head of cardio vascular division  
The University of Jordan/ Faculty of Medicine.  
interest is in adult cardiac surgery*



### **Moh'd Al Shorman RN**

*Clinical instructor for under graduated nurses  
Spinal Unit , Royal Rehabilitation Center*

### **Moh'd Rami Al-Ahmar MD**

*Specialist of Physical Medicine and  
Rehabilitation (Jordanian Board).  
Spinal Cord injury Specialist, Fellowship  
(Robert Jones & Agnes Hunt H., UK.  
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# ABSTRACTS



## Hall A Session 1 Nursing Free Papers

1

### Using the Nursing Care Plan as a Learning Tool: The Experience of Jordanian Nursing Students

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**Objectives:** This study sought to examine the experiences of nursing students in Jordan who are using nursing care plans as a learning tool in the clinical area of practice.

**Methods:** A qualitative research design with focus group methodology was used to collect data from students. Content analysis was used to generate the study themes.

**Results:** The results indicate, within the Jordanian context, the nursing care plan is a very useful learning tool which helps translate theory into practice, provides a framework within which knowledge can be organized and implemented, helps develop critical thinking and problems solving skills, facilitates student integration into the workplace, teaches professional communication in the form of documentation and aids evaluation.

**Conclusion:** Nurse educators working with clinical staff need to seek opportunities to develop strategies that promote critical thinking and problems solving skills of nurses under training such as those required in formulating nursing care plans. Nurse managers need to enhance collaborative and supportive learning environments in order to enhance the quality of patient care.

**Keywords:** nurses, students, care plan, focus groups

2

### Perceived Stressors among First Year Nursing Students: A Case of Jordan

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**Objectives:** The aim of this study is to determine the sources of stress among the first year Jordanian military nursing students at Princes Muna College of Nursing and Allied Health profession

**Methods:** Descriptive cross-sectional study was performed with a convenience sample of 138 students. The Student Stress Survey (SSS) was used to measure the sources of stressors (Insel, & Roth, 1985). This survey consists of 40 items divided into 4 categories of potential sources of stress: intrapersonal sources, Interpersonal sources, academic sources, and environmental sources. Researchers modified the tool by deleting seven items, because they were inappropriate culturally therefore, the total numbers of items were 33 items. face validity was established, and the Cronbach's Alpha reliability of the Student Stress Survey was 71 in this current study

**Results:** Data were analyzed using the SPSS using descriptive statistics. The nursing students were females, single and were between 18 and 22 years old of age. The top five sources of stress reported were: Increase class workload (89 %), change in living environment (83%), change in social activities (78 %), change in eating habit (77.5 %), and change in sleeping habit (76% ), with academic sources of stress being the most frequently reported source

**Conclusion:** The result of this study indicate that establishing student support system during the first year and improving it throughout nursing school is necessary to equip nursing students with effective coping

**Keywords:** sources of stress, nursing students

3

### Effect of Breast Feeding and Maternal Holding in Relieving Painful Responses in Full Term Neonates

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**Objectives:** To determine the efficacy of breast feeding with maternal holding as compared with maternal holding without breast feeding in relieving painful responses during heel stick blood drawing in full term neonates

**Methods:** Randomized controlled trial. A convenience samples of 120 full term newborn infants in their fourth day of life undergoing heel stick blood drawing for screening of hypothyroidism were included in the study. The neonates were randomly assigned into two equivalent groups. Interventions: During heel stick bloods drawing for infants they either breast fed with maternal holding (group I) or were held in their mother's lap without breast feeding (group II). The painful responses were assessed by a neonatal nurse blinded to the purpose of the study. Outcome measures for painful responses of the full term neonates were evaluated with the Premature Infant Pain Profile scale.

**Results:** Independent t test showed significant differences in Premature Infant Pain Profile scale scores among the two groups ( $t = 35.68$ ,  $p = .000$ ). Pain scores were significantly lower among infants who were breast fed in addition to maternal holding.

**Conclusion:** The combination of breast feeding with maternal holding reduces painful responses of full term infants during heel stick blood drawing. Updating practice guidelines for heel stick blood drawing in the neonatal unit to include maternal breastfeeding while holding the infant will enable the delivery of evidence based high quality care.

**Keywords:** Breast Feeding, Maternal Holding, Pain, Neonates

#### 4

#### **Maternal Attachment: Comparison between Breastfeeding and Bottle Feeding Infants**

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**Objectives:** The purpose of the study is to identify the difference of maternal attachment among Jordanian first time mothers of breastfeeding and bottle feeding infants.

**Methods:** Descriptive comparative study was conducted among 220 first time mothers. The sample recruited from 3 maternal and child health centers in Amman. The data collected by using Maternal Attachment Inventory (MAI). Inclusion criteria were all first time Jordanian mothers who gave birth to healthy full term infant aged from 1-6 months.

**Results:** The results revealed that mothers' age ranged between 16 to 43 years with a mean age of  $24.3 \pm 4.7$  years. 60.5% of the them ( $n = 133$ ) have a secondary level of educational and less.. According to Maternal attachment Inventory (MAI), the participants reported total score of maternal attachment (MA) ranged from 53 - 104 with total mean score of  $87.9 \pm 10.43$ . More than half 65.5 % ( $n = 144$ ) have moderate level of MA, while 21.8 % ( $N = 48$ ) had high maternal attachment level. Using of t-test showed that there is significant difference of maternal attachment ( $F = 4.93$ ,  $P < .01$ ) between mothers regarding their infants where mothers of infant with breastfeeding have high mean of attachment ( $M = 92.57 \pm 6.7$ ) than those who have infants with bottle feeding ( $M = 86.90 \pm 12.6$ ).

**Conclusion:** Breastfeeding is a significant factor that increases the mother infant attachment. This fact is supported by previous literature which highlights the need to encourage and advocate of breastfeeding behavior by health care provider.

**Keywords:** Maternal Attachment, Breastfeeding, First time mothers

5

### **Jordanian Pregnant Women and Nurses Interaction During the Antenatal Visits**

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**Objectives:** To explore Jordanian pregnant women and nurses' perceptions of their interaction during antenatal visits.

**Methods:** A qualitative focus group discussion methodology was conducted. Convenient sampling method was used to recruit two samples from the antenatal clinics at King Hussein Medical center. Eleven pregnant women, and six nurses' were recruited. The pregnant women age range was 18 to 39 years old, from different governorates, with different educational levels, and had at least two antenatal visits in recent pregnancy. Nurses participants had at least two years experience in antenatal clinics, two nurses with bachelor degree, and four nurses had two years diploma. Data collection done by conducting three focus group discussions with pregnant women, and two focus group discussions with nurses.

**Results:** Three major themes distinguished. First theme is the incongruent intentions of interactions between antenatal nurses and pregnant clients. The second theme is barriers of interaction, including the large number of pregnant women visiting the clinic every day, crowdedness, waiting room condition, lack of privacy, and work disorganization. The third theme is failure of interaction, that was revealed from the improper care and education provided for pregnant women, as well as the nurses feelings of disrespect and not appreciated as care providers.

**Conclusion:** The study themes revealed inappropriateness of the antenatal clinic atmosphere and waiting room conditions, lack of privacy, improper and inadequate education for pregnant woman. Such barriers were inhibiting pregnant woman and nurses from interacting properly, and

caused the failure of interaction.

**Keywords:** antenatal care, interaction, pregnant, nurse

6

### **Antenatal Screening for Hypothyroidism: Jordanian Study (Part I)**

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**Objectives:** This is part one of a larger multi-step study that aims to identify the maternal risk factors associated with hypothyroidism. It also aims to estimate the prevalence of hypothyroidism among Jordanian pregnant women with trimester reference range for TSH and Free T4. This study includes all geographical regions of Jordan. This report though addresses only one city.

**Methods:** A descriptive, correlational, cross-sectional design was used. Evidence-based approach was applied. Detected cases were referred for treatment according to institutional policy. Purposive sample consisted of 153 women with different pregnancy trimesters participated in this study. Settings included in this part of the study were two central hospitals and one comprehensive health center in Al Zarqa governorate. Structured interview, Modified European Survey Questionnaire (Vaidya et al., 2012), antenatal routine lab tests, physical measurements and thyroid function tests TSH, FT4 were collected.

**Results:** Descriptive statistics, Pearson correlation were presented the findings. Nearly one third of the pregnant women were found to have one form of hypothyroidism (32%); of them 3.9% had clinical hypothyroidism, 9.8% had isolated hypothyroxinemia, and 18.3% subclinical hypothyroidism. Maternal hypothyroidism was associated with high body mass index, history of thyroid and rheumatoid disease, repeated abortion, gestational hypertension, post partum hemorrhage & thyroiditis.

**Conclusion:** TSH, FT4 adult reference ranges



might not apply on pregnant women. Missing cases may occur, risk pregnancies and negative obstetrical outcomes may develop secondary to either undiagnosed or misdiagnosed cases of hypothyroidism. Antenatal screening for hypothyroidism and trimester-reference range need to be adopted for safe maternal-child health.

**Keywords:** Screening, Trimester-Reference Range, Hypothyroidism.

## 7

### **Barriers to, and Facilitators of, Research Utilization among Registered Nurses in Taif City, Saudi Arabia**

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**Objectives:** Research utilization in nursing has been a prominent concern for the last 30 years. Previous literature showed several factors impede or facilitate nurses to utilize research findings. Now days, nursing practices are based on evidences which require the use of the best available research evidence and practical experience to make clinical decisions. The objective of this study was to identify nurses' knowledge of research utilization, and barriers and facilitators to that utilization.

**Methods:** A descriptive design was used to assess facilitators of, and barriers to, research utilization among 235 registered nurses selected randomly from various clinical settings in Taif city. The Barriers to Research Utilization Scale was used. The validity and reliability were tested and confirmed. The questionnaires were distributed to registered nurses working in various settings of hospitals in Taif city. All ethical issues were considered. The response rate was 73%.

**Results:** Several factors were considered barriers to research utilization. The barriers of highest percentages were lack of authority, insufficient time, lack

of awareness and skills to read and use research findings, and lack of support to change patient procedures and clinical practices. Other items were considered and analyzed.

**Conclusion:** Finding out the barriers to research utilization may help administrative personnel set certain policies that can facilitate research use in nursing units. Nursing directors should encourage nurses to increase their knowledge and utilizing of research studies through readings and attending certain educational programs. There is a need for future research studies with a larger sample size and different cities.

**Keywords:** research barriers, research utilization, evidence-based practice, nursing, health care.

## 8

### **Jordanian Nurses' Perceptions of their Work Environment and Level of Intent to Stay at Work**

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**Objectives:** The purposes of the present study are to examine Jordanian nurses' perceptions and relationships of their hospital work environment and level of intent to stay at work.

**Methods:** Design: Using a cross sectional comparative design, a convenience sample of Registered Nurses (RN) (n=670) were recruited from private, public, university (teaching) and military hospitals in northern, middle, and southern regions in Jordan and surveyed through a self-administered questionnaires that includes Practice Environment Scale of Nurse Work Index Arabic version (PES-NWI), the McCain Behavioral Commitment Scale (MBCS) and a demographic data form.

**Results:** The participants perceived their work environment as favorable and moderate level of intent to stay at work. Nurses had favorable perceptions of

"collegial nurse-physician relationship" (2.70), unfavorable perceptions of staffing and resources adequacy (2.36) mixed perceptions of "nurses' participation in hospital affairs" (2.54), "nurse foundation for quality of care" (2.53). A moderate positive correlation between nurses' work environment and nurses' intent to stay at work. Work environment characteristics were accounted for 17% of the variance of the nurses intent to stay at work. Significant statistical differences were found among the four health sectors work environment and working area. Salary, increased workload, inadequate management support were the most frequent reported reasons for intent to leave work.

**Conclusion:** Directed administrative efforts toward assessing nurses' work environment and presence of adequate resources and staff are required.

**Keywords:** Work Environment, Intent to Stay, Jordan, Nurses.

## 9

### **Psychosocial Predictors of Suicidal Ideation among Patients Diagnosed with Chronic Illnesses in Jordan**

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**Objectives:** Suicide ideation is a multifaceted issue that involves bio- psycho- social and cultural factors that interfere with patients' abilities. The purpose of this study is to investigate the psychosocial predictors of suicide ideation among Jordanian patients with chronic illnesses.

**Methods:** A cross-sectional design using self-reported questionnaires was used to conduct this study from Jordanian patients admitted to private, military, public and University- affiliating hospitals in Jordan. Sample and sampling technique: A multi-strategic sampling technique was used to recruit the sample of the study. Simple random technique was used first to select the health care setting, and convenience sampling technique was used to recruit the patients diagnosed with chronic illnesses.

Data was collected from 480 patients diagnosed with diabetes mellitus (Type II), cardiovascular diseases (hypertension, coronary heart disease and heart failure), and cancer. Data collection methods: The Multidimensional Scale of Perceived Social Support, Beck Depression Inventory-II, the Life Orientation Test, the Satisfaction with Life Scale. Suicide ideation was measured using four suicidal ideation items from the General Health Questionnaire (GHQ) 28-item version.

**Results:** Twenty percent of the participants found to be suicidal, the majority were suffering from moderate to severe depressive symptoms and slight level of life satisfaction. Type of illness has significant association with seriousness component of suicide ideation ( $p = 0.023$ ). Depression ( $r = .345, p < .001$ ) and optimism ( $r = -.008, p < .05$ ) were significant predictors of suicide ideation among patients with chronic

**Conclusion:** Patients with chronic illnesses suffer serious psychological disturbances and in need for psychological care.

**Keywords:** chronic illness, optimism depression, suicidal ideation

## Hall A Session 2

### **Nursing - Nursing Competence**

## 10

### **Enhancing Nursing Competence at Royal Medical Services**

*Hazem Fanash MSc RN (Jordan)*

#### **Introduction:**

Patients, families and communities have a right to receive competent nursing care; and, the public has a right to expect registered nurses will demonstrate professional competence throughout their careers. However, many studies have shown that new graduate nurses which constitute more than 10% of the nursing workforce cannot be assumed that they are competent at the time of graduation; the clinical training of the novice nurses has not equipped them with the knowledge, skills or confidence necessary for independent practice. Around 250- 350 new graduate nurses who are graduated from military, public and private universities are hired



annually at RMS hospitals; Consequently, the competence level of those nurses are directly impacted the quality of nursing care provided at our hospitals.

**Purpose:**

Different policies instituted by the nursing directorate at the Royal Medical Services to enhance the competence of the newly hired nurses will be presented including the development and application of the nursing internship program, residency program, nursing policies and procedures and the clinical ladder. The main focus of the presentation will be on the process of internship program implementation and its effectiveness in addition to discussing certain recommendations regarding the need for a national cooperative plan that integrates the efforts of the different parties involved; the nursing schools, JNC, JNMC and the Ministry of health.

**11**

**Nursing Competence and Clinical Guidelines**

*Caroline Alexander PhD RN (UK)*

This presentation will outline the following:

- What is a good clinical guideline and when should they be used giving examples to illustrate. This will include purpose and legal standing of guidelines
- What do you need to have in place to make guidelines effective
- How to develop a clinical guideline, who should be involved and where you can get help from
- Using clinical guidelines to assess the effectiveness of practice in delivering desired clinical outcomes and in the effective management of the clinical workforce. This will include a discussion on the implications of non-adherence to guidelines by clinicians and why not all clinicians see clinical guidelines as a good thing
- Throughout the presentation examples of research and best practice will be shared and connections to experts in the field will be made for future reference.

**12**

**Nursing Role in Development and Application of Clinical Guidelines**

*Liz Avital MSc (UK)*

To provide an overview of the role that nurses have in developing clinical guidelines for the National Institute for Health and Social Care excellence, using the recently published Pressure Ulcer prevention and management guideline as an example. To discuss the role that nurses have in applying this guidelines and the issues that they may encounter.

**13**

**Advance Practice Nurses: Jordanian Nursing Council Role in Developing and Implementing the Advanced Roles**

*Muntaha Gharaibeh PhD RN (Jordan)*

The Advanced Practice Registered Nurses, play a pivotal role in the future of health care. Advanced Practice Registered Nurses are often primary care providers and are at the forefront of providing preventative care to the public, improving quality of patient outcomes and advocating for the wellbeing of the population they serve. They are prepared with advanced didactic and clinical education, knowledge, skills, and scope of practice in nursing.

The purpose of this presentation is to provide an outline of the Jordanian nursing council initiatives and steps toward establishing a strong regulatory system for advance practice nurses/specialized nurses. An overview of what is advance nursing practice, qualifications, roles and scope of practice will be presented with emphasizes on availability of education programs. Much emphases will be given to Jordanian nursing council by-law number 74, issued 2006; its establishment, detailed explanation of its articles and future amendments to strengthen and expand the practice of nurses.

Finally the presentation will discuss challenges facing JNC in implementing the by-law, the role of health care institutions and Policy Makers on the Effective Utilization of Advanced Practice Registered Nurses and the need for future collaboration with all to move forward.

14

### **Accreditation as a Tool for Institutionalizing Quality Assurance**

*Thaira Madi PhD (Jordan)*

#### **Objectives:**

At the end of the session, the attendees will be able to:

- 1-Identify the essential elements of institutionalizing quality assurance (QA)
- 2-Describe the phases of the quality assurance institutionalization

#### **Summary:**

During the last decade, quality of health care has received increasing political and public health attention, fueled in part by growing local autonomy and democratization, decentralization of health systems, and health sector reform. World-wide, significant efforts are underway to improve the quality of health care being offered to people, and quality assurance (QA) activities are critical to these efforts. However, experience has often shown that the key question is not how to 'do' QA activities—but rather, how to establish and maintain QA as an integral, sustainable part of a health system or organization. Health care organizations want to know in which components they should invest scarce resources in order to maintain implementation of effective QA interventions throughout their delivery systems. Health organization leaders ask about the process, or the phases they must pass en route to incorporating QA into their structures, and developing organizational cultures that support and sustain QA in their health facilities. Health Care Accreditation Council (HCAC) embedded the eight essential elements of institutionalizing QA within the accreditation framework to provide practical information to health organizations (and systems) in their quest for sustainable quality. As such it is model and an operational tool, a roadmap to help organizations produce and sustain quality health care. The essential elements are grouped under three categories: Internal enabling environment, organizing for quality, and support function. And the organizations have to go through different phases, starting from pre- existing to maturity phase.

### **Hall A Session 3 Nursing - Patient Safety**

15

### **Patient Safety Culture**

*Atalla Hababbeh MSc RN (Jordan)*

**Introduction:** Patient safety Culture is considered the corner stone of the quality of health care. Providing safe patient care is one of the significant challenges in health care environment. Safety culture is defined as: "The product of individual and group values, attitude, competencies and patterns of behavior that determine the commitment to, and the style and proficiency of an organization's health and safety programs. Organizations with a positive safety culture is characterized by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventive measure" .

**Significance :**Developing a patient safety culture was one of the recommendations made by the institute of Medicine to assist hospitals in improving patient safety, considering that errors are common and major , the report of the Institute of Medicine (IOM, 2000) 'To Err Is Human' has highlighted public concerns about medical errors, estimated that between 44,000 and 98,000 thousand deaths can be attributed to medical error annually, with an annual cost of approximately \$79 billion. Medical errors during the course of patient care are estimated to have caused approximately 238,337 potentially preventable deaths among Medicare patients between 2004 and 2006 in USA.

**Dimensions of Patient Safety Culture in Nursing:** Four dimensions were identified include system sub-dimension, the personal sub-dimension, the task-associated sub-dimension and the interactive sub-dimension.

**Factors Influencing patient safety :** Team Work and Communication, Workload and Work Environment,, Leadership and Management Support



16

### **Initiatives in Patient Safety**

*Kay Riley PhD RN (UK)*

#### **Patient Safety at Barts Health NHS Trust, London, UK – Approaches to the involvement and engagement of staff in reducing harm and improving quality of care**

"We absolutely should have an aspiration of zero harm healthcare" Jeremy Hunt MP, Secretary of State for Health in the UK, recently spoke about the fundamental importance of improving patient safety stressing that the 5% avoidable error rate translates to 1000 deaths a month and stated that "this kind of level of harm is common in healthcare systems - why have we accepted this as normal?"

Patients still continue to needlessly suffer and in some cases die because of errors and incidents. Increasingly there is a strong belief that these incidents can and should be prevented if healthcare is to achieve world class levels. A number of industries such as the chemical or airline industries now achieve ZERO injuries on a regular basis. This has involved major changes in behaviours and culture.

This session will explain the patient safety context in the NHS in the UK, the current challenges and drivers for improving patient safety, including the Francis & Berwick reports. It will focus on ways to improve patient safety with a particular emphasis on local ownership and identification of patient safety concerns and local monitoring of patient safety.

It will focus on the approaches being taken at Barts Health NHS Trust to reduce harm to patients and improve the safety culture. Barts Health is the largest NHS Trust in the UK, with 15,000 staff working out of 6 hospital sites, which poses challenges of scale and complexity and in effectively engaging and involving a large staff population.

The session will consider the significant importance of actively engaging and involving staff in owning the patient safety agenda, and will describe the approach taken at Barts using a social movement theory approach through the Barts Health Care Campaign, called #becausewecare.

The key elements and results to date from the Care Campaign which include the Quality Improvement Collaborative, the Older Peoples Programme and the Ward Accreditation system will be presented.

17

### **Licensure and Patient Safety**

*Mohammad Hatamleh MSC RN*

Licensure is governed through the Public Health Law and Jordan Nurses & Midwives Council (JNMC) Law.

The Licensure is given by the Ministry of Health after registration at JNMC through endorsement of Scientific and legal documents. No evaluation requirements yet. Furthermore, no internship also. Licensure is once, no renew license. Registration is annual, the renew of registration depends on pay annual fees. No requirements toward continuing education or training.

The JNMC is working together with the Jordanian Nursing Council for developing licensure and registration requirements which lead nurses to keep continuous attention toward developing their capabilities through training, research, and scientific participations and achievements. The current licensure and registration legislations do not notice the differences between nurses' qualifications.

Patient safety will depend primarily on controlling practice, safety and quality, added to environment and systems and regulation of work. Developing after controlling licensure and registration have big role in ensure safety of patients.

18

### **Safe Management for Patients Following a Spinal Cord Injury in the Disaster or Battlefield Context**

*Fiona Stephenson RN (UK)*

'Improved disaster response has led to higher survival rates and an increasing number of injuries in relation to deaths (injury to death ratio). Recent earthquakes, in particular, have led to unprecedented numbers of spinal cord injuries - Meeting the needs of individuals with spinal cord

injuries is particularly challenging when disaster strikes a low resource environment' (Burns, O'Connell, Rathore 2013).

The World Health Organisation states that 'non-discrimination is a key principle in human rights and is crucial to the enjoyment of the right to the highest attainable standard of health'. !

This presentation will provide an insight into safely managing the patient, bearing in mind the complex needs of a person with a Spinal Cord Injury (SCI). Repositioning the patient, whilst maintaining spinal alignment, in order to protect the spinal cord from further damage is vital. Repositioning also reduces the risk of hospital acquired pressure ulcers and in turn hospital length of stay. Nurses are usually the healthcare professionals who undertake this task and it is of utmost importance that they have the skills to carry this out safely and successfully.

The main causes of morbidity and mortality are known to be pressure ulcers and urinary tract infections that can cause overwhelming sepsis. Therefore the nurse needs the knowledge and skills to educate the patient (and family/care giver), thus reducing the risk of complications.

The 'multi-disciplinary team (MDT) approach' to SCI care facilitates recovery and rehabilitation.

The nurse plays a significant role in this respect. Systematic assessment is imperative, and needs to be fully documented to enhance communication with the MDT as well as meeting medico-legal requirements.

## **Hall B Session 1 Medicine - Gastroenterology**

### **19**

#### **Early Colonic Lesions and Endoscopic Management**

*Pradeep Bhandary MD (UK)*

### **20**

#### **The Role of Impedance in the Diagnosis and Management of Gastroesophageal Reflux Disease (GERD) in Children**

*Abdallah Ghanma MD (Jordan)*

The recent advances in the diagnostic tools of GERD in children added a lot to our understanding the nature of the disease. Furthermore, they allowed us to do more researches that will lead us to better disease management.

Regurgitation in Pediatrics is a characteristic symptom of reflux in infants but is neither necessary nor sufficient for a diagnosis of GERD.

Symptoms of GERD vary by age and are troublesome when an adverse effect on the well-being of the pediatric patient occurs. Combined multi esophageal impedance pH recording is superior to pH monitoring only for the evaluation of GER-related symptom association as it detects acid and non-acid reflux episodes, bolus clearance time, and acid clearance time and symptom index.

Potential side effects of each currently available prokinetic agent surpass the potential benefits.

What we need in the future is a safe and efficient prokinetic.

### **21**

#### **New Advances in Colonic Cancer**

*Pradeep Bhandary MD (UK)*

### **22**

#### **Gut Microbiome: Lessons Learned in Pediatric Gastroenterology**

*Fareed Khdaire MD (Jordan)*

Gut microbiome is a trilateral system that is made up of gastrointestinal epithelia cells, gut flora, and the immune system cells located in the GI tract. When these elements interact in harmony, then healthy state predominates in the host. Illness will prevail though when the interaction gets dysfunctional. The later is called "dysbiosis". Probiotics, prebiotics, and synbiotics can alter this interaction.

Probiotics are live microorganisms which, when administered in adequate amounts, confer a health benefit on the host. Prebiotics are nondigestible food ingredient, that beneficially affect the host, by selectively stimulating bacterial species already established in the colon, and thus improve host health. Synbiotics are combinations between probiotics and prebiotics.





In this talk, I will discuss the clinical applications of probiotics and prebiotics in pediatric gastroenterology. This will include their uses in infant formulas, acute gastroenteritis, antibiotics associated diarrhea, inflammatory bowel disease, and functional GI disorders in pediatrics.

## Hall B Session 2 Medicine - Hypertension and Complications

23

### Hypertension and the Kidney

*Mohammad Rababaeh MD (Jordan)*

The kidney has implicated in the pathogenesis of elevated Blood Pressure hypertension (HTN) via direct effect as in cases of renovascular hypertension in form of unilateral renal artery stenosis, where renin angiotensin-aldosterone access is activated, or via indirect path way via increased renal sensitivity to sodium reabsorption as seen in cases of oligomeganephronia, genetic prodiathesis-(liddle syndrome), acute glomerulonephritis and possibly chronic kidney disease (ckd) per se. On the other hand the kidney might be a victim of HTN with progressive loss of the kidney function leading to end stage renal failure, where HTN has concede red to be the second common cause of end stage renal failure (ESRD) worldwide. Identification of treatable and curable hypertensive states as in secondary causes of hypertension is encouraged, and proper treatment of hypertension keeping BP within the normal values, (systolic below 140mmhg and diastolic below 90mmhg) is a corner stone in amelioration the further deterioration of kidney function, as there is strong evidence that hypertension is the most deleterious factor in the acceleration and progression of diabetic and non diabetic renal diseases to ESRD, along with that it decreases other significant and life threatening morbidities in form of cardiovascular events, CHF and stroke, as well as the overall mortality.

24

### Management of Acute Stroke; Current Practice Illustrated by Clinical Cases from the First Acute Stroke Unit in Jordan

*Maurice Dahdaleh MD (Jordan)*

#### Introduction:

Stroke is a major health problem worldwide that leads to significant mortality and morbidity. Over the past two decades evidence have been accumulating for more effective primary and secondary prevention strategies, improved recognition of people at high risk and rapid effective interventions soon after onset of symptoms.

Interventions proven to improve outcome in management of acute stroke include; **a.** treatment of all strokes in the setting of acute stroke units(1-3), **b.** giving aspirin within 48 hours of stroke onset(4), **c.** use of thrombolytic therapy, alteplase (T-PA) within 4.5 hours of stroke onset in eligible patients (5-8), **d.** early surgical decompression (hemi-craniectomy) as first choice in 'antiedema' therapy for patients with large middle cerebral artery infarction aged 60 years or younger(9).

**Methods:** Four patients presenting with acute stroke will be discussed illustrated with video clips where possible. These include a 54 year old male patient with markedly elevated blood pressure (BP) that was treated with thrombolysis alteplase (T-PA) after his BP was controlled with labetalol, a 78 year old female patient who was successfully treated with thrombolysis (T-PA) but relapsed five hours later and underwent successful middle cerebral artery embolectomy, an active 91 year old female patient who was treated successfully with thrombolysis (TPA), a 67 year old male patient who was treated with thrombolysis and subsequently an emergency hemi-craniectomy for massive brain edema; all these four cases had an excellent outcome.

**Conclusion:** Four patients with acute stroke were treated in an acute stroke unit setting demonstrating the successful use of recently proven treatment interventions which resulted in good outcome. The evidence is overwhelming to adopt current international guidelines for management of acute stroke in Jordan on a national basis.



## 25

### **Eighth Joint National Committee (JNC 8): Clinical Implications and Drawbacks**

*Abdallah Omeish, MD, FACC, FRCP (Jordan)*

The Eighth Joint National Committee (JNC 8) is a welcomed evidence-based guidelines for the management of hypertension that differs from those published in 2003 (The JNC 7) in the document format, blood pressure cut-off values and recommendations for antihypertensive drug use. The JNC 8 recommendations are not comprehensive but focus on certain priorities regarding hypertension management. It is an outstanding example of mining the best available data to generate a list of evidence-based recommendations for a particular condition. Three questions guided the JNC8 review; when to begin treatment, how low to aim for, and which antihypertensive medications to use. The answers to these questions were reflected in nine recommendations that should meet the clinical needs for most patients.

The shift to a DBP-based goal may lead to use of fewer medications in younger patients with a new diagnosis of hypertension and may improve adherence and minimize adverse events associated with low SBP. The JNC 8 removed special lower target blood pressure for those with DM and CKD and liberalizes initial drug choices so that one size could fit most. The limitations of the recommendations include several significant issues, the first of which involves the included data as the JNC 8 panel did not utilize cohort studies, systematic reviews, or meta-analyses in their reviews. While those absences may distort a small sub-segment of the conclusions, the objectivity and insight of the panel allowed for both strong recommendations and honest grading of the outcomes –

Other disadvantages include the dissention among the panelists and the National Heart and Lung and Blood Institute (NHLBI) withdrew from the process. The final JNC8 is not endorsed by any federal agency or college. The new guidelines didn't also address hypertension in many subgroups like those with heart failure, coronary artery disease and stroke and do not apply

to those under 18. They didn't address ambulatory blood pressure monitoring (ABPM), masked hypertension, resistant hypertension and renal ablation.

By the year 2014, clinicians can adopt any of these guidelines for the management of hypertension namely: the JNC 8, ESH & ESC, AHA, and CHEP or NICE as they were generated from the best clinical evidence available by the year 2013. However, it should be noted that these recommendations are not a substitute for clinical judgment, and decisions must carefully consider and incorporate the clinical characteristics of each individual.

## 26

### **Hypertension in Diabetic Patients: How Far we Should Control?**

*Nadim Jarrah MD (Jordan)*

More than 75% of adults with diabetes have high blood pressure or are using antihypertensive medication. In the natural history of type 1 diabetes, development of an elevated BP is a major predictor of nephropathy and future declines in kidney function.

In contrast, hypertension is already evident in most patients with type 2 diabetes at the time of diagnosis. The implications of hypertension on cardiovascular risk, however, are similar in both types of diabetes. Mortality is increased 7.2-fold when hypertension is present in patients with diabetes.

In cardiovascular outcome trials among patients with hypertension, the proportion of participants in whom BP goals are achieved is roughly double that in clinical practice. An assessment of the subgroup with diabetes in these outcome trials over the past decade indicates that an average of 2.9 appropriately dosed antihypertensive medications are required to achieve BP goals. Among persons with diabetes and preexisting kidney disease, this average increases to about 3.5 medications. Thus, a key approach to achieve BP goal in patients with diabetes is to select agents for maximal efficacy and tolerability to achieve BP goal that have the fewest adverse effects and, if possible, the lowest cost.

According to JNC7, the blood pressure control goal in diabetics was up to 130/80 mmHg, and the corner stone group to be used is the RAAS inhibitors which give a significant Renoprotection for diabetics, however the JNC8 has increased the target up to 140/90 mmHg.

Recently the extended data from the ADVANCE trial which was presented in the last EASD – 2014, showed the legacy effect of adequately controlling the blood pressure at an early stage for the next several years compared to the tight glucose control which did not give late outcome benefit.

The presentation will cover the relationship between diabetes and hypertension, the pathophysiology of hypertension in Diabetes, the old and the latest guidelines to manage hypertension in diabetics, a summary of the recommended pharmacological groups needed to control blood pressure in diabetics.

### **Hall B Session 3 Medicine - Adult and Pediatric Psychiatry**

**27**

#### **Non-Epileptic Seizures**

*Tewfik K. Daradkeh MD, FRCPsych, DPM  
(Jordan)*

Non-epileptic seizures are paroxysmal episodes that resemble and are often misdiagnosed as epileptic seizures. It can be either organic or psychogenic. NES are common at epilepsy centers, where they are seen in 20 – 30% of patients referred for refractory seizures. They are related to stress but the stress may not be able to see or feel. Diagnosis is often confirmed by Video EEG Monitoring (VEM). The evidence based treatment approach is psychological intervention through psycho-education and Cognitive Behavioral Therapy. Pharmacological intervention is best reserved for psychiatric comorbidity.

**28**

#### **The use of Antipsychotics and the Development of Metabolic Syndrome in Patients with Severe Mental Disorders**

*Mohammad Aqeel MD JBPSYCH (Jordan)*

Diabetes mellitus is a common and frequently undiagnosed condition for which there are many risk factors, possibly including schizophrenia itself. An association between antipsychotic drugs and diabetes was first suggested in the 1950s, but recent interest has focused primarily on the atypical antipsychotic. The increasing focus on medical morbidity and mortality among those with schizophrenia represents one aspect of a movement to extend the care of these patients beyond the treatment of psychotic symptoms so as to avoid the dual neglect to these patients by psychiatrists and general practitioners. Most studies report a higher rate of diabetes in patients use antipsychotic medication than in non-users, and in patient taking atypical vs. conventional antipsychotics. Clinicians should be aware that patients with Schizophrenia and other severe psychiatric conditions are at great risk of developing DM. Regular screening for D.M. and effective education about healthy living should be provided. Clear guidelines and health care programs may be required.

Large prospective, longitudinal studies in which all potential confounders are controlled needed to establish the precise nature of the association between schizophrenia and diabetes

**29**

#### **Evaluation of Mental Health Services in Jordan**

*Tewfik Daradkeh MD (Jordan)*

**30**

#### **Understanding Autism: Diagnostic Criteria, Etiology and Early Warning Signs**

*Amjad Jumai'an MD MRCPsych (Jordan)*

Autism is a developmental disability that affects many aspects of child development. The prevalence of ASD autism is rising rapidly, from 1 per 2,500 in 1970 to 1 per 285 in 1999 to 1 per 150 in 2007 and to 1 per 88 in 2012.

Autism spectrum disorder (ASD) is a new DSM-5 name and ASD now includes



the previous DSM-IV autistic disorder (autism), Asperger's disorder, childhood disintegrative disorder, and pervasive developmental disorder not otherwise specified. ASD is characterized by deficits in social communication and social interaction and restricted repetitive behaviors, interests, and activities (RRBs). Social communication disorder is diagnosed if no RRBs are present.

The causes of autism are unknown. One accepted theory is that certain individuals are born with a genetic predisposition for autism that is then triggered by something in the environment.

## Hall B Session 4

Policy Making /Training Symposium: S02  
Joint Royal Medical Services (RMS) -  
International Diabetes Federation (IDF) -  
Royal College of Physicians (RCP) - Thomas  
Jefferson University (TJU) - SIDRA Medical  
and Research Center Symposium

31

### **The Global Impact of Diabetes: How is the International Diabetes Federation Responding to the Challenge?**

*Sir Michael Hirst (UK)*

#### **(Summary of Powerpoint Presentation Notes)**

With more than two million members worldwide, the International Diabetes Federation, uniquely, is the legitimate global voice for people with diabetes. Our constituents are diverse in terms of their social, economic, cultural and professional contexts, and have an enormous range of different needs. But they also have an enormous amount to contribute.

There are currently 382 million living with diabetes and IDF estimates indicate that this total will reach reach 592 million by 2035. Another 316 million people are at high risk of developing type 2 diabetes. IDF's Atlas estimates that in 2013, diabetes cost 548 billion US Dollars in healthcare expenditure. Diabetes threatens to bankrupt economies placing a burden on them now and in the future. Rapid economic development coupled with ageing populations has resulted in a dramatic increase in type 2 diabetes. Nearly half of all deaths occur in

people under the age of 60. IDF has many initiatives to engage people with diabetes and their healthcare team

- Through its network of 230 member associations, IDF was one of the earliest voices calling for a UN High-Level Summit on Non-communicable diseases.
- IDF formed the NCD Alliance in 2009 with its sister federations in heart, cancer and chronic respiratory disease to campaign for a UN Summit.
- The UN High-Level Summit on NCDs resulted in Political Declaration NCD Prevention & Control.
- 2013: Governments agreed a target to halt the rise in diabetes and obesity by 2025 – diabetes is the only NCD with its own target.

2014: UN High-Level NCD Review resulted in an outcome document with a number of clear, time-bound national commitments for accelerating action on diabetes and NCDs

IDF's work has culminated in successive editions of the Atlas which outlines the scale of the problem and enables us all to act on diabetes and assume responsibility for the epidemic and its solutions. It is our prime advocacy tool. The latest update will be available on World Diabetes Day 2014 IDF's Young Leaders in Diabetes- youth ambassadors representing grass root actions and initiatives. 132 Young Leaders from 70 countries

Parliamentarians for Diabetes Global Network- keeping diabetes on the political agenda. Currently 140 members in 40 countries.

Every year on 14 November, World Diabetes Day provides the platform for people with diabetes to engage decision-makers and key opinion leaders in taking action to improve the lives of people with diabetes and building healthy environments.

The World Diabetes Congress, which comes to Vancouver in 2015-is the only truly global diabetes event for healthcare professionals from around the world.

Registration for the congress opens in January While preventing diabetes wherever possible must remain a political and societal



priority, it must not overshadow the need to improve care for people who already have the disease. Huge numbers of people with diabetes lack access to the supplies and good-quality care they need. IDF remains the principal supporter of healthcare professionals working with those affected in the management of diabetes.

- Currently supporting over 14,000 children with diabetes in 46 developing countries with lifesaving care and education.

## 32

### **Aspects of Future Collaboration of Training Fellows**

*David Warell MD (UK)*

Post-graduate medical training for physicians in the United Kingdom is controlled by the General Medical Council (GMC), the nineteen post-graduate deaneries and the Royal Colleges of Physicians (RCPs) of London, Edinburgh and Glasgow. All trainees are enrolled with the Joint Royal Colleges of Physicians' Training Board that develops and oversees speciality curricula for training programmes. The RCP London, which celebrates 500 years of its history in 2018, is a professional membership organisation with more than 30,000 members worldwide. Its charitable status makes it independent of government. Its focus is on improving healthcare, setting clinical and educational standards and promoting implementation of research findings (e.g. health implications of tobacco smoking and alcohol) and clinical management guidelines.

International Medical Graduates (IMGs) can apply to the GMC through the RCPs for registration and a maximum of 24 months residence in the UK under a Tier 5 visa. RCPs can also place these trainees in the Medical Training Initiative (MTI) scheme (in-service, supervised training in NHS Trusts) provided that they have had sufficient experience and qualification in their home country and have good command of the English language (IELTS overall score 7.5). Candidates for the MTI scheme are interviewed in their own countries. There are currently 210 RCP London-sponsored MTI graduates working in the UK in a wide

variety of specialities. They are supported by the RCP through an induction day, annual training symposia and e-portfolio and are encouraged to achieve the MRCP (UK) during their stay.

Many countries perceive a need to create a cadre of trained clinical researchers to generate basic epidemiological data and carry out regulatory clinical trials and other research in human subjects. The RCP is developing plans to accommodate IMGs who are interested in learning about all aspects of clinical research in selected academic departments of medicine in the UK. At least half of the training would be clinical work. This scheme might establish long term research and academic collaborations between home and host institutions, continuing long after the IMG had returned home.

## 33

### **The Internationalization of Healthcare: What We can Learn From Apple, Google, Facebook and the Airline Industry**

*Stephen Klasko MD (USA)*

## 34

### **Tips and Tricks of PACES Exam**

*Ali Jawad MD (UK)*

The first MRCP examination was held in 1859, and today it is run by the Federation of Royal Colleges of Physicians of the UK (London, Edinburgh and Glasgow) in 17 UK Cities and 25 countries outside the UK. While the methods of examining and the knowledge assessed have changed almost beyond recognition in the 500 years since the foundation of the first college, passing the MRCP(UK) Diploma continues to demonstrate that a doctor has obtained a standard that is recognised worldwide as a symbol of excellence in medicine, and that is something that the founders of the colleges would have wholeheartedly supported.

The MRCP(UK) is a high stakes examination and plays an essential role in the overall educational experience and CPD of physicians in the UK. It is a prerequisite for physicians wishing to undergo training in a medically related specialty in the UK. It



tests basic science, clinical judgement and clinical skills. Normally, it is taken during the first four years of postgraduate training. The examination is in three parts:

Part 1- Knowledge of science and basic medicine

Part 2- Demonstration of clinical understanding and judgement

PACES (Practical Assessment of Clinical Examination Skills)- a practical demonstration of judgement and clinical skills.

'In the clinical examination, PACES, each candidate is independently marked by two examiners at each clinical encounter. Ten examiners directly observe each candidate, and, because it is a series of face-to-face encounters, unwanted bias is a possibility. In 2013, MRCP(UK) published an analysis exploring possible ethnic and sex bias in clinical examiners. The fact that examiners work in pairs in this examination allowed for an intensive and statistically robust hawk-dove analysis, which showed no evidence that any of the almost 2000 examiners was favouring candidates of their own sex. One examiner seemed to systematically favour BME candidates; none seemed to favour white candidates. Thus, unfair and undesirable examiner bias has effectively been excluded as a cause of differential attainment in PACES.'

During the presentation, we will be giving potential candidates helpful advice on how to prepare and pass the examination.

More information on the examination:

<https://www.rcplondon.ac.uk/mrcpuk>

### 35

#### **Sidra Medical & Research Center: A Leading Regional Academic Medical Center**

*Abdulla Al-Kaabi MD (Qatar)*

Sidra Medical and Research Center will be a beacon of learning, discovery and exceptional care, ranked among the top academic medical centers in the world. The hospital will be an ultramodern, all-digital academic medical center which will set new standards in patient care for women and children in Qatar, the Gulf region and internationally.

This presentation talks about how the state-of-the-art facility will not only provide

world-class patient care, but will also help to build Qatar's scientific expertise and resources through its three main missions: World-Class Patient Care, Medical Education and Biomedical Research.

Not only will it allow our medical students, residents and fellows to learn in one of the finest and most technologically advanced facilities anywhere, but it will provide healthcare of the highest global standards to the people of Qatar and the Gulf region. As a fundamental element of its design, it will provide specialty care for women and children to help nurture and protect our families – the heart of our culture. Moreover, Sidra's biomedical research center will open a significant new chapter in Qatar's history, allowing us to contribute to the discovery of scientific knowledge in regard to diabetes, cardiovascular disease and other serious illnesses that afflict people here and around the world.

Through this presentation, we wish to introduce Sidra Medical and Research Center, list the different services the hospital will offer and illustrate its goals and explain how each will be achieved through academia and research.

Hall C Session 1

Physical Medicine & Rehabilitation -  
Rehabilitation Management

### 36

#### **Towards a Roadmap in Brain Protection and Recovery – How to Bridge Acute to Long Term Neurorehabilitation / Neurorecovery Treatment.**

*Dafin Muresanu MD (Romania)*

This presentation briefly reviews some of the mechanisms involved in the pathogenesis of neurological diseases, i.e. damage mechanisms, and their interactions and overlap with protection and reparatory processes (i.e., endogenous defense activities). A relationship between damage mechanism (DM) and endogenous defense activity (EDA) regarding therapy principles will also be described.

Currently, it is difficult to find the correct therapeutic approach for brain protection and recovery, especially because we do not fully understand all of the endogenous neurobiological processes, the complete

nature of the pathophysiological mechanisms and the links between these two categories. Moreover, we continue to use a simplistic and reductionist approach in this respect.

Endogenous neurobiological processes, such as neurotrophicity, neuroprotection, neuroplasticity and neurogenesis, are central to protection and recovery and represent the background of EDA.

The biological reality of the nervous system is far more complex. In fact, there is an endogenous holistic process of neuroprotection and neurorecovery that should be approached therapeutically in an integrated way.

The current tendency to exclusively frame drug activity in terms of single mechanisms and single focus effect might distract from other paradigms with greater explanatory power and hinder the development of more effective treatment strategies. A change of concept is required in pharmacological brain protection and recovery. This presentation will also highlight some prospective considerations including an integrated pharmacological approach, focusing on drugs with multimodal activity and pleiotropic neuroprotective effect which are biological drugs, rather than single mechanism drugs, which usually are chemical drugs.

The development of the concept of brain protection and recovery in stroke will be also highlighted. Relevant clinical trials in the field will be commented as well.

### 37

#### **The Use of Virtual Reality Techniques in the Management of Phantom Limb Pain (PLP) Following Amputation**

*Imad Al-Khawaja MD (KSA)*

Phantom sensation is widely accepted as a natural consequence of amputation and it implies the experience of the amputated limb as still intact. Phantom Limb Pain (PLP) is painful sensations in the phantom limb. Frequency of PLP is as high as 85% post-amputation. As many as 70% of phantoms remaining painful up to 25 years after the loss of a limb. Overall adjustment to amputation is impaired as levels of pain

increase.

The consequences of PLP are disabling to the patient as it is less likely to use a prosthetic limb as levels of pain increase with restriction of normal daily activities, increased body image dissatisfaction and higher levels of depression.

Management of PLP included pharmaceutical, surgical and psychological interventions but all have proved to have limited success and longevity in treating PLP.

Ramachandran and Rogers Ramachandran (Proc Biol Sci 1996;263: 377-86) proposed the use of mirror placed vertically inside a box with the top removed so that patients can see reflection of their remaining anatomical limb in the phenomenal space of their phantom limb. This would induce vivid sensations of movement originating in the muscles and joints of their phantom limb resulting in relief from PLP and control gained over paralyzed phantoms. The user must remain oriented towards the mirror, with few degrees of freedom with movement of their head and the need to focus on reflection. The mirror box contributes to a converging line of evidence that when feedback of limb movement is manipulated appropriately, it can evoke kinesthetic sensations in that limb.

More robust visual therapy could potentially prove to provide greater therapeutic benefits than the mirror box. A contemporary, innovative technology that has already been exploited with some success in the amputee population have used the Immersive Virtual Reality (IVR) to create a new visual therapy for the treatment of phantom limb pain. It aims to produce virtual facsimiles of amputees' phantom limb which can be controlled by movements of the opposite anatomical limb thus relieving PLP, decrease body image dissatisfaction and enable successful prosthesis use



38

### **Recent Developments in Computer Assisted Rehabilitation Environments**

*Rob van der Meer MD (Netherlands)*

*Brigadier General (Ret), Independent consultant/CEO MeerHealth Retired Surgeon General of The Netherlands Previous Chairman 2nd PanEuropean Congress on Military Medicine/ICMM Previous Chairman COMEDS/NATO (Netherlands)*  
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**Objectives:** Inform the participants about recent developments in CAREN systems

**Methods:** Computer Assisted Rehabilitation Environment (CAREN) is a system that integrates a training platform (motion base), a virtual environment, a sensor system (motion capture) and D-flow software. It is useful for both diagnostic and therapeutic use.

**Results:** The human gait pattern can be impaired due to disease, trauma or natural decline. Gait analysis is a useful tool to identify impaired gait patterns. Traditional gait analysis is a very time consuming process and therefore only used in exceptional cases. With new systems a quick and extensive analysis is possible and provides useful tools for therapeutic purposes. The range of systems will be described in this presentation, highlighting both their diagnostic use and the therapeutic possibilities. Because wounded warriors often have an impaired gait due to amputations of other extremity trauma, these systems are very useful for military rehabilitative efforts. Additionally, the virtual reality environment creates a very challenging situation for the patient, enhancing their rehabilitation experience. For that reason several Armed Forces have these systems already in use.

**Conclusion:** The most recent experiences will be discussed; including new developments both in the extension of the range of systems and the improvement and adaptation of the software. A new and promising development, the use of CAREN in a special application for patients with PTSD, will also be reviewed.

**Keywords:** CAREN, rehabilitation, amputations, PTSD, 3MDR

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### **Principles of Shoulder Rehabilitation and Rehabilitation after Rotator Cuff Repair**

*Ziad Hawamdeh MD (Jordan)*

Many pathologic conditions can affect the shoulder complex. As with other parts of the musculoskeletal system, these can be the result of either acute trauma or repetitive microtrauma. Acute or chronic injury may result in the disruption of motion, strength, kinesthesia, or dynamic stability. As rehabilitation professionals, we can positively influence all of these components. The most important factor that determines the success or failure of a particular shoulder rehabilitation protocol is establishing the correct diagnosis.

Designing a rehabilitation program should take several factors into account and includes; the degree and type of mechanical disruption, the chronicity of the problem, the strength and endurance of the rotator cuff and the scapular muscles, and the patient anticipated level of function. Rehabilitation should focus on the elimination of pain and the restoration of functional movement through dynamic stability of the rotator cuff and scapular musculature. With all therapeutic activities, painful arcs and positions that may exacerbate impingement or subluxation should be avoided.

Return-to-sport activities should be incorporated in the final phases of rehabilitation. Once a patient demonstrates sufficient strength and neuromuscular control to be cleared for plyometric exercises, these exercises will improve power and encourage maximal firing of the rotator cuff and scapular muscles to provide a necessary transition to high-speed activities.

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### **A Double Blind Controlled Trial using Corticosteroid versus Xylocaine Injection in the Treatment of Adhesive Capsulitis (Frozen Shoulder)**

*Qaisar Al-Shami MD (Iraq)*

*Brigadier General (AKA 1 Star General), Commander of Iraqi Military Medical Committees, Chief of Rheumatology &*



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**Objectives:** To determine the effect of local corticosteroid injection compared to xylocaine injection for improving pain, function, and range of motion (ROM) in adhesive capsulitis (frozen shoulder).

**Methods:** Double blind, randomized, controlled trial. Participants: Fifty participants (twenty six corticosteroid group, twenty four xylocaine group). Entry criteria were age > 18years, pain and stiffness in predominantly one shoulder for > 3 weeks, and restriction of passive motion by (30 degree) in two or more planes. Interventions: Methyl prednisolone 40mg local injection , versus xylocaine 1% local injection. Main outcome measures: overall night pain, and activity related pain , shoulder pain and disability index (SPADI), health assessment questionnaire (HAQ), participant rated improvement , range of active motion measured at baseline and one week later.

**Results:** After one week, there is significantly greater improvement in pain scores in all over and night pain p value (0.0455) in corticosteroid group compared with xylocaine group. Also there is significantly greater improvement in the range of motion especially in the total shoulder flexion, p value (0.0001227), abduction p value (0.0007067) and internal rotation p value (0.0004520) and external rotation p value (0.0002928), and adduction p value (0.0002523), in corticosteroid group compared with xylocaine group. Disability is significantly improved as measured by shoulder pain and disability index (SPADI) in corticosteroid group compared with xylocaine group mean  $\pm$  (SD) 37.31(15.89) for corticosteroid group while mean  $\pm$  (SD) 62.08 (7.21) for xylocaine group p value (0.0000005). There is also significant differences in the health assessment questionnaire (HAQ) which was improved in the corticosteroid group mean  $\pm$  (SD) 1.08 (0.80) while in xylocaine group mean  $\pm$  (SD) 2.33 (0.56), p value (0.0000057).

**Conclusion:** The beneficial effects of corticosteroid local injections administered

for the treatment of adhesive capsulitis (frozen shoulder) are superior to those of xylocaine 1% local injection after one week regarding: pain improvement, function, and range of motion.

**Keywords:** frozen shoulder, SPADI, ROM, local injection.

Hall C Session 2

Physical Medicine & Rehabilitation -  
Spinal Cord Injury (SCI) Management

#### 41

#### **Scientific Rationale for using Locomotor Training in Spinal Cord Injuries**

*Ali Otom MD (Jordan)*

Spinal cord injuries (SCI) is one of the most devastating injuries which leads to movement deprivation, manifested by severe loss of motor and sensory functions as well as systemic complications triggered by loss of normal physiological stresses to tissue and neurohumoral responses.

There are several promising neuroregenerative and neuroprotective treatments that are directed to limit neuronal damage and/or induce neuronal regeneration after SCI.

The main problem is the time of treatment. Early treatment onset may help to prevent scar formation and allows regeneration to occur. Treatment in rat models are usually administered soon after injury while in humans, treatment after SCI is often delayed till the clinical condition is stabilized.

The consortium for Spinal Cord Medicine has published clinical practice guidelines regarding expected neurological recovery. Concerning motor recovery, it stated that one-half to two-thirds of recovery following incomplete SCI will occur within the first 2 months after injury and will slow after 3-6 months.

Locomotor training, in particular exercise therapy is thought to be a critical variable for recovery. Early onset of rehabilitation is considered the most beneficial. In the clinic, treadmill training is associated with significant improvement in locomotor function.

Animal models of SCI showed beneficial effects of exercise and researchers

encourage locomotion with treadmill training and running wheels in their laboratory work. These studies suggest that training after SCI significantly extends the period of spontaneous recovery of function and increase motor abilities in chronic phases of injury. "AK Brown et al" in their study regarding exercise therapy and recovery after SCI, stressed the importance of exercise in the acute phase which will facilitate recovery by encouraging locomotion during the period that the spinal cord is inherently plastic. Initiation of exercise immediately after injury appears to protect the amount of white and gray matter remaining caudal to the lesion. These protective effects of exercise on lesion size may depend on brain-derived neurotrophic factor (BDNF) activity. Recent studies provided new insights into the molecular and genetic mechanism through which an alternate postural load can stimulate spinal central pattern generator. Preservation of neuronal function below the level of lesion is crucial for the success of future regeneration-inducing therapy after SCI. Functional and exercise training seem to have an important role in the prevention of neuronal dysfunction.

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##### **Recent Advances in Spinal Cord Injury (SCI) Management**

*Aheed Osman MD (UK)*

The management of spinal cord injury (SCI) has improved in the last 50 years.

The patient with a SCI now has a life expectancy to match that of the able bodied population in developed countries. This improvement is due to the continues advances and improvement in the management to reduce the rate of avoidable complications.

As the SCI is a multi system malfunction/ disorder the management includes:

- Acute management
- Pain management
- Skin care
- Bladder and bowel management
- Rehabilitation and restoration of function

The recent advances and research in all of

these aspects will be discussed.

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##### **Sexuality and Spinal Cord Injury**

*Stanley Ducharme PhD (USA)*

For a positive psychological adjustment after SCI, issues related to sexuality must be addressed by the rehabilitation team in both the acute and follow up stages of SCI. Successful sexual adjustment is influenced by many factors such as age at time of injury, previous sexual experiences, physical health, gender and level of the injury. In addition, to achieve a satisfying sexual adjustment, a person with an SCI will have to learn new sexual abilities based on the many physical changes from the injury.

During the acute rehabilitation phase, education and a discussion regarding sexuality is important. Experience has demonstrated that this topic is important to people with SCI and that they have many questions as to their sexual functioning, future relationships and fertility. Given that sexuality is a sensitive topic for most people, in many cases the patient may find it difficult to initiate discussion and ask questions. Therefore, it is important for members of the rehabilitation team to initiate this discussion.

This lecture will provide an overview of the physical, psychological and relationship issues of spinal cord injury as they relate to sexual functioning. In addition, the lecture will focus on a multidisciplinary approach to sexuality education since this is best accomplished by a team approach in which medical and psychological issues can be addressed.

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##### **Comparison of Bacterial Strains of Infected Pressure Ulcers in Spinal Cord- Injured Patients from the Community and Health Care Associated Infection and its Impact on Antibiotic Therapy**

*Moh'd Rami Al-Ahmar MD\*, A Otom (MD), J Al-Quraan RN, R Abu Al-Adaas SN*

*\* Major, Spinal Injury Specialist, Physical Medicine & Rehabilitation Department  
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**Objectives:** To compare the bacteriological results for patients who sustained spinal cord injury (SCI) with pressure ulcers.

**Methods:** Medical records of 223 Spinal Cord Injured patients (SCI) who were admitted between May 2012 - May 2014 to the spinal unit- Royal Rehab Centre were reviewed, swab cultures were obtained in all patients with pressure ulcers at day 0 and day 7 from admission. Patients were classified into two groups (Community and Health Care associated Infection (HAI)) based on results. Patients who were transferred from other hospitals and found to have infected pressure ulcers upon admission were excluded from the study.

**Results:** Sixty patients were included as they were found to have pressure ulcers, 37 patients (62%) were community residing and 23 (28%) developed infection at our hospital. The most common microorganisms detected in both community and HAI were the Methicillin-Resistant Staphylococcus Aureus (MRSA) followed by Acinetobacter, however the proportion of MRSA among the community acquired group was higher than the HAI group (27% vs 21%), while Acinetobacter in the HAI was relatively larger (26% vs 21%). Enterobacteriaceae family (26%) and pseudomonas (13%) were less in the community compared to HAI (11%), (0.08 %) respectively.

**Conclusion:** Pressure ulcers are prone to infection, and inflict a considerable economical burden on the health care system. Multiple drug resistant strains increase in the community acquired group which needs more attention in the use of empirical antibiotic treatment. Identification and analysis of bacterial strains at day 0 and day 7 from infected pressure ulcers improve the use of empirical antibiotic treatment.

**Keywords:** Spinal Cord Injury, Pressure Ulcer, Community Acquired infection, Health Care Associated Infection.

## Hall C Session 3 Physical Medicine & Rehabilitation - SCI and Neuroregeneration Advances

45

### Regeneration in Spinal Cord Injury (SCI)

Aheed Osman MD (UK)

Research to find a cure for SCI has been ongoing for many decades.

Research for regeneration over the years focused first to increase the knowledge of the pathophysiology of the SCI and what are the factors that stop regeneration?

Research in regeneration are focused on four major targets:

1. Neuroprotection.
2. Regeneration
3. Transplantation
4. Rehabilitation

The recent advances in research regarding regeneration and repair in SCI will be discussed.

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### Utilization of Autologous Purified Stem Cells in Treatment of SCI: A 7-Year Jordanian Experience

Adeeb Al-Zoubi PhD MD (Jordan)

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**Objective:** We aim to describe a novel method for treating patients with chronic complete spinal cord injuries (SCI) by utilizing autologous, purified CD34<sup>+</sup> and CD133<sup>+</sup> stem cells (SCs).

**Materials and Methods:** In our study, 19 patients were included (16 males and 3 females) who presented with a complete SCI (ASIA-A) in the thoracic region. The patients' endogenous cells were mobilized with subcutaneous granulocyte-colony stimulating factor (G-CSF) for 5 days. We utilized the CliniMACS magnetic separation system to purify leukapheresis-derived CD34<sup>+</sup> and CD133<sup>+</sup> stem cells. Purified SCs were directly transplanted into the SCI site. Patients were then monitored and followed for up to 7 years.

**Results:** An average of  $76 \times 10^6$  purified SCs were obtained from each patient, with 95.2% purity and >98% viability. SC transplantation into the cyst cavity or the subarachnoid space was successful and well-tolerated in all 19 patients, and did not cause any allergic or inflammatory reactions within the CNS in the early or late periods after transplantation. Ten patients (53%) showed no improvement after 42-60 months (ASIA-A), while seven patients (37%) demonstrated segmental sensory improvement (ASIA-B), and the remaining two patients (10%) had motor improvement (ASIA-C).

**Conclusion:** This study presents a safe method for transplanting specific populations of purified autologous SCs that can be used to treat spinal cord injuries in a clinical setting. The results may be utilized as a stepping stone for future investigations in the field of regenerative medicine for treatment of spinal cord injuries and other neurological diseases.

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#### **Background, Dissemination and Further Development of [www.elearnSCI.org](http://www.elearnSCI.org)**

*Stephen Muldoon, RN, Assistant Director, Livability (UK)*

#### **Background:**

[www.elearnSCI.org](http://www.elearnSCI.org) is comprised of 7 learning modules, each subdivided into various sub-modules. Six of the 7 modules address the educational needs of all disciplines involved in comprehensive SCI management. The 7th module addresses prevention of SCI. Each sub-module includes an overview, activities, self-assessment questions and references.

#### **Methods; Development of the resource**

332 experts from The International Spinal Cord Society (ISCoS) and various affiliated societies from 36 countries were involved in developing the resource through 28 sub-committees. The content of each sub-module was reviewed and approved by the Education and Scientific Committees of ISCoS and finally by an Editorial Committee of 23 experts.

**Key features:** The content of the learning modules is relevant to students and to new as well as experienced SCI healthcare professionals. The content is applicable globally, has received consumer input and is available at no cost. The material is presented on a website underpinned by a sophisticated content-management system which allows easy maintenance and ready update of all content. The resource conforms to key principles of elearning including appropriateness of curriculum, engagement of learners, innovative approaches, effective learning, ease of use, inclusion, assessment, coherence, consistency, transparency, cost effectiveness and feedback.

**Results:** [www.elearnSCI.org](http://www.elearnSCI.org) has proven to be a cost effective way of training healthcare professionals that goes beyond the textbook and traditional face-to-face teaching. The popularity of the resource continues to increase and usage statistics are encouraging:

- No. of registered users 11,500
- No. of visitors (Sept 2012 - Oct 2014) 46,680
- No of countries visiting 176
- Top country users Australia, USA, UK, India and Canada
- Main users > 5 years' experience
- Most visited modules: Overview for the Whole team and Physiotherapy



- While these statistics are encouraging, feedback from users and the results of a project evaluation have highlighted specific areas of further development. Work is currently underway to translate the resource into various languages; add evidence tips; development of existing modules including nursing and development of new content including a module for people with SCI and their carers.

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#### **Spinal Cord Injury (SCI) Physiotherapy Research from Down Under**

*Lisa Harvey PhD (Australia)*

Physiotherapy is a relatively young profession. Consequently, it is yet to build a strong evidence base for the many different physiotherapy interventions commonly administered to people with spinal cord injuries (SCI). Randomised controlled trials provide the most robust estimates of treatment effectiveness because they minimize bias arising from the expectations of clinicians, patients and researchers. We recently conducted a systematic review and identified 53 randomised controlled trials investigating the effectiveness of different physiotherapy interventions for people with SCI. This is a relatively small number of clinical trials given the scope of physiotherapy practice. This is problematic because clinicians and patients need good quality evidence to guide decisions about the most effective interventions. To address this problem, my colleagues and I have devoted the last 15 years to conducting simple randomised controlled trials aimed at systematically examining the effectiveness of physiotherapy interventions. To date we have completed 19 randomised controlled trials looking at a range of interventions such as those used to manage contractures, improve motor control, reduce respiratory complications, aid gait, enhance hand function and increase strength. Most of these trials are simple in design but with a focus on methodology to reduce bias. This includes the use of blinded assessors, concealed allocation, intention-to-treat analyses and

pre-defined primary outcomes. These trials have been possible because research is embedded within clinical practice thereby minimising costs. The trials are largely done within the three Sydney SCI units by the physiotherapy clinicians. The interventions to experimental participants are administered as part of routine clinical care. A professional development program runs in parallel providing opportunities for SCI physiotherapy clinicians to attain post-graduate qualifications through their participation in the trials. The findings of the trials have sometimes challenged long-held beliefs about the effectiveness of widely administered interventions. For example six of our clinical trials have contributed to a recent Cochrane Systematic Review which provided clear evidence for the first time that stretches administered through the hands of physiotherapists are not an effective form of contracture management in people with SCI. Some of our trials have pointed to the importance of functional training while others have reconfirmed long-held assumptions about the effectiveness of interventions which have been administered to date without a good evidence base. While the primary purpose of our research program has been to progress the physiotherapy care of people with SCI, a by-product of our research program has been the development of a SCI physiotherapy workforce which is highly educated in evidence based practice. This not only helps ensure that patients receive high quality evidence-based physiotherapy but it also fosters a workplace that is intellectually stimulating for the therapists. This in turn increases job satisfaction, retains staff and builds clinical expertise.

#### **Hall C Session 4 Advances in Spinal Cord Injury (SCI) Management**

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#### **Management of Spinal Cord Injury**

*Christopher Kepler MD (USA)*



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### **Functional Rehabilitation of Chronic LBP**

*Yusef Sarhan MD (Jordan)*

It is known that about 85% of people will suffer from LBP during their life; about 10% of them will go to have chronic LBP. This will affect their activities of daily life including work.

One of the important goals of a rehabilitation program is to return them back to work safely. Functional Rehabilitation programs aiming to restore the function of patients are utilized for that goal. The inpatient and outpatient programs will be discussed, with more emphasis on outpatient programs.

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### **Molecular Basis of Disc Degeneration and Discogenic Back Pain**

*Christopher Kepler MD (USA)*

## **Hall D Session 1 Pediatrics - World Federation of Hemophilia (WFH) Symposium**

S05

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### **Gene Therapy in Hemophilia: An Overview**

*Bernadette Garvey MD (Canada)*

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### **Platelets Disorders in Children**

*Magdy El-Ekiaby MD (Egypt)*

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### **Joint and Muscular Bleeding in Hemophilia**

*Magdy El-Ekiaby MD (Egypt)*

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### **WFH Future Work in Jordan**

*Assad Haffar MD (Canada)*

## **Hall D Session 2 Pediatrics - Metabolic Disorders**

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### **Identification of Novel and Recurrent Mutations in Patients with Errors of Metabolism in Jordan: A Collaborative Effort Between KHMC and PHBC**

*Saied Jaradat PhD (Jordan)*

*Saied Jaradat PhD\*\*, Kefah Al-Qa'qa' MD\*, Wajdi Amayreh MD\*, Ali Al-Hawamdeh MD\*, Mohammad Tawara MD\*, Bothina al-Rababah\*\*, Areej al-Quran\*\*, Jan Krayyem\*\*, Maha Karam\*\*, Batool Alzoubi\*\* and Hasan Daibess\*\*.*

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Inborn errors of metabolism (IEM) are heterogeneous group of genetic disorders resulted from mutations in genes encoding enzymes necessary for several pathways in the body. These pathways including amino acid, carbohydrate and fatty acid metabolism, in addition to several lysosomal storage disorders. With few exception most of metabolic disorder are inherited as an autosomal recessive. In populations with high rates of consanguineous marriages like in Jordan, the disease-allele frequencies for metabolic disorders expected to be higher than in other population. Patients with several metabolic disorders including tyrosinemia (type I and type II), maple syrup urine disease, organic acidemias (methylmalonic and propionic academia), gaucher disease and others were investigated. The patients described in this abstract were diagnosed and managed by clinicians at King Hussein Medical Center (KHMC) and the molecular testing of patients suspected of having any of these metabolic disorders was carried out by the molecular genetics diagnostic unit at Princess Haya Biotechnology Center (PHBC). The IRB Committee of the Jordan University of science and Technology approved the study protocols and participants provided their written informed consent to participate in these study. All coding region and the intronic flanking sequences of the relevant genes for each disease were amplified by PCR and sequenced in patients and their family member. Several mutations and polymorphisms were successfully identified in our study including; c.192G>T in *FAH* gene (tyrosinemia type I), c.892delA in *TAT* gene (tyrosinemia type II), c.1240G>T in *MUT* gene (methylmalonic academia),



c.27\_36delACCGCTGGTC in *PCCA* gene (Propionic academia), c.787A>T in *DBT* (maple syrup urine disease). Additionally; all genetics spectrum for the mutations and the polymorphisms identified in our patients will be presented. Our data provide the basis for early molecular diagnostics and carrier testing of metabolic disorders in Jordan; furthermore, the data emphasizing the necessity for a comprehensive newborn screening programs in Jordan.

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### **Lysosomal Storage Diseases**

*Kefah Alqa'qa' MD (Jordan)*

Inborn errors of metabolism (IEMs) are a set of relatively uncommon complicated medical conditions involving abnormalities in the complex biochemical and metabolic pathways of the human body system. pathophysiologically, metabolic disorders can be divided into the following three diagnostically useful groups:

Group 1: Disorders that Give Rise to Intoxication.

Group 2: Disorders Involving Energy Metabolism.

Group 3: Disorders Involving Complex Molecules. This group involves cellular organelles and includes diseases that disturb the synthesis or the catabolism of complex molecules. All lysosomal storage disorders, peroxisomal disorders, disorders of intracellular trafficking and processing, such as alpha-1-antitrypsin, congenital disorders of glycosylation (CDGs), and inborn errors of cholesterol synthesis belong to this group.

Lysosomes are membrane bound structures that contains hydrolytic enzymes responsible for the degradation of macromolecules.

The lysosomal storage diseases (LSDs) comprise a heterogeneous group of almost 50 disorders that are caused by genetic defects in a lysosomal acid hydrolase, receptor, activator protein, membrane protein, or transporter, causing lysosomal accumulation of substrates that are specific to each disorder.

The accumulation is progressive causing deterioration of cellular and tissue

function. Many disorders affect the central nervous system (CNS) and most patients have a decreased lifespan and significant morbidity.

The LSDs are categorized according to the type of substrate stored (i.e., mucopolysaccharidoses, oligosaccharidoses, sphingolipidoses, gangliosidoses.) All LSDs are monogenic disorders and are inherited as recessive traits mainly autosomal recessive except for Mucopolysaccharidosis (MPS) type II, Fabry disease and Danon disease which are X-linked disorders.

**Treatment:** Enzyme-replacement therapy

Hematopoietic stem-cell

transplantation Gene therapy

Chaperone therapy

Substrate-reduction therapy

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### **An update of Mitochondrial Disorders**

*Mohammed Al-Raqad PhD (Jordan)*

Disorders following mitochondrial inheritance present some of the most challenging situations in genetic counselling. Prenatal diagnosis for mitochondrial disorders is highly problematical and expert advice should always be sought where this is considered. Mitochondrial DNA (mtDNA) is exclusively maternally inherited with very rare exceptions. It is circular double stranded molecule of 16,596 bp.

A variety of mutations occur in mitochondrial disease including deletions, duplications and point mutations. Point mutations are commonly maternally inherited whilst deletions and duplications are most often sporadic.

Mitochondrial disorders often display extra ordinary intra-familial variability, with different family members inheriting different mutant loads.

There is no curative treatment for mitochondrial disorders apart from mitochondrial transplant which still under research bases. Early diagnosis and supportive treatment of complications such as diabetes, cardiomyopathy, epilepsy, and under-nutrition are, therefore, extremely important.



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### **Tyrosinemia Type 1 with a Look at the Clinical and Biochemical Profile of Patients at Queen Rania Al-Abdullah Hospital for Children**

*Wajdi Amayreh MD (Jordan)*

Tyrosinemia is a relatively common disorder at the metabolic clinic at Queen Rania Children Hospital. It is a disorder in the final steps of tyrosine metabolism, and is characterized by severe liver disease, as well as renal and neurological manifestations. Diagnosis of patients with tyrosinemia type 1 is based on their clinical presentation, biochemical profiles and urine Succinylacetone levels; the latter is pathognomonic for the disease. Genetic testing is also used when available for confirmation and for counseling purposes. 16 patients were diagnosed with tyrosinemia at the metabolic clinic from 13 different families. Two families had two affected children. Sex distribution was 10 males and 7 females. Seven of these patients died before nitisinone became available.

Eight different recurrent mutations and potentially three novel mutations were found in these patients. Mutations identified including 5 missense (p.Pro281Thr; p.Gln64His; p.Arg341Pro; p.Pro261Leu and p.Asp233Asn) 2 splicing (IVS6-1G>T and IVS12+5G>A) and 1 nonsense mutation.

Diagnostic approach, management options and difficulties, and genetic workup is highlighted in this speech.

## **Hall D Session 3 Pediatrics - Neonatal Disorders**

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### **Anemia and Transfusions**

*Edward Bell MD (USA)*

Anemia occurs in the majority of very preterm infants. This anemia begins as the normal physiological anemia, which occurs in all newborns during the first weeks of life, but it is exacerbated by immediate clamping of the umbilical cord after birth and by blood loss by phlebotomy for

laboratory monitoring required in the care of the very preterm infant.

Blood transfusions are frequently required to prevent the potentially serious consequences of severe anemia. The most heavily transfused patients, as a group, are infants with birth weight below 1 kg; these are called extremely low birth weight (ELBW) infants. More than 90% of ELBW babies are transfused in the U.S., and most of them are transfused multiple times.

The risks of blood transfusion are well known, but there seem to be some unique risks in preterm infants. Several researchers have reported that there seems to be a link between blood transfusion and necrotizing enterocolitis in some cases.

Several strategies have been identified to reduce the severity of anemia in preterm infants. These include increasing the volume of blood transferred from the placenta to the infant at birth, limiting phlebotomy blood loss, supporting or stimulating erythropoiesis, and using standardized transfusion guidelines. Evidence is emerging from clinical trials comparing different hemoglobin or hematocrit thresholds for transfusion. The results of these studies may provide help in developing guidelines for transfusion of preterm infants. Several important large clinical trials are still underway in the U.S. and Germany; these are expected to provide even better information to guide transfusion practice for preterm infants.

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### **Congenital Chylothorax**

*Hashem Aqrabawi MD (Jordan)*

Congenital chylothorax is the accumulation of lymphatic fluid within the pleural space. It is the most common cause of pleural effusion causing respiratory distress in the neonate. Cases unresponsive to conservative management usually require surgery. Herein, we report cases of congenital neonatal chylothorax managed with the use of octreotide with good outcome.

**Key words:** congenital, chylothorax, octreotide



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### **Trends in Respiratory Management of Preterm Infants**

*Edward Bell MD (USA)*

The two most important advances in perinatal care during the 20th Century were antenatal corticosteroids for threatened preterm delivery and surfactant therapy for respiratory distress syndrome. All subsequent advances have been incremental and have had less impact on outcome.

Recent studies have shown that immediate application of continuous positive airway pressure (CPAP) at delivery of a very preterm infant provides outcomes equal to or even better than early tracheal intubation.

Several new modes of mechanical ventilation have been introduced, providing more options for providing respiratory support for preterm infants. These include volume-limited ventilation, improved synchronization with the patient's spontaneous breaths, proportional amplification, and several modes of high-frequency ventilation.

Assisted ventilation without tracheal intubation – “noninvasive” ventilation – is being used more frequently with good results. This approach reduces the risks of intubation and mechanical ventilation. Neurally-adjusted ventilatory assistance (NAVA) shows promise as an effective means of synchronizing the mechanically assisted breaths with the patient's spontaneous breaths. It can be used with either invasive (intubated) or noninvasive ventilation.

Newer methods for delivering CPAP include softer, more comfortable nasal prongs and delivery of imprecise, unmeasured CPAP by use of the high-flow nasal cannula.

Postnatal corticosteroids for bronchopulmonary dysplasia (BPD) are being used more carefully after studies showed harmful effects of postnatal steroids on brain development.

There may be a limited role for inhaled nitric oxide in the management of patients with who also develop pulmonary hypertension, and there is some evidence the nitric oxide might reduce the risk of BPD or death in preterm infants.

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### **Oxygen Use in Neonatal ICU**

*Edward Bell MD (USA)*

Oxygen is one of the most important beneficial substances for the treatment of critically-ill patients in the neonatal intensive care unit (NICU), but it is also a major danger because of its potential for toxicity.

Oxygen has been used for decades to help rescue preterm infants and minimize hypoxic brain injury and cerebral palsy. However, oxygen has also been found to cause harm to the developing eye, lung, heart, and other organs.

The role of oxygen in the causation of retinopathy of prematurity (ROP) was first recognized more than 70 years ago. Knowledge of how to balance the benefits and risks of oxygen in the care of preterm infants has been slow to develop in the decades that followed.

Continuous oxygen saturation monitoring by pulse oximetry has provided a simple and practical way to manage oxygen therapy, but the safest target range of oxygen saturation is not well understood. Several recent large clinical trials have shed new light on the issue of which levels of oxygen saturation should be targeted for very preterm infants. The SUPPORT and BOOST II trials have demonstrated that oxygen saturation target range of 85-89% reduced the risk of ROP but increased the risk of mortality compared to a target range of 91-95%. The Canadian Oxygen Trial (COT) did not confirm the finding of the other two large trials. However, taken together, these important studies demonstrate the importance of balancing risks and benefits of maintaining oxygen saturation in different ranges.

The SUPPORT, BOOST II, and COT trials addressed the question of which oxygen saturation target range is safer for very preterm infants in the first weeks of life. In the later weeks of the NICU stay, the balance of the risks and benefits of oxygen therapy shifts in the other direction. Once the initial period of risk for developing ROP is past or the patient has already developed ROP, oxygen is beneficial for the eye and the target range for oxygen saturation

should be shifted upward.

The challenge of optimizing oxygen use in the NICU is further confounded by the practical issues of oximetry alarm use, staff education, and patient-to-staff ratios in the NICU.

Angiogenesis inhibitors have shown promise in early studies of ROP treatment, but more information is needed about the safety of these therapies. As with most potentially disabling conditions, prevention of ROP is preferable to treatment.

## Hall D Session 4 Pediatrics - Free Papers

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### **Developmental Assessment of Early Preterm -Born Children in King Khaled Military City, Saudi Arabia, using the Ages and Stages Questionnaire: A Retrospective Cohort Study**

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**Objectives:** To assess the developmental outcome of the Early Preterm-born (EPT) neonates, delivered before end of the 32nd week of gestation, compared to Full term (FT) children in King Khaled Military city (KKMC), Saudi Arabia and to explore risk factors for developmental delay of the EPT children.

**Methods:** Files of 150 EPT children delivered in KKMC between July 2007 and April 2013 and 198 FT children age 1-66 months were studied. The scores of the 5 developmental domains of Ages and Stages Questionnaire (ASQ-3) were compared in both groups and 20 potential risk factors for development in the EPT group. Data were statistically analyzed.

**Results:** A delayed ASQ-3 Communication, Gross Motor, Fine Motor, Problem Solving and Personal-Social domains score was detected in (11.3%, 8.0%, 9.3%, 7.3%, & 6%) of the EPT children compared to

(3.6%, 2.6%, 3.1%, 1.5% & 1% ) in the FT children respectively ( $P < 0.05$ ). Significant association was found between birth weight and all except Gross Motor domain, Extra-ocular manifestations (EOM) and all except the Fine Motor domain, Attention deficit hyperactive disease (ADHD) and the 3 cognitive domains and Central nervous system (CNS) lesions, Communication and Personal-Social domains and corrected age during ASQ-3 assessment and the Length-of-Stay. Corrected age and CNS lesions were independently associated to Communication delay and EOM and ADHD were independently associated to Personal-Social delay

**Conclusion:** EPT children have more prevalent developmental delay compared to FT children. Corrected age, CNS lesions, EOM and ADHD were independently associated factors to developmental delay.

**Keywords:** Prematurity, Development, Saudi Arabia, and ASQ-3

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### **Coagulopathy, Hepatic Failure post Rota Virus Gastroenteritis, Rare presentation**

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**Objectives:** Rota virus is in the Reoviridae family, causes disease in all mammals and birds. Disease is common. Neonates and adults infection usually asymptomatic. Rota virus nonstructural protein (NSP4) functions as enterotoxin. Symptomatic extra intestinal infection is rare in immunocompetent persons. Disseminated intravascular coagulation and fulminant hepatic failure can be caused by many viruses but are rare for Rota virus infection.

**Methods:** Here we report an 8 month old female infant who was previously healthy, admitted as febrile gastroenteritis and hypokalemia and received 2 days Paracetamol as antipyretic. Proved clinically and by Rotazyme test to have Rota virus gastro enteritis. Rapidly progressive

coagulopathy with disseminated intravascular coagulation, Hepatic failure with encephalopathy and convulsion developed within 24 hours of admission. She was managed aggressively in ICU for 8 days and 5 days in our ward. Patient was screened for infections, metabolic and genetic diseases and immunodeficiency. She received Fluids, electrolyte supplements, antibiotics, fresh frozen plasma, Vitamin K, blood and multivitamins.

**Results:** All septic work up was negative. Our patient immune study, metabolic and genetic screen were normal. She was recovered completely and discharged home well.

**Conclusion:** Few reported cases were found for Rota virus extra intestinal serious manifestations in healthy infants and children. The role of Paracetamol use in young infants with dehydration may contribute to liver injury. Here we emphasize the importance of introducing Rota virus vaccination in our Jordanian National Program.

**Keywords:** Coagulopathy, Hepatic Failure post Rota Virus Gastroenteritis

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### **The Clinical Pattern of Hyperoxaluria in Pediatric Patient at Queen Rania Abdullah Children Hospital- Jordan**

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**Objectives:** To review the demographic data, the clinical presentation, progression into end stage renal failure in pediatric patients

**Methods:** Medical records of all patients who were followed up in pediatric nephrology clinic with the diagnosis of primary Hyperoxaluria were reviewed during a period of 5 years between September 2007 and March 2013

**Results:** 70 patients were seen with the diagnosis of primary Hyperoxaluria, male to female ratio was 1:1, 52.9% were males; the youngest age of presentations was two

month with a median age of presentation is 3 years  $\pm$  3 months. 15.7 %were diagnosed before the age of one year. The most common presenting symptom was hematuria. 14% were asymptomatic and diagnosed by family screening after the diagnosis of index case. 15.7% patients have End stage renal failure at the time of initial presentation. 25% have impaired kidney function test at the time of presentation. Kidney stone was found in 57% of the cases, while nephrocalcinosis was seen in 37%.

**Conclusion:** High index of suspicion is mandatory in dealing with children with kidney stone; Hyperoxaluria is on the top of differential diagnosis on infants who presented with ESRF and nephrocalcinosis. In patient presented with hematuria of unexplained etiology, 24 hour urine collection for oxalate is mandatory, family screening is a must so that early management may delay the progression to end stage renal failure.

**Keywords:** Primary Hyperoxaluria (PHO), End Stage Renal Failure (ESRF), Chronic Kidney Disease (CKD)

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### **The Potential Impact of Static Non Contrast Magnetic Resonance Urography on the Diagnosis and Management of Children with Impaired Renal Functions**

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**Objectives:** To assess the value of static Magnetic Resonance Urography (MRU) in identifying urinary tract abnormalities in children with renal impairment; compared to conventional radiographic studies as abdominal ultrasonography and voiding cystourethrography VCUG.

**Methods:** Fifty urinary collecting systems in twenty six children (2-14 years old) with variable degrees of renal impairment (Two children had a solitary collecting

system) who were followed in the pediatric nephrology unit of Cairo University Children Hospital were studied. In the studied children, four children had acute renal impairment or failure, 11 cases had stage 3 or 4 chronic kidney disease and 11 with end-stage renal disease. All children were studied with full history and clinical examination as well as static heavily T2 weighted MRU and conventional ultrasonography. Nine children were studied with VCUG as Vesicoureteric reflux (VUR) was suspected.

**Results:** MRU demonstrated additional findings in 13 out of 50 urinary systems in children with renal impairment. These lesions were missed by the abdominal Ultrasound and excretory urography could not be done due to associated renal failure. In seven cases, voiding cystourethrography (VCUG) revealed VUR, whereas MRU showed only dilated ureters with no apparent cause.

**Conclusion:** The urinary tract lesions that were missed by the ultrasound and were detected by MUR were mostly amenable for surgical treatment and their accurate and timely detection was crucial. MRU is recommended in all children with renal impairment and pelvicalyceal dilatation on ultrasound. When VUR is suspected, VCUG is still the investigation of choice.

**Keywords:** Children, Renal Impairment, Magnetic Resonance Urography

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### **Antenatal Hydronephrosis at Queen Alia Hospital**

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**Objectives:** Hydronephrosis is one of the commonest congenital abnormalities detected by routine antenatal ultrasonography screening. This study was performed first to determine the clinical characteristic and posnatal outcome of all antenatally detected hydronephrosis

**Methods:** A retrospective review of the prospectively collected data for all infants with antenatal hydronephrosis who were seen at Queen Alia Hospital during the period between Feb 2010 and April 2013. The degree of hydronephrosis was defined as mild, moderate, severe, based on the antero- posterior pelvic diameter that was measured after 30 weeks of gestation. Patients were divided into group 1 (with unilateral hydronephrosis) and group 2 (with bilateral hydronephrosis and ureteric dilatation). Post natal evaluation and follow up was uniformly done.

**Results:** A total of 80 infants in this study. Fifty seven (71%) were male and 23 (29%) were female. The left kidney was more commonly involved (left :30, right :19). Group 1 had 52 patients, 4 (8%) required surgery. Group 2 had 23 patients, 7 (30%) required surgery. Transitory hydronephrosis was the commonest cause of antenatal hydronephrosis..

**Conclusion:** Antenatal hydronephrosis require close follow up during antenatal and postnatal period. Patients with mild unilateral and bilateral antenatal hydronephrosis runs a relatively benign course and require a limited, infrequent ultrasonography follow up. Those with bilateral moderate to severe hydronephrosis require deep work up and close follow up, and need more surgical interventions to preserve their renal function

**Keywords:** Antenatal hydronephrosis, Antero posterior pelvic diameter

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### **Clinical and Electroencephalographic Study of Children with Monosymptomatic Nocturnal Enuresis**

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**Objectives:** Determine the prevalence of delayed cortical maturity as evidenced by increased hyperventilation response in

the electroencephalogram (EEG) and the prevalence of anxiety and depression in children presenting with monosymptomatic nocturnal enuresis.

**Methods:** Thirty three children with nocturnal enuresis, their 21 dry siblings and 21 controls, were studied for resting-state EEG changes. The studied children were psychologically evaluated and were studied with the two psychiatric tests "the Center for Epidemiological Studies Depression Scale for children" (CES-DC) and "the Anxiety scale for school children" (El Sheikh, 1987) to detect depression and anxiety, respectively

**Results:** The enuresis group and their dry siblings had significantly higher EEG Hyperventilation response, compared to the control group ( $P=0.013$ ). Anxiety scores were significantly higher in the enuresis group compared to the control group where, eighty three % of the enuresis group had average or more than average degree of anxiety and 17% had low grade or less than average grades of anxiety whereas all children in the sibling group and the control group had either low grade or less than average degree of anxiety. Depression was significantly higher in the enuresis group (36%) compared to both their dry siblings (14%) and the control group (19%) ( $P=0.02$ ). Two children from the enuresis group (6%) had major depression.

**Conclusion:** The increased frequency of a high-level hyperventilation response in resting-state EEG recordings and the high anxiety and depression scores suggested that delayed cortical maturity, anxiety and depression may be important factors in the pathogenesis of children with monosymptomatic nocturnal enuresis.

**Keywords:** Anxiety, Depression, Cortical Maturity, Enuresis

## Hall E Session 1 Pulmonary Medicine & Chest Surgery

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### VATS Lobectomy for Early Stage Lung Cancer

*Thomas Kyriss MD (Germany)*

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### Combined Use of Conventional Transbronchial Needle Aspirate (TBNA) and Endobronchial Ultrasound (EBUS-TBNA) in Diagnosis and Staging of Lung Cancer

*Grigoris Stratakis MD (Greece)*

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### Rib Osteosynthesis by Plates and Screws for Blunt Chest Trauma

*Thomas Kyriss MD (Germany)*

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### Thoracoscopic Thymectomy for Myasthenia Gravis: The Right Sided Approach

*Fawaz Khammash MD (Jordan)*

Fawaz Khammash, M.D,\* Mohammad Al-Tarshihi M.D , \*Ahmad Sbaih M.D,\* Mazen Omari , M.D,\* Ala Qayet M.D \*

**Objectives:** To describe the technique of right sided thoracoscopic thymectomy for non-thymomatous myasthenia gravis

**Methods:** Using a retrospective analysis, 35 patients underwent right sided thoracoscopic thymectomy for non-thymomatous myasthenia gravis during the period from January 2007 to March 2014 at the Thoracic Surgery Division of the Royal Medical Services in Amman-Jordan. The demographic data were collected, the technique was divided into four major steps, and the immediate postoperative outcome was described.

**Results:** Females constituted 60% of the studied population ( $n=21$ ). Age ranged from 14 to 62 years (mean  $28.35 \pm 15.08$  years). Operative time ranged from 45 to 180 minutes (mean  $90.53 \pm 34.15$  minutes). Postoperative hospital stay was  $3.52 \pm 1.12$  days. The most common reported postoperative complication was intercostal neuralgia. No mortality reported.

**Conclusion:** The technique of right sided thoracoscopic thymectomy can be divided into four major steps, that if done in a step wise manner will guarantee the complete removal of the thymus and perithymic fat from the right side.( An operative video session will be presented)

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## Hall E Session 2 Pulmonary Medicine & Chest Surgery

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### **Interventional Management of Central Airway Obstruction**

*Grigoris Stratakis MD (Greece)*

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### **Introduction to the Third Generation of Thoracoscopic Surgery**

*Thomas Kyriss MD (Germany)*

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### **The Role of Pulmonologist in the Management of Primary Spontaneous Pneumothorax**

*Grigoris Stratakis MD (Greece)*

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### **Evaluation of 95 Patients Who Underwent Thoracic Sympathectomy Due to Regional Hyperhidrosis**

*Turgut Isitmangil MD\*, Fatih Candas, Akin Yildizhan, Rauf Gorur, Omer Yavuz*

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**Objectives:** Patients with regional hyperhidrosis, on whom we performed thoracic sympathectomy due to their socio-psychological complaints, were investigated by their age, sex, region of sweating, operation levels and postoperative results in this study.

**Methods:** Between January 2013 and July 2014, thoracic sympathectomy procedure has been performed on total of 95 patients (male: 70, female: 25; mean age: 22.3, range: 18-42), which include 5 patients with facial hyperhidrosis, 62 patients with palmar hyperhidrosis, 6 patients with axillar hyperhidrosis, 1 patient with palmar + facial hyperhidrosis and 21 patient with palmar + axillar hyperhidrosis. It has been used Thoracic Sympathetic Blockage by Bilateral Clipping via VATS on 2-ports as operation technique on all the hyperhidrosis patients in one session, except the patients who

have facial hyperhidrosis, which underwent two separate sessions for the same procedure.

**Results:** In postoperative period, it has been observed that the patients' complaints decreased except one. Success rate was 99%. Non-disturbing compensatory sweating has seen on 27 patients on early period, which include 19 patients with palmar hyperhidrosis (31%) and 8 patients with palmar + axillary hyperhidrosis (38%). Three patients developed complications which are bleeding in two patients and pneumothorax in one patient (morbidity: 3%). Mortality was not observed.

**Conclusion:** Thoracic Sympathetic Blockage by Bilateral Clipping via VATS is an effective procedure on patients with regional hyperhidrosis and it should be preferred primarily due to its high success rate and low morbidity risk. Its complication risk even decreases in the hands of experienced surgeons.

**Keywords:** Regional Hyperhidrosis, Thoracic Sympathectomy, Morbidity.

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### **Pneumothorax Post CT-Guided Fine Needle Aspiration Biopsy for Lung Nodules; Our Experience at King Hussein Medical Center**

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**Objectives:** To determine the rate of Pneumothorax post CT-guided Fine Needle Aspiration Biopsy and the contributing factors.

**Methods:** This descriptive retrospective study was held at King Hussein Medical Center in the period between April 2012 to March 2014, and included 105 patients who were diagnosed to have lung nodules. All patients had a CT-guided Fine Needle Aspiration Biopsy for histological diagnosis. Operator, site and location of the nodule, emphysematous lung condition, and



Pneumothorax detection by CT-scan and chest X-ray were all reviewed.

**Results:** There were 83 males (79%) and 22 females (21%). Age ranged from 35 to 77 year (mean  $62 \pm 10.2$ ). Right sided nodules constituted 50.3% of the studied sample. 79.1% of the nodules were located peripherally (83 patients) and 19% had associated emphysematous lung changes. 19 patients (18.1%) had post Fine Needle Aspiration Biopsy Pneumothorax, of those; 7 patients (36.8%) were detected immediately on CT-scan table, 8 patients (42.1%) detected four hours later on chest X-ray, 4 patients were missed and 13 patients were treated with chest drain. 11 patients (57.9%) out of the 19 who had Pneumothorax had central lesions while 8 (42.1%) had peripheral lesions and only 6 patients (31.5%) had emphysematous changes.

**Conclusion:** Pneumothorax post CT-guided fine needle aspiration is still a common complication in our center and there was no single factor contributing to it.

**Keywords:** Pneumothorax, CT-guided FNAB, Lung Nodules

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### Evaluation of 74 Patients who Underwent Central Venous Port Catheterization for Chemotherapy

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**Objectives:** Central venous port catheterization is widely used on patients who will get long term chemotherapy. We intended to evaluate patients who we performed catheterization, regarding age, sex, indication, morbidity and mortality. **Methods:** Central venous port catheterization performed on 74 patients (male: 40, female: 34, age: 21-77, mean age: 58) for chemotherapy between January 2012 and July 2014 in the presence of monitorization. Vascular structures of patients were evaluated by their existing

thorax tomographies, and Doppler ultrasonography, if tomography was not available. Localization of port and probable complications (such as pneumothorax and hemothorax) were checked via postoperative PA chest x-ray.

**Results:** 28 of 74 patients, who underwent catheterization, had colon carcinoma. Also 16 patients had breast carcinoma, 7 patients had gastric carcinoma, 6 patients had lung carcinoma, 5 patients had ovary carcinoma, 3 patients had nasopharynx carcinoma, 2 patients had endometrium carcinoma, 2 patients had pancreas carcinoma, 1 patient had esophagus carcinoma, 2 patients had lymphoma and 2 patients had sarcoma. Intraoperative short-term arrhythmia observed in 4 patients. Pneumothorax and hemothorax was not detected on postoperative early period. 4 patients developed local hematoma on port localization. 3 patients developed port site infection on postoperative late period. Protrusion of port from skin was observed on 2 patients. Mortality was not detected.

**Conclusion:** Central venous port catheter is a comfortable approach way for tumor patients. It should be performed by experienced thorax surgeons due to avoid complications. Proper sterilization should be administered on usage.

**Keywords:** Port catheter, Chemotherapy, Morbidity

## 80

### Clinical Evaluation of 87 Patients who Underwent Tube Thoracostomy

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**Objectives:** In this study, we intended to evaluate tube thoracostomy cases regarding age, sex, etiology, outcomes of the treatment, morbidity and mortality.

**Methods:** We performed tube thoracostomy on 87 patients (14 female, 73 male) between January 2013 and July 2014. Mean age was 28.3 (20-72). Tube

thoracostomy was applied to 54 patients (62%) for pneumothorax (spontaneous: 32, iatrogenic: 18, traumatic: 4), 26 patients (31%) for hydrothorax (primary effusion: 23, hemothorax: 3, empyema: 1) and 6 patients (7%) for hydropneumothorax. All patients were given prophylactic antibiotics.

**Results:** It has been detected bullae in thorax tomographies of 17 patients who have spontaneous pneumothorax and we performed VATS bullectomy on 3 of them due to prolonged air leakage. COPD (Chronic Obstructive Pulmonary Disease) was in the background of 12 patients who have iatrogenic pneumothorax. Mean drainage period was 5.7 days on pneumothorax patients but this span was shorter on patients who have iatrogenic pneumothorax (mean: 3.4 days). 46 patients underwent right, 41 patients underwent left tube thoracostomy. Tube thoracostomy was performed on 21 patients who have recurrent or malignant pleural effusion for pleurodesis. One patient who underwent tube thoracostomy for pneumothorax developed empyema. Mortality was not observed.

**Conclusion:** Tube thoracostomy insertion on pleural pathologies is an efficient procedure which has low morbidity and mortality rates.

**Keywords:** Tube Thoracostomy, Pneumothorax, Morbidity

## Hall E Session 3 Organ Transplantation

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### Immunosuppressants and Organ Transplant *Ayham Haddad MD (Jordan)*

A fundamental function of the immune system is to discriminate between self and non-self antigens. Once it identifies non-self antigen, then the process of immune response starts.

The immune response to a transplanted graft can be divided into three phases:

1. Recognition of foreign antigen
2. Activation of antigen specific lymphocytes
3. Effector phase of graft rejection

Thus it is basic and vital to keep the

immune system suppressed for the graft not to be rejected, and at the same time to function properly in response to other antigenic stimuli (i.e. infections).

Presenting her various immunosuppressive agents in use for kidney transplantation

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### Role of Radiology in Organ Transplant *Mohammad Ghatasheh MD (Jordan)*

Imaging for life related liver transplant  
The presentation will include:

- Preparation of patient to assess the liver and portal flow by US with combination of CT accordingly.
- Preparation of Liver Donor by US, CT angiography and volumetry and MRCP
- Intra-operative US for assessment of flow in hepatic artery, portal vein, and hepatic vein before doing biliary anastomosis and finishing the surgery
- Sequential post-operative US scan to evaluate the liver graft and the flow in the hepatic artery, portal vein and hepatic vein and to look for fluid collection.

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### Role of Medicine in Kidney Transplant *Munther Hijazi MD (Jordan)*

Royal medical Services was the pioneer both in Jordan and the Middle East by performing kidney transplantation first in 1972

Renal transplantation is the preferred treatment for patients with end stage renal disease. It offers better quality of life.

Pre-transplant assessment for both recipient and donor is essential, which includes blood group, HLA match, viral screen, cardiac assessment and other important imaging, lab studies.

Recipients should receive Immunosuppression for life to protect against rejection, the regimen usually includes 3 drugs; CNI, MMF and steroids. Patients need close follow up post kidney transplantation especially first 6 months as surgical and medical complications can occur.



Prognosis of kidney transplant is excellent; it's up to 95% at one year from living donor and about 90% if from deceased donor.

The big problem in Jordan as in other countries is the shortage of kidney donors, which can be resolved by encouraging deceased kidney transplantation and increasing extended criteria for donation.

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#### **Role of Vascular Surgery in Kidney Transplant**

*Omar Alzouby MD (Jordan)*

Kidney transplantation is the preferred treatment for patients with end stage renal diseases.

The results of kidney transplantation have improved due to advances in organ harvesting, organ preservation, surgical techniques and immunosuppression.

Adequate blood supply of the transplanted kidney requires accurate preoperative evaluation of the transplanted kidney, the vascular status of the recipient, on table preparation of the transplanted kidney and performing suitable anastomosis.

We will review our technique in vascular reconstruction during renal transplantation

**85**

#### **Advances in Kidney Transplant Surgery**

*Adnan Abu-Qamar (Jordan)*

Chronic kidney disease is a major health concern in our country. When kidney function declines to a certain level, patients have end-stage renal disease and require either dialysis or transplantation to sustain their life. The first successful documented cases of kidney transplant were performed in the 50s of the last century in the USA, France and UK. In Jordan kidney transplant program started in 1972 at RMS and then the program has been going in a steady way with increasing number of transplanted cases and increasing number of transplant surgeons till now. In our center we have a regular program of kidney transplant including two cases / wk. and each couple evaluated by a multidisciplinary committee 1-2 wks before surgery, and nowadays we reached the point of 1-2 patients of waiting list only.

## **Hall E Session 4 Organ Transplantation**

**86**

#### **Role of Medicine in Liver Transplant**

*Emad Ghzawi MD (Jordan)*

The following issue will be discussed :

Patient assessment and indication for liver transplantation.

Treatment protocols.

Post operative complications and management.

Jordan experience with liver transplant.

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#### **Role of Anesthesia in Organ Transplant**

*Ali Obeidat MD (Jordan)*

**Objective:** To describe the anesthetic management in organ transplantation focusing on liver transplantation recipient patients.

**Methods:** Anesthetic records for patients who underwent liver transplantation at King Hussein Medical Center have been revised and anesthetic management has been described accordingly.

**Results:** Anesthetic management for liver transplantation follows the standards of ideal anesthetic process starting from careful preoperative evaluation which includes meticulous patient selection, optimization and complete systemic evaluation with special attention to certain complication with special relevance to anesthesia such as encephalopathy, hepatorenal syndrome, pulmonary hypertension hyperdynamic circulation, esophageal varices, ascites, hypersplenism and coagulation. All patients should receive standard general anesthesia with advanced monitoring which may include pulmonary artery catheter, cardiac output monitor, thromboelastogram, in addition to the usual monitoring suitable for major cases. Intraoperative complications are related to the phases of transplant and include blood loss, coagulation abnormalities, reperfusion syndrome, fluid imbalance hemodynamic instability, electrolyte imbalance and acidosis, and can be minimized by meticulous



anesthetic management which includes vigilance, adequate monitoring, and careful equipments and drug preparation.

**Conclusions:** The anesthetic management of liver transplant patient is challenging, team work task

**Key words:** anesthesia, liver transplant, recipient

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### **New Advances in Liver Transplant Surgery**

*Jan Schmidt MD (Switzerland)*

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### **Liver Transplant: Donor Outcome at King Hussein Medical Center**

*Abdelaziz Ziadat MD (Jordan)*

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### **Liver Transplant Surgery: The Experience at King Hussein Medical Center**

*Sameer Smadi MD (Jordan)*

*S. Smadi, S. H. Shnikat, I. Ghazzawi, S. Al-Qusous, A. Edwan, M. Ghatashah S. Egzzawie, K. Ajarmeh, A.Faori, A. Obeidat, H. Gharaybeh, G. Aldehayat, T. mnaizel, K. Haddadin ,N. Qased, A. Zyadat*

**Objectives:** To evaluate the out come of living related liver transplantation as a single centre experience .

**Methods and Materials:** During the period June 2004 to November 2013, a total number of 90 living related liver transplantation were performed at King Hussien medical center. Only one of them was re-transplanted. The age ranged between 1.5 to 62 years ( average 37 years), 66 males and 24 females. The indication for transplantation were end stage liver disease in 77 patients, while other patients 12 for hepatic malignancy and one patient had combined liver-kidney transplantation for primary hyperoxylis.

**Results:** No donors mortality, donors morbidity %18. Average hospital stay for donors was 6 days for left lobe donors and 9 days for right lobe donors. Average hospital stay for receipient 21 days, morbidity for receipients %35, post transplant one year survival %80 and five years survival %75. 12 cases had hepatic malignancy, 10 cases hepatocellular carcinoma and one case for cholangio- carcinoma and hepatoblastoma,

two cases of malignancy had recurrence post transplantation

**Conclusions:**Results of liver transplantation in our center are comparable with the international figures. With the shortage of cadaveric donation in Jordan, living donor liver transplantation is the only hope for end stage liver disease and patients with early hepatocellular carcinoma .

## **Hall F Session 1 Anesthesia**

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### **Regional Anesthesia and Nerve Block**

*Humam Akbik MD (USA)*

A group of the most experienced anesthesiologists who are experts in regional anesthesia will be teaching this course. At the conclusion of this course the participants will know how to perform continuous nerve blocks and advanced upper and lower extremity surgeries **with and without** ultrasound guidance. Multiple techniques will be demonstrated at this course and there will be opportunities to practice techniques on live models and cadavers during the hands-on portion of this workshop.

Presentations will include didactic sessions and hands-on training with live models and cadavers. The course will be held at ????. The target audience for this course is anesthesiologists and it includes course handouts, hands-on training, and considerable time for discussions with faculty throughout the day.

### **Learning Objectives**

- Recognize and define the gross anatomy of Peripheral nerves of upper & lower limb that is relevant for regional anesthesia.
- Identify surface landmarks required for practicing safe regional anesthesia both in upper and lower limbs.
- Discuss the basic principles of using ultrasound machine to identify nerves in the practice of regional anesthesia.
- Demonstrate placement of continuous peripheral nerve catheters for post-operative pain management.



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### **Central Nervous System CNS Monitoring**

*Dan Longrois MD (France)*

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### **Recent Advances in the Management of Perioperative Arrhythmias**

*Islam Massad MD (Jordan)*

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### **Anesthetic Management of Critically Ill Patient**

*Imad Swaiss MD (Jordan)*

Anaesthesia for healthy persons has its own risks, but when it comes to critically ill, those risks are multiplied many folds.

No anaesthetic procedure is entirely safe, so perianesthetic complications of critically ill are more. Selection of drugs for all phases of anaesthesia must be meticulous because side effects of these drugs are more obvious in critically ill.

Balanced anaesthesia is essential & with lower doses of multiple medications.

Multiple organ problems lead to more complications & so it is essential to give the minimum needed requirements to achieve our goals.

Being aware of the physiological effects of all anaesthetic drugs administered, anticipating, monitoring & rapidly responding to changes in the patient status helps minimizing anaesthetic risks. Local & regional monitored anaesthesia has a big role in those patients.

Transport of those patients is another challenge within hospital words, to operating room or to outside hospital, all for anaesthetic procedures, is a challenge. Bedside techniques decrease a lot of risks. All the above will be clarified in detail in this talk.

## **Hall F Session 2 Anesthesia**

**95**

### **Recent Advances in Chronic Pain Management**

*Humam Akbik MD (USA)*

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### **Recent Advances in Fluid Management**

*Dan Longrois MD (France)*

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### **Hemodynamic Monitoring: An Update**

*Dan Longrois MD (France)*

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### **Royal Medical Services (RMS) Experience of Pediatrics Cardiac Anesthesia**

*Yaser Alghoul MD (Jordan)*

In Jordan we started the open heart surgery program on May 17<sup>th</sup> 1970 at the Base Military Hospital, Marka, Amman, Jordan. The increasing number of patients needed cardiac surgery and the need to improve this specialty to meet the standards worldwide were behind the dream of having a distinguished cardiac center in 1983.

Queen Alia Heart Institute is the biggest and busiest center for cardiac patients in the region.

More than 2400 surgeries are performed along with more than 12000 cath every year.

Pediatric age group patients were contributing to 10-15 % of the cases in the early days, but the pediatric cardiac surgery is contributing to more than 40% of the load in the last 3 years.

This increase in cardiac surgery for children and infants made the challenge for the cardiac anesthetists interested in this specialty to improve their skills and offer the best and safest service available.

The pediatric cardiac anesthetists also provide service outside the operating theatre when needed like in the pediatric ICU and cath lab for special procedures. The improvement in this specialty of anesthesia made it easier for the pediatric cardiologists and surgeons to give a better care in high standards.

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### **General Anesthesia versus Spinal Anesthesia for Laparotomy: A Comparison Study**

*Luai Daklalah MD\*, Awni Maaya MD, Ehab Al-Rayyan MD, Khalid Malouf MD, Hazar Hijazeen*

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**Objectives:** To compare the outcome between two different anesthesia methods (general vs. spinal) used for cases that require laparotomy surgery

**Methods:** A retrospective study was performed on the files of all patients who had underwent laparotomy surgery for different reasons at Prince Zaid Ben Al-Hussin military hospital at south Jordan over five years period from April 2009 to April 2014. Three hundred twenty cases were identified. Data was extracted from the notes of doctors and nurses, which included patient's age, sex, weight, type of anesthesia used, indications of surgery, duration of surgery, hospital stay, type and the presence of surgery or anesthetic related complications. Two groups were created according to methods of anesthesia performed, the first was for general anesthesia and the second was for spinal. All data and information were arranged and compared between the two groups. P-value was used to identify statically significant results.

**Results:** Out of 320 cases identified 250 (78.1%) patients had general anesthesia and 70 (21.9%) had spinal anesthesia. 56% of cases had operations for gynaecologic indications and 44% for general surgical indications. No difference in the incidence of type of anesthesia according to the type of surgery performed. Cases with spinal anesthesia had a longer duration of induction with mean 13.1 minutes and they tend to stay at hospital one day longer than those used general anesthesia. The most common complication identified among cases with spinal anesthesia was headache in 24.3% of cases while sore throat was the most common complication among cases with general anesthesia with incidence of 28.4%. Failed general

anesthesia procedure was identified in 1.2% of cases compared to 20% for failed spinal anesthesia

**Conclusion:** Both methods have advantages and disadvantages but as general anesthesia is faster for induction it may be considered more appropriate for emergency cases.

**Keywords:** Spinal, General, Anesthesia

## **Hall F Session 3 Intensive Care**

100

### **Acute Respiratory Distress Syndrome**

*Simi Bhullar MD (USA)*

101

### **Severe Sepsis: Review of Current Guidelines**

*Simi Bhullar MD (USA)*

102

### **Weaning Protocol in the ICU**

*Bashir Khasawneh MD (Jordan)*

103

### **Nutrition in Critically Ill Patients**

*Hussein Shalan MD (Jordan)*

Nutrition in critically ill patients is as important as ventilation, antibiotics and monitoring. But nutrition in the ICU setting is controversial in regards to timing, type and route.

As for patients with no contraindications feeding should start as early as possible, and with the less invasive route, to counteract the catabolic state of patients in the ICU.

Sometimes, the volemic status of the patient dictates the allowed amount of fluid/ feeding, as well as its type.

In the medical ICU patients have comorbidities that necessitate taking into consideration the type of feeding, in order to meet the treatment goals of the comorbidities, such as diabetes, hypertension, renal failure... etc.

Although strict glucose control has many advantages, it - nonetheless- carries the risk of hypoglycemia with all its deleterious consequences.

Immune modulating feeding is another area





of controversy, with limited advantages, when compared with the conventional types of feeding.

The intensivist should also be familiar with feeding complications, especially the metabolic and infectious ones.

For the patients with lengthy ICU stay PEG feeding should be an option.

## Hall G Session 1 Surgery - Hepatico- Pancreatic- Biliary Surgery

**104**

### **Pancreatico-Gastrostomy vs Pancreatico- Jejunostomy in Whipple Procedure**

*Sameer Smadi MD (Jordan)*

*S. Smadi, R. Al- jarrah. T.Al Munaizel,  
S. Al- Qusous, G. Aldehayat,  
K. Ajarmeh, M. Gatashah, A. Odwan,  
E.Oudat, A. Faori,*

**Background:** The leading cause for morbidity and mortality after pancreaticoduodenectomy is a pancreatic anastomotic leak and fistula. The two most commonly performed anastomoses after pancreaticoduodenectomy are pancreaticogastrostomy (PG) and pancreaticojejunostomy (PJ).

**Objectives:** To study the impact of technique of pancreatic anastomosis after pancreaticoduodenectomy in development of postoperative pancreatic leak.

**Materials And Methods:** During the period January 1998 to July 2013, a total 66 pancreaticoduodenectomies were performed at king Hussien medical center, Jordan. The entire data were subdivided into two groups, group A where PG (dunking) was predominantly used, and group B when a standardized technique of pancreaticojejunostomy PJ (duct to mucosa) was employed.

**Results:** There were 24 pancreaticoduodenectomies performed during group A, five patients developed pancreatic fistula with a rate of 21%. While during group B, 32 pancreaticoduodenectomies were performed, three patients developed pancreatic fistula with a rate of 9% ( $p < 0.0005$ ).

**Conclusions:** A standardized approach of the pancreatic anastomosis using pancreaticojejunostomy (PJ) technique can

help to reduce the incidence of complications after pancreaticoduodenectomy.

**105**

### **New Advances in Pancreatic Surgery**

*Jan Schmidt MD (Switzerland)*

**106**

### **Royal Medical Services (RMS) Experience in Liver Resection**

*Khaled Ajarma MD (Jordan)*

Our talk will be about RMS experience in liver resection

Starting with a brief about the history of L RX in our institute then talking in details about a good number of liver resection cases that done in KHMC focusing on the technique, indications, complications and outcome.

**107**

### **Recent Advances in Liver Surgery**

*Jan Schmidt MD (Switzerland)*

## Hall G Session 2 Surgery - Bariatric Surgery

**108**

### **Complication and Management of Bariatric Surgery**

*Muhammad A. Jawad MD (USA)*

**109**

### **Body Contouring after Massive Weight Loss**

*Eid Mustafa MD (USA)*

Morbid obesity is a major health risk. Surgery is being used with increasing frequency to treat that condition after other measures fail. Many health benefits are known to result from shedding the extra weight. The skin envelope, however, retracts up to a point, more so in young individuals. With massive weight loss, the patient is left with a very large pannus, that results in hygiene problems, chaffing, skin breakdown, yeast infections, difficulty with clothes and loss of self esteem.

The speaker will address the surgical management of these patients. Procedures often needed include mastopexy or reduction mammoplasty, abdominal





dermolipectomy or abdominoplasty, trunk lift, and thigh lift among others.

**110**

**Ideal Procedure for Obesity**

*Muhammad A. Jawad MD (USA)*

**111**

**Bariatric Surgery: Our Experience at King Hussein Medical Center**

*Wael Nasan MD (Jordan)*

**112**

**Management of Failed Bariatric Procedure**

*Muhammad A. Jawad MD (USA)*

**Hall G Session 3**

**Surgery - Breast Cancer Update**

**113**

**Surgery as a Treatment Option for Breast Cancer**

*Ali Elebos MD (Jordan)*

Surgical role in breast cancer management is essential.

The surgeon is the first one who deal with case. He has to diagnose or reassure if the results were negative.

The plan of the management whether surgery first or chemotherapy is his decision.

Surgery is not one, may be conservative or mastectomy and each has its indications.

Plastic surgery may be added at one stage. Follow up for years or even for life is the surgeon job.

The patient may forget all but not the surgeon who removed the tumor.

**114**

**Breast Reconstruction Update**

*Eid Mustafa MD (USA)*

The female breast is a symbol of femininity. While some women cope relatively well with the disfiguring effects of mastectomy, others feel devastated. Breast reconstruction (BR) is an option that many mastectomy patients choose instead of cumbersome external prosthesis. It has come a long way in restoring the shape of the female breast, but not its function.

The speaker will discuss the effects of radiation and chemotherapy on the timing, as well as various methods of BR, using implants, expanders, flaps or combinations. Nipple and areola reconstruction will also be discussed.

**115**

**Optimizing Surgical Margin in Breast Conserving Surgery: Our Experience at King Hussein Medical Center**

*Ali Abusini MD (Jordan)*

**116**

**Breast Reconstruction in Jordan**

*Khaldoun Haddadin MD (Jordan)*

Even though breast reconstruction has been available in Jordan for the last two decades, until recently, the number of cases performed each year was small and patient referrals to plastic surgery clinics for consultation sporadic, due to the paucity of true multidisciplinary services for breast cancer management in Jordan at the time. Post-mastectomy breast reconstruction is one of the most frequently requested and performed plastic surgical procedure worldwide, and the techniques available have evolved from expander/ implant-based techniques to the use of autologous tissue and refinements thereof.

It has always been claimed by our oncology and oncosurgery colleagues that women in our part of the world are not interested in reconstruction and the majority of them are only worried about the oncological aspects of the disease.

There has been an exponential rise in the number of patients undergoing breast reconstruction in Jordan dispelling the previously held ideas about the real needs of women with breast cancer in our region. A large part of this is due to referral of many patients who have either undergone or are planned for a mastectomy, for a plastic surgery consultation to discuss reconstruction options and make an informed decision on whether she does or does not want reconstruction.

In this presentation we will present our experience with breast reconstruction in Jordan and show how within a few years

the program has grown exponentially, the difficulties faced, the range of services offered and the challenges ahead.

**117**

**Mammography of the Male Breast: Our Experience at King Hussein Medical Center**  
*Amal Smadi MD (Jordan)*

135 mammograms of male patients were performed at our Breast Unit, Radiology department, KHMC, from January 2011 till August 2014.

Our patients came with symptoms of breast pain, breast swelling and mass.

Both Mediolateral and Craniocaudal views were obtained on the digital mammogram for all patients. Complimentary Ultrasound exam was performed as well, using 13 MHz linear probe. Breast biopsy performed at the breast surgical clinic.

Mammograms were reviewed and reported using BIRAD system.

**Hall H Session 1**  
**Dermatology & Plastic Surgery**

**118**

**Cutaneous Malignancies: Diagnosis and Management**

*Eid Mustafa MD (USA)*

Skin cancer is the most common form of malignancy. The prevalence is higher among certain populations and geographic areas. Early diagnosis and proper treatment result in a very high cure rate, while advanced lesions can result in severe morbidity and some mortality. The speaker will discuss the common forms of skin cancer, and various methods of treatment, with emphasis on surgery and reconstruction.

**119**

**A Dermatologist Perspective on the Diagnosis and Management of Cutaneous T-Cell Lymphoma**

*Nidal Obaidat MD (Jordan)*

Cutaneous T-cell lymphoma (CTCL) is one of the most common forms of T-cell lymphomas. It primarily affects the skin,

but it can also involve the blood, the lymph nodes, and other internal organs. The clinical presentation of CTCL varies greatly; from asymptomatic rash to ulcerative nodules or erythroderma. Most patients with CTCL experience only skin symptoms and a generally indolent course. However, a small percentage have much worse outcome, with the lymphoma spreading to lymph nodes and/or internal organs.

This presentation will outline the various types of CTCL, illustrating their diagnoses and the options for their treatment, with special emphasis on mycosis fungoides and its variants

**120**

**What is New in Cosmetic Botulinum Toxin Type A**

*Abdullah Al-Eisa MD (Jordan)*

Botulinum toxin type is a potent neurotoxin produced by the bacterium *Clostridium botulinum*. Its mechanism of action involves blocking cholinergic transmission and acetylcholine release at the neuromuscular junction. This blockade causes reversible flaccid paralysis of the innervated muscle and has been shown to decrease muscle tones. There are several sub types of Botox, with types A and B currently used in clinical practice after FDA approval in 1989 and 2000, respectively. BT is widely used in medicine and especially cosmetic. The indication and patient selection and proper technique important to reach your aim to good result our presentation will focus in my personal experience since 1999

**121**

**Reconstructive Surgery: Optimization of Results**

*Laith Akkash MD (Jordan)*

The scope of Dermatologic Surgery has substantially grown over the past few decades to include many therapeutic & cosmetic procedures. This has tremendously influenced the prospects of Dermatology, shifting it from the science of conventional topical medications into a continuously evolving, modern science of procedures.

One of the important challenges that every dermatologic surgeon encounters during his or her practice is the resultant surgical defects, especially after excision of tumors. Despite the different reconstructive methods reported in the literature, choosing the best method needs to be case specific, ensuring the restoration of function as a priority, followed by the common aspiration of both patients and surgeons, which is obtaining the best possible aesthetic and cosmetic outcome after a reconstructive procedure.

Optimization of the surgical outcome starts with the pre-operative preparation, and ends with the post surgical management and follow up, leaving the intra-operative technique and the choice of the reconstructive method as the major determinants of the end result.

Achieving good surgical results is a multi-step process that requires knowledge, good planning, and certainly a cooperative well-informed patient with realistic expectations.

In this presentation I will address different surgical defects from my practice, and discuss the methods used for reconstruction, along with the pros and cons of the implemented technique and its alternatives.

## 122

### **Puzzling Non-Infectious Cutaneous Granulomas**

*Mohammad Tawara MD (Jordan)*

Diseases with non-infectious cutaneous granulomas are unified by similar histologic findings despite having disparate causes. Recognition of granulomatous disorders and identification of their histologic patterns are of paramount importance for prompt and accurate management. Increasing demand for orofacial tissue augmentation and cosmetic procedures and recent advances in immunopharmacology make pathologists face new, and sometimes, puzzling non-infectious as well as infectious granuloma types. Misdiagnosis can lead to exhaustive laboratory and radiology studies and inappropriate treatments. Several puzzling cases from King Hussein Medical

Center will be discussed paralleled with literatures update. The presented cases are exceptional, both in the presentation and in the difficulties encountered in diagnosis and treatment. Identification of the causative agent might be required for therapeutic or medico-legal reasons.

## Hall H Session 2

### **Surgery - Pediatric Surgery Free Papers**

## 123

### **Laparoscopically Assisted Ano-Rectal Pull-Through for High Imperforate Anus**

*Emad Habaibeh MD\*, B Abdullah MD, A Al-Ebraheem MD, A Abu-Qura MD, S Karadsheh MD, W Al-Mefleh MD, Y Abatha MD, B Al-Nabulsi MD, M Sarayrah MD, A Al-Rimony MD, H Khraisha MD*  
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**Objectives:** This study was carried out to report our experience in laparoscopic assisted ano-rectal pull through (LAARPT) for the treatment of high ano-rectal malformations (ARM) in infants. This technique is minimally invasive and minimizes trauma to the structures in the vicinity.

**Methods:** Between May 2008 and Dec.2012, 20 children with high ARM were initially treated with colostomy in the newborn period and later by LAARPT by one laparoscopic team, at Al-Hussein Hospital and Queen Rania Al-Abdullah Hospital for children. There were 15 males and 5 females; 2 complex cloaca cases, 1 cloaca case, 1 recto-high vaginal fistula case, 1 imperforate anus case without a fistula, 5 recto-urethro-prostatic fistula cases and 10 recto-urethro-bulbar fistula cases. The ages ranged from 2 to 24 months old (mean age was 4 months) and the follow up period was from 18 to 73 months. We used 3 ports (5, 5&3mm) and 30 degree camera in most of our cases. Results: There were no operative

complications. The mean duration of surgery was 180 min. All patients had smooth post-operative scenario. The scars had cosmetic appearance and barley, could be seen. One male developed moderate anal stenosis which required long term dilatation. Another male had mild anal mucosal prolapsed which required mucosectomy. One male developed mild perineal wound dehiscence which healed conservatively. The overall function was good.

**Conclusion:** This procedure allows excellent visualization of the rectum, vagina, fistula and the pelvic floor. The technique can be learned quickly and easily. Besides, it is safe, efficient, has speedy recovery, of excellent cosmesis and preserves the sphincters. Our series is small and longer term follow up is needed in order to assess the continence rate.

**Keywords:** High Imperforate Anus, laparoscopy, Infants

## 124

### **Surgical Management of Ambiguous Genitalia in Children: Our Experience at King Hussein Medical Center**

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MD Gaith Kasawneh MD Amer Al Ibrahim  
MD Ahmad Abu Goura MD*

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**Objectives:** The purpose of this study was to evaluate the results of one-stage surgical management for children with ambiguous genitalia

**Methods:** The medical records of 24 infants and children who underwent one-stage genital reconstruction (Total Feminizing Genitoplasty) in our pediatric surgery department at Queen Rania hospital for children/ King Hussein Medical Center, from 2007 to 2013 were reviewed. Age at surgery, operative procedure, associated congenital abnormality, complications and

outcome were recorded.

**Results:** The total of 24 patients with disorder of sexual development (DSD) underwent feminizing genital reconstruction. 18 patients (75%) had congenital adrenal hyperplasia (CAH). Male pseudohermaphrodite in 5 and True hermaphroditism in one of our patients. At the time of surgery ages varied between one and 14 years. One-stage total feminizing genitoplasty (Clitorio-labio-vaginoplasty) was performed in all patients with CAH, 12 patients (67%) were below 2 years of age. An association congenital abnormality was appeared in 6 of our patient. Follow-up period averaged 7 year. Complications such as concealed clitoris and vagino - urethral fistula was shown in 2 patients, respectively.

**Conclusion:** One-stage total correction of ambiguity in infants and children (Clitorolabio- vaginoplasty) can be achieved in patients even with high vaginal confluence. Early total feminizing genitoplasty is a safe and effective procedure with good cosmetic appearance in virilized girls with few avoidable complications.

**Keywords:** Intersex, One-stage Correction, Children

## 125

### **Experience with Minimally Invasive Surgery in Children and Infants**

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**Objectives:** To evaluate our experience with minimally invasive surgery in children and infants at Queen Rania AL Abdullah Hospital For Children.

**Methods:** a retrospective study included all those patients undergoing a minimally invasive surgical procedure between

January 2008 and June 2014, the total number of the patients were 448 children. Demographics, type of operation, complications, and length of hospital stay were recorded.

**Results:** A 448 minimally invasive procedures were performed: Soave-Georgeson endorectal colon pull-through for Hirschsprung's disease (N.=32); laparoscopic pullthrough for imperforated anus (N.=28); laparoscopic cholecystectomy (N.=21); laparoscopic Nissen fundoplication for gastroesophageal reflux disease (N.=12); laparoscopic assisted gastrostomy (N.=25); laparoscopic appendectomy (N. =23); laparoscopic varicocelelectomy (N.=34) laparoscopic nephrectomy (N.=18); laparoscopic repair of morgagnic hernia(N.=19); laparoscopic herniotomy (N.=88); laparoscopic exploration testis and orchidopexies (N.=97); laparoscopic or thoracoscopic tumor resection or biopsy (N.=26); laparoscopic assisted mickel's diverticulum resection(N.=11); thoracoscopic repair of diaphragmatic eventration and pleural decortication(N.=14). The median age was 5 years; there weight range between( 3 to 25) kg; the median length of hospital stay was 3 days; Ninety-nine percent of procedures were completed successfully endoscopically. the complications rate was 0.9% (N.=4) and no mortality

**Conclusion:** According to our experience, minimally invasive surgery is a safe and efficacious alternative to conventional surgery in children. It was associated with shorter Length of hospital stay and improved quality of life, with less pain and better aesthetic results. It has become the preferred surgical treatment option by parents.

**Keywords:** Minimal Invasive , Surgery, Children, Infants.

126

#### **Pediatric Laparoscopic Surgery: Review of 800 Cases**

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**Objectives:** Laparoscopic surgery has grown up in pediatric surgery & pediatric urology. We present our experience in 800 cases, feasibility, safety, cost effectiveness and complications.

**Methods:** Data for all patients who underwent general pediatric laparoscopic procedures and laparoscopic urology by one team at Queen Rania Hospital for Children / Royal Medical Services between April 2008 - May 2014 were collected and analyzed. Indications for surgery, hospital stay, cost, complications and outcome were evaluated.

**Results:** Patients included were 800, (520 males, 280 females). Median age 3.8 years. Gastro-intestinal laparoscopic surgery performed over 210 patients. Laparoscopic urology procedures performed over 400 patients. Hepato-biliary, pancreatic and splenic laparoscopic procedures performed over 90 patients. Miscellaneous laparoscopic procedures performed over 100 patients. There were no major complications and no mortality. Patients spend fewer days in hospital with less cost and expenses. The majority of patients and parents were satisfied by the functional and cosmetic results.

**Conclusion:** Pediatric laparoscopic surgery is feasible, safe, and cost effective with minor complications if practice in specialized centers. We recommend that pediatric laparoscopic surgery and laparoscopic urology must be carefully practice in major centers under supervision of expert surgeons with high skills in both general pediatric surgery & pediatric urology and should be the future surgery whenever applicable.

**Keywords:** Laparoscopy, Pediatric Surgery, Pediatric Urology

127

#### **Role of Ultrasonography in Boys with a Non-Palpable Testis**

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MD

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**Objectives:** In patients with a non-palpable testis (NPT) on physical examination, the testis is assumed either to be located intra-abdominally or to be hypoplastic or absent. Diagnostic laparoscopy in these boys is considered the preferable first step. In this study the diagnostic significance of pre-operative ultrasound for NPT is assessed in comparison with laparoscopic exploration.

**Methods:** At Queen Rania Hospital for Children, all boys under the age of 12 years who were diagnosed with NPT by a pediatric surgeon from 2010 till 2013 were evaluated. All patients of whom clinical, ultrasonographic, and operative findings available were included

**Results:** Ninety-eight boys with 119 NPTs were included. With ultrasound 67 testes were detected in the inguinal canal, which was confirmed preoperatively for 61 testes. Of the 15 testes with an intra-abdominal position on ultrasound, 11 were found intra-abdominally during surgery. The positive predictive value of the ultrasonography is 92% for inguinally located testes and 67% for intra-abdominally located testes.

**Conclusion:** Ultrasound has a high positive predictive importance for inguinally located testes. When ultrasound locates a testis in an inguinal position, a primary inguinal exploration can be performed, preventing an unnecessary diagnostic laparoscopy.

**Keywords:** Non Palpable testes, Laparoscopy, Ultrasound.

## 128

### Thoracoscopic Decortication in Children: Our Experience at the Royal Medical Services

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**Objectives:** The aim of this review is to evaluate the feasibility, safety and outcome with thoracoscopic decortication in the management of children with empyemas.

**Methods:** This is a retrospective review conducted during the period from 2008 to 2013. Data on patient demographics together with the diagnosis, intraoperative events, surgical morbidity and mortality were collected and analyzed to review the outcome of this approach.

**Results:** During study period 6 operations were performed. 6 patients with unilateral empyemas. There were no intraoperative events. ICU stay was an average of 5 days, patients transferred to surgical ward and discharged home on 10th day post operatively. There were no post operative complications.

**Conclusion:** Thoracoscopic decortication for empyemas in pediatric population is safe. It has several advantages such as less invasiveness, less post operative pain, shorter hospital stay and superior cosmeses.

**Keywords:** Thoracoscopy, Empyemas, children.

## 129

### Antibiotic Prophylaxis for Surgical Site Infection in Pediatric Surgery

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**Objectives:** Quality improvement techniques in surgery are in continued practice since long time with the aim to reduce surgical site infection (SSI) rate. Many centers are implementing standardized protocols in using antibiotic prophylaxis for (SSI) to achieve the best outcome. In this study, we present the effectiveness of our hospital protocol for the use of antibiotic prophylaxis for (SSI).



**Methods:** With Institutional Review Board approval, the data of all pediatric patients who underwent uncontaminated procedures in general pediatric surgery & urology at Queen Rania Hospital for Children were reviewed prior and after the implementation of the new hospital protocol using the current literature. All patients who had infection, obvious contamination or on antibiotic treatment were excluded from the study. Other exclusion criteria were re operation, diabetic patient, malignancy, steroid treatment, clean inguinoscrotal surgery, circumcision and patients with allergy, blood or metabolic disorders. According to our hospital protocol, antibiotic prophylaxis for (SSI) will continue for 3 doses over 24 hours. The choice of single or combined antibiotic depends on the type of surgery. Cefazolin was the first choice for most procedures. For gastrointestinal surgery Cefoxitin (40mg/kg) and Metronidazole (15mg/kg) were used in combination. Cefazolin (30mg/kg) alone or with Gentamycin (2,5mg/kg) were used for urogenital surgery. Antibiotic should be administered intravenously one hour prior surgery. Procedures and (SSI) were evaluated prior and after protocol implementation.

**Results:** Thirteen pediatric surgeons in the hospital performed 11.000 procedures between March 2010 – March 2014. The minimum follow-up period for (SSI) was 4 weeks, 2000 procedures (group I) met the criteria prior the implementation of the hospital protocol and 2000 procedures (group II) met the criteria after the implementation of the protocol. The (SSI) rate decreased from 8,4 % (group I) to 4.6% (group II) . Over all protocol implementation commitment was 86% and improved during the observation interval.

**Conclusion:** The implementation of a standardized protocol for antibiotic prophylaxis in pediatric surgery significantly reduces (SSI). Generally, the protocol compliance was very good and easy to practice. The implementation of the hospital protocol has been considered as baseline in our major medical center and

other hospitals for proper assessment of new treatments plans. The identification of factors associated with (SSI) will help in the revision and improvement of protocols in the future resulting in more control and reduction of (SSI) with significant cost effective results, less hospitalization and less bacteria resistance.

**Keywords:** Surgical Site Infection, Antibiotic Prophylaxis, Quality Improvement, Standardized Protocol.

### 130

#### **Laparoscopic Near-Total Pancreatectomy for Persistent Hyperinsulinemic Hypoglycemia in Children: Extended Report**

*Mohamad Dajah MD\*, Hussein Alawneh MD, Roula Kherfan RN, Hala Falahat RN, Najeh Alomari MD*

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**Objectives:** Persistent hyperinsulinemic hypoglycemia of infancy is considered the most common cause of persistent neonatal hypoglycemia. A number of genetic abnormalities in early persistent hyperinsulinemic hypoglycemia of infancy have been identified, but in the majority of patients no abnormality is found. The sporadic focal and diffuse forms as well the autosomal recessive form are particularly therapy-resistant and demand for early surgery. Preoperative discrimination between focal and diffuse disease in early persistent hyperinsulinemic hypoglycemia of infancy is difficult. Medical treatment involves use of multiple agents and its failure is an indication of surgical intervention. Open pancreatectomy was the standard of care but recently laparoscopic pancreatectomy was advocated by few authors. To present and evaluate our experience with laparoscopic spleen saving near total pancreatectomy for persistent hyperinsulinemic hypoglycemia of infancy, safety, efficacy and complications.

**Methods:** A retrospective chart review was conducted for patients managed for persistent hyperinsulinemic hypoglycemia



of infancy with laparoscopic near total pancreatectomy for that period of 2 years.

**Results:** Seven patients diagnosed with persistent hyperinsulinemic hypoglycemia of infancy were managed with laparoscopic spleen saving near total pancreatectomy. Median age at procedure was 14 months (range, 3-136 months). The extent of pancreatectomy was 90% (range, 85%-95%). There was no conversion to open surgery. Two patients required reoperation 3 months after the procedure. Three patients are euglycemic with no medications. One patient remained on octreotide postoperatively to be euglycemic, and one patient needed low dose of insulin to control his blood sugar.

**Conclusion:** study suggests that laparoscopic spleen saving near total pancreatectomy for medically unresponsive persistent hyperinsulinemic hypoglycemia of infancy is feasible and safe, however long term follow-up and more cases is needed to ascertain effectiveness

**Keywords:** Laparoscopy, Hypoglycemia, Children

### 131

#### Intersex Surgical Reconstruction

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**Objectives:** The physical features determining the sex of an individual are the karyotype, the internal and external sexual organs, the gonads and the secondary sexual characteristics which appear at puberty. Intersex conditions occur when there is a defect in the normal process of sexual maturation that results in abnormalities in any of these features. The management of these conditions is in the midst of great change. Every aspect is currently under review including diagnostic techniques, timing and nature of treatment

including surgery, and information given to the patients. The true incidence of most of these conditions is unknown and great secrecy still surrounds them. We present our experience in major surgical reconstruction for intersex anomalies. We review the investigation protocol, surgical techniques, complications, outcome and patients and family satisfaction

**Methods:** Retrospective analysis of all patient who were underwent reconstruction for intersex anomalies over 10 years by one surgical team

**Results:** Thirteen patients assigned females, 12 are congenital adrenal hyperplasia patients (CAH), 10 patients assigned males, All the reconstruction performed in one stage without stoma formation. Ten females had primary urogenital pull through, three females underwent enterovaginoplasty. All males had one stage reconstruction in the form of vaginectomy, long tube urethroplasty and orchidopexy.

**Conclusion:** Intersex reconstruction is challenging but can be performed safely in advanced centers with wide experience in pediatric surgery, and pediatric urology. All patients were satisfied with the results

**Keywords:** Intersex ,CAH, children

### 132

#### Advanced Gastro-Intestinal Laparoscopic Surgery in Children: Extended Report

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**Objectives:** To present our experience in laparoscopic surgery for gastro-intestinal, colonic conditions and anorectal malformations in children , acceptability, safety, efficacy, outcome parameters of operative time, analgesic requirement, postoperative stay and complications.

**Methods:** During the last 6 years, 220 major laparoscopic & laparoscopic assisted procedures in children were performed

at King Hussein Medical Center & Queen Rania Hospital. All patients were evaluated preoperatively by clinical assessment, paraclinical specific radiological tests and endoscopy with biopsy when indicated. Protocols were followed in all patients regarding use of antibiotics, analgesia, techniques and follow up.

**Results:** Patients including 125 cases of laparoscopic Nissen fundoplication for GERD, thoracic stomach and esophageal cardiomyotomy for achalasia, 40 cases with anorectal malformation (ARM) and 45 cases of colonic conditions (HD & FAP, injuries) were managed by laparoscopy. The patients, 130 males and 90 females aged from 6 months to 15 years (mean age, 74 months), 30 males had rectourethral fistula, one female had rectovaginal fistula and 7 had cloacal anomaly. The associated anomalies including sacral malformation, genitourinary, cardiac anomalies and esophageal atresia were treated as well. 35 patients were treated with a colostomy in the newborn period followed by a delayed laparoscopic assisted anorectal pull through. The female with rectovaginal fistula had the surgery without colostomy. The indications for fundoplication were thoracic stomach and Barret esophagus due to (GERD), other indications were severe esophageal ulceration, stricture, recurrent bleeding, para-esophageal hernia and recurrent aspiration pneumonia. Three patients had previous repair of esophageal atresia and 2 patients had achalasia underwent laparoscopic esophageal cardiomyotomy and fundoplication. Mean operating time was 160 min (range 120-240 minutes). The mean hospital stay for all patients was 3 days, range from 1 to 7 days. There were no intra-operative and post-operative complications. Two conversions to open surgery were required. Three patients had laparoscopic gastrostomy insertion in addition to Nissen fundoplication. Blood transfusion was not required in any case and no mortality or recurrence so far. In all ARM cases the laparoscopic assisted procedure was successful, dissection of the rectum and ligation of the rectourethral fistula, then rectal pull through to the new position after identification by muscle

stimulation, the other colonic conditions were treated successfully by laparoscopy. Two patients with cloaca had one stage laparoscopic assisted cloacal pull through as the first cases in the pediatric surgical literatures. All patients underwent a postoperative period of anal dilatation. Two patients had laparoscopic repair of sigmoid injury due to trauma without colostomy, 4 patients had one stage laparoscopic total proctocolectomy for FAP, 2 patients had laparoscopic colonic biopsy and Maloney procedure for colonic irrigation, 2 patients had laparoscopic and endoscopic assisted sigmoid polypectomy and 24 patients had laparoscopic assisted trans-anal pullthrough for Hirschsprung's disease (HD). There were no major complications and no mortality. All patients were investigated and managed for their other associated anomalies.

**Conclusion:** Laparoscopic fundoplication for GERD, thoracic stomach & achalasia in children is rapidly becoming the procedure of choice for surgical correction, the same applied for ARM and most colonic conditions because of the advantages of reduced discomfort and decreased hospitalization. It is a feasible and safe technique. Laparoscopic operation time in children reduced by experience. The length of hospital stay and convalescence is short and hence rapid return to normal activity is expected with less analgesia requirements. Follow-up examination verified perfect clinical, radiological and endoscopic findings. The cosmetic, endoscopic and functional results were excellent with very good patients and family satisfaction. Laparoscopy can be utilized safely for surgical management of HD, FAP, diagnosis and treatment of bowel injury.

**Keywords:** Laparoscopy, anorectal malformation, GERD, children

### 133

#### **Management of trichobezoar and Rapunzel Syndrome in Children Experience at Queen Rania Al-Abdullah Hospital for Children**

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**Objectives:** to evaluate our experience in the management of trichobezoar in children at Queen Rania AL-Adbullah Hospital for Children.

**Methods:** Between february 2009 and June 2012, five patients have been treated for trichobezoar in our unit, their charts were reviewed with respect to clinical presentation, diagnostic procedures, surgical treatment and post operative follow up.

**Results:** Five children underwent laparotomy for trichobezoar ,all of them were females, median age at the time of surgery was 12 (range 4 to 15) years. their main complaints were chronic abdominal pain, vomiting weight loss, epigastric fullness and alopecia. In all of our patients plain x-ray of the abdomen ,abdominal u/s ,and upper gasro-intestinal series were performed. One of our patients was diagnosed as a case of Intussusception, but only in 2 of them endoscopic diagnosis of trichobezoar were done. all of them were treated by conventional laparotomy ,and complete evacuation of hair ball were done. the location of the hair ball was in the stomach in 3 patients and in the stomach and small bowel in 2 cases (Rapunzel syndrome). all of our patients eventually proved to suffer from trichophagia and referred to a child psychiatrist. No recurrences have been reported.

**Conclusion:** Trichobezoar should be considered in young females presenting with recurrent non specific abdominal pain and epigastric fullness, endoscopy can be used as one of the diagnostic modalities.

conventional laparotomy is the treatment of choice in children with trichobezoar and the only valid management for rapunzel syndrome. psychiatric consultation is necessary to prevent relapse.

**Keywords:** Trichobezoar, Rapunzel Syndrome, Children Laparotomy.

### 134

#### **Vascularized Dorsal Dartos Flap for Preventing Fistula In Hypospadias Repair: Extended Report**

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**Objectives:** To evaluate the value of covering the neourethra using vascularized dorsal dartos flap in order to prevent urethrocuteaneous fistula in hypospadias repair

**Methods:** This is a prospective study of 390 children (aged 1-14 years) who had different types of hypospadias and underwent different types of repair between August 2004 and December 2013, including 198 children with distal penile hypospadias, 84 children with midshaft, 24 children with proximal hypospadias, 12 of them had first stage repair, 60 children with urethrocuteaneous fistula, and 24 children with complete failure of previous repair. Longitudinal vascularized dorsal dartos flap was used in all cases as covering for different types of urethral repair in double breasting fashion which sutured to the glans wings around the neomeatus and to the corpora adjacent to the neourethra and the glans closure was finalized in 2 layers. Most cases performed over urethral stent and in few complicated cases sialastic foley catheter and suprapubic cystocath for urinary diversion were used.

**Results:** At a mean (range) follow-up period of 6 months, the result was successful. Nine children had urethrocuteaneous fistula, 6 of them had previous repair. 12 children had meatal stenosis which responded to dilatation in 8 children and meatoplasty in 4 children.



**Conclusion:** We suggest that in hypospadias surgery, covering of the neourethra with well - vascularized dorsal or adjacent dartos flap should be part of the procedure. It minimizes urethrocutaneous fistula formation especially if the careful harvesting technique is utilized.

**Keywords:** Vascularized Dartos Flap, Hypospadias, Fistula

## Hall H Session 3 Surgery - Recent Advances in Pediatric Surgery

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### Minimal Invasive Surgery in Pediatric Urology

*Alaa El-Ghoneimi MD (France)*

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### Management of Disorders of Sex Development (DSD) (Intersex Abnormalities)

*Alaa El-Ghoneimi MD (France)*

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### Diaphragmatic Hernia in Children: State of the Art Lecture

*Mohammed Omari (Jordan)*

It is one of the index cases of pediatric surgery. It has an incidence 1/2000 live births. Its etiology is unknown but thought to be failure of occlusion of the pleuroperitoneal membrane at the time of return of the bowel from development extracelomic around the eleventh week of gestation. This early return of the bowel into the abdomen and chest lead to lung hypoplasia. clinical features of CDH are those of respiratory distress which is related to the degree of herniation and severity of the disease. 70% of CDH are isolated whereas the remaining may be associated with other congenital anomalies including chromosomal anomalies. The natural history of the disease has been the interest of many investigators, both intrauterine and extra uterine. Before the development of US the extra uterine was concentrating on the urgency of correcting the defect so as to minimize the effect of the distended bowel in the chest from causing asphyxia to the neonate, and planned delivery and

in utero transfer was the state of the art management. this ended by going as far as intrauterine correction of the defect. The severity of the disease was judged then by the time the newborn developed respiratory distress when that fails attention was paid to pulmonary hypertension and indicators predicting survival, oxygenation and ventilation indices as well as ventilators with less barotrauma. With the development of US and earlier detection of hernia antenatally, the intrauterine natural history was studied and the intrauterine hidden mortality(30%) was revealed. Intrauterine monitoring lead to stratification of the disease severity by many factors, detecting viscera in the chest , stomach and liver, measuring lung volume , mediastinal shift, Polyhydramnios etc. a recent observation of a cause of lung overgrowth is the associated airway obstruction. This has lead to enthusiasm into going again in utero plugging the airway until the lung grows then removing the plug either in utero or as exit procedure. In parallel with surgical development the treatment pulmonary hypertension was in progress including medications , gas inhalation and ECMO, permissive hypercarbia and gentle ventilation.

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### Management of Urinary Bladder Exstrophy

*Alaa El-Ghoneimi MD (France)*

## Hall I Session 2 Surgery - Heart Transplantation and Updates in Cardiac Surgery

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### Recent Advances in Heart Transplant

*Adnan Laham MD (Jordan)*

*Adnan H. Allaham, MD, FRCS*

The first experimental heart transplants were performed by Alexis Carrel and Charles Guthrie in 1905 on animal models, but it was not until the 1950s that attempts at human heart transplant were reported. Clear definition of brain death, adequate organ preservation, control of rejection, and reproducibility of the procedure, slowed

progress. Eventually, the first successful human to human orthotopic heart transplant was performed by Christian Barnard in South Africa in 1967. Since these early successes at heart transplantation, great progress has been made in the care of patients with end-stage heart and lung disease.

Minor changes have occurred in surgical technique for heart transplantation, the greatest changes have been in modifying donor criteria to expand the donor pool. This review will focus on more recent surgical advances in donor selection and management, procurement and implantation, and the impact these advances on patient outcome. Although graft rejection, infection, malignancy, and allograft vasculopathy remain important challenges to the long-term management of heart transplant recipients, active research in these fields continues to advance and improve outcomes.

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##### **Donor Management in Heart Transplant**

*Razi Abu-Anzeh MD (Jordan)*

*Razi Abuanzeh, MD, MRCS, JBGS, JBCS  
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Heart transplantation is an established treatment option with excellent long-term outcomes in patients with end stage heart failure. However, donor organ shortage remains a major problem and there is an imbalance in the supply and the demand for donor hearts. This leads to increase in mortality on the waiting list. Furthermore not all donor referrals materialize to successful organ retrievals as assessment of the donor in the operating theatre does not allow adequate time for donor optimization which may in turn lead to poor retrieval rate. Accepting a marginal donor graft may also increase the risk of development of primary graft dysfunction (PGD) following transplantation. Recipient centers are most likely to turn down such an organ due to the increased risk of PGD. The pathophysiology of brain stem death (BSD) includes hemodynamic, hormonal

and inflammatory changes leading to cardiovascular instability and poor organ perfusion that may result in donor organ injury. The hormonal changes after brainstem death usually include drop in the circulating level of cortisol, insulin, thyroxin (T4), and triiodothyronine (T3). It has also been shown that excessive catecholamines used for hemodynamic support of the patients prior to brain death have a depressant effect on the heart. As a result many potential heart donors do not meet the criteria for donor selection. There is a window of opportunity exist from the time of confirmation of brain death to irreversible damage to all organs. During this period attention to detail and optimization may improve organ function thereby increasing the retrieval rate. Early donor management with hormone replacement therapy including steroid, thyroxin, and vasopressin can alleviate post brain stem death hormonal and inflammatory changes and therefore improves donor organ function and increases the number of available hearts for transplantation.

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##### **Valvular Heart Disease in Jordan**

*Moaath Alsmady MD (Jordan)*

Diseases of the heart valves constitute a major cause of cardiovascular morbidity and mortality worldwide with an enormous burden on healthcare resources. The surgical treatment of valve disease has increased significantly in recent years. Due to increased PCI and due to new Guideline for the Management of Patients with valvular heart disease, with significant changes in indication for surgical intervention.

In Western Countries, valvular disease remains a common problem in the elderly, the most common etiology is degenerative, but in our part of the world still Rheumatic valvular disease was found to be the most common etiology.

The low occurrence of thromboembolic episodes in our patient population with the use of the mechanical valve prosthesis is noteworthy, the low incidence of thromboembolic events is presumably



related to factors such as inherent difference in coagulable states, and also, risk factors for thromboembolism are reduced in younger patients.

Over the past few decades, it has become apparent that mitral valve repair is the standard treatment of mitral valve regurgitation. In Jordan, it is much less than the western countries due to the pathology of mitral valve and lack of the experience in the proper techniques of valve repair. Recently, percutaneous valve replacement has been developed. TAVR is a reasonable alternative to surgical AVR in patients at high surgical risk. In Jordan, few cases were done because of the high cost.

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### **Surgery for Acute Aortic Syndrome, Where We Draw the Lines**

*Salah Eldien Altarabsheh MD (Jordan)*

Acute aortic syndrome is being considered as a recent surgical entity. Various imaging modalities have contributed in the diagnostic process. Various variants of this syndrome are identified, such as acute aortic dissection, penetrating aortic ulcers, and intramural hematoma. Acute aortic dissections have been classified according to the extent of the disease involvement, which determine the surgical strategy and prognosis.

The pathogenesis and etiology of acute aortic syndrome are multifactorial and genetic factors such as marfan's syndromes play an important role. Surgical options are usually carried on an emergency basis, and the key role for surgery is early detection, and proper surgical plan, since the complication of this syndrome carries significant risk of morbidity and mortality.

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**Objectives:** Self-management has emerged as an approach to enhance quality of care for patients suffering from long term conditions, and to control costs of health services. So far, however, the effects of this approach remain unclear. The objective of this research is to present a framework for applicable evaluation of diabetes self-management programmes in Saudi Arabia.

**Methods:** This research has been conducted between May 2009 and June 2011. A cross sectional survey was conducted using a self-administered questionnaire for data collection. The research model was developed after conducting a systematic review of the literature to be tested using different statistical techniques. Data for this research were collected from diabetes centres and clinics in military hospitals of the main five regions in Saudi Arabia during February to August 2010.

**Results:** The model shows the outcomes of self-management in terms of its effect on clinical outcome, on quality of life, and on utilization of health services. Analysis of data revealed that behavioural theories support the core assumptions of self-management. In general high R<sup>2</sup> values indicated that the effect sizes were substantial, implying that the observed data were an overall good fit to the model.

**Conclusion:** The evaluation model is valid to evaluate diabetes self-management programmes and can be used as a decision-making supporting tool. It could also be used to evaluate other chronic conditions where the role of patients is significant.

**Keywords:** Diabetes, self-management, Saudi Arabia

## **Hall I Session 3 Medicine Free Papers**

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### **A Model to Evaluate Diabetes Self-Management Programmes in Saudi Arabia**

*Abdullah Alshehri MD\*, Professor Sally Brailsford, Dila Agrizzi MD, Mr Mofareh Alshehri*

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**Correlation of Tumor Temperature with Treatment Outcome in the Therapy of Abdominal Sarcomas with Chemotherapy and Regional Hyperthermia (RHT)**

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**Objectives:** Invasive temperature measurement delivers in RHT only limited data but it is still a means of quality control due to the lack of non-invasive thermometry in the abdomen. Aims: We investigate the feasibility of invasive thermometry and the correlation of tumor temperatures with the treatment outcome.

**Methods:** 30 patients with high risk soft tissue sarcomas (STS) of abdomen were treated neo-adjuvant (n=24) or adjuvant (n=6) with 8 cycles of chemotherapy (Etoposide; Ifosfamide; Adriamycin =EIA) and RHT. Surgery + radiotherapy were inserted after 4 cycles. Invasive temperature measurement was performed using plastic catheters (median 2; range 1-4), which were placed under CT-control or intraoperative.

**Results:** Based upon a total of 209 RHT treatments, a median maximum tumor temperature (Tmax) was 42.5°C (range: 39.1- 44.1°C) and the median time-averaged temperatures achieved in 20% (T20) of measured tumor temperatures were 40.8°C (range: 41.0-41.5°C). Narrowly missed significant association (p=0.072) between T20 and radiological response (RR) was found. RR associated significant with local progression free survival (p=0.005), disease free survival (p=0.003) and overall survival (p<0.001). OS was significantly associated with T20 of >41.0°C (p=0.012). Despite a median catheters dwell time of 78 days (range: 4 – 234) no severe infections were seen.

**Conclusion:** IT in abdominal tumors is feasible and correlate with the treatment outcome. Due to the repeatability of RHT treatments by same technical parameters tumor catheters are now placed only during the first treatment cycle.

Keywords: Cancer, soft tissue sarcomas, hyperthermia, chemotherapy

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**Short and Long Term Follow up of Unprotected Left Main Coronary Artery Stenting at Queen Alia Heart Institute**

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**Objectives:** To determine the short and long term outcome of 50 patients who underwent unprotected left main coronary artery "UPLMCA" stenting at Queen Alia Heart Institute.

**Methods:** Prospective analysis of 50 patients who underwent UPLMCA stenting was done addressing major adverse cardiac events .The cohort consisted of 37 males and 13 females who underwent stenting rather than bypass grafting either because of high risk of general anesthesia (24) or because of patient's refusal of surgery (26).

**Results:** Lesions in the LMCA were bifurcation (44), ostial (5) and shaft lesions (1). Bifurcating lesions were tackled using Cross-over provisional T stenting ( 21) , TAP technique ( 9), Minicrush ( 8), Culotte (2), step minicrush (2), T stenting (1) ,V stenting ( 1) . Atherectomy using cutting balloons were used in 12 patients mainly to ablate ostial LCx artery calcification. All lesions were opened using drug-eluting stents. Procedures were undertaken under Tirofiban coverage in 32 patients. There were no peri-procedural deaths MI, stroke or renal impairment. Mean stay in hospital was 3.4 days. 48 patients completed a mean follow-up of 2 years (36 angiographic, 12 clinical) .We had 5 repeated revascularizations due to restenosis as well as 3 deaths. 12 patients were asymptomatic under clinical follow up and were reluctant to undergo follow-up angiography.

**Conclusion:** UPLMCA stenting using DES is safe and has acceptable long term sequelae which were mainly attributed to restenosis and subsequent revascularization. Periprocedural mortality, acute and subacute stent thrombosis were not noticed in our cohort.

**Keywords:** Unprotected left main, stenting



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**Computed Tomography Guided  
Transthoracic Fine Needle Aspiration  
Cytology in the Diagnosis of Pulmonary  
Masses not Diagnosed by Bronchoscopy**

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**Objectives:** To evaluate the diagnostic yield and safety of computed tomography (CT) guided transthoracic fine needle aspiration cytology (FNAC) in the diagnosis of pulmonary mass lesions with negative bronchoscopic examinations

**Methods:** A retrospective analysis of clinical presentation, cytological diagnosis and complication rate of 206 patients who underwent CT guided transthoracic FNAC for pulmonary mass lesions not diagnosed by bronchoscopy were studied from January 2008 - December 2012 at KHMC of Amman, Jordan

**Results:** A total of 206 patients with pulmonary mass lesions were included in the present study. One hundred forty (68%) of them were males and 66(32%) were females with mean age of 60.5 years (range 21-85). Cough was the most common respiratory symptom (90%) followed by weight loss (72%). The overall diagnostic yield of the procedure was found to be (82.6%). 144 (69.9%) cases were malignant and 26(12.6%) cases were benign lesions. In 19(9.2%) cases the cytology smears were suspicious of malignancy and in 17(8.3%) were inadequate for interpretation. Adenocarcinoma 47(22.8%) cases, was the most common malignancy followed by poorly differentiated non-small cell carcinoma, 36(17.5%) cases, squamous cell carcinoma 31(15%), small cell carcinoma 10 (4.8%) cases respectively. Maximum cases of benign lesions were chronic non-specific inflammation 20(9.7%) cases. Pneumothorax was reported in 17(8.3%) cases, of which 8 cases required treatment

**Conclusion:** CT guided transthoracic

fine needle aspiration cytology (FNAC) is a simple, fast and safe procedure with high diagnostic yield for the diagnosis of pulmonary mass lesions that are not diagnosed by bronchoscopy

**Keywords:** Computed Tomography, Cytology, Pulmonary masses

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**Triple Tine Fork Technique A Novel Jordanian  
Technique Addressing Trifurcation Coronary  
Artery Stenosis**

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**Objectives:** To describe a new technique that address trifurcation coronary artery stenosis and compare it with the contemporary non-standardized trifurcation coronary techniques.

**Methods:** Methods: a 55 year old male patient with the following risk factors: Hypertension, smoking, who presented with non-ST elevation myocardial infarction 3 days prior to catheterization. The latter revealed normal right coronary artery, 30% plaque in his mid left anterior descending artery and total proximal trifurcation left circumflex artery occlusion ( Modified Medina 1,1,1,1, Shammas type 3 lesion). Medications: Ascriptin, Clopidogrel, upfront tirofiban. The procedural steps were : Two guiding catheters inserted via a bifemoral approach and triple wire technique with pre-dilatation performed. The proximal markers of 3 stents positioned together with a slight protrusion in the MT in order to create two proximal carinae. Separate followed by simultaneous deployment of stents . Approximating MT stent along the middle wire. Wire re-crossing to SB stents . Simultaneous trissing balloon .

**Results:** Final angiography revealing widely patent circumflex /obtuse marginals trifurcation with final triple tine forky frame "Triple leg trouser with seat". Excellent similar result obtained at 1 year follow-up.

**Conclusion:** In case elective 3 or 4 stent trifurcation strategy is contemplated, the relative simplicity of triple tine fork technique would justify the use of dual

catheters via dual approach or a 9F guiding catheter when available, to avoid using more complex trifurcation procedures including double mini-crush and double SKS techniques.

**Keywords:** triple tine fork, technique, trifurcation

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##### **Genetic Basis of Ulcerative Colitis and Crohn's Disease among Armed Forces**

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**Objective:** Apolipoprotein E (APOE) is a multifunctional glycosylated protein encoded by a four exon polymorphic gene which affects cellular immune response. The objective of this study is to examine the association of APOE variants with inflammatory bowel disease (IBD) a known autoimmune disease in Saudi Armed Forces.

**Methods:** APOE allele and genotype frequencies were studied in 378 subjects including IBD [Ulcerative colitis (UC)=84 and Crohn's disease (CD)=94] and matched controls (n=200) using PCR and reverse-hybridization.

**Results:** The frequencies of the APOE allele E2, genotypes E2/E3 and E2/E4 were significantly higher in the IBD patients as compared to controls suggesting that E2 allele and its heterozygous genotypes may increase the susceptibility to IBD. The frequencies of E3 allele and E3/E3 genotype were lower in patients as compared to controls suggesting a protective effect of APOE E3 for IBD. The prevalence of E4 allele was also higher in patient group compared to that in controls suggesting that E4 allele may also increase the risk of IBD. Our results also indicated that APOE E4 allele was associated with early age at onset of IBD. The results were similar in both male and female patients and type of IBD (sporadic or familial).

**Conclusion:** In conclusion APOE polymorphism is associated with risk of developing UC and CD and early age of onset. Gender plays no significant role the frequency distribution of APOE alleles/genotype in patients or controls. However, this relationship between APOE polymorphisms and the risk of IBD warrants further confirmation with large-size sample studies.

**Keywords:** inflammatory bowel disease, apolipoprotein E, ulcerative colitis, Crohn's disease, polymorphism

#### 149

##### **Knowledge about HIV/AIDS and Attitudes Toward HIV/AIDS Patients among Medical Students at Mutah University, Jordan**

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**Objectives:** To assess Mutah medical school students' knowledge about the Human Immunodeficiency Virus (HIV)/Acquired Immunodeficiency Syndrome (AIDS) and to explore their attitudes toward HIV/AIDS patients.

**Methods:** A cross-sectional study conducted in 2013 among clinical years students using a self-administered questionnaire.

**Results:** A total of 209 students filled the questionnaire. Slightly more than half reported that they had received more than adequate/adequate teaching on sterilization practices and procedures (52.7%) and barriers (55.1%), while only 42.6% reported that for the teaching received on cross-infection precautions. The students showed an overall good knowledge about HIV/AIDS and the transmission routes of HIV. However, some misconceptions existed such as thinking that HIV can be transmitted by mosquitos (29.7%) and flies (9.6%). Some negative attitudes were displayed toward patients with HIV/AIDS with 88.8% agreeing that AIDS makes their job a high risk occupation and 83.7% thinking that it is best to prepare a few specialists to be responsible

for the treatment of HIV/AIDS patients. Interestingly, 42.8% reported that they sometimes find it hard to be sympathetic to AIDS patients. Finally, although that 55.3% of the students agreed that HIV/AIDS is a problem in Jordan, 94.7% of them recommended educating the public about it.

**Conclusion:** More emphasis is recommended to be put on HIV/AIDS and other important infectious diseases. Students need also to be well-informed about cross-infection precautions and procedures which will probably also help in decreasing negative attitudes toward HIV/AIDS patients.

**Keywords:** HIV/AIDS, medical students, attitudes, knowledge, Jordan

## 150

### **Rare Variants of Guillain-Barre' Syndrome: A 6-Year Experience at KHMC**

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**Objectives:** To highlight the occurrence of many atypical forms of Guillain-Barre' Syndrome (GBS), which are often misdiagnosed and inappropriately treated. Also, Clinical clues which point to the diagnosis and the role of ancillary studies, will be emphasized. Hopefully, this will alert physicians to these rare variants and expedite their diagnosis and treatment.

**Methods:** Between June 2008 and June 2014, all cases presenting with any combination of rapidly progressive limb weakness with or without parasthesiae, facial weakness, ophthalmoplegia or ataxia underwent thorough clinical, electrophysiological, laboratory, Cerebrospinal Fluid (CSF) and imaging assessment. Patients with classic GBS, or one of its mimics, such as myopathy, Myasthenia Gravis, Lambert-Eaton Myasthenic Syndrome, brainstem lesions, myelitis, metabolic disturbance were excluded.

**Results:** Eleven patients were diagnosed with a GBS variant. Four patients had the Miller-Fisher syndrome, 3 patients had facial

diplegia with hyperreflexia, one patient had a purely motor acute conduction block neuropathy, one patient had the pharyngeal-cervical-brachial variant, one patient with a paraparetic presentation and one patient had GBS following malaria infection- a very rare association.

**Conclusion:** GBS variants are rare, but an average of 2 cases were seen per year at KHMC. Therefore, we believe, that knowledge of these rare variants is important to avoid unnecessary delays or errors in their diagnosis and treatment.

**Keywords:** Guillain-Barre' Syndrome, GBS variants, Miller-Fisher Syndrome

## 151

### **Queen Alia Heart Institute Experience of Palliative Balloon Aortic Valvotomy in Adults**

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**Objectives:** To present the immediate and long term results after balloon aortic valvotomy "BAV" performed in adults.

**Methods:** Prospective analysis of five patients who underwent palliative balloon aortic valvotomy at QAHl over the last 3 years (June 2010-June 2013) was performed. The procedure was done under rapid ventricular pacing and in two patients under bilateral carotid protection. Mean age was 76.1 years, mean transaortic valve gradient was 52.6 mmHg and mean aortic valve area was 0.7 cm<sup>2</sup>.

**Results:** The procedure was successful in all patients, mean gradient dropped to 29.3 mmHg and the mean valve area increased to 1.2 cm<sup>2</sup>. There was no peri-procedural death, myocardial infarction, stroke or renal impairment. Repeat BAV was needed in one patient; the others were reluctant to undergo further BAV as they were class I-III NYHA despite significant restenosis by Doppler echocardiography. One patient had bleeding stroke at 3 years follow-up.

**Conclusion:** Palliative BAV is safe and effective at QAHl and remains a valid option with acceptable long term symptomatic relief.

**Keywords:** Balloon aortic valvotomy

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### **HbA1c as a Predictor of Cardiovascular Disease in Type 2 Diabetes: A Single Center Experience**

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**Objectives:** To demonstrate the predictive value of HbA1c in cardiovascular disease, as well as the duration of diabetes in both genders.

**Methods:** In this study we reviewed 404 type 2 diabetic patients , 217 males and 187 females .108 of those patients were suffering of ischemic heart disease.

**Results:** 122 out of the 404 patients had their HbA1c  $\leq 7\%$  , of which 31 were also suffering of ischemic heart disease, as opposed to 77 out of 282 who had HbA1c levels  $>7\%$  ,with a p value of 0.69. The results were also consistent when comparing genders ,with a p value for females of 0.94 and for males 0.78. However upon comparing the results as opposed to the duration of diabetes, 72 patients out of 182 who were diabetic for more than 10 years were also suffering from cardiovascular disease as opposed to 36 out of 222 who had diabetes for less than 10 years, with a significant p value of 0.000001 and a RR of 2.4,(1.72-3.46). The results were consistent among both gender groups when studied alone, with a p value of 0.000 for males( RR 2.82 ,range( 1.88-4.25) ) and 0.025 for females ,RR 2.02 (1.07-3.82).

**Conclusion:** This study demonstrate the predictive value of the duration of diabetes with the presence of cardiovascular disease ; which was more pronounced in males Than females, however, the level of hyperglycemia reflected by HbA1c was not clearly related to the presence of ischemic heart disease.

**Keywords:** HbA1c, Diabetes ,Predictive value

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### **Beneficial Effects of Valproic-Acid but not 5-Azacytidine on Lung Damage Induced by Mustard**

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**Objectives:** The cytotoxic mechanism of mustard gas hasn't been fully elucidated. In our laboratory we have been seeking both the pathophysiological mechanism of mustard toxicity and a variety of remedies against it. Recently, we reported that reactive oxygen-nitrogen species and epigenetic factors are involved in the pathogenesis and might be responsible for mustard- induced toxicity. Valproic-acid (VA) and 5-Azacytidine (AZ) are agents that act through antioxidant and/or epigenetic mechanisms. Using the prototypic nitrogen mustard (mechlorethamine/ HN2) as a model and based on its known cytotoxic mechanisms, the present study was performed to test VA and AZ for its capabilities in protecting the lungs of injured rats.

**Methods:** Twenty-eight male Sprague-Dawley rats were divided into 4 groups: sham, HN2, HN2+VA and HN2+AZ. Lung mustard toxicity was induced via an intratracheally injection of HN2 (0.5 mg/kg) dissolved in saline (100  $\mu$ l). Forty-eight hours after the last VA and AZ injections, the animals were sacrificed and their lungs were taken for further assay, i.e., routine histopathological analysis (H&E), oxidant-antioxidant (malondialdehyde (MDA) and superoxide dismutase (SOD)) levels and cytokine levels (TNF $\gamma$ , IL-6, IL-10).

**Results:** HN2 caused increased MDA, TNF $\gamma$ , IL-6 activity and histopathologic score in lung; lung SOD activity was significantly depressed ( $p<0.05$ ). VA restored histopathologic score, MDA, SOD, TNF $\gamma$ , IL-6 levels but AZ failed to.

**Conclusion:** In conclusion, the results of study provide evidence that VA may have the ability to reduce mustard-induced toxicity in the lungs.

**Keywords:** mustard, toxicity, valproic acid, epigenetic

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**Prevalence of Hepatitis C Virus Antibodies among Patients Receiving Chronic Dialysis at Royal Medical Services in Jordan**

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**Objectives:** To determine the frequency of Hepatitis C and the possible risk factors for acquisition of this infection in patients on hemodialysis

**Methods:** All patients on hemodialysis who were regularly attending the dialysis units in 8 Hospitals of the Royal Medical Services between January to December 2013 were studied. Patient's medical history and records were reviewed for presence of Hepatitis C antibody (HCV Ab), and possible risk factors for acquisition of the infection. Screening by a third-generation enzyme immunoassay (EIA). The presence of anti-HCV antibodies was confirmed by immunoblot test, and the test for HCV RNA by PCR.

**Results:** A total of 790 patients on hemodialysis. There were 434 males and 356 females, with an age range of 18 to 67 years and a mean age of 47.3 years. Out of these 790 patients, 122 (15%) were found to be HCV Ab positive. Patients on hemodialysis more than 2 years and positive history and frequency of blood transfusion were noticed have risk to have HCV Ab positive

**Conclusion:** Chronic Kidney disease patients treated by hemodialysis in our units had 15% positivity of HCV Ab. The prevalence of HCV Ab was correlated to the duration of hemodialysis treatment and the amount of blood transfused, and the most common transmission mode was thought to be patient-to-patient transmission through the dialysis equipment. Extremely careful observation of preventive measures seems essential to eradicate HCV transmission in haemodialysis units

**Keywords:** Hepatitis C, Hemodialysis, Dialysis Units

**Hall I Session 4  
Family & Emergency Medicine -  
Free Papers**

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**Elements of Save and Rescue in Acute Trauma and Emergency**

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**Objectives:** Trauma is a frequent occurrence in civilian life, and it is highly expected in military practice. Saving the life, the integrity and functions of victims is a goal of medical practice. To achieve this goal the management of a casualty should start from the site and minute of injury and through the prompt arrival to an equipped specialized health facility.

**Methods:** From clinical practice and after reviewing different search and rescue (S&R) systems in many countries, I found that effective S&R for trauma in military and civilian circumstances require five elements.

**Results:** The Five elements are: communication, paramedics, ambulance logistics (including transport, pilots and drivers), medical facilities (including medical personnel) and continuous update and training. Missing any of these elements will affect the outcome of the victims regardless of how efficient and advanced the other elements are. This presentation is a review of a comprehensive system for the effective S&R with the required elements.

**Conclusion:** This system should be a standard practice in civilian life, as well as a standard military medical procedure. It is already applied in few countries, and other countries should adopt it in order to improve this field of medical practice.

**Keywords:** Elements, Save, Rescue, Trauma, Emergency.



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### **Family Doctors the Key to Fight Non-Communicable Diseases (NCDs)**

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**Objectives:** To highlight on the role of family doctors as a key to fight NCDs in PHC system

**Methods:** WHO EMRO results of 2008 survey were used

**Results:** Non-communicable diseases represent a major morbidity and mortality worldwide, about two thirds of deaths were caused by NCDs . also they are considered the leading causes of death in all WHO regions except in Africa, and they are subject to increase in the next 10 years with greatest increases in Africa and East Mediterranean region Four major groups of diseases make the largest contribution to mortalities in the majority of countries, these are cardiovascular, cancers, diabetes and chronic lung diseases where they share the same risk factors so far, which are tobacco use, unhealthy diet, physical inactivity and the harmful use of alcohol. In addition to the fact that they are responsible for the majority of deaths worldwide also they share the same preventive strategies in a comprehensive and integrated approach. World health report 2008, had been focused on that primary health care was needed now more than ever, in order to achieve equitable access to health for all to reach universal health coverage, and had been recognized that the heart of health services delivery that puts people first is primary care, where family doctors are the heart of primary care in many health systems.

**Conclusion:** Family doctors are the key of strong primary health care to promote, prevent and treat the main four groups of noncommunicable diseases.

**Keywords:** Non-communicable Diseases, Family Doctors, Risk Factors

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### **Non-Urgent Visits among Patients seen at the Emergency Department at King Hussein Medical Center**

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**Objectives:** The purpose of this study was to determine the frequency of non urgent visits among patients attending the Emergency Department at King Hussein Medical Center, and to describe the common presenting conditions for non urgent visits among the study group.

**Methods:** This study was conducted at the Emergency Department in King Hussein Medical Center during (April 2013). According to the Emergency Department statistics: A total of 12483 patients were seen at Emergency department between "1st to 30th" of April 2013. Sample of 665 patients were randomly selected through systemic sampling method. A specially designed medical record abstract form was used to collect the relevant data. Simple descriptive statistics (frequency, percentage and mean) were used to describe the study variables.

**Results:** A sample 665 patients were studied; 65.6% were male, and 34.4% were female. The age range of patients was (11-90 years). Non urgent cases constitute 440 patients (66.2%), life threatening were 40 patients (6.0%), and urgent were 185 patients (27.8%) respectively. The number of non urgent visits was higher in males than females, (66.6% versus 33.4%). and higher in the younger age group (<30 years) .The commonest presenting condition among non urgent patients is minor trauma (20.2%)

**Conclusion:** About 2/3 of Emergency Department visits were considered to be non-urgent. Use of the Emergency Department for non urgent conditions may lead to excessive healthcare expenditure, unnecessary testing and treatment. Further



analytical studies should be conducted to describe the difference between the study variables.

**Keywords:** Non-urgent visits, Emergency Department, KHMC.

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**Primary Care Doctors' Perceptions, Attitudes and Implementation Obstacles of Evidence Based Medicine at King Fahd Armed Forces Hospital, Jeddah, Saudi Arabia**

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**Objectives:** This study was conducted in the Military hospital primary care clinics to determine the perceptions and attitude, as well as to identify obstacles towards practicing Evidence Based Medicine (EBM) among physicians.

**Methods:** A cross-sectional study using a previously validated self-administered (web-based electronic) questionnaire was conducted.

**Results:** Out of the 120 primary health care physicians invited to participate in the study, 113 responded, giving a response rate of 94.2%. Fifty two percent of the responders were males (52.2%) and 54% were Saudi. Qualifications of participants included MBBS degree (69%) and Board or equivalent degree (14.2%) Mean rating score (scale 1 to 10) of physicians' attitude towards the current promotion of EBM was 8.01. Family medicine consultants and physicians previously attending EBM courses showed significant positive attitude towards EBM. They also showed significantly higher awareness of EBM resources and understanding of EBM terms. Use of EBM databases in clinical decision making was not high as 28.3%, 24.8% and 24.8% used TRIP database, Cochrane library and Clinical evidence respectively. Lack of personal time (84.1%), availability and access to information

(77.9%) were the main reported barriers against practicing EBM.

**Conclusion:** Primary health care physicians in clinics of KFAFH, Jeddah showed a welcoming attitude towards EBM, but awareness of EBM resources understanding of its terminology was sub-optimal.

**Keywords:** EBM, Family Medicine, Military hospital, Primary care

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**Discussion Diagnosis and Treatment of Acute Coronary Syndrome and Arrhythmia in the ER by Structure Answer Questions**

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**Objectives:** This lecture aims to focus on the title of acute coronary syndrome and arrhythmia in the ER and the optimum methods when dealing with such cases by ER doctor for the best outcome for patients with a very limited time avoiding any predicted complications as well as the correct interpretation of ECG to reach the correct diagnosis and treatment.

**Methods:** Discussion some of our ER cases at the emergency department of the KHMC by structured answer questions the clinical situation of patients investigation performed and the way we were treated with and opening the floor for further opinions by the audience.

**Results:** After giving the lecture the purpose to know how to deal with acute coronary syndrome and arrhythmia atrial fibrillation ventricular tachycardia cardiac chest pain in special circumstances (cocaine and pregnancy).

**Conclusion:** The ECG is clearly the key piece of data to be able to interpret for arrhythmia and if are not confident reading ECGs now is the time to revise this we suggest as a minimum you should be able to systematically interpret the normal resting ECGs and also have a working



knowledge of the ECG abnormalities of the common cardiac diagnosis.

**Keywords:** Acute coronary syndrome, tachycardia, atrial fibrillation.

## 160

### **Evidence Based Therapy for Pain in Emergency Department**

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**Objectives:** Pain is the most common reason for emergency department (ED) use, and oligoanalgesia is known to be common. Our aim was to explore the necessity of following the new clinical evidences in clinical practice.

**Methods:** Cross-sectional interview survey of 20 physicians in the ED in Althawra Teaching Hospital, University of Sana'a, Yemen, to understand the drug used in pain management in regards to the clinically evidenced trials. Also cross-section study of the patients presented to ED in a month period was studied for types of pain and drugs used-

**Results:** Guidelines on pain management and sedation in ED are not available. A total of 14(70%) of the participants reported a need for better pain management and/or sedation in their ED. 12(60%) of physicians prescribe hydration, primarily for the improvement of stone elimination while all avoid use of analgesics in suspected acute appendicitis (0%). There were 2189 patients presented to ED in the month period studied, of which 1070 (48.9%) was presented mainly for pain (PMFP). Abdominal pains was first by 34% then musculoskeletal pains by 31%.

**Conclusion:** Despite the frequency of pain in the ED, few studies have examined this phenomenon. This study documents high pain intensity and suboptimal management practices. Inconsistency between the tested physicians may be improved by better access and implementation of evidence based therapy and guidelines-

**Keywords:** Pain, Evidence-based therapy, Emergency.

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### **Mass Casualty Training Held on 2012 By Jordanian Level 3 Hospital/ Liberia: Discussion & Review**

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**Objectives:** Mass casualties had associated with high risk of violence and injuries. The aim of this review is to assess and compare the training strategies conducted by Jordanian level 3 hospital team in Liberia to the world health organization guidelines in such field.

**Methods:** This retrospective review study was conducted at Jordanian level 3 hospital involving the strategies, emergency plans, triage, coordination with UN force headquarter, health sector (chief medical officer and force medical officer), military observers, logistics, communication, transportation and evacuation plans to unknown number of casualties in training field which was the UN logistic base near UN head quarter base (the star base).

**Results:** Twenty seven casualties were injured in that training and they classified by triage system to the following: triage (red) 5 "seriously injured", triage (yellow) 8 "moderately injured", triage (green) 11 "minor injuries" and triage (black) 3 "deceased". They were managed according to priority of their condition triage.

**Conclusion:** Mass casualties management requires high level of coordination and communication between the health authority and the community. The preparedness for such event by exercises, revision and updating plan.

**Keywords:** mass casualty, triage, coordination, preparedness.



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### **A Critical Analysis of National Disaster Management Act- 2005, India**

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**Objectives:** India is vulnerable to a variety of natural and man-made disasters that hinder the country's growth. The management of response in disasters requires the existing administrative set up, civil society and its various institutions to carry out a large number of tasks. The activities involved in response management would depend on the nature and type of disaster. It has been observed that in times of disaster, apart from lack of resources, lack of coordination among various agencies and an absence of role clarity amongst various stakeholders pose serious challenges. If the response is planned and the stakeholders are trained, there will be no scope for ad-hoc measures and the response will be smooth and effective. Objective: To analyze critically the National Disaster Management Act- 2005 of India.

**Methods:** It's systematic, empirical and retrospective study limited to India only.

**Results:** Despite of having a "NATIONAL DISASTER MANAGEMENT ACT" India has failed to implement this act countrywide in all major disasters occurred.

**Conclusion:** The National Disaster Management Authority should implement the 'Top down', approach for proper implementation of the National Disaster Management Act which gives the central, state, and district authorities sweeping powers.

**Keywords:** Disaster, Constitution, Parliament, Act

## **Hall J Session 1**

### **Dentistry Free Papers - Maxillo-Facial Surgery & Periodontics**

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### **Treatment of Aggressive Periodontitis with Dental Implant: A Case Report**

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**Objectives:** To demonstrate dental treatment options for a case of aggressive periodontitis that provides functional and esthetic resolution.

**Methods:** This case report presents a patient diagnosed with aggressive periodontitis; some of her teeth have Grade III mobility that need dental extraction. Her personal and functional desire led us to include implant therapy in her treatment plan.

**Results:** A multidisciplinary management of this case by a combination of periodontal, orthodontic and implant therapy. Full mouth rehabilitation was provided to the patients in order to restore esthetic and functional problem.

**Conclusion:** Implant placement in patients with history of generalized aggressive periodontitis might be viable option.

**Keywords:** Aggressive Periodontitis, Implant, Surgical And Orthodontic Treatment

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### **Chronological Age versus Corrected Age of First Tooth Eruption in Jordanian Premature Infants**

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**Objectives:** To evaluate the chronological and corrected age and the impact of neonatal factors on first tooth eruption of Jordanian premature infants.

**Methods:** A prospective study of 110

Jordanian preterm infants (gestational age < 37 weeks and birth weight < 2500 g) who were born and attended the neonatal follow up clinic at prince Hashim Ben Al-Hussein Military Hospital. Zarqa/ East of Jordan. A first tooth eruption record including factors that might have an influence on teething were completed by the principal neonatologist and the parents of the enrolled infants, during the annual clinic visits.

**Results:** The study population consisted of 110 premature infants (50 males and 60 females) who were born at mean gestational age of 32.21 weeks + SD of 2.38 (Range was 28 to 37 weeks), mean chronological age 37.20 weeks + SD of 6.446 (Range was 24 to 48 weeks) and mean corrected age 29.45 weeks + SD of 5.55 (Range was 19 to 39 weeks) and mean birth weight 1551.82 grams + SD of 422.74 (Range was 850 to 2450 grams). More normal eruption has been seen in subjects with birth weight (>1500 grams) than (<1500 gram) and gestational age (>32 weeks) than (< 32 weeks). There were great significant differences in birth weight and gestational age between normal and delayed groups when the chronological age rather than corrected age used ( $P < 0.05$ , Fisher's exact test). Introduction of total parenteral nutrition, breast milk, and full term formula to premature infants associated with early first tooth eruption ( $P < 0.05$ , Fisher's exact test).

**Conclusion:** Introduction of total parenteral nutrition, breast milk, and preterm formula to premature infants associated with early first tooth eruption. The significant difference between groups was mainly with chronological age rather than corrected age.

**Keywords:** Chronologic Age And Corrected Age, Infant, Premature, Tooth Eruption

**Objectives:** The association between periodontal diseases and diabetes is discussed. Treatment of periodontitis in diabetic patients is focused.

**Methods:** Literature review lecture regarding the relationship between diabetes mellitus and periodontal diseases is undertaken.

**Results:** Many studies showed increase prevalence and severity of gingivitis, periodontitis, abscess formation and tooth mobility among poorly controlled diabetic population than nondiabetics despite similar other variables like age, gender, local irritants and oral hygiene conditions. Many mechanisms had been suggested to explain the influence of diabetes on the periodontium and most of them focused on the alteration in the functions of immune cells, elevated levels of proinflammatory cytokines and altered wound healing in response towards periodontal pathogens among diabetic patients. Doxycycline is advised to be used during periodontal therapy in diabetics because it inhibits metalloproteinase activity besides its antibacterial effect. Some studies suggest that periodontal treatment improves glycemic control of diabetics, so the relation between both diseases is a bidirectional way and each disease may affect the other, so both of them require special attention by specialists

**Conclusion:** Periodontal diseases and diabetes are both chronic diseases having two way relationships. Both of them require professional management at the same time.

**Keywords:** Diabetes Mellitus, Doxycycline, Inflammatory Response, Periodontal Diseases

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### The Interrelationships Between Periodontal Diseases and Diabetes

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**The Role of Maxillofacial Surgery in Osteo-Odonto-Keratoprosthesis** Ookp

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**Objectives:** An overview of the role of maxillofacial surgery in the preparation and harvesting of the osteo-odonto lamina for keratoprosthesis surgery

**Methods:** Keratoprosthesis is a procedure used to restore vision in patients not amenable for traditional corneal transplantation. Patients with chemical burns, Steven Johnson syndrome, and ocular cicatricial pimpligoid are all candidates for this procedure.

**Results:** Osteo-odonto-keratoprosthesis is a complex two staged procedure. The first stage is about preparing and harvesting an osteo-odonto lamina and a buccal mucous membrane by the maxillofacial surgeons in coordination with the ophthalmic surgeon. Stage two entails implanting the lamina in the affected eye.

**Conclusion:** Maxillofacial surgeons play a pivotal role in this advanced vision restoring surgery. Case selection, tooth preparation, patient counseling and surgical after care all are part of the maxillofacial role.

**Keywords:** Keratoprosthesis, Maxillofacial, Ophthalmologists.

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**Submandibular Salivary Gland Neoplasm: A Retrospective Clinicopathological Review of Twenty Seven Patients at King Hussein Medical Center, Amman- Jordan**

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**Objectives:** Tumors of the submandibular salivary glands are rare, comprising less than 2% of head and neck neoplasm. The purpose of our study was to report and evaluate our experience in submandibular

salivary gland neoplasm.

**Methods:** A retrospective review of database of patients who underwent surgery for submandibular salivary gland neoplasm in the Department of Oral and Maxillofacial surgery at King Hussein Medical Center, Amman- Jordan in the last twelve year period was performed. Patients were analyzed according to age, sex and histopathological examination.

**Results:** Twenty eight patients were included (11 males, 17 females), with a mean age of 34.6 years old. Twenty three patients (82%) presented with benign disease (mostly pleomorphic adenoma) and five (18%) were of malignant type.

**Conclusion:** A greater proportion of submandibular salivary gland neoplasm is benign. Women were more commonly affected. Benign tumors appear in younger patients than do malignant ones.

**Keywords:** Benign, Malignant, Neoplasm, Submandibular Salivary Gland

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**Prevalence of Denture-Induced Fibrous Hyperplasia among a Sample of Jordanian Royal Medical Services Dental Outpatients**

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**Objectives:** To determine the prevalence of denture –induced hyperplasia (DIFH) in a sample of Jordanian people, and to investigate the correlation between DIFH and the age, gender, location of the lesions and the denture-wearing period.

**Methods:** This study was performed on a sample of Jordanian people at Marka Medical Center in middle of Jordan between January 2013 and June 2013. A total of 450 complete denture wearers, consisted of 260 female and 190 male with an age range of 34-78, divided into two age groups the first ranging in age from 34-60 and the second from 61-78 years. Patients were examined for the presence and location of the lesions based on the clinical picture of them. The data were analyzed using the SPSS® software version 12 package.

**Results:** The prevalence of (DFIH) was 8% among denture wearers. It was found to be more common in females than in males. Most lesions were found in the 34-60 years old group, in the anterior area than the posterior area and in the lower jaw than the upper jaw of the mouth.

**Conclusion:** (DFIH) is not a common manifestation in denture-wearer in middle of Jordan, However there was statistical significant correlation between DIFH and patients related factors such as gender, location of lesions, and the denture-wearing period.

**Keywords:** Complete Denture, Denture-Induced Fibrous Hyperplasia, Prevalence

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#### **Submental Intubation: A Case Report**

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**Objectives:** Many different ways of intubation have been used in cases of maxillofacial trauma at Prince Ali Hospital in Karak - Jordan such as orotracheal, nasotracheal, submental and tracheostomy. Selection of which method usually depends on the case itself and accessibility of the passage that is involved in the intubation. The main aim of this lecture is to explain the importance and lists step by step methodology of submental intubation.

**Methods:** A 27 years old male patient came to the maxillofacial emergency with multiple severe orofacial fracture Oral and nasal endotracheal intubation was difficult to be done due to the complexity of the injury. Submental intubation was applied and secured to maintain operative airway control which permitted the reduction and fixation of all traumatized bones.

**Results:** Submental intubation permitted reduction and fixation of all fractures and intraoral control of the occlusion of the remaining dentition without interference

from the intubation during surgery. Post operatively the patient was doing fine, and he was extubated without any complications.

**Conclusion:** Submental intubation is a simple, safe and effective procedure for operative airway control in major maxillofacial traumas

**Keywords:** Orofacial Fracture, Submental Intubation

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#### **The Prevalence of Barodontalgia Among Jordanian Military Pilots**

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**Objectives:** Barodontalgia is defined as toothache that arises when there are changes in ambient pressure, it was reported to occur during flying at altitudes of 600-1500m and during diving at depths of 10-25m. The prevalence of barodontalgia in aircrew has been reported to vary from 0.26% to 8 %. The aim of this study was to investigate the prevalence of this pathologic phenomenon among Jordanian military pilots and its impact on their performance during and after flight.

**Methods:** The study was conducted at the Royal Jordanian Air Force (RAF) headquarter and its peripheral air bases between January 2013 and July 2013. A questionnaire was developed in Arabic and sent to all active pilots in service in RAF, All the participants were asked to fill the questionnaire and return it either by hand or email. Inquiries contained in the questionnaire included personal data, professional data and date related to possible dental pain during flight

**Results:** A total of 305 responses were obtained of the 500 handed out or emailed and that is a (61%) response rate. The age of the pilots ranged between 20 and 59 years were the mean age was 26 years. This study showed that 10.49% of the sample had experienced barodontalgia at least once during their activities

**Conclusion:** Barodontalgia is not rare dental pain that occurs during flight and may have serious consequences on military pilot's performance. Though, a proper dental follow-up on regular basis may reduce the incidence and subsequent complications.

**Keywords:** Barodontalgia, Barotrauma, Pilots

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**Cystic Lesions of the Jaws: Current Concepts of Treatment**

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**Objectives:** To review the clinically significant and most common cystic lesions of the jaws and discuss the current concepts of the classifications, diagnosis and treatment. This lecture presents some of the cases that had been treated at KHMC.

**Methods:** In order to evaluate the most common cystic lesions affecting both jaws .Criteria considered was age, sex incidence, site, and mode of presentation and method of treatment.

**Results:** The most frequent cyst affecting both jaws is radicular cyst followed by dentigerous cyst .Second to fourth decade of the life is the most common age of occurrence. (male: female 2:1).(maxilla: mandible 2:1).Most of the lesions diagnosed by routine x-ray. The method of treatment either by enucleation or marsupialization.

**Conclusion:** The cyst is a pathological cavity which contains fluid, semi-fluid, or gas and is often lined by epithelium. Cysts are relatively uncommon lesions of the jaws that must be considered whenever examining and formulating a differential diagnosis of the expansile process of the jaws.

**Keywords:** Cyst, Enucleation, Mandible, Maxilla

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**The Knowledge of Pregnant Women About The Relation Between Pregnancy and Periodontal Diseases**

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**Objectives:** To assess the knowledge of pregnant women about the relation between pregnancy and periodontal diseases. And to assess their awareness of the relation between periodontal diseases and some systemic diseases.

**Methods:** 139 pregnant women visiting department of gynecology and obstetrics in Princess Haya Hospital in Aqaba in the period April-August 2013 were asked to fill a questionnaire with questions about the relation between pregnancy and periodontal diseases, and between periodontal diseases and some systemic diseases.

**Results:** Most pregnant women in the sample were aware that pregnancy and periodontal diseases are interrelated .But many of them thought that loss of teeth during pregnancy is mandatory.

**Conclusion:** Most women in the child bearing period are still unaware that periodontal diseases during pregnancy are preventable and treatable. Also they are not educated about the relation between periodontal diseases and systemic diseases.

**Keywords:** Periodontal Diseases, Pregnancy

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**Dental Health Status and Oral Hygiene among Tafilah Children (Age 6-12 Years)**

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**Objectives:** To examine the prevalence of dental caries and periodontal health among 6-12 years old schoolchildren from





Tafilah city, and to investigate related oral risk factors including gender, oral hygiene and other related factors.

**Methods:** Oral examination chart were designed and 1000 children were examined ( male and female ) in six schools in three districts at Tafilah Governorate ( Bsaira ,Alhassa ,Tafilah districts) .Gingival index , plaque index and DMF were measured for each student.

**Results:** The average gingival index was 0.77. Average plaque index was 0.61 .percentage of students with plaque induced gingivitis only was 7.9 % , percentage of students with dental caries only was 31.8 % While the percentage of students with both plaque induced gingivitis and dental caries was 49.2 %.

**Conclusion:** High proportion of students had poor oral hygiene which increase the prevalence of plaque induced gingivitis and dental caries. Therefore dental health education is needed by increasing awareness and promoting oral health strategies.

**Keywords:** DMF , Gingival Index, Plaque Index

## Hall J Session 2 Dentistry - Conservative Dentistry & Prosthodontics

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### Initial Bone Loss around Implants

*Frank-Michael Maier MSc (Germany)*

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### Allogenic Bone Grafts

*Frank-Michael Maier MSc (Germany)*

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### Measuring Pocket Depth: A Comparison between Automated and Standard Periodontal Probes.

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**Objectives:** The accurate and consistent measurements of periodontal pockets depths, is an important issue in detecting

and monitoring periodontal diseases. The purpose of this study was to compare probing depth measurements and speed of recording between PA-on (Automated Periodontal Probe provided by Orange Dental Company) and a standard periodontal probe, on a fresh cadaveric porcine model.

**Methods:** Measuring probing pockets depths on a pig's jaw, was performed by three dental practitioners using PA-on and a standard periodontal probe. Eight teeth (four Maxillary and four Mandibular) were selected as test teeth. For each tooth, three sites (Mesial, Mid-Labial and Distal) were measured for this purpose using the two probes, alternatively. The three clinicians received a standardized training to use both instruments.

**Results:** The results found that both probes provided a similar time (mean  $\pm$  SD) to complete the screening process;  $2.2 \pm 0.53$  minutes for the manual probe, compared to  $2.3 \pm 0.27$  minutes for the electronic probe. The results also showed that the manual probe gave higher probing pocket depths compared to the electronic probe ( $P < 0.01$ ). For the two datasets, there was no significant difference observed 'Between-Attempts-within-Operators' ( $P > 0.05$ ).

**Conclusion:** The automated periodontal probe (PA-on) is an efficient method of collecting probing pockets depths with a standardized applied probing pressure. The instrument also provides the clinician with the advantage of direct recording of the measurements to a computer.

**Keywords:** Periodontal Disease, Periodontal Probe, Pocket Depth

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### Development and Efficacy of a Novel Intra-Oral Lubricating Device for Dry Mouth Patients

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**Objectives:** The primary aim was to optimize the design of KCL Salivaguard oral splint. The secondary aim was to evaluate the in-vitro functionality of the system including

silicone tubing dimensional stability in the lubricating agents and factors influencing the delivery rate of the lubricating agents.

**Methods:** A number of oral splint prototypes were developed, attached to an extracorporeal reservoir using a silicone tubing to deliver the lubricants intra-orally. The weight and dimensional changes of the silicone tubing coupled with the lubricating agents were tested using 24 hours immersion test. The delivery rates of the PCA pump, affected by solution, bore diameter and length of silicone tubing and height of the PCA pump were measured.

**Results:** In immersion testing, there were significant differences ( $p < 0.05$ ) between tube weight changes amongst solutions whereas outer and inner diameter changes were significantly affected by start bore diameter. Overall ANOVA has shown statistically significant delivery rate differences between solutions ( $p = 0.001$ ) and between tube length groups ( $p = 0.001$ ) but of minimal significance in the real world.

**Conclusion:** The design of KCL Salivaguard might be suitable for in-vivo clinical trials on xerostomic patients. The small changes in weight and tubing diameter changes after 24 hours immersion were not considered clinically significant. The type of solution and length of silicone tubing length exhibited statistically significant differences affecting delivery but detecting such small real world (clinically insignificant) differences allows patients and manufacturers to have a wide range and freedom to select those materials and settings

**Keywords:** KCL Salivaguard, PCA Pumps, Xerostomia,

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#### **Characteristics of Posed Smile among Young Jordanian Adults**

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**Objectives:** To obtain an overall view of the major characteristics of posed smile among a group of young Jordanian adults, analysing it then come up with data that

can help practitioners in their treatment plan especially when dealing with aesthetic areas.

**Methods:** 150 young male and female Jordanian adults, with age ranging from (20-40) years were selected. Using digital camera, one frontal and two frontolateral photographs were taken for every one of them during posed smiling. Photographs are then carefully examined, analysing upper lip position, relation between maxillary incisal curve and lower lip, gingival and interdental smile line.

**Results:** 29.3% found to have high smile, 58% average smile and the remaining 12.6% are classified as low smile patients. As for relation between maxillary incisal line and lower lip, regarding parallelism it was found that 48.6% have convex smile line, 44% have straight smile line, whereas 7.3% fall into concave smile line category. As for upper incisal line position in relation with lower lip: 77.3% with no contact, 17.3% touching and 5.3% covered by lower lip. 29.3% have high gingival smile line, 53.3% low gingival smile line, 17.3% cupid bow gingival smile line. Regarding interdental smile line, it was found that 88% have high interdental smile line, 7.3% low interdental smile line, and 4.6% cupid bow interdental smile line.

**Conclusion:** A smile is dictated by multiple factors that vary between different populations. Here comes the importance of being familiar with these variables and aware of differences between populations during treatment planning in order to get optimum aesthetic end results.

**Keywords:** Gingival Smile Line, Interdental Smile Line, Posed Smiling

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#### **Post Insertion Adjustments in Patients Treated with Acrylic Resin versus Cobalt-Chromium Removable Partial Dentures: A Retrospective Comparative Study**

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**Objectives:** To compare the acrylic resin partial dentures (APDs) with cast-metal

removable partial dentures (RPDs) in a retrospective cohort study, and to obtain adjusted risk values for prosthetic, periodontal, and restorative complications associated to both treatments and satisfaction.

**Methods:** A research protocol was approved by the Research and Ethics Committee of McGill University Health Centre in Canada. Patients records were collected retrospectively from papers and electronic patient information database (ABELDentTM) (ABE Soft corporation, Burlington, Canada) of patients attending McGill student's clinics. Active patients wearing at least one mandibular or maxillary partial denture of either cast-metal (VitaliumTM) or acrylic removable partial denture APD between September 2001 and June 2008 were selected for this study. The following variables were included: patient age, gender, educational background, smoking habits, alcohol intake, medication intake, medical problems, denture material, periodontal screening and recording (PSR), number of existing decay and restorations, denture age, arch location, Kennedy classification, and denture design (number of clasps and rests).

**Results:** The post-delivery complication adjustments of the partial dentures were done either in the dental clinic (chair side) or in the dental lab (lab repair) were classified according to the type of the denture material (Acrylic dentures Vs Cast-metal dentures). The restorative failures in teeth with wired clasps and casted clasps were compared based on dentures type and there were no significant differences between the two types of dentures in relation to the number of; decay, fillings, and enamel fractures.

**Conclusion:** Within the limitations of our study, the following conclusions were drawn:

- Casted-metal RPDs have more post-delivery complications, and they required more lab repair (reline, fracture clasps and acrylic, redone and addition of teeth) than APDs, which makes APDs more favorable from this point of view.
- There are no significant differences

between the two types of partial dentures regarding the number of restorative failures in teeth, decay, fillings, and enamel fractures.

- Even though there are differences between some questions regarding patient's satisfaction like: stability during chewing, efficiency and comfort when chewing certain food, and cleaning, between the two types of partial dentures, all over patient's satisfaction between the two types of partial dentures is similar, which indicated that we can use APDs as definitive treatment choice as casted -metal ones.

**Keywords:** Removable Partial Dentures, Periodontal Status, Post Insertion Adjustments.

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### **Biological Width: Importance, Evaluation, and Correcting its Violation**

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**Objectives:** The aim of this presentation is to review the current literature with regard to the surgical and non-surgical corrective procedure of Biological width violation and to elaborate on the pros and cons of each procedure and the practical utilization and indication of applications of each procedure.

**Methods:** A PubMed / MEDLINE search was conducted of studies addressed the "Biological width concept", its violations and the surgical and non-surgical corrective procedure that were reported in dental literature. The search included the importance of the biological width, measuring methods, the outcome of its violation, identifying if it has been violated, the different types of corrective procedures, the indications and contraindications and the limitation of each procedure.

**Results:** The outcomes of the published literature addressed signs and symptoms that indicate biological width violations such as, gingival inflammation, bone loss and improper fit of the restorations .In addition, the methods of prevention of such violation when attempting to restore a tooth, the indicated corrective procedures (surgically and nonsurgically) to prevent future restoration from impregnating it so that a satisfactory esthetical functional and successful restoration can be guaranteed.

**Conclusion:** Comparing the surgical and the non-surgical corrective procedures, it was obvious that non surgical procedure resulted in more esthetic outcome, better crown root ratio, and can correct bony defect. However, it is time consuming and depends on the patient compliance

**Keywords:** Biological Width, Non-Surgical Corrective Procedures, Surgical Corrective Procedure

### Hall J Session 3 Dentistry Free Papers - Orthodontics & Endodontics

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#### Functional Appliances in RMS

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**Objectives:** To evaluate the anteroposterior short-term skeletal and dental effects on Class II malocclusion in growing patients following treatment with functional appliances (Twin block

**Methods:** prospective clinical trials on Class II malocclusion growing children sample of 50 treated with functional appliance (Twin Block) were examined using lateral cephalograms with regard to SNA, SNB, ANB, and study models

**Results:** Results are generally equivocal, with conflicting evidence as to their effectiveness. Lack of success of functional appliances may be due to patient compliance as well as the inability to control the direction and amount of mandibular

growth

**Conclusion:** Short-term anteroposterior skeletal and dental effects on Class II malocclusion in growing patients following treatment with removable Twin Block are encouraging. A major problem with Twin Block functional appliance therapy for treating Class II malocclusions is that much patient cooperation is required. It is recommended to use fixed functional appliance or semi rigid fixed appliances to get rid of this problem

**Keywords:** Functional Appliance, Growing Patient, Orthodontics

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#### The Art In Orthodontic Treatment Planning Especially In Adults

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**Objectives:** To express the importance of the art in orthodontic treatment planning especially in adults

**Methods:** This presentation will focus on the orthodontic treatment as a work of art, so the orthodontist should have a good sense of art to give the patient a beautiful smile at the end of the treatment. The orthodontist is responsible for the treatment planning and coordination with various specialties of the dentistry so that he/she can make proper arrangement of all the treatment sequences and monitor the treatment quality to assure the ultimate success.

**Results:** The sequence and clinical tips for adult treatment will be discussed in the presentation, focusing on the artistic touch that should be present.

**Conclusion:** The artistic part of orthodontic treatment is important at the same level as the scientific part in treatment planning and in achieving the final beautiful goals of orthodontic treatment that satisfy the patient.

**Keywords:** Art, Orthodontic Treatment, Treatment Planning.

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### **The C-Shaped Root Canals: Anatomical Features and Clinical Implications**

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**Objectives:** To recognize the unusual root canal configuration of the C- shaped canals which can affect the prognosis of root canal treatment.

**Methods:** A review of the published articles that address the prevalence, etiology, classification and technical aspects of C-shaped root canal was carried out.

**Results:** The C- shaped canals are most frequently found in mandibular second molars and represent a challenge in chemo-mechanical root canal preparation.

**Conclusion:** A thorough knowledge of the root canal anatomy and its variations is crucial for successful and predictable root canal treatment.

**Keywords:** Canal Configuration, C- Shaped Canals, Mandibular Second Molar

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### **Chelating Agents Use in Endodontics**

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**Objectives:** To investigate the role of chelating agents in root canal treatment either to negotiate canals or as an irrigants

**Methods:** To review articles since the introduction of chelating agents in endodontics until recent publications in reference to evidence base dentistry and to conclude the best root canal chelating agent to be used during root canal treatment

**Results:** Different chelating agent will be investigated in relation to the biocompatibility, ability to remove smear layer and cost

**Conclusion:** Chelating agents are

essential element during root canal treatment. Chelating agent that has good performance clinically will be investigated and this will result in recommendation of the best protocol to be used during root canal irrigation.

**Keywords:** Chelating Agents, Irrigation Solutions, Root Canal, Smear Layer

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### **The Number of Roots and Canals in The Maxillary Second Premolars In a Group of Jordanian Population: A Clinical Study**

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**Objectives:** To investigate clinically and radiographically the number of roots and root canals in the maxillary second premolar in a group of Jordanian population while carrying out routine endodontic practice without using any magnification or special lighting conditions.

**Methods:** Two hundred seventeen patients were referred to the conservative clinic at King Hussein Medical Centre for endodontic treatment of maxillary second premolar from January 2012 till January 2014. The teeth included in the study were both clinically and radiographically examined for the number of root canals. Preoperative radiographs were taken for evaluation. Two radiographs in two planes were taken during routine endodontic treatment for these teeth (parallel and cone shift technique). The number of roots and root canals in the maxillary second premolars was recorded.

**Results:** A total of 217 patients 100 female (46%) and 117 male (54%) received root canal treatment of maxillary second premolar. The mean age of the patients was 32.7, ranging from 18 to 60 years. Out of the total of 217 maxillary second premolars 120 teeth had one root (55.3%), 96 teeth had two roots (44.2%) and one tooth had three roots 0.46%. Based on Vertucci's classification of root canal morphology: 30 teeth (13.8%) had

type I canal configuration (one canal), 54 teeth (24.9%) had type II (two canals with shared apical foramen), 132 teeth (60.8%) had type IV (two canals with two separate apical foramina) and one tooth (0.46%) had type VIII (three canals with separate apical foramina). The incidence of two canals (type II and type IV) is 85.7%

**Conclusion:** The incidence of two canals (either with shared or separate apical foramina) is very high in the maxillary second premolars in Jordanian people. Inspection should be done for the presence of second canal whenever endodontic treatment is planned for maxillary second premolar.

**Keywords:** Incidence Of Two Canals, Maxillary Second Premolars, Vertucci's Classification

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### **Morphological Variations of the Maxillary Arch Forms in Relation to Different Types of Malocclusions**

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**Objectives:** To determine the differences of clinical maxillary arch forms in Angle Class I, II, and III malocclusions using arch dimension parameters.

**Methods:** A total of 124 (76 females and 48 males) fully dentate Jordanian subjects (mean age=18.34±4.26; range=14-22 years) were clinically examined and divided into 3 groups according to Angle's classifications (Class I, II and III). Study casts were made and measured for 4 linear and 2 proportional measurements of maxillary cast dimensions were taken (Inter-canine and inter-molar widths; and canine and molar depths). Canine W/D and molar W/D ratios were calculated. Arch form was determined according to measurements and related to occlusal pattern.

**Results:** The commonest malocclusion was

class I (54.8%), followed by class II (37.9%) and class III (7.3%). Statistically significant differences were recorded in arch widths ( $p<0.05$ ); Class III maxillary dental arches ( $W=37.8\text{mm}$ ) are narrower than Class I ( $W=38.9\text{ mm}$ ) and Class II dental arches ( $W=40.6\text{mm}$ ) are the widest. In Class I: 55% of arches were ovoid, 40% tapered and 5% square; in Class II: 73% tapered, 24% ovoid, and 3% square. In Class III: 45% tapered, 35% ovoid and 20% square. Measurements were significantly ( $p<0.05$ ) higher in males than in females. No gender differences in canine and molar W/D ratios were recorded. Although more males had Class III, more females had Class II arches but the differences were not significant.

**Conclusion:** Before orthodontic treatment, the arch form should be determined in relation with patients' occlusal pattern to achieve best esthetic, functional and stable arch form out-come.

**Keywords:** Angle's Classification, Dentate, Malocclusions, Maxillary Arch

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### **Torque Measures as Orthodontic Microimplants Stability Indicators**

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**Objectives:** The aim of this study was to evaluate the effectiveness of multiple torque measures in describing the stability/prognosis of Orthodontic Microimplants (OMIs) and to find the most reliable one to perform from those reported in the literature.

**Methods:** A total of 84 OMIs (Dentos Inc, Daegu, South Korea, 7mm in length) that had the same design except the diameter were divided into 3 equal groups of 28 (SH1312, SH1413 and SH1514). They were inserted and then removed from custom-made rigid polyurethane foam



using a surgical engine and contra-angle handpiece. Multiple torque measures then were analysed and compared according to the relation between the OMI diameter and torque values. The correlation between Maximum Removal Torque (MRT) - which was taken as a reference- and other variables, was tested. All statistical tests were performed at  $P < 0.05$  level of significance.

**Results:** All torque measures except one (Torque Ratio, TR) showed statistically significant differences between the 3 OMIs groups with the SH1514 group having comparatively the largest mean torque values then SH1413, and then SH1312 group. The correlation to MRT was significant with only TR, and although it was statistically not significant; the correlation between MRT and Maximum Insertion Torque (MIT) was increasing with the diameter increase.

**Conclusion:** All of the tested measures showed the same idea at the end from statistical view and that considering any of them is feasible with no superiority of one measure over the other.

**Keywords:** Microimplants, Stability, Torque

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### **Science and Technology of Rotary Endodontic Files**

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**Objectives:** Huge advancement in the technology of endodontic rotary files over the past few years led to a corresponding confusion especially among general dental practitioners. The aim of this overview is to highlight important scientific basics of such technology.

**Methods:** Thorough readings in the basic science of rotary endodontic files combined with deep looking into available commercial products comparing claims with the primary science.

**Results:** The original scientific ideas are understandable and clear while commercial claims are huge and confusing. Despite

the fact that technology is reflection of science. However, once marketing goes in original science things become foggy. Understanding the primary science greatly helps and clarifies such confusion.

**Conclusion:** All rotary endodontic files share the same scientific principle with some modifications in design. Such modifications won't affect the outcome of therapy.

**Keywords:** Primary Science, Rotary Files, Technology.

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### **Pre-surgical Nasoalveolar Molding Therapy in Infants Born with Unilateral Cleft Lip and Palate: Does it Worth the Effort?**

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**Objectives:** Identify clinical and reported benefits and/or drawbacks -if any- associated with Nasoalveolar molding (NAM) therapy in unilateral cleft lip and palate (UCLP).

**Methods:** 27 newborns (14 females, 13 males) with mean age of 19.3 days had pre-surgical Nasoalveolar molding (PNAM) following Grayson's protocol. A mid-treatment labial and nasal evaluation of morphological changes and symmetry were carried out, along with brief caregiver interview. Later, post cheiloplasty operating surgeon assessment questioner for this protocol of cleft care was completed.

**Results:** Significant improvement of labial and nasal morphology was noticed upon clinical assessment when compared with the norms. Reported benefits such as: 1. ease of suckling, 2. weight gain, 3. less oral fungal infections, 4. less ear infections, 5. cleanness of cleft gap and odor, were all positively reported with 86.3%, 91.1%, 100%, 93.7%, and 100% consequently. Drawbacks of Nasoalveolar molding were reported by two thirds of the sample stating the discomfort of weekly visits and compliance issues. Four out of five surgeons would recommend using this

protocol for future newborns born with cleft lip and palate.

**Conclusion:** Benefits outweigh drawbacks when considering the use of pre-surgical Nasoalveolar molding therapy in unilateral cleft lip and palate, reported by treating clinician, surgeon, and cleft baby caregivers. Further analysis is needed to select the best candidates to benefit from Nasoalveolar molding therapy.

**Keywords:** Lip And Nose Repair, Nasoalveolar Molding, Unilateral Cleft Lip And Palate

## Hall J Session 4 Dentistry Free Papers - Pedodontics

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### Mineralization Disturbances in Children and Adolescents with Celiac Disease

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**Objectives:** To determine incidence and distribution of enamel defects and caries among children and adolescents with celiac disease and compare their findings with healthy and gender matched children and adolescents.

**Methods:** A prospective study was conducted at King Hussein Medical Center on a total 86 patients. Forty-three patients with celiac disease who were regular attendants of the pediatric gastrointestinal clinics, and 43 healthy dental patients who attended paediatric dentist clinic. Both study and control groups were examined for the number of erupting deciduous and permanent teeth, in addition to the Decayed, Missed, and Filled Teeth (DMFT) index. Enamel surfaces were explored clinically for the presence of any symmetrical defects or hypo-plastic changes.

**Results:** In each of the study and control groups, there was 26 females (60.5%) and 17 (39.5%) males. The mean DMFT was 6.78 for the study group and 7.15 for the control group with p value of

0.03 (decayed) 0.055 (missed) and 0.001(filled). Caries free subjects comprise of 1 (2.32%) vs. 11 (25.58) in the study and control groups respectively. The mean of enamel defect (hypo-plastic changes) in the study group was (2.326) while 1.325 for the control group with the p value of 0.007. Un-erupted and partially erupted permanent teeth comprise of 95 teeth for the study group compared with 64 teeth for the control group.

**Conclusion:** The celiac group had statistically significant more enamel defect (hypo-plastic changes), carious teeth and significantly delayed eruption of the permanent teeth than the control group.

**Keywords:** Celiac Disease, Mineralization Disturbances

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### Dental Management for Paediatric Patients under General Anesthesia at Queen Rania Al Abdullah Hospital for Children in Jordan

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**Objectives:** To determine the characteristics of patients, indications, and the types of dental treatment, that was carried out for children under general anesthesia at Queen Rania AL Abdullah hospital for children in Amman-Jordan.

**Methods:** A retrospective, descriptive and comparative study was designed. Data were collected from records of patients who required full mouth rehabilitation under general anesthesia over a one year period (13-Feb-2010 to 13-Feb-2011), at Queen Rania AL Abdullah children hospital in Jordan. Information collected from the records included date of birth, gender, medical condition, indications for general anesthesia, type of procedure, treatment provided including the number of primary and permanent teeth extracted and restored, and the type of restoration was also recorded.

**Results:** A total of 163 patients, 80(49.1%) males and 83 (50.9%) females received full mouth rehabilitation under general anesthesia. The age of the patients ranged from 1 to 16 years old with mean age of  $6.17 \pm 1.49$  years. The mean age of females was  $6.55 \pm 3.19$  and of males was  $5.76 \pm 3.02$ . The main indications for general anesthesia were young children with extensive caries (45.4%) special health care needs patients (33.1 %), and behavior management problem (13.5%). Complete oral rehabilitation including restorations (fissure sealants, composite filling, amalgam restorations and stainless steel crowns), dental extraction of deciduous and permanent teeth and surgical procedures were performed under general anesthesia in a single visit.

**Conclusion:** Dental management for paediatric patients who are very young and those with special health care needs can effectively be carried out under general anesthesia in a single visit.

**Keywords:** Children, Comprehensive Dental Treatment, General Anesthesia, Special Needs.

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### **Developmental Enamel Defects of Permanent Incisors in Jordanian Children with Molar-Incisor Hypomineralization** *Farouk Bassam Rihani DDS\*, Rasha Jaradat Dental Tech*

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**Objectives:** To investigate the distribution and pattern of enamel defects of permanent incisors in Jordanian children affected with molar-incisor hypomineralization.

**Methods:** Fifty children with molar-incisor hypomineralization were examined clinically under dental light and drying of incisors of all surfaces and the enamel defects were recorded in relation to tooth affected, type, size and position of the defects.

**Results:** The maxillary permanent central incisors were the most commonly affected

teeth and usually bilateral. Demarcated white/creamy opacities followed by diffuse patches were the most common types. The incisal one third was the common site with less than one third of surface affected.

**Conclusion:** Incisor enamel defects associated with molar-incisor hypomineralization pose an esthetic problem mainly due to discrepancy in color and the incisal position of the defect.

**Keywords:** Enamel Defects, Molar-Incisor Hypomineralization

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### **Different Modalities for Treatment of Immature Traumatized Permanent Central Incisors**

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**Objectives:** This presentation will discuss different modalities of endodontic treatment for immature traumatized permanent central incisors, outcome of root formation and their prognosis.

**Methods:** There are two protocols either vital pulp therapy (VPT) for traumatized vital teeth and apexification or regenerative endodontic in traumatized necrotic teeth.

**Results:** Comparison between apexification or apexogenesis either with multiple visits with non setting calcium hydroxide (Reogan) application that is time consuming and more chance of root fracture or with regenerative endodontic to stimulate complete root formation

**Conclusion:** Better result with vascular regeneration to maintain viable dental stem cells to induce tissue regeneration and root formation

**Keywords:** Apexification, Apexogenesis, Immature Permanent Teeth, Regenerative Endodontic.

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### **Prevalence of Dental Caries in Obese Children**

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**Objectives:** To assess the prevalence of dental caries in obese children who attended pediatric dentistry clinics at King Hussein Medical Center

**Methods:** This was a prospective hospital based study conducted on children with dental caries at King Hussein Medical Center between 1st of Feb 2014 until 1st of June 2014. Weight, height, Body mass index and DMFT were determined for all children.

**Results:** During the study period, 350 children with dental caries were included. 210 (60%) were males and 140 (40%) were females with a male to female ratio of 1.5:1. Their age ranged between 6 and 13 years with an average of 9.3 years. 240(68%) child were in the 10th to 90th percentile range of weight and height and subsequently normal BMI. 35(10%) child were below the 10th percentile and classified as underweight. 75(22%) child were above the 90th percentile and classified as obese children The average DMFT for obese children was 2.62 and for children with normal weight was 1.7 (p=0.012)

**Conclusion:** Obese children have higher prevalence of dental caries. Body mass index should be considered in assessing children with dental caries and the family should be informed about this fact. Obesity should be emphasized as a risk not only for general diseases but also for dental caries.

**Keywords:** Body Mass Index, Dental Caries, Obesity

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### **Sugar Containing Snacks and Drinks, Tooth brushing And DMFT in Children Attending Marka Military Hospital**

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**Objectives:** To assess the relationship between sugar -containing snacks and drinks consumption, toothbrushing and DMFT in 3-12-year-old Jordanian children attending Marka Military Hospital.

**Methods:** A total number of 100 children patient aged 3-12 were included in the study. Information was obtained through a questionnaire completed by interviewing the parents.DMFT was scored through clinical examination carried out by a pediatric dentist.

**Results:** Sugar containing snacks and drinks were consumed by a high percentage of children. The mean DMFT is 7.37. The mean number of toothbrushing per week is 5.26.

**Conclusion:** High consumption of sugar containing snacks and drinks is related to dental caries and high DMFT. Oral health education and dietary advice need to be stressed out and emphasized on in our schools and clinics.

**Keywords:** DMFT, Sugar Containing Snacks And Drinks, Tooth brushing

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### **Dental Occupational Hazard in Jordan**

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**Objectives:** To reveal the truth of any presented relation between physical chronic illness and psychological problems and stress with the dental occupation.

**Methods:** A random Sample of 200 Participate include 5th year dental students from university of Jordan in Amman and

licensed dentists from North, Middle and south of Jordan whom registered in Jordanian dental association. 200 structured questioners were disrupted as one part of 3 parted survey in university of Jordan during annual meeting 2012 .with taken consideration the disruption of dentist in the country to increase the representation of Jordanian dentist. The responders was 134 with responsive rate was 67 %.

**Results:** The prevalence of Systemic disease between responder is 5.2% for Diabetes Mellitus Type II ,8.2% Hypertension (HTN) ,1.5 % Heart disease,16.4 % Orthopedic problems ,9.0% Musculoskeletal Problems ,6.0 % pulmonary disease ,1.5 % Neural Problem ,20.1% vision impairment ,3.0 % Hearing impairment ,5.2 % Dermatitis ,11.2 % allergy ,3.0 % Psychology problem and 66.4 % Exhaustion.

**Conclusion:** The present study show the prevalence of the physical and psychological illness among the dentist in Jordon ,and show little relation with systemic disease but more with physical disorder like MSDs and also high relation with psychological disorders like Exhaustion ,the study represent the dentist opinion in Physical and Psychological aspect . Generalization of the result should be taken carefully and with caution.

**Keywords:** Dental, Hazard, Occupational.

## 197

### **The Attitude of Parents Toward The Oral Hygiene in Their Children**

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**Objectives:** To assess the attitude of parents toward the oral hygiene of their children. And whether they brush their children's teeth, supervise them during brushing, let them brush their teeth themselves, or their children's teeth are not brushed at all. Another object was to find whether there is a relation between the number of

children in the family and the dental care provided by the parents to their children.

**Methods:** 150 children aged between 2-6 years visiting pediatric dental clinic in Prince Rashid Hospital with their parent/s formed the study. The parents were asked about how their children's teeth were brushed, if they are. Also the number of children in the family was recorded.

**Results:** Most parents answered that their children's teeth are still not brushed. The least frequent group of parents said that they brush their children's teeth. There was an inverse relation between the number of children in the family and the dental care provided by the parents.

**Conclusion:** Most parents are still unaware of the importance of brushing their children's teeth, and of the age at which tooth brushing should be started in children. And they don't pay a lot of attention to this issue.

**Keywords:** Children, Parents, Tooth Brushing.

## 198

### **Reasons For Placement and Replacement of Restorations in Primary and Young Permanent Teeth in Children Attending Pediatric Dental Clinic at Prince Hashim Bin Al Hussein Military Hospital**

*Ayman Aleleimat DDS\*, Alaa. Almayta DDS, Mohammad. Alamayra DDS*

*\* Major, Pediatric Dentistry at Prince Hashim Bin Al-Hussein Military Hospital, Royal Medical Services (Jordan)*  
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**Objectives:** There have been continuous attempts by researchers to find the ideal restorative materials, so that it well adapts the oral cavity. The aim of the study to record the reasons for placement and replacement of restorations in primary and young permanent teeth. And the type of used restorations.

**Methods:** A cross sectional study was conducted to choose a non-random convenient sample, consisting of 120 child patients for placement and replacement of 200 restorations of age between 5 and 10 years attending the pediatric dental clinic at Prince Hashim Bin Al Hussein



Military Hospital between March 2014 and June 2014, the information recorded in data sheet including name and age of the patients, type of restoration, the reason for placement and replacement of the restorations. The examination done by three dentists, using naked eye, sharp explorer and mouth dental mirror. Each restoration examined at dental clinic by an expert dentist

**Results:** Primary caries was the main reason for placement of restorations, replacement of restorations represented 1/6 of the restorations most of restorations were of tooth colored materials about half of replaced restorations were due to secondary caries. Some reasons of placement of restorations were due to dental trauma.

**Conclusion:** Composite resin and glass ionomer were the most common fillings used in primary teeth; the commonest reason for placement of new restoration was primary caries secondary caries the most common cause of replacement of restorations.

**Keywords:** Colored Fillings, Replacement, Secondary Caries

## Hall K Session 1 ICMM - Military Medicine in Humanitarian Missions

199

### **Jordan 2013 – Ukraine 2014 – Comparison of two Humanitarian Assistance Missions Accomplished by the Bundeswehr Medical Service**

*Col Christoph Rubbert MD (Germany)*

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### **Mobile Technologies to Support Humanitarian Missions**

*Col (Ret) James Fike MD (USA)*

The protection of both military forces' and civilian health is vital to maintaining readiness and conducting military medical missions worldwide. Most military medical training and downrange performance support involves a combination of classroom and distance-learning education and training, exercises, real world

experience and reachback capabilities that are dependent on the communication capacity of the deployed forces (which is often limited in austere conditions). A relatively new field, mobile Learning (m-Learning), is the instantaneous delivery of relevant content, uniquely designed to render on mobile devices--in a way that quickly satisfies an individual's need for targeted, interactive information to gather knowledge, learn a skill, solve a problem or seek help, from a remote location. A study published by the US Department of Defense Counter-Terrorism Technical Support Working Group found that mobile learning techniques work best when used to enhance on-the-job learning and productivity. As a result, the first formal DoD mobile learning technology infrastructure development project was initiated in 2010, and called the CWP, Mobile Learning Environment (MoLE) project. The MoLE project succeeded in developing a prototype, cross-platform mobile App technical infrastructure (open source) that enables mobile learning content to be shared between several different smartphone platforms, optimizing the content design for effective mobile engagement. Based on feedback from many subject matter experts, the content for this and subsequent research initiatives focused on pre-deployment training, access to medical resources while performing a mission, machine foreign language translation, and electronic data collection/patient documentation. The results of those research projects and potential for their adoption and use within the international military medical community (focusing on humanitarian assistance, but with application to military force health protection missions) will be discussed.

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### **The Role of Jordanian Royal Medical Services in Humanitarian Missions** *Brig Gen Nawaf Khzaleh MD (Jordan)*

**Introduction:** Royal Jordanian Services started to send medical service missions worldwide since 1990 by sending medical platoons hospitals and surgical units of





different levels and deploying force medical officers.

**Objective:** is to give an overview on the role of Royal Jordanian Medical Services in international crisis, earthquakes, humanitarian missions and united nation peacekeeping missions all over the world.

**Material and Methods:** A literature search was performed from database of Royal Jordanian Medical Service, directorate of humanitarian mission, extending from 1990 until June 2014.

**Results:** Since Royal Jordanian Medical Services started humanitarian and united nation peacekeeping missions its role was of tremendous value in not only to treat and operate patients but also played an important role in the world peace and security. Hospital of level one , two , three and four were sent all over the world. Missions were deployed to nearly all areas with conflict such as Croatia , Bosnia , East Timore, Sierra Leone , Coe De Vuaer , Sudan , Liberia , Iraq , Congo , Palestine and many other countries, also in international crisis , earthquakes, etc, such as Mission to Pakistan , Iran and Turkey . Total number of missions collaborated with united nations was 183 missions and total number of hospital was 25 hospitals of different levels around the world , with total number of patients of more than 3 million cases which were treated, in the other hand, Royal Jordanian Medical Services deployed more than 38 force medical officers and health cell officers all over the crisis areas.

**Conclusion:** Literature shows a clear large role on peacekeeping and world security done through these missions sent by Royal Jordanian Medical Services with huge effect on health care quality worldwide .

## 202

### **Building Medical Capacity through Humanitarian Missions**

*Col (Ret) James Fike MD (USA)*

The military medical community is increasingly involved in support to humanitarian operations and disaster response missions. In some cases this is a primary mission for the responding organization, but often the medical

response to these situations is carried out as a secondary military objective, many times with little training. In those situations, line commanders and senior leaders may be hesitant to fully support medical activities that benefit the civilian population because they do not clearly see how it can also support their military objectives. Likewise, in these times of significant resource limitations, even military medical leadership must often justify how their support to international medical missions fits into their priorities and warrants continued support. For many nations, a primary international objective is medical interoperability and support to building increased medical capacity in coalition partners and potential host nation colleagues in areas of the world where we may find ourselves in future military engagements. A common term used in the US Military Health Service to describe these (and other) missions is Global Health Engagement activities. In the past, many of those activities have provided episodic direct patient care to underserved populations without working closely with the host nation to ensure that their long-range goals were being prioritized or with local healthcare providers (host nation or non-governmental groups) to provide local perspective and ensure patients had access to ongoing care for any medical concerns identified during the provision of care. Understanding this may provide valuable experience to our healthcare professionals but does not necessarily support other military objectives, efforts are underway to combine direct patient care activities with ways to work together with other responders to build sustainable capacity in a partner nation's medical community (military and civilian) through shared medical education, shared best practices, and supporting national strategies to build new capabilities.

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### **Military Medico-Legal and Ethics in Health Diplomacy**

*Col (Ret) Johan Crouse, ICMM (South Africa)*

What is Health Diplomacy and what is meant by "Global Health Diplomacy". Many years ago States regarding health care were only concerned with their own Health Care challenges, It was however soon realized that there are Global Health care challenges that could not be dealt with by states on their own.

This led, inter alia, to International treaties and cooperation agreements.

The development of these treaties and the influence of various epidemics are discussed in more detail.

What are the functions of the WHO and States in this regard.

To be effective many disciplines such as Law, Economics, International relations and health Care work together.

The relationship between health, foreign policy and trade is at the cutting edge of global health diplomacy.

What is the specific role and function of the Military Health Care Professional from a Medico-Legal and Ethics point of view.

What are the present challenges for the Military Health Care professional.

How does the foreign Policy of a state influence Health Diplomacy.

204

### **Advances in Pandemic Preparedness: "Think Global – Act Local"**

*Shakir Jawad MD\*, Dr Stephen D. Prior*

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**Objectives:** According to the World Health Organization 'pandemics are unpredictable but recurring events that can cause severe social, economic, and political stress.' In

terms of disease threats a pandemic is an 'epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people.' Regardless of the choice of definition, future pandemics are events that demand early detection, planned responses, and effective communication – often over very short periods of time. The paper will review recent advances in public health, technology and international cooperation that will enhance rapid responses to future pandemics and reduce future threats.

**Methods:** The paper will review medical, scientific and technical data in the public domain.

**Results:** Pandemic diseases represent a special class of biorisk and require similarly special risk management techniques. Uncertainties about the timing, severity and impact of pandemics dictate that such biorisk management approaches are flexible, adaptable and, to the greatest extent possible, modular so that components can be reused as threats change or diseases evolve. Recent advances in disease surveillance – detection, diagnosis and reporting – together with rapid advances in communication and information sharing offer new possibilities, and possibly new threats, when future pandemics occur. Effective national plans must reflect these opportunities and threats.

**Conclusion:** International and national efforts to improve biosurveillance and biorisk management offer numerous opportunities to enhance preparedness for pandemics. Effective implementation can limit the spread of disease, lessen the effects of the pathogens, and reduce societal stress to improve the outcome for an affected country.

**Keywords:** Pandemic preparedness, Biorisk management, Biosurveillance.

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### **Extreme Heat Related Illness in Armed Forces: Clinical Presentation, Management and Prevention Strategies**

*Maj Gen Ghaleb Bin Huraib MD\*, Abdulrahman Al Elaiwy MD\*\*, Abdullah*



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**Objectives:** Military personnel are subjected to rigors of operating in extreme climates during training and deployment. Besides adversely affecting physical performance, high temperature may impair cognitive function and judgment capacity. In this presentation we have examined systemic effect of heat exposure on armed forces with special reference to clinical presentation, management and preventive measures.

**Methods:** An extensive survey of literature was undertaken to review the heat exposure related systemic effects and strategies to overcome the pathophysiological manifestations of high temperature.

**Results:** The results of the present study showed that soldiers exposed to severe heat on one hand face exposure to extreme environmental temperature as well as due to the use of ballistic vest/special clothing's required for protection against nuclear, biological and chemical exposure. Heat stress results in wide ranging effects from mild dehydration, heat cramps, heat syncope, heat exhaustion, sleep deprivation, to severe life threatening heat disorders such as rhabdomyolysis and heat stroke death depending on the intensity and duration of heat exposure. Personnel routinely deployed in areas with very high temperature have to be provided with suitable infrastructure and facilities to diminish some of the physiological effects of exposure to extreme heat.

**Conclusion:** Armed forces personnel during training and deployment are exposed to

extreme climatic conditions including, high temperatures which is known to adversely affect their physical and mental capacity. Clinical presentation and their management as well as strategies to reduce the adverse effects will be discussed.

**Keywords:** Extreme heat, Training and Deployment, Systemic effects, Armed Forces, Review

## Hall K Session 2

### ICMM - Military Medicine in Refugee

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#### Royal Medical Services Role in Refugees Crisis

*Maj Gen Khalaf Al-Jader Al-Sarhan MD (Jordan)*

Director General of the Royal Medical Services of Jordan Armed Forces  
Senior Consultant of Urology

**Background:** The Jordanian Royal Medical Services (RMS), Jordan's Proud and enduring legacy was first established in the year 1941 with one doctor while acknowledging that big results require big dreams with the ultimate goal of providing quality health care and supporting the wellbeing of the men and women of the Jordanian Armed forces and the people of the Hashemite kingdom of Jordan.

**International medical and Humanitarian Aid**  
Humanitarian action needs to adapt to a changing landscape, and this requires being more culturally sensitive and politically savvy, more resourceful, more accountable and more creative in the way we put principles into action. Any attempt to address perception and acceptance problems needs to include a thorough analysis and understanding of the political and historical context.

A communication strategy is to be developed based on getting to know RMS mission as individuals rather than RMS as an institution or as an organization, enabling RMS Jordanian staff to explain who they were, their background and their reasons for working with RMS and helping in crises situations.

RMS's approach to delivering aid is based



on obtaining 'acceptance' of its work from the population, authorities and communities concerned within Host Nation. It also means developing politically smart "Acceptance" methods. Politically smart methods are not about creating new types of programs as much as ensuring that all aid programs are politically informed. Acceptance here means that RMS seeks a social contract whereby its presence is respected by all parties to a conflict, including civilians, who all understand and accept that RMS's humanitarian identity is central to its operations, and that RMS is there to assist those in need of emergency medical care.

**207**

**Bioethical Issues in Military Medical Care and Research**

*Col Nelson Michael MD (USA)*

The U.S. military is engaged in simultaneous global health initiatives designed to both reduce the impact of pandemics such as HIV and malaria and to develop infectious disease countermeasures for both these diseases and others, such as Ebola/Marburg virus, dengue virus, chikungunya virus, and infectious diarrhea, aimed at strengthening force health protection. All of these infectious disease threats to military forces are also of global public health importance and, in the case of HIV and Ebola/Marburg virus, have implications for regional stability and security. Provision of medical care under U.S. programs targeted for specific diseases such as HIV and malaria involve very close coordination with host nation military and civilian health systems to ensure that these programs conform to local medical regulations and strengthen local medical infrastructure. This ensures an ethical foundation for sustainable health program execution. The development of countermeasures for military relevant infectious disease threats requires that medical research be conducted in countries outside of the U.S. where these diseases are most prevalent and where new infection rates are highest. This raises a number of very significant bioethical issues about risk and benefit

to host nations and research volunteers, meaningful informed consent, the provision of medical care to research volunteers who acquire infection during a research study, adequacy of regulatory oversight by host nation entities, management of incidental research findings, research related injury compensation, and durable partnerships with host nation research infrastructure. Many of these same issues arise when military medical units from militaries around the globe are deployed for humanitarian reasons. These bioethical issues will be framed in the context of current and projected military medical activities.

**208**

**Jordanian Armed Forces Role in Refugees Crisis Management**

*Brig Gen Mohammed Mawajdeh (Jordan)*

The briefing will focus on the Role of JAF in Emergency Preparedness System and the Role in Relief Operations and Humanitarian Assistance including response to the refugees' crisis taking into account Jordan's security, commitment to International obligations and Treaties as well as the Economics, and Social Concerns.

It will cover the implications associated with the unique location of the country as the focus of the hottest spot of the Middle East conflicts, where many wars took place. The briefing will also highlight on the consecutive waves of refugees ending with the current Syrian refugees Crisis and how the Army is dealing with this situation as a 1st responder.

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**Military Medico-Legal and Ethics in Respect of Refugees**

*Col (Ret) Johan Crouse, ICMM (South Africa)*

Politicians, aid workers, academics, and the press often approach the word from different angles, and with varying ideas of the rights, roles, and responsibilities the term implies.

The correct legal definition is therefore paramount.

What is therefore the legal definition of a



Refugee and what are the Legal obligations and Medical Ethics applicable.

The core definition of a “refugee” is contained in the 1951 United Nations Convention Relating to the Status of Refugees and its 1967 Protocol Relating to the Status of Refugees, which define a refugee as an individual who: “owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality, and is unable or — unwilling to avail himself of the protection of that country.”

Due to so many conflicts that forces people to flee their own country this definition had to be amended.

There are many debates regarding what constitutes “persecution” and what is deemed to be Human Right abuse and what is merely Cultural practice.

What is the role and function of Military Health Care regarding refugees, which laws are applicable

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### **The “Lost” Generation – Access to Literature, Cultural Material, and Education in Syrian Refugee Camps**

*Linda Johnson MBA (USA)*

Jordan is home to over 2.3 million refugees, nearly 615,000 of whom are Syrian; approximately 20% those Syrians are housed in refugee camps. Nearly 80,000 refugees of all nationalities are living in Za’ Atari alone, making that camp the fourth largest city in Jordan. It is estimated that over 50% of the refugees in camps in Jordan are children. 67% of the refugee children are enrolled in school – a far greater percentage than refugee children in Egypt, Iraq, Lebanon and Turkey. Nevertheless educational opportunity, at all levels, is still a great cost of the crisis.

In many ways living in camps is preferable to being displaced within Syria or trapped at home in war-torn areas. But there is a devastating set of harms – psychological, social, and cultural – that stem from being cut off from community and unable to establish new ones. What measures can

be taken to help those who experience isolation caused by complete disruption to their lives, those who have lost their past, their present, and are in jeopardy of losing their future?

### **The Benefits of Education and Literature:**

Once fundamental needs have been met, and of course this is no small threshold, the highest priority for refugees must be education – providing opportunities to learn and connect with the outside world, and to the worlds of creativity and thought. The value of schools for children is enormous. They provide not only literacy, skills, and a path forward – even in protracted situations – but also less obvious benefits such as gender equality for girls (safety and allowing girls to move beyond dependency) and a diversion from the monotony of camp life.

Whether in school or through informal learning, the value of education and literature is helping refugees move beyond the isolation and devastation of being displaced. Literature created the first virtual communities. It connected authors and readers that knew no physical boundaries and existed across space and times long before the internet. Reading is not a passive act – it sparks imagination and creative activity by requiring the reader to participate. Wonderfully, new worlds of connection are open through technology, and even refugee classrooms are being transformed by access to the internet, allowing for long-distance learning and participation in online classrooms.

Libraries without Borders in partnership with UNHRC is bringing pop-up libraries, including access to media, to refugee sites. The Ideas Box, designed by Philippe Starck, is a library in a portable container equipped with technology, electrical power, and content customized to address the language and cultural background of each disaster site. These libraries provide access to critical information, culture, education, and professional training, and enables individuals and communities in crises to read, write, create, and communicate. The Ideas Box does no less than empower communities to construct an informed civil

society and pave the way for a self-reliant future.

If the library, wherever it sits, can, even in a small way, help to ameliorate the debilitating isolation of refugee camps by connecting refugees to both the "real" world and to the world of thought and creativity, then an investment in education and literacy is valuable. The tools and connections in the Ideas Box also allow the world to connect with the camps – to learn what it is to live in a refugee camp. Obviously absorbing and housing massive refugee populations are complex and overwhelming challenges. And no one solution can solve the plights of those who have been displaced, but the libraries can restore hope to those who have lost everything, including the courage to dream.

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**Are we prepared for CBRN casualties (Chemical, Biological, Radiological and Nuclear)**

*Ysir Salim AL-Touqi MD*

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**Objectives:** 1. Provide a brief history about industry of weapons of mass destruction and the date of use. 2. Highlight the important types of (WMD) weapons of mass destruction and the impact of these weapons on humans and the environment as well as to provide international statistics of the victims. 3. Raising awareness for the necessity of creating Specialized Medical Centers and the presence of human, technical and modern training programs to reduce the severity & numbers of patients within and outside the medical establishments. 4. Emphasize on the importance of establishing national strategy for CBRN casualties and creating operational standing policies.

**Methods:** This paper will present an overview of the nature and scope of the challenges posed by CBRN weapons and casualties. It will raise the awareness that the Middle East Countries must have reliable countermeasure equipment which

can be used with confidence for the protection of life, health and people. It will also review the history and process of these weapons and the fact that many countries in Middle East are proceeding to possess them as preventive weapons or as power resources. Therefore, the health status might be at high risk in a conflict situations or in biological & radiological infiltrations.

**Results:** The most important health and environmental risks of CBRN in the area of Middle east will be highlighted. Precautions and preparation to deal with WMD casualties will be encouraged.

**Conclusion:** There is an international competition in the Middle East to have new power resources which may lead to human and environmental disaster. These countries must be fully prepared to deal with the consequences of these by establishing specialized centers and providing advance equipment and training programs for their medical teams for handling such victims.

**Keywords:** CBRN - (Chemical, Biological, Radiological and Nuclear) WMD - (Weapons of Mass Destruction)

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**Developing Surveillance and Situational Awareness of an Emerging Pathogen for the U.S. Military: MERS-CoV**

*Stic Harris DVM MPH\*, Rohit A. Chitale PhD, Michael J. Cooper PhD, Nellie Darling MS, James V. Writer MPH, Kevin L. Russell MD MTM&H*

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**Objectives:** AFHSC's Division of Integrated Biosurveillance stood up in April 2012 to provide U.S. Department of Defense decision-makers regular communication and consultation on timely, relevant, and actionable biosurveillance data and information. In September 2012, WHO reported two cases of novel coronavirus (now known as MERS-CoV) from separate individuals with travel history to the Kingdom of Saudi Arabia and Qatar. The need to understand and follow how





this could affect the U.S. military was immediately recognized and leadership asked for regular updates.

**Methods:** Open source websites are scanned daily for pertinent information on MERS-CoV with particular attention paid to Ministry of Health (MOH) websites, WHO, CDC, FluTrackers, ProMED, and other web-based sources. Regular interaction with other U.S. government agencies (USG) supplies additional data and information. Information is verified before inclusion or labeled as media-reported or unverified.

**Results:** Regular 'Surveillance Summaries' as well as disease-specific laboratory guidance are distributed to a U.S. military listserve numbering more than 500 persons and the USG numbering over 40 persons. These publications provide readers with information and analysis of specific relevance to Department of Defense (DoD) populations. They include background information on cases; affected locations; transmission modes; diagnostic capability within the DoD; and vaccine/treatment efforts initiated by WHO, MOHs, USG, and industry.

**Conclusion:** The integration of timely, verified information and data in published products for ongoing surveillance and situational awareness of a novel disease has led to enhanced communication, more comprehensive and better knowledge of internal and external disease-related activities, and improved synchronization of biosurveillance efforts across DoD.

**Keywords:** MERS-CoV, Biosurveillance, Situational Awareness

### Hall K Session 3 ICMM - Military Medicine in Deployment and Pre-Deployment

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#### The U.S. Army Medical Research Institute of Infectious Diseases, an Insurance Policy for the Nation and the World

*Col Erin Edgar MD (USA)*

Since its inception in 1969, USAMRIID has spearheaded research to develop medical solutions—vaccines, drugs, diagnostics, and information—to protect our military

service members from biological threats. Our specialized capabilities include Biosafety Level 3 and Level 4 laboratories, world-class expertise in the generation of biological aerosols for testing candidate vaccines and therapeutics, and fully accredited animal research facilities.

The outstanding national reputation of USAMRIID has been built over the years by numerous scientists and technical staff working to protect both military personnel and civilians from the threat of infectious diseases. We participate in support of emerging disease investigations, working alongside colleagues from the Centers for Disease Control and Prevention and the World Health Organization. As a reference laboratory for the Department of Defense, we set the standard for identification of biological agents. Our customers in the Army and the Department of Defense know us as a "tech base" organization that has produced some 20 candidate medical products over the past decade. Still others recognize the impressive scientific credentials of our workforce, which represents some of the top infectious disease and biological defense experts in the Nation—indeed, in the world.

As the United States continues a new era of civilian biodefense research, it is also clear that USAMRIID plays a critical role in the status of our country's preparedness for biological terrorism and biological warfare. While our primary mission is to protect the warfighter, our research benefits civilians as well.

USAMRIID is looking forward to continued collaborations with industry partners and with other federal agencies—including the Department of Health and Human Services and the Department of Homeland Security—to develop medical countermeasures that will protect all of our citizens, both military and civilian.

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**The Global Health Security Agenda: What Is It, and Why Is It Relevant to Us?**

*CAPT Kevin Russell MD (USA)*

We represent Global militaries. We represent Global health. We provide for our Service men and women, making sure they are healthy and fit to protect our Nations and the security of the World. In partnership with other nations, international organizations and public and private stakeholders, the Global Health Security Agenda (GHSa) seeks to promote a world safe and secure from global health threats posed by infectious diseases. The GHSa seeks to achieve this through strengthening individual countries and region's ability to 1) Prevent Avoidable Epidemics; 2) Detect Threats Early, and 3) Respond Rapidly and Effectively. Through these steps, we can effectively limit the spread of infectious disease outbreaks in humans and animals, mitigate human suffering and the loss of human life, reduce economic impact, and promote a safe, healthy, and secure world. The design of the GHSa agenda will be described. The role of "Action Packages" will be explained, and how militaries are part of the "multi-sectoral" response that is needed.

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**Vaccine Countermeasure for Diseases of Military Medicine Relevance**

*Col Nelson Michael MD (USA)*

Military medical research aimed at reducing infectious disease threats through the development of effective preventive vaccines has been a critical approach to preserve fighting strength dating back to the centuries old use of cowpox to protect troops from smallpox. Military forces today deploy to areas of the world where the impact of infectious diseases such as hepatitis A and B, Yellow Fever, rabies, measles/mumps/rubella, influenza, meningococcal meningitis, adenovirus Types 4/7, diphtheria, tetanus, Japanese encephalitis, pneumococcal pneumonia, typhoid, and smallpox are greatly mitigated by the availability and use of

effective vaccines. While these vaccines have provided much needed protection against diseases that used to devastate deployed fighting forces in the past, many challenges still exist. There remain no licensed vaccines against HIV, malaria, tuberculosis, dengue virus, Chikungunya virus, Ebola/Marburg virus, hepatitis C, Leishmaniasis, Schistosomiasis and many other threats to both military forces and the global community. Much progress has been made recently in the development of vaccines for HIV, malaria, and dengue virus that will have broader implications for development of vaccine for other diseases. The current state of vaccine development for HIV, malaria, dengue virus and very recent approaches to Ebola Virus Disease will be presented.

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**Peacekeeping Psychiatry; is it Different from Military? Lessons from Jordanian Participation in Peace Keeping Operation**

*Col Mohammad Ali Zaubi MD*

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**Objectives:** Is peacekeeping mission appropriate work for Soldiers? This argument is derived from an inherent conflict between combat and humanitarian operations. In combat situations, soldiers are trained psychologically and technically to defeat their enemies by active attack. Peacekeeping operations (PKO) are very close to war zones (peace enforcing role), whereas some are mainly humanitarian missions and are similar to disaster aid deployment. Peacekeeping psychiatry combines research interests from mental health among wartime military personnel as well as crisis workers. We tried to assess the mental health state of military personnel during deployment to Liberia and explore their attitudes about the deployment itself.

**Methods:** Semi-structured interview was developed to fulfill the purpose of this study, collecting comments about sources of stress, positive and negative regard of

the deployment. The Arabic version of the General Health Questionnaire was applied at pre and post deployment stages

**Results:** Semi-structured interview was developed to fulfill the purpose of this study, collecting comments about sources of stress, positive and negative regard of the deployment. The Arabic version of the General Health Questionnaire was applied at pre and post deployment stages. **Results:** 172 non –commissioned officers (91% of the available sample) participated in this study. All of them were males through ages ranged from 23 to 51 years with the main age of 30, 2 years. No significant deterioration in the mental health status of the participants was noted following deployment to Liberia. The most common source of stress for all solders, mainly the single subgroups were the lack of recreations, repetitive routine job (46.5%, 57.1% respectively). Almost half of married solders were more stressful by separation from home and family. 82.6% reported positive consequences of the deployment on comparison to 64% who reported negative consequences. Married soldiers were more likely than single ones to report negative consequences of the deployment (70% vs. 54%).  $X^2 = 22.39$ ,  $df = 1$ ,  $p < 0.001$ .

**Conclusion:** Deployment to low intensity conflict regions is not detrimental to mental health. A strength paradigm of deployment related interventions should be focused not only on deployed soldiers but also on their families.

**Keywords:** Peace Keeping Operation PKO.

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### Arthropods of Military Importance in Saudi Arabia

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was to survey the arthropods affecting deployed military personnel in Saudi Arabia with emphasis on protective measures.

**Methods:** A comprehensive review of arthropods that affect the military personnel in Saudi Arabia was undertaken. Literature search keywords for medically important arthropods were "Saudi Arabian military health and medically important arthropods". Search engines included: Google and Pub Med in addition to other libraries of military medicine.

**Results:** A large number of arthropods including mosquitoes, sand flies, black flies, deer flies, horse flies, stable flies, filth flies, bot flies, tumbu flies, tsetse, biting midges, fleas, mites, ticks, lice, kissing bugs, bees, wasps, ants and scorpions may adversely affect health and performance of the deployed troops. Synanthropic flies (*Musca domestica*), Mosquitoes (*Culex pipines molestus*), 21 species of phlebotomies sand flies, blood sucking midges, ticks, fleas, lice, mites, 28 scorpion species (*Buthidae*, *Scorpionidae* and *Hemiscorpiidae* families), spiders including (*Latrodectus mactans*, the black widow) and (*Loxosceles* spp, the brown widow) are found in Saudi Arabia. These arthropods can inflict severe physical and psychological stress and economic burden that adversely affect the military mission. The bites are known to result in devastating secondary infections, dermatitis, or allergic reactions. Awareness programs, habitat avoidance/interference and proper clothing are practical preventive measures.

**Conclusion:** Number of arthropods has been recognized for their disease causing potential to deployed troops. Numerous awareness programs and preventive measures need to be launched to overcome arthropod related health hazards.

**Keywords:** Arthropods, Scorpion, Military Importance, Saudi Arabia.

**Objectives:** The objective of this study

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### **Difficulties Experienced by Turkish Military Medical Forces for Humanitarian Assistance in Afghanistan**

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**Objectives:** The Turkish Army has been serving in Afghanistan as a part of ISAF since 2002 in order to provide humanitarian assistance with a quite important security forces supported by a role 2 military treatment facility (MTF). This study was performed to collect the ideas of health care workers served at this MTF between 2002-2006 in order to improve pre deployment training program and the condition in MTF.

**Methods:** This cross sectional survey has aimed to include all of 77 health personnel served at Role 2 MTF from 2002 through 2006 in Afghanistan. An inquiry form has been developed by researchers and applied 73 (95%) of the all group

**Results:** Among respondents, while 26 (35.6%) were physicians, 24 (32.9) were health technicians noncommissioned officers and 7 (9.6%) were dentists, only two (2.7%) were nurses. From all respondents, 58 (79.9%) has been involved in providing health service to the indigenous people, while Only one of these 58 health personnel did not express any failure or insufficiencies in providing health service, the remaining 57 personnel stated they had expressed any kind of insufficiencies of 16 different areas which were grouped in four main subgroups . These were Lack of capacity and capability (69.0 %), Cultural issues (39.7%), legal issues and uncertainties regarding authorization and responsibilities (20.7%) and other (3.4%)

**Conclusion:** Pre deployment training programs should be improved to include relevant information on the region such as population size, health infrastructure, common diseases and prevention methods, and also use of mobile medical devices and equipments.

**Keywords:** Humanitarian Assistance, Military, Health Workers

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### **Use of the Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE) in the US Military Us?**

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**Objectives:** The US Department of Defense has used ESSENCE for syndromic surveillance since 2006. This system uses information from outpatient medical encounters, to include International Classification of Diseases codes, advanced text parsing of chief complaint, laboratory and radiology test orders, and pharmacy prescriptions, to track the health of beneficiary populations.

**Methods:** ESSENCE monitors near real-time data to detect rapid or unusual increases in the occurrence of infectious diseases. The data are grouped into syndromes which are subjected to detection methods developed by the Johns Hopkins University Applied Physics Laboratory (JHU/APL) for automated alerting. ESSENCE provides interactive reporting, structured analysis, ad hoc queries of disease syndromes, surveillance of Disease and Injury categories and Reportable Medical Events, and actionable patient-identifiable data to facilitate outbreak investigations.

**Results:** Recent updates include improved search capabilities and site selections, and expanding the fields available to create and share a user-defined disease category. DoD and JHU/APL continue investigations to improve the accuracy, timeliness and usefulness of ESSENCE. In 2014, new algorithms that fuse a variety of health indicators to improve the specificity of alerting along with new data fields to determine the potential severity of an outbreak will be incorporated. Priorities for the future include improving timeliness in accessing data, exploiting time-of-

encounter information for better sensitivity, utilization of different data sources such as phone consults, and automated data quality indicators for instant notification of a data delay.

**Conclusion:** This presentation will include a review of ESSENCE capabilities and the impact of improvements on public health surveillance in the US DoD.

**Keywords:** ESSENCE, Syndromic Surveillance

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### **The effect of use of Royal Jordanian Helicopter Emergency Medical Services in health care quality and survival during aeromedical evacuation**

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**Objectives:** is to give an overview of literature on the survival benefits of Helicopter Emergency Medical Services (HEMS) in Jordan and study mortality and morbidity in aero medical evacuation in Jordan.

**Methods:** A literature search was performed from database of Royal Jordanian Aeromedical Evacuation Medical Center, extending from 1967 until April 2014. Manuscripts used to describe effects of HEMS on survival expressed in number of lives or limbs saved during that period. 953 aeromedical evacuation sorties were studied during which 2785 patients were evacuated.

**Results:** Small number of evacuated patients died during aeromedical evacuations. 16 patients from overall 2785 evacuated patients in a percent of (0.006 %) , which indicates that HEMS assistance contributed to increased survival though the use of aeromedical evacuation and additional survivors were recorded for every 100 HEMS uses.

**Conclusion:** Literature shows a clear positive effect on health care quality and survival associated with HEMS assistance. There is also a clear reduction in mortality

and morbidity.

**Keywords:** Aeromedical Evacuation, Survival, mortality, Morbidity

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### **The US Military's Response to Emerging Pathogen Detection: Epidemiologic Surveillance and Assay Development – “The Case of MERS-CoV”**

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**Objectives:** US military laboratory capabilities have been leveraged in support of the detection and surveillance of emerging pathogens both nationally and internationally. This is best illustrated by the detection of the earliest known cases of MERS-CoV by the US Naval Medical Research Unit-3 (NAMRU-3) laboratory located in Cairo, Egypt. At the request of the Jordanian Ministry of Health (MoH), NAMRU- 3 helped to investigate an outbreak of severe, acute, respiratory disease in a hospital in Amman, Jordan in April of 2012.

**Methods:** Respiratory samples were taken from six of 11 hospitalized patients, including five HCWs and one student; two of these patients would die soon after hospitalization. Nasal swabs were tested via PCR for a host of pathogens including influenza, human coronavirus, SARS and parainfluenza types 1-3 . Bronchial lavage and a serum specimens from the two deceased patients were tested retrospectively for MERS-CoV specific genes.

**Results:** Initial (April, 2012) PCR testing of nasal swab specimens were negative for non-MERS-CoV agents. After the emergence of MERS-CoV became widely known in September 2012, NAMRU-3



consulted with the Jordanian MoH and further MERS-CoV specific testing was performed. Bronchial lavage and serum specimens from deceased patients tested positive for all three genetic markers and full genome sequencing was also attained on one of the isolates.

**Conclusion:** The collaboration between the Jordanian MoH, NAMRU-3, the CDC and other US military laboratories allowed for the rapid development and validation of a reliable diagnostic test which subsequently resulted in widespread distribution of diagnostic test kits worldwide.

**Keywords:** MERS-Cov, Emerging Pathogens, Surveillance

## Hall K Session 4 ICMM - ICMM Related Lectures, Delegations Talks & Free Papers

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**The need to Rehabilitate civilian victims with post-traumatic stress disorder (PTSD): The Gaza experience**

*Prof Imad Al-Khawaja MD (KSA)*

The recent atrocities against Gaza have resulted in unprecedented number of victims among children, women and the elderly. They have witnessed death, destruction and all forms of loss resulting from the military attacks.

For the purpose of defining trauma, "The person's response to the event must involve intense fear, helplessness or horror (or in children, the response must involve disorganized or agitated behavior)." This may include events that are not beyond the scope of normal human experience, as long as the event has had a trauma like impact on the person.

**PTSD:** A disorder that develops in response to a stressful event or situation of exceptionally threatening or catastrophic nature. Symptoms include: re-experiencing symptoms (e.g. flashbacks, nightmares), avoidance of people or situations associated with the event, emotional numbing and hyper-arousal symptoms.

**Key messages** for the treatment of PTSD: Increased awareness and greater recognition of PTSD, increased provision of

trauma focused psychological treatments, shift away from inappropriate use of medications and brief single session psychological treatments (debriefing).

**Immediate management:** Psychological first aid, giving information and social support as soon as possible, avoid brief single session debriefing given to individuals alone following an event, watchful waiting if symptoms are moderate – assess whether natural recovery occurs, review at one month, screen at risk groups following disaster especially refugees.

**Intervention within 3 months:** treat PTSD within 1 month if symptoms are severe. Introduce trauma focused Cognitive Behavioral Therapy (CBT) by first month if symptoms persist.

**Intervention beyond 3 months:** trauma-focused psychological therapy as first line treatment for people with more than a 3 month history of symptoms. Drug treatments should not be used in routine care.

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**Health Care Waste Management (HCWM) during Operations: New Sound Solutions to a Challenging Commitment**

*Col Claudio Zanotto, Pharm (Italy)*

Health-care activities lead to the production of waste that may lead to adverse health effects.

The management of health-care waste requires increased attention and diligence to avoid the substantial disease burden associated with poor practice. Whatever the technology used to deal with waste disposal, best practice must be promoted to ensure optimal operation of the system. Moreover, management and operational problems with incinerators, including inadequate training of operators, waste segregation problems, and poor maintenance, are recognized as critical issues that should be addressed in assessment and waste management plans. Nowadays, mostly due to the negative perception of incineration by public opinion, thermal treatment processes for energy recovery from waste, such as gasification or pyrolysis, are often





proposed as an alternative to the mass burning. Though alternative technologies can offer several potential advantages from an energetic/environmental point of view, their development is still curbed by some technical/economic aspects strongly limiting their commercial application to waste treatment.

In this presentation, the author details, among different alternative technologies, how solid waste treatment by plasma gasification, provides sound destruction of both waste and dangerous materials, in addition with renewable energy and an assortment of other fantastic benefits. While NATO encourages its Smart Defense program - a cooperative way of thinking about generating the modern defense capabilities by harmonizing requirements, pooling and sharing capabilities, setting priorities and coordinating efforts - and fosters the concept of "Framework Nations" around which to build integrated capabilities, new important opportunities appear to become more and more realistic and convenient. Along with their dual use potential aspect, which is definitely far from being their least positive implication.

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**Acute Trauma & Emergency Improvement Project: Lessons Learned , Armed Forces Hospital - Southern Region (AFHSR)**

*Col Abdullah M Al-Ghamdi MD\*,*

*Abdulah M. Hummadi*

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**Objectives:** This paper share the steps and procedure within our military hospital to address how to improve the trauma & emergency services.

**Methods:** In 2012 we decide to expand our Emergency Room (ER) & trauma services. This paper tracked the key steps that went into consideration when looking at this project. We documented the planning steps that took the uniqueness of a military serve hospital into consideration to provide at the end an unconventional way of

delivering ER & Trauma Services

**Results:** As a military Hospital that receive 26000 ER vista every month & up to 3500 trauma case per year ranging from mild trauma to major multiple injuries and as a referring centre for trauma in the area of responsibility, we decide to go unconventional in terms of planning our ER & Trauma Service Expansion Project (TESEP).

**Conclusion:** The Process executed in planning TESEP was successful and we are currently in the process of building our new system. the importance of considering military uniqueness while planning Er & trauma Service projects can't be overemphasized.

**Keywords:** ER, Trauma, Military

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**New Education Model of Law Enforcement – Tactical Medical Training System**

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**Objectives:** During their work police officers often encounter situations where citizens or law enforcement officers themselves require emergency medical care. Evacuation and the treatment of injuries on the premises pose a great challenge, especially in law enforcement operations or tactical environments where the EMS services are not allowed to enter for a period of time due to the risks and dangers involved.

**Methods:** In collaboration with the Hungarian Police Forces the Department of Operational Medicine of the University of Pécs, intends to respond to the above need by launching the Police Medic Program.

**Results:** Providing police officers integrated tactical emergency medical training should greatly promote the success and safety of law enforcement operations.

**Conclusion:** Using a new integrated tactical and emergency medical approach of a multilevel training system the efficiency and safety of police operations increase slightly.

**Keywords:** law enforcement, operational medicine, tactical medicine

## 226

### **Health Hazards During Deployment: Risk Factors, Prevention and Management**

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**Objectives:** To identify the health hazards during deployment, their prevention and management among military personnel deployed in war zones.

**Methods:** An extensive literature search was carried out to identify the health hazards during deployment, their risk factors, prevention and management with special reference to Arab gulf region (Iraq) and Afghanistan. After collection of the relevant studies the data were analyzed as per the objective.

**Results:** War veterans face multiple health problems which are exceptional or more common in them than the ordinary population. Many returning veterans report exposure to hazardous environmental factors, such as sand storms or smoke from burn pits, which lead to dyspnea or a chronic cough. Women may come home with urinary tract infections because of dehydration and "holding it in" due to a paucity of private facilities. Others may come back with infections such as malaria, tuberculosis, skin infections, or diarrhea. Active combat has also been linked to other cardiovascular risk factors, including hypertension and dyslipidemia. The long term effect of harmful noise from gunfire, heavy weapons, noisy engine rooms and

aircrafts prompt irreversible lower back pain or numbness and pain in the hands and fingers. General effects of traumatic brain injuries include language disabilities, shorter attention span and an inability to process information.

**Conclusion:** During deployment and combat, military personnel are exposed to numerous occupational hazards which lead to physical, psychosocial, psychological problems. The unique health care needs of veterans should be addressed by a team of experts and with the community support.  
**Keywords:** Deployment, Health Hazards, Management

## 227

### **A Survey of the Status Quo of the Chinese People's Liberation Army's Predeployment Training for Peacekeeping Medical Contingents**

*Col Wang Jiusheng MD\*, Senior Colonel LIU Chenggang, M. Med., Deputy Chief Physician, Hospital Director, No. 230 Hospital, CPLA Shenyang Military Theater of Operations, Colonel Qi Meng, M.A., Associate Professor, College of International Exchange, the Second Military Medical University*

\* Colonel WANG Jiusheng\*, M.D., Associate Professor, Health Service Training Center of the CPLA, the Second Military Medical University (China)

**Objectives:** To understand the status quo of the Chinese People's Liberation Army's (CPLA) pre-deployment trainings for peacekeeping medical contingents and propose suggestion for improvement.

**Methods:** We conducted questionnaires, field investigations and focus group discussions among the CPLA's participants of trainings, and a focus group discussion among foreign military officers at the CIE, SMMU, who had participated peacekeeping, to collect data in Shenyang, Beijing, Jinan, Lanzhou, and Chengdu Military Theaters of Operations. We then processed and analyzed the data with Microsoft Excel and SPSS.

**Results:** The CPLA attaches great importance to the medical support for UN peacekeeping missions. Accordingly, it has

nominated personnel of fine qualifications for pertinent trainings organized by respective MTOs. However, the conditions for training were generally poor and there was a shortage of professional teachers and appropriate textbooks.

**Conclusion:** Establish peacekeeping training bases of the CPLA, intensify English language proficiency training, build a reserve of professional teachers, conduct scientific assessment and evaluation, and provide modularized and integrative trainings on medical support for peacekeeping, which are organized by a third-party institution at training bases.

**Keywords:** Peacekeeping Medical Contingents; Pre-Deployment Training; Survey of the Status Quo

## 228

### **How to move the quality of pharmaceuticals in missions - a scientific approach to good military transportation practice**

*Col. Thomas Zimmermann PhD (Germany)  
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**Objectives:** The supply of missions with medicines/medical devices (including also vaccines/diagnostics) poses due to the variety of products and environmental conditions specific challenges. Pharmaceutical companies/ wholesalers are not able to deliver their products to military units in missions or crisis. So the military pharmacologists have to consider the regulatory framework and recommendations of professional bodies and pharmacopoeias. Dedicated transportation containers had to be evaluated or developed, testing procedures had to be implemented/converted into laboratory based methods, validation by means of scientifically determined data was necessary and field testing prior to the implementation was compulsory.

**Methods:** Research evaluated container-based passive transportation systems by cold life tests according to WHO

enhanced them and did their validation in conclusion. These steps were followed by the training of key personnel and practical data collection during missions, for example the determination and analysis of mission-specific temperature profiles to be converted into laboratory-based testing and prediction scenarios (by mean kinetic temperature). The respective data can complement that of the ISTA models or maybe replace them. In carrying out the tests, the provisions of DIN EN ISO/IEC 17025 were to be observed.

**Results:** Results demonstrate that VIP (vacuum isolated panels)-equipped transportation containers, in combination with special PCM-based (phase change material) cool packs enhance the transportation time by the factor 3. The quality management process includes preconditioning of cool packs, the evaluation of data loggers and the product housing in a dedicated packaging regime.

**Conclusion:** Quality assurance measures will ascertain the quality and thus the safety of drugs and medical devices during pharmacologic processes in missions abroad.

**Keywords:** GDP, Pharmaceuticals, VIP, MKT

Hall L Session 1

Ophthalmology - Oculoplastic, Orbit, and Lacrimal Drainage Apparatus

## 229

### **Assessment & Management of Adult Epiphora**

*Saj Ataullah MD (UK)*

- The multifactorial aetiology of acquired adult epiphora often makes assessment and correct diagnosis very challenging
- Office-based clinical tests are crucial to arrive at correct diagnosis
- 3-snip is a destructive punctoplasty procedure and should be avoided
- Other superior punctoplasty procedures described
- Update on lower eyelid tightening – lateral canthal resuspension technique
- Endonasal DCR techniques



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**Paediatric Oculoplastic, Lacrimal & Orbital Disorders**

*Saj Ataullah MD (UK)*

- Paediatric ptosis assessment and management
- Dermoid cysts
- Paediatric orbital malignancies
- Paediatric orbital trauma
- Orbital cellulitis
- Congenital nasolacrimal duct obstruction

**231**

**Cosmetic Oculoplastic Procedures: An Update**

*Saj Ataullah MD (UK)*

- Assessment of the aging periocular region
- Update on surgical techniques to rejuvenate the periocular region:
  - a) Upper & Lower Transcutaneous blepharoplasty techniques
  - b) Lower eyelid Transconjunctival blepharoplasty with fat repositioning
- Complications of blepharoplasty
- Update on non-surgical techniques for periocular rejuvenation:
  - a) Botulinum toxin
  - b) Hyaluronic acid fillers
  - c) Tear trough rejuvenation

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**Vision Threatening Emergencies in Oculoplastic Surgery**

*Saamir Kharma MD (Jordan)*

Oculoplastic surgery does not only involve treatment of cosmetic eye problems, this presentation discusses some of the oculoplastic problems that can cause visual affection.

This varies from simple eyelid problems like lash misdirection and eyelid malposition to severe orbital problems like thyroid compressive optic neuropathy.

This talk will be a quick review of these cases.

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**Life Threatening Cases in Oculoplastic Surgery**

*Saamir Kharma MD (Jordan)*

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**Ocular Blast Injuries Related to Explosive Military Ammunition**

*Fatih Cakir Gundogan MD\*, Fahrettin Akay, Umit YOLCU, Sami TOYRAN, Emrah EY?*

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**Objectives:** To report ocular injuries associated with different types of explosive military ammunition

**Methods:** Eighty-three eyes of 48 patients who were treated due to the terrorist attacks at the Combat Region Hospitals in Turkey between November 2006-June 2013 were retrospectively reviewed. The data noted included initial visual acuity, type of explosive military ammunition, type of globe injury (open-globe injury vs closed-globe injury), traumatized globe zones, the presence/absence of intraocular foreign body, evisceration/enucleation procedure and the injuries in other parts of the body.

**Results:** Mean age was 24.5±6.6 (range: 20-45 years). Mean initial visual acuity was 0.37±0.37. Injuries were due to IEDs in 28 events (58.3%), land mine in 16 events (33.3%), hand grenade in 2 events (4.2%) and rocket in 2 events (4.2%). Open-globe injuries were present in 47 (56.6%) eyes and closed-globe injury in 36 (43.4%) eyes. The type of globe injury and initial visual acuity did not differ among exploded military ammunition ( $p=0.511$  and  $p=0.861$ , respectively). Patients with open-globe injury had significantly lower visual acuity than patients with closed-globe injury ( $p<0.001$ ). Intraocular foreign body was present in 45 of 47 eyes with open-globe injuries (95.7%). Twelve (14.4%) eyes with NLP were eviscerated and 2 (2.4%) were enucleated. No endophthalmitis was diagnosed during the follow up.

**Conclusion:** Usage of protective eyewear is

important for decreasing the rate of ocular injuries in combat area. Issuing protective eyewear to soldiers and encouragement of its use will provide highest ocular protection in combat area.

**Keywords:** Improvised explosive devices, ocular injury, blast trauma, open globe injury, closed globe injury

## Hall L Session 2 Ophthalmology - Glaucoma

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### Role of Trabeculectomy in Glaucoma

Karanjit S. Kooner MD (USA)

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### Glaucoma Shunt Surgery: Practical Points to Consider

Karanjit S. Kooner MD (USA)

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### Glaucoma Laser Therapy: A Critical Analysis

Karanjit S. Kooner MD (USA)

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### Pediatric Glaucoma Suspects

Mohannad Albdour MD\*, Karanjit Kooner, Matthew Harrison, Zohra Parsla, Beverley Adams-Huet

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**Objectives:** To report demographic and ocular features of pediatric glaucoma suspects in an ethnically diverse population of North Central Texas

**Methods:** Retrospective cross-sectional chart review. Subjects included 75 (136 eyes) pediatric glaucoma suspects. Patients with one or more of the following risk factors were included: cup-to disc (C/D) ratio of  $\geq 0.6$ ; intraocular pressure (IOP)  $\geq 21$  mmHg; family history of glaucoma; congenital glaucoma in the opposite eye; history of blunt trauma to either eye; and presence of either Sturge-Weber or Axenfeld-Rieger syndrome, or oculodermal melanocytosis. Data were extracted

from electronic patient medical records. Patient records with incomplete data were excluded. The main outcome measures were race, sex, age, IOP, C/D, family history of glaucoma; and glaucoma treatment

**Results:** Subjects included 28 (37.3%) Hispanics, 20 (26.6%) African Americans, 20 (26.6%) Caucasians, and seven (9.3%) Asians. Forty (53.3%) of the patients were male. Suspicious optic disc was seen in 57 (76%); elevated IOP in 25 (33.3%); presence of family history in 13 (17.3%), and Sturge-Weber syndrome in nine (12%) patients. The average C/D ratio was  $0.58 \pm 0.2$ . The C/D ratios of African American ( $0.65 \pm 0.2$ ), Hispanic ( $0.63 \pm 0.2$ ), and Asian ( $0.62 \pm 0.15$ ) patients were significantly greater than those of Caucasians ( $0.43 \pm 0.18$ ;  $P=0.0004$ ,  $0.0003$ , and  $0.0139$ , respectively). Caucasian patients were the youngest ( $7.9 \pm 4.8$  years). Eleven cases (14.7%) required medication.

**Conclusion:** The most common risk factors for suspected glaucoma were suspicious optic discs, elevated IOP, and family history of glaucoma. Most patients required only close observation. Long-term follow-up of these patients is warranted to determine the mechanisms of conversion to glaucoma

**Keywords:** childhood glaucoma suspects, suspicious optic disc, intraocular pressure

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### Eye as a Mirror of Systemic Disease: A Noninvasive Method for Prediction of Risk of Vascular Diseases

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**Objectives:** To review the role of retinal vascular caliber (RVC) in predicting the risk of vascular diseases.

**Methods:** We carried out an extensive search of literature to assess the role of retinal vascular caliber in predicting the risk of systemic diseases. The accuracy of digital photography for the measurement of RVC has also been reviewed.

**Results:** Eye examination provides a unique window to assess a variety of systemic diseases. Population-based studies have shown that RVC are associated with a wide range of subclinical (e.g. atherosclerosis, inflammation and endothelial dysfunction) and clinical cardiovascular diseases (hypertension, diabetes mellitus, stroke, kidney and heart diseases). As the retinal microvasculature share many features with the cerebral circulation including embryological origin, anatomical and physiological characteristics, it has been suggested that the RVC is a good marker of neurovascular pathology. Larger retinal venular caliber has been associated with a 1.7 times higher risk of stroke mortality. In the recent years, digital imaging systems have revolutionized the assessment of retinal photograph. While the subjective clinical assessment provides only a limited view of retinal vessels, retinal photography captures a larger segment of retina and allows a more objective documentation of major retinal vessels and its branches.

**Conclusion:** Imaging techniques have allowed the development of accurate and reliable quantitative assessment of RVC which may be used to predict the risk of systemic diseases. Moreover, available data suggest that the retinal microvasculature provides an ideal opportunity to explore the possibilities of elucidating the pathophysiology of neurovascular diseases including stroke and dementia.

**Keywords:** Retinal vascular caliber, Digital imaging, Risk prediction, Vascular diseases

## 240

### **Role of Environmental Factors and Genetic Makeup in Pathogenesis of Ocular Pseudoexfoliation Syndrome in Saudi Military and Their Families**

*Sulaiman Al-Saleh MD\*, Najwa Al-Dabbagh\*\*, Hafez Al-Faleh\*\*, Saad Al-Shamrani\*\*, Nusrat Khan\*\*, Misbahul Arfin\*\*\*, Mohammad Tariq\*\*\*, Noura Al Dohayan\**

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**Objectives:** To find out the role of environmental factors and genetic makeup in pathogenesis of ocular pseudoexfoliation syndrome (PEX) in Saudi Military and their families.

**Methods:** A total of 1967 military personnel and their families visiting primary care clinics of Prince Sultan Military Medical City were screened for the presence of PEX and effect of environmental factors. Fifty one confirmed cases were studied to determine the role of HLA in the etiology of PEX. HLA-DRB1 typing was performed by sequence specific oligonucleotide primer (PCR-SSOP) method on PEX patients and 101 matched controls.

**Results:** The prevalence of PEX in studied population was 3.51% and showed an age dependent increase. However, there was no significant difference in the prevalence of PEX in male and female. The majority of patients (62%) have bilateral PEX. PEX was associated with higher intraocular pressure, cataract and poor vision. Chronic exposure to strong UV light causes a change in the cornea known as climatic droplet keratopathy. There was no definitive association between environment/diet/lifestyle and prevalence of PEX in our study. HLA-DRB1 typing showed an increased frequencies of DRB1 \*02 ( $P=0.047$ ), DRB1 \*03 ( $P=0.0001$ ) indicating that DRB1 \*02 and DRB1 \*03 may be susceptible to PEX.

**Conclusion:** There is no definitive association between environment/diet/lifestyle and prevalence of PEX. The presence of HLA-DRB1 \*02 and DRB1 \*03 alleles is clearly associated with the susceptibility of PEX in this Saudi population. Further study using large number of subjects is in progress to determine the role of genetic factors in PEX.

**Keywords:** Pseudoexfoliation syndrome, HLA-DRB1, genetics, Saudi





## Hall L Session 3 Ophthalmology - Refractive Surgery, Cornea, and Keratoconus

**241**

### **Intra-Corneal Ring Segments for Keratoconus: How it Works and how to Choose the Ting**

*Dominique Pietriri MD (France)*

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### **Indications of Topo Guided PRK in Keratoconus**

*Dominique Pietriri MD (France)*

**243**

### **Femtosecond Laser Cataract Surgery**

*Dominique Pietriri MD (France)*

**244**

### **Ocular Surface Disease and Dry Eye**

*Muawyah Al-Bdour MD (Jordan)*

The diagnosis of dry eye and its treatment has long been approached somewhat subjectively. Recently this has started to change. The International Dry Eye Workshop was created to provide an evidence-based critical review and summary of the classification, epidemiology, diagnosis and management of dry eye disease. Dry eye disease does not appear to be a broad enough term to incorporate all facets of the disease. The presentation will stress on ocular surface disease (OSD) as a term beginning to appear in literature and continuing education meetings being a more accurate representation of a multifactorial condition. The presentation will also discuss the different types of preservatives used in ophthalmic drops.

**245**

### **Modern Cataract Surgery**

*Brad Feldman MD (USA)*

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### **Updates in Corneal Surgery**

*Brad Feldman MD (USA)*

## Hall L Session 4 Ophthalmology - Ophthalmic Trauma and Vitreo-Retina

**247**

### **Concepts of "Pole to Pole" Surgery**

*Cesare Forlini MD (Italy)*

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### **MIVS in Trauma**

*Cesare Forlini MD (Italy)*

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### **PKP in "Pole to Pole" surgery in Trauma**

*Cesare Forlini MD (Italy)*

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### **Traumatic Cataract**

*Cesare Forlini MD (Italy)*

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### **Save the Iris**

*Matthew Forlini MD (Italy)*

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### **Artificial Iris**

*Matthew Forlini MD (Italy)*

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### **From Evisceration to Visual Rehabilitation: A Vision Saving Journey**

*Nancy Al-Raqqad MD\*, Hiba khraisat MD, Hilda Wade RN*

*\* Major, Ophthalmologist MD. FRCS Cornea and Refractive Surgery Senior Specialist at King Hussein Medical Center, Royal Medical Services (Jordan) nrakkad@yahoo.com*

**Objectives:** To share our experience with implanting the first artificial cornea (Boston Keratoprosthesis) in the royal medical services.

**Methods:** 48 years old male patient presented with severely protruding right cornea. He was sent from Yemen after long duration of anterior segment infection that resulted in a decematomocle of the cornea and bulging of the whole cornea and lens button. Patient's vision was perception of light in that eye. He was given evisceration as his only option.

**Results:** An 11 mm Corneoscleral tectonic

graft was used to reform the anterior segment. Onlay procedure was used and simultaneous lens extraction was done. Two months later the anterior segment was rehabilitated using type 1 Boston Keratoprosthesis. Vision post 1st week post op is 6/36 Retroprosthetic membrane formed and was opened via yag laser.

**Conclusion:** Boston keratoprosthesis can be used in end stage corneal blindness with good eye wetting. Our first experience at King Hussein Medical centre was successful and more cases to follow.

**Keywords:** Cornea, decematomole, keratoprosthesis.

## 254

### **The Outcome of the First 1000 Case of Lasik Performed at King Hussein Medical Center**

*Wajih Abdallat MD*

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**Objectives:** To report the visual outcome of the first one thousand case of Lasik done at the Refractive centre of the Ophthalmology Department in King Hussein Medical Centre.

**Methods:** This is a retrospective study of the main outcome measures of predictability, stability, efficacy and safety for the first five hundreds patients (one thousand eyes). They all underwent Lasik operation in 2006-2007 with a follow up for five years. The patients were examined at one day, one month, six months, one year and five years after the surgery.

**Results:** Subjective refraction was done in all the above mentioned visits except the first day post operation which was only to check the integrity of the flap. At one month 78 % of patients were within  $\pm 0.50$  D of the intended correction and 92 % within  $\pm 1.00$  D. At five years 80 % were within  $\pm 0.50$  D of the intended correction with 89 % were within  $\pm 1.00$  D. After five years no eye lost more than one line of best corrected visual acuity. Regression towards myopia was noted, in patients who already have high myopia before correction, to be less than one dioptr.

**Conclusion:** Wide base of satisfaction among our patients were noted due to high success rate of the results which were also comparable with the international ones

**Keywords:** Lasik, visual outcome, KHMC

## 255

### **Refractive Outcome of Toric Intraocular Lens Implantation for Correction of Astigmatism during Cataract Surgery**

*Amal Althawabi MD\*, Naveen K Rao MD, Cornea Specialist, Lahhey Clinic Medical Center, Sarkis Soukiasian, MD, Lahhey Clinic Medical Center Kristin Tawse MD, Tufts Medical Center*

*\* Captain, Cornea Specialist, Royal Medical Services (Jordan)*

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**Objectives:** To establish clinically relevant criteria for determining quality of refractive outcomes after toric intraocular lens (IOL) implantation. To assess whether implantation of toric IOLs with a higher cylindrical power is associated with inferior refractive outcomes

**Methods:** Charts were reviewed for patients who underwent cataract surgery and toric IOL implantation with the Alcon Acrysof toric IQ lens at Lahhey clinic from July 2009 - June 2012. Data collected included: cylindrical power of toric IOL used; postoperative uncorrected distance visual acuity (UDVA); postoperative corrected distance visual acuity (CDVA); postoperative residual astigmatism by manifest refraction; and presence of ocular co-morbidities. Outcomes were good (UDVA) 20/25 or better with  $\leq 0.5$  D residual astigmatism, fair (UDVA) 20/30 with  $\leq 0.5$  D residual astigmatism or (UDVA) 20/25 or better with  $\geq 0.75$  D residual astigmatism, sub optimal with (UDVA) 20/30 or worse with  $\geq 0.75$  D residual astigmatism.

**Results:** 193 eyes of 96 patients were included. 56.4 % (n=75), 16.5 % (n=22), and 27.1 % (n=36) of eyes met the criteria for the good, fair and sub optimal outcome groups respectively. 13.5 % (n=18) had ocular co-morbidities (corneal or retinal pathology) that limited postoperative CDVA; all met the criteria for the



suboptimal outcome group. 38.4 % (n=51) of eyes received implantation of the lowest cylindrical power toric IOL (T3), and 61.6% (n=82) of eyes received implantation of higher cylindrical power toric IOLs (T4-T9). Residual astigmatism was lower in the T3 group than in the T4-T9 group,  $p=0.0115$ .

**Conclusion:** Establishing the criteria for determining the quality of refractive outcomes after toric IOL implantation can be helpful in counseling the patients before

**Keywords:** toric IOL , refractive outcome

## Hall N Session 1 Allied Health Professions - Speech Pathology & Audiology

256

### Hearing –Critical Military Tasks and Towards a New Measures of Fitness for Duty

*Daniel Rowan PhD (UK)*

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The ability to listen to commands in noisy environments and understand acoustic signals, whilst maintaining situational awareness, is an important skill for military personnel, and can be critical for mission success. However, little is known about the specific situations where hearing is important, particularly from the point of view of the infantry/combat personnel themselves, and what the mission-critical hearing tasks are. The first part of this presentation will review (1) our published work on exploring military-relevant hearing tasks (Bevis et al., 2014); and (2) follow-up research to determine the relative significance of a variety of specific scenarios and which can be termed 'mission-critical hearing tasks' (submitted). As expected, mission-critical hearing tasks often involved speech intelligibility in noise (SiN), under a variety of conditions.

In the UK and many other countries, pure-tone audiometry (PTA) is used to assess

whether military personnel have sufficient hearing for duty. However, it is known that PTA is poor predictor of SiN ability and might also be a poor predictor of auditory fitness for duty. The second part of this presentation will describe work to develop and validate a SiN-based auditory fitness-for-duty test suitable for military personnel, based on the Coordinate Response Measure (CRM). Initially, psychometric functions were estimated with 20 normal-hearing listeners for the key speech elements in noise before and after the application of correction factors to equalise the intelligibility of the elements. Next, the implementation of the CRM-in-noise as an adaptive procedure was investigated and compared to the previously validated triple digit SiN test in normal-hearing civilians and hearing-impaired military personnel to determine the repeatability and internal validity of the CRM. We are currently working on an initial test of the external validity of the CRM as a test of auditory fitness-for-duty. © British Crown Copyright 2014 /MOD. Published with the permission of the Controller of Her Britannic Majesty's Stationery Office.

### Acknowledgement

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### Palatal Lift Prosthesis Effect on Speech Clarity in Patients with Flaccid Dysarthria

*Firas Alfwaress PhD (Jordan)*

The aim of the present study was to investigate the effect of Palatal Lift Prosthesis (PLP) on speech clarity in patients with Flaccid Dysarthria. Five speech measures were investigated including Nasalance Scores, Diachokinetic (DDK), Vowel Duration, airflow, and Sound Intensity.

**Participants:** Twelve (7 Males and 5 females) native speakers of Jordanian Arabic with Flaccid Dysarthria following stroke, traumatic brain injury, and amyotrophic lateral sclerosis were included. The age of the participants ranged from 8 – 65 years with an average of 31.75 years.

**Design:** Nasalance Scores, Diachokinetic rate, Vowel Duration, and Sound Intensity

were obtained using the Nasometer II, Model 6450 in three conditions. The first condition included obtaining the five measures without wearing the customized Palatal Lift Prosthesis. The second and third conditions included obtaining the five measures immediately after wearing the Palatal Lift Prosthesis and three months later.

**Results:** Palatal lift prosthesis was found to be effective in individuals with flaccid dysarthria. Results showed decrease in the Nasalance Scores for the syllable repetition tasks and vowel prolongation tasks when comparing the means in the pre PLP with the post PLP at  $p \leq 0.001$  except for the /m/ prolongation task. Results showed increased DDK repetition task, airflow amount, and sound intensity, and a decrease in vowel length at  $p \leq 0.001$ .

**Conclusions:** The use of palatal lift prosthesis is effective in improving the speech of patients with flaccid dysarthria.

## 258

### **The Effect of Background Noise on READING and What is can tell us about Auditory Processing**

*Daniel Rowan PhD (UK)*

*Dr Daniel Rowan\*, Hannah Holmes\*, Dr Hazel Blythe^, Dr Hayward Godwin^, Prof Simon Liversedge^, Dr Helen Cullington<sup>s</sup>*

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Auditory and visual communication often occur acoustically noisy backgrounds (e.g. in the workplace, noisy café, classroom etc.). The interference effects of such backgrounds with speech intelligibility are well documented. While input to visual and auditory modalities do not physically mask each other, interference effects during reading might occur at the level of language processing in the brain, and might be related to auditory 'informational' masking. Experiments to date have demonstrated interference of

background sounds containing speech with reading. The aims of this study were to further investigate interference effects with reading by various background sounds and to relate this to effects with speech intelligibility.

Thirty adult participants had their eye movements tracked (using the SR-Research Eyelink 1000 system) while they were instructed to read sentences on a monitor silently for comprehension and ignore background sounds played to them over headphones. Participants were required to answer randomly placed comprehension questions after 25% of the trials. Reading fixations (the number of times eyes stop on parts of the text), fixation durations (the mean time spent with eyes stopped on parts of the text) and regressions (backward eye movements) were used as measures of processing difficulty. Background conditions consisted of no-noise, speech-spectrum noise, and speech with 1, 2 and 16 male talkers. Speech intelligibility using BKB sentences was also measured using those backgrounds and a range of signal-to-noise ratios. Our results support previous research that reading can be disrupted by certain background sounds. We also found that a single-talker or two-talker backgrounds are more disruptive than babble or noise backgrounds, but that a two-talker background is no more disruptive than a single-talker background contrary to our expectation from the speech intelligibility results.

## 259

### **Electrocholeography and Meniere's Disease** *Mohammad Al-Hanada PhD (Jordan)*

**Objectives:** The primary goals of this study are to observe the degree of variation of the tymptrode position on the TM and the marker's area size among a population of adult subjects with normal hearing, and to investigate the effects of these variations on the ECoChG outcomes.

**Methods:** Normative values were established for ECoChG parameters. Tymptrode locations on the TM were detected by observing the gel marker in 50 TM images. 47 ECoChGs were recorded

for 18 normal hearing subjects. 14 subjects were tested three times and 4 subjects were tested two times. Two parameters were used to measure the location of the tymptrode on the TM: the angle and the length.

First, a mixed model was used to investigate if the tymptrode location on the TM and the marker's area size were significantly different every time the same subject was re- tested. Secondly, a mixed regression model was used to investigate if the variations of the tymptrode location on the TM affect the ECoHG outcomes when all other parameters were held constant.

**Results:** Results revealed that the angle of the tymptrode location on the TM was significantly different across all the measurements every time the same subject was tested. A mixed regression model results revealed no significant effect of the electrode location or the marker's area size on the SP/AP amplitude ratio. However, there was a significant effect of the angle of the marker on the SP/AP area ratio. Most important, clinically there were no important effects of the tymptrode location variations on the ECoHG outcomes.

**Conclusion:** Variations of the tymptrode location on the TM had no clinically significant effects on the outcome of an ECoHG exam in normally hearing subjects.

## 260

### **Fresh Pomegranate Juice decreases Fasting Serum Glucose and Ameliorates Insulin Resistance in Type 2 Diabetic Patients**

*Saleem Bani-Hani PhD (Jordan)*

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**Objectives:** This study demonstrated the direct effect of fresh pomegranate juice (PJ) on fasting serum glucose (FSG) and insulin levels in T2D patients.

**Participants:** Blood samples from 85 participants with type 2 diabetes were collected after a 12-hr fast, then 1 and 3 hrs after administration of 1.5 mL of PJ per kg body weight.

**Design:** Serum glucose was measured based on standard methods using the BS-200 Chemistry-Analyzer. Commercially available immunoassay kits were used to measure human insulin.

**Results:** The results from this study revealed decreased FSG, reduced insulin resistance, and enhanced  $\beta$ -cell function among T2D participants 3 hrs after PJ administration ( $P < 0.05$ ). This hypoglycemic response is less potent in elderly patients and depended on initial FSG levels.

**Conclusion:** This clinical study offers some encouragement regarding PJ consumption by T2D patients.

## **Hall N Session 2 Allied Health Professions - Radiology & Laboratory Sciences**

## 262

### **Prevalence of Vitamin B12 Deficiency in Helicobacter Pylori infected Patients in Jordan**

*Saad Al-Fawaeir PhD\*, Mohammad Abu Zaid*

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**Objective:** The aim of this study is to assess the frequency of vitamin B 12 deficiency in patients with Helicobacter pylori (H.pylori) infection to determine whether low serum vitamin B12 levels correlate with serological evidence of H. pylori infection.

**Methods:** Subjects: Blood samples were collected from 200 subjects. For each subject serum vitamin B12, folic acid, complete blood count and H. pylori IgG antibodies were measured. 150 subjects with H. pylori infection and 50 subjects were healthy control group.

**Results:** Vitamin B12 deficiency was found in 87(58%) patients with seropositive H. pylori IgG antibodies(HP+) versus 9 (18%) patients with seronegative H. pylori IgG antibodies(HP-). The mean  $\pm$ SD of serum vitamin B12 level in overall subjects (males and females) was  $345.717 \pm 215.214$  and  $271.254 \pm 35.234$  ( $p < 0.01$ ) respectively. The mean  $\pm$ SD of serum vitamin B12 level in H. pylori infected subjects was  $295.574 \pm 71.482$  versus  $411.973 \pm 368.241$  in healthy group ( $p < 0.02$ ). The mean  $\pm$ SD of serum vitamin B 12 level in overall H. pylori infected subjects with vitamin B12 deficiency (male and female) was  $142 \pm 24.423$  and  $144.322 \pm 18.736$  ( $p < 0.02$ ) where it was  $565.197 \pm 149.488$  and  $615.33 \pm 139.981$  with normal serum vitamin B12 level in the same group.

**Conclusion:** Collectible results suggest a causal relationship between H. pylori infection and vitamin B12 deficiency in Jordanians.

**Keywords:** Helicobacter pylori, vitamin B12, IgG antibodies

## 263

### Image Quality and Radiation Dose Studies of Clinical Images from Single, 16 and 64 Slice CT Scanners

Haytham Al-Ewaidat PhD (Jordan)

The purpose of this study was to evaluate clinical image quality and radiation dose from various CT scanners in order to identify the CT scanners that produce the least radiation dose to patients with just acceptable image quality for diagnosis. Non-randomised clinical image data were collected from three hospitals on single, 16 and 64 slice CT scanners. A total of 240 patients who underwent abdomen and brain scans were used for image quality evaluation and dose assessment. The image qualities were evaluated by four human observers on 1-5 visual grading scale. The radiation dose index CTDI<sub>w</sub> were either recorded from the image display or calculated by the ImPACT software using the recorded scan parameters. The averaged CT dose index CTDI<sub>w</sub> were 32.2, 46.0 and 69.8 mGy for brain and 9.5, 14.5 and 16.9

mGy for abdomen from single, 16 and 64 slice scanners respectively. The averaged image quality scores were 2.71, 3.32 and 4.35 for single, 16, 64 slice scanners. Single slice CT scanner delivered the least radiation dose to patients in comparison with the 16 and 64 slice CT scanners but its image quality is adequate for diagnosis. Both 16 and 64 slice CT scanners produced more than adequate image quality as well as more than necessary dose to patients. The patient dose from the 16 and 64 slice scanners may be reduced by lowering their image quality to the level of single slice CT scanner.

## 264

### Venomous Scorpions of Jordan and the Epidemiology

Zuhair Amr PhD (Jordan)

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Scorpionism is an endemic public health problem in Jordan encountered by health providers in all parts of the country. Epidemiological data on 1205 scorpion sting cases reported between 2006 and 2012 are reported. Male to female ratio was 1.18:1, with average ages of  $23.3 \pm 16$  and  $26.4 \pm 16.9$  years for males and females respectively. Age groups between 1-20 years old constituted 44.6% of the total sting accidents. Females were less vulnerable in age groups between 1-30, while more vulnerable at age groups above 30 year-old. Scorpion sting accidents peaked in July (22.5%) and August (23%), with lowest numbers of recorded cases in February and January (1.6 and 1.9% respectively). Scorpion stings occurred mostly outdoors (66%). Medical complications associated with scorpion sting cases include fever, difficulty in breathing, drowsiness and dizziness and numbness, while sever complications include respiratory failure and tachycardia.



Hospitalization required 1-3 days among admitted patients with no fatalities.

**Keywords:** Scorpionism, Scorpion, Epidemiology, Jordan.

## 265

### **Estimating of Post Mortem Time by Development of Immature of *Lucilia Sericata* and *Calliphora* (Diptera: Calliphoridae)**

Hazem Shareef PhD (Jordan)

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Flies of the family Calliphoridae are important in determining the post mortem interval (PMI) of an animal. They lay eggs soon after an animal dies and after hatching, their larvae start to develop on the carcass tissues and grow in size in a rate that depends mainly on temperature among other factors. The development of two Jordanian calliphorids species, *L. sericata* and *C. vicina*, was studied on lamb liver at 17, 25 and 30° C. The durations of immature stages and the length of larvae were recorded. The (PMI) was estimated using isomorphen diagrams. The minimum development threshold for the larvae, calculated by linear regression, was 10.3°C for *L. sericata* and 3.2° C for *C. vicina*. The accumulated degree-days (ADD) were calculated for each immature stage. The total ADD for *L. sericata* were 4965.2, and for *C. vicina* were 8268.3. The ADD data was used to estimate the PMI by developing a computer program that uses data obtained from the results of the study.

## 266

### **Renal Ultrasound and CT Scanning**

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**Objectives:** To determine the sensitivity of U/S for detecting urinary tract stone and to detect accuracy of U/S for detecting the size and number of stones.

**Methods:** Total of 200 pt complained of renal colic in prince Hashim Hospital from January 2009 to December 2010 were do U/S and CT scan exam and were compared for evidence of renal stone and asses the size and location of stone .

**Results:** U/S detects 60 of 150 stone identified at CT. U/S has sensitivity of 30%, there was no difference for detection of stone in right or left Kidney. U/S identified 35% of pt with multiple stone and detect all in 15% of these pt. The main size of stone with U/S was 7.mm + 1 m 80% of stone not visualized at U/S which were less than 3mm in size.

**Conclusion:** U/S is a limited method for detecting small size of renal less than 5mm. Non enhanced CT has become the primary method for evaluate acute renal colic with suspected renal disease. CT has sensitivity of 97% for urinary tract stone particularly for detecting urethral stone which not seen by other modalities with use of CT,U/S and have secondary role for evaluation of urinary tract stone .

**Keywords:** Ultrasound, Ultrasound CT, Computed Tomography Scanning



## Hall N Session 3 Allied Health Professions - Occupational Therapy, Social Workers, Dental Technology, Prosthetic & Orthotic

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### Cross Cultural Adaptation of the American National Institutes of Health Stroke Scale (NIHSS-A) Clinical Implications For the Arabic Speaking Professionals and Patients

Mohammad Subhi Nazzal PhD (Jordan)

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**Introduction:** The National Institutes of Health Stroke Scale (NIHSS) is a clinical assessment tool to evaluate the initial stroke-related neurological deficits. Its language specific items have been developed to be used with the native English-speaking stroke clients. Healthcare providers in the Arabic world can only conduct the motor-specific components to their native Arabic-speaking clients.

**Aims:** This study aimed to establish the Arabic version of the NIHSS to allow healthcare providers to obtain a full assessment of the native Arabic speaking stroke sufferers on both motor and language items and to validate this Arabic version.

**Methods:** Study was conducted into two phases. The first step included adapting the whole NIHSS scale and specifically conceptually translating the language-specific items to the Arabic language. The NIHSS-A followed the same format and rules when adapting the new language-specific items as set by the original NIHSS team. The original NIHSS-attached picture was also replaced by an Arabic culturally-accepted picture. The second step was to validate the NIHSS-A and to establish its psychometric properties: Criterion validity, inter and intrarater validity.

**Results:** A full description of the cross cultural adaptation process was detailed, including justification and challenges. After conducting the validation phase of the study, NIHSS-A was revealed to be both valid and reliable tool as an initial assessment of stroke severity among Arabic speaking stroke patients.

**Conclusion:** the new adapted NIHSS-A will allow healthcare providers in the Arab World to obtain a full assessment of the native Arabic-speaking stroke sufferers on both motor and language items.

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### The Influence of Omani Culture on Occupational Therapy Practice: Views and Experiences of Therapists in Oman.

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**Objectives:** Occupational therapy has largely been the product of Western culture. Despite of the growing healthcare literature on the influence of culture on services delivery within the Western world, there is little research to substantiate how culture influence practice of occupational therapists within the Arab world, specifically the Omani culture.

**Methods:** A qualitative research design was administered thorough in depth semi-structured interviews. Ten occupational therapists working in Oman were recruited. All Interviews were audio taped, transcribed and subjected to thematic data analysis through a constant comparison between transcripts to generate key codes that were categorized into main themes.

**Results:** Several themes emerged from this study which will help inform occupational therapy with patients from Arab-Islamic backgrounds. These include five major central themes which are; occupational therapy in Oman, traditional medicine, gender influences on practice, Islamic Influence, and the language barrier in occupational therapy practice. Additionally four sub themes were also revealed such as therapists own culture, client's attitudes in

Oman, Omani family structure and last but not least cultural diversity in Oman.

**Conclusion:** This study demonstrates that appreciation of cultural factors that influences the practice of occupational therapy in Oman is fundamental to implementing and enhancing cultural competency.

**Keywords:** Culture, Cultural competency, Occupational Therapy, Traditional Medicine, Witchcrafts, Islam, Gender

## 269

### **Phantom Pain: Incidence, Causes, and Levels of Amputation**

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**Objectives:** The aim of this study to look for the incidence of Phantom Limb Pain and to study the correlation between Phantom Limb Pain, causes and levels of amputation

**Methods:** 120 patients were seen in Orthotic Prosthetic Department at The Royal Rehabilitation Center, King Hussein Medical Center, Amman- Jordan were included, between January 2012 – January 2014. The patients were amputated between September 2011- October 2013 and all of them were rehabilitated with prosthesis

**Results:** This study included 120 patients, 88(73.3%) of them were male, with male female ratio 2.75: 1. The mean age for male 52.3, and for female 58.7. The leading cause of the amputation was Diabetes Mellitus 82(68.3%), followed by Trauma 13(10.8%) The Percentage of phantom pain according to causes was Trauma(84.6%), followed by Diabetes Mellitus (82.9%).. The dominant level of Phantom Limb Pain was Below Knee 93(77.5%), Above Knee 27(22.5%).

**Conclusion:** Phantom Pain is a major problem in amputation with high incidence. Pre - amputation pain is a predisposing

factor for phantom pain. Rehabilitation and early fitting with prosthesis is an important factor in the management of phantom pain

**Keywords:** Phantom, Amputation, Rehabilitation, DM

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### **Effectiveness of Counseling Services Provided to the Parents of Children's with Mental Retardation in Reducing their Burdens (Applied Study at Queen Rania Al-Abdullah Hospital for Children)**

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**Objectives:** This study aimed to investigate the effectiveness of counseling services provided to the parents of children's with mental retardation, and its role in alleviating their parents burdens in three aspects: (financially, socially and psychologically).

**Methods:** To achieve the purpose of the study, the researchers constructed structured questionnaire and semi-structured interview, to measure the impact of counseling services and its effectiveness in alleviating the burdens facing the parents of children's with mental retardation. For analyzing the data (ANOVA was used).

**Results:** 1. Positive relationship between counseling services and decreasing of financial burdens. 2. Positive relationship between counseling services and alleviation of social burdens. 3. Positive relationship between counseling services and lessening of psychological burdens.

**Conclusion:** The study showed that there is a positive relationship in easing the burdens of the parents of children's with mental retardation (financially, socially and psychologically). Counseling provided them guidance to the public educational, social and financial services allocated nationally in all Jordanian provenances for their mental retarded children. Counseling services also comfort and help them to alleviate the psychological burdens were they have been modified and became more acceptable and

adapted for being a parent for a child with mental disability.

**Keywords:** Counseling, Services, Mental Retardation, Children, Parents, financially, socially and psychologically.

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### **Therapeutic Riding in Occupational Therapy Rehabilitation**

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**Objectives:** In recent years increased research has taken place to explore both the physical and psychological benefits of therapeutic riding (TR). It has been suggested that the unique, three dimensional movements created by a horse's back whilst in motion can simulate the human gait, and can therefore provide riders with a valuable sensorimotor experience which simulates the normal pelvic movement of a human whilst walking (Riede, 1988). Indeed, it has been suggested that horses can represent 'living apparatus' since their continually changing movements require riders to constantly adapt and respond to these varied movements, which in turn can help riders to improve their coordination, balance and posture (Pauw, 2000). Attempts have been made to analyze the rehabilitative benefits of TR for individuals with a range of varied diagnoses and disabilities including cerebral palsy (Bertoti, 1988; Quint & Toomey, 1998), multiple sclerosis (Hammer et al, 2005) and autistic spectrum disorders (Gabriels et al, 2012). Some have outlined the difficulties of trying to compare improvements made across such research studies, since many use differing tools to measure outcomes or differing apparatus to measure physical improvements (Pauw, 2000). It has therefore been suggested that future research into TR should include more consistent use of robust measures and apparatus in order to record outcomes in order that results from various studies may be compared.

**Methods:** All adult patients who were

enrolled in the AFH TR program were first fully assessed by an Orthopaedic Doctor. All children referred to the program were first assessed by a Pediatricians. These assessments included consideration of the patient's physical health such as range of movement in upper and lower limbs, neck and trunk control, posture and balance. Cognitive functioning was also considered including initial estimation of patient's orientation, attention, concentration and memory. Any necessary x-rays were also completed to establish whether the patient was suitable for attendance on the course. If no contraindications were found, the doctors then recommended the patient as suitable for attendance at TR. During weekly attendance on the course, Occupational Therapists set goals and maintained notes on each patient's progress.

**Results:** Common outcomes recorded by clinicians in progress notes at final assessment included: • Successful mastery of key riding specific skills such as gaining satisfactory control whilst sitting on the horse, turning the horse independently, trotting and stopping the horse. Reduced reliance on side walkers. • Increased confidence and improved self-esteem with some patients reported to also have shown improvements in attention and concentration. • Increased social interaction with other patients and group leaders and improvements in mood. • In some patients, increased engagement in other activities such as other sports or attendance at gym.

**Conclusion:** By the end of the program across all individuals attending TR (n = 27), 67% of patients achieved satisfactory control sitting on the horse with 63% managing to turn the horse independently and 59% mastering trotting. These achievements are notable when considering the complexity of the disabilities of many these patients.

**Keywords:** Therapeutic Riding, Occupational therapy, Assessment, rehabilitation



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### The Development of the Traditional Method in Teaching of Applied Science through Three Phases

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**Objectives:** Introduction: The teaching methods in various universities, institutes, training centers and schools are divided into two consecutive phases ; first: the theoretical education , second: the practical education , which consumed a lot of time and effort to collect less scientific attainment.

**Objective:** This research aims to prove that providing practical education before theoretical education will provide Increase in educational attainment.

**Methods:** A sample of 30 university students who they attended for training in bio-medical workshop at Queen Rania hospital for children from may 2013 to may 2014 have been trained on the infant incubator by dividing the education process into three phases ; a simplified practical education, detailed theoretical, and practical detailed education . They were asked after finishing the three phases several questions to assess their comprehension and understanding and to see how they will accept the three educational processes.

**Results:** The answers of the questions directed to them, all of which indicated a positive understanding and awareness of what have been taught , there were also views reflected the desirability of these methods in their education.

**Conclusion:** Providing practical education before theoretical education increases the educational attainment of the student and this invites us to develop teaching methods & to apply this methods in its three stages.

**Keywords:** Medical Devices, Practical Education, Theoretical Education, Detailed Theoretical

## Hall N Session 4

### ICMM - ICMM Related Lectures, Delegations Talks & Free Papers

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### The Future of Electronic Medical Records in the United States

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**Objectives:** Recently, in the United States there was major laws imposed to increase electronic medical record adoption. This has been a challenge because of financial, cultural, and other hurdles. The objective of this lecture is to achieve the following activities. a. EHR Adoption: past, present and future b. Meaningful Use from a policy aspect c. Transition from paper to EHR: A physician's perspective d. Clinical Indication and physician's willingness to adopt

**Methods:** COL Jennifer has many year working as a trauma physician and knows firsthand the challenges of the transition. She also works at multiple health facilities and will discuss her experience with working with other physicians and their willingness to adopt electronic medical records. CPT John works as a electronic medical record scientist and assists in the development of policy related to adoption of electronic medical records.

**Results:** The results from the two authors professional experience will yield the following. 1. A detailed discussion about the history of electronic medical record adoption in the United States. The current and future state of electronic medical records. 2. The policies used to increase electronic medical record adoption. 3. The challenges of transitioning from a paper based system to an electronic based system.

**Conclusion:** In conclusion, the audience from other countries will have a better understanding of the United States status related to adoption and usage of electronic medical records.



**Keywords:** Electronic Medical Record

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**Military Trauma System: Urgent Need in the Region**

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**Objectives:** Trauma is the leading cause of death in military operations and this has a tremendous impact on the lives and the moral of the troops. The magnitude of traumatic injury as a public health problem is enormous. In terms of years of productive life lost, prolonged or permanent disability and cost, it has been long recognized as one of the most important threat to public health and safety internationally. With the increasing evidence of the importance of Trauma Systems in reducing mortality and morbidity of trauma victims; several civilian models have been implemented successfully all over the world. On the other hand, this concept has not made its way to most of Military Medical Systems in the region. For a trauma system to make a difference it covers a spectrum of activities including injury prevention; prehospital care; trauma registry; rehabilitation and many others key components. This lecture will address the following aspects: - Present brief overview on the history of civilian and military Trauma Systems development - Literature review on the concept. - Highlight key components of military trauma systems - Present recommended "action plan" on how to start a military trauma system.

**Methods:** Literature review and descriptive presentation of the UAE experience

**Results:** Data will be presented on the different system component and some of the findings on from the National Trauma Registry in Abu Dhabi.

**Conclusion:** Military Trauma System is a crucial part of any Medical Military System. Serious considerations need to be given to the establishment of the system.

**Keywords:** Military Trauma System

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**Combat Related Acute Renal Failure: A Study on Risk Factors, Diagnosis and Management**

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**Objective:** Acute renal failure (ARF) is a common feature of combat related trauma with high mortality rate. The data about combat related ARF is quite limited and need further investigation. In this review we aim to identify risk factors, diagnoses and management of ARF.

**Methods:** An extensive literature search has been undertaken to determine risk factors, diagnostic evaluation and management of combat related acute renal failure.

**Results:** Combat related ARF results from burns, trauma, sepsis, circulatory shock and rhabdomyolysis. Prevalence of ARF in combat injured personnel with burn injuries varies between 24% - 30%. Acute renal failure is characterized by sudden loss of the ability of the kidneys to excrete wastes, concentrate urine, conserve electrolytes, and maintain fluid balance. Even a minor reduction in kidney function has an adverse prognosis in trauma and burn injury patients. Early detection and treatment of ARF may significantly improve outcomes. Timely hemodialysis and or /early renal replacement therapy (RRT) provides good results in ARF.

**Conclusion:** Combat related burns and abdominal injuries are major causes of ARF. Acute renal failure results in frequent hospitalization and the mortality rate remains high. The future, however hold substantial promise for earlier diagnosis and effective interventions that are able to prevent or shorten the course of acute renal injury and thus improve survival.



An ARF network for clinical trials with adequate statistical power would certainly facilitate this process.

**Key Words:** Combat related trauma; acute renal failure; renal replacement therapy

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#### **Reasons for Unfitness for Military Service at Turkish Armed Forces between 2008 And 2010**

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**Objectives:** Disability is a particularly important issue for military services, affecting the numbers of active and reserve personnel. The aim of this study was determine the reasons for unfitness for military service among recruits at Turkish Armed Forces between 2008 and 2010.

**Methods:** This cross-sectional study was conducted between December 2010 and May 2012 after reviewing the health reports belonging to 40717 recruits who are concluded with decree B and D after being taken into Health Board in order to finalize their proceedings upon various diagnoses in 41 Military Hospital between 2008 and 2010 in Turkish Armed Forces. The study has been initiated after getting necessary ethical permissions from Ethics Committee of Gulhane Military Medical School.

**Results:** The first three most involved clinics were psychiatry with 21.7%, ophthalmology with 13.7%, and internal medicine with 10.9%. The most common three diagnoses were antisocial personality disorder with 11.2%, sensorineural hearing loss with 6.3%, and obesity with 5.2%, respectively. The recruits from eastern Anatolia have the biggest proportion among all study group with respect to the decision B and D.

**Conclusion:** It was also realized in this study that the accuracy and completeness of data was very important. In our opinion,

the administrators who are in the position of policy making may use these findings to improve for both the quality and accessibility to healthcare services.

**Keywords:** Turkish Armed Forces, unfitness for Military Services

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#### **A Model Design about Health Promotion and Prevention in First Class Students of Turkish Military Academy**

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**Objectives:** To determine the socio-demographic patterns, and health behaviors to increase the level of health knowledge of the first class military academy students, to encourage the students to healthy behaviors and to determine the efficiency of the health education methods which were used.

**Methods:** The study is planned in Turkish Military Academy between 2006-2007 education semesters. The research is a field intervention study 400 volunteers of 713 students of first class of 2006-2007 education semester in Turkish Military Academy participated in this study.

**Results:** The mean of ages of the participate students was calculated as  $19,2 \pm 0,5$  years. According to the pretest form 16.8% of the volunteer participated in the study, evaluated their health conditions of the last three months as "very good", 57.5% of them defined their health condition as "good". Furthermore 62.0% of the participants determined that they took care of their health at "middle level". 15.8% of the students, who declared that they smoked in the pretest, enounced that they quit smoking in the posttest, and 33.3% of them declared that they tried quitting smoking for at least one time. The difference of the health knowledge point scores between pretest and posttest was calculated as  $21,2 \pm 13,4$  ( $p < 0,001$ ).

**Conclusion:** As a result; the level of health knowledge showed increase by using

conferences, brochures and e mails as education methods.

**Keywords:** Health Education, Health Promotion and Prevention, Education Methods.

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### **Pathophysiology of Underwater Activities and Decompression Illness: A Naval Forces Perspective**

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**Objectives:** Underwater activities of naval forces are integral parts of modern warfare as well as peacekeeping. These exercises continue round the year and may exert a vast array of pathophysiological effects on naval personnel. The aim of this study is to review pathophysiological effects of underwater activity/diving with special reference to compression and decompression manifestations.

**Methods:** An extensive search of literature has been undertaken to identify the pathophysiological effects of underwater activities including diving as well as decompression illness. The details of the systemic effects including nervous system, cardiovascular system, pulmonary system, audio vestibular system and renal effects are presented.

**Results:** Underwater activities including diving lead to a variety of pathophysiological effects involving barotraumas, gas embolism and decompression illness. The partial pressure of inert gas dissolved within the tissue during diving may exceed ambient pressure during ascent. The risk of decompression illness depends on the depth, duration, ascent rate and number of dives. Super-saturation of gases in blood and tissue provoke bubble formation. The bubbles may cause gas embolism leading to systemic distress. The symptoms may

include altered consciousness, dizziness, nausea, vomiting, abnormal gait, vertigo, impaired hearing and tinnitus, muscular weakness, altered vision and bowel/bladder dysfunction. The cardiopulmonary irregularities include irregular heartbeat, palpitation, cough, shortness of breath, bronchospasm, asthma, emphysema and pulmonary edema. Decompression may reduce blood flow around joints leading to pain and arthritis.

**Conclusion:** Underwater activities including diving are associated with a wide range of systemic effects. Experiences of naval forces will be discussed.

**Keywords:** Underwater Activity; Naval Forces; Compression; Decompression; Systemic Effects

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### **Assessment of Military Satisfaction about Armed Health Service in Abidjan Ivory Coast, February 2013**

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**Objectives:** During several years, rumors indicate dissatisfaction military about Army health service in Ivory Coast. Military satisfaction is proving to be an indispensable tool to measure the adequacy of care provision by Army health system and the needs of target populations in this area. In front of this situation, our study focused on this issue to analyze and propose possible solutions.

**Methods:** Our study is a baseline cross-type descriptive purpose. It focused on a sample of 102 soldiers selected in Abidjan. The survey was conducted using the conceptual framework of «disconfirmation model.» Data were collected through an individual interview after obtained consent of the respondent base. The entered data were processed with the STATA software for Windows (version 11.0).

**Results:** Our study showed the following results: - Average / 4 of the score attributed to the speed of the host system is 2.67 +

0.15 ; - Average / 4 of the score attributed to empathy medical officials is  $3.09 + 0.13$  ; Average / 4 of the score attributed to the reliability of care is  $3.2 + 0.13$  ; - Average / 4 of the score attributed to the general comfort is  $2.67 + 0.15$  ; - Average/10 of the score assigned to medical units of the Army Health Service is  $4.89 + 0.47$  ;

**Conclusion:** the dissatisfaction of the population serving was confirmed for two of the dimensions studied, mainly the speed of the circuit and the general comfort. For the purposes of the study, satisfaction threshold has been set at 80 %. We finally reached possible solutions to improve soldier's satisfaction.

**Keywords:** Satisfaction, Army , health, Côte d' Ivoire

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### **Mental Health Care In Theater (OEF), 2001 to 2014**

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**Objectives:** The objective of the presentation is to review the mental health care associated with Operation Enduring Freedom from 2001 through 2014 in the theater of operations in Afghanistan. The mental health care clinic structure; available treatment and resources, and policy changes over the course of OEF will be reviewed and discussed.

**Methods:** Pertinent reports, papers, and studies were reviewed, analyzed and summarized.

**Results:** There were significant changes in the lay down of mental health care in theater over the course of the war. Consistent themes were observed in theater mental health care that will be discussed.

**Conclusion:** Lessons learned regarding mental health care should be incorporated into updated doctrine and policy. Lessons learned will be discussed.

**Keywords:** Mental Health, Behavioral Health, Theater Mental Health Care

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### **Lower Limb Injuries Caused by Improvised Explosive Devices**

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**Objectives:** Become less complex limb injury caused by improvised explosive devices (IEDs) pattern signature injury of the conflict in Iraq. Current classifications do not describe this pattern injury well, are not connected with the management. There is a need for a new classification, to help communication between medical and nursing staff, and help evaluate the interventions and results. We suggest such a classification, and present the results of the initial evaluation of potential

**Methods:** The classification by a team of military medical staff at Camp Habbaniyah. Injuries were divided into five categories. He admitted incised injuries as a distinct entity. And also formed-related injuries in the abdomen intraperitoneal, genitals, perineum, the pelvic ring, and upper limbs, which affect the clinical management and resources,

**Results:** Between November 1st 2007 and 20 February 2008, 180 were classified many injuries related to improvised explosive devices at Camp Habbaniyah lower limb injuries in 103 consecutive injuries , and blood vessels in the later treatment and locomotor recorded . The 69% of the traumatic amputation injuries, and injuries segmental rest. 49% of the victims suffered a bilateral lower limb amputations . The injury was the most common grade 3 ( involving the lower leg or thigh nearby , allowing the effectiveness of the application of a tourniquet above the knee 0.49 % ), but the patterns of the most proximal ( category 4 or 5, and to prevent the application of tourniquet effective ) represent 18% of the injuries. It was a ten injuries associated with abdominal injuries intraperitoneal, 41 suffered genital injuries or perineum 0.9 had pelvic ring fractures , and 66 had upper limb injuries. The classification was easy to apply and

correlated with management

**Conclusion:** The 'Bastion classification' is a pragmatic yet clinically relevant injury categorization, which describes current injury patterns well, and should facilitate communication between clinicians, and the evaluation of interventions and outcomes. The validation cohort confirms that the injury burden from IEDs in the al-floja iraq remains high, with most casualties sustaining amputation through or above the knee. The rates of associated injury to the abdomen, perineum, pelvis and upper limbs are high. These findings have important implications for the training of military surgeons, staffing and resourcing of medical treatment facilities, to ensure an adequate skill mix to manage these complex and challenging injuries

**Keywords:** Improvised explosive device IED Classification Lower limb Trauma Traumatic amputation Military

## Hall A1 Session 1 Nursing - Free Papers

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### Perceived Stress and Coping Strategies among Jordanian Nursing Students during Clinical Practice in Psychiatric/Mental Health Courses

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**Objectives:** The purpose of the present study was to identify the degrees of stress, the types of stressors, and coping strategies perceived by undergraduate nursing students during their clinical practice in Psychiatric/Mental Health Nursing (PMHN) courses.

**Methods:** A descriptive, longitudinal design was used. Sixty-five students registered in PMHN clinical courses were recruited from five Jordanian universities using a

systematic random-sampling method. Data collection was conducted in the second semester of the 2012–2013 academic year at two points of time: pre-PMHN clinical training and post-PMHN training. The Basic Information Questionnaire, Perceived Stress Scale, and Coping Behavior Inventory were administered.

**Results:** The findings illustrate that the highest reported types of stressors at both data-collection times were taking care of patients, stress related to teachers and nursing staff, and from assignments and workloads. The students in the pre- PMHN clinical training reported more stress than in post - PMHN clinical training. The most utilized coping strategy at both data-collection times was problem solving.

**Conclusion:** The findings of this study present worthy data for clinical educators in identifying nursing students' stressors, easing their learning in the clinical setting, and establishing an efficient PMHN course program. This study could benefit future research.

**Keywords:** clinical practice, coping, nursing student, psychiatric/mental health nursing, stress.

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### A literature Review of Factors Impact QOL of Spinal Cord Injured (SCI) Adult

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**Objectives:** This review was executed to provide nurses involved in rehabilitation of Spinal Cord Injury patients' with current information regarding factors that impact on QOL post SCI.

**Methods:** A literature review methodology was utilized. A search using three electronic databases namely, MEDLINE, EMBASE and CINAHL was performed. Additionally, manual search of books for

more information was undertaken. In all searches executed, a number of terms were searched using both MeSH and freetext protocols. The search was achieved by combining the following key terms, 'Spinal Cord Injuries' and 'Quality of Life' and other descriptors. The inclusion criteria were all studies and articles which were published in English language from 2008 through 2014..

**Results:** This search ended with 66 articles, review to determine the QOL scores post the injury and the factors which affect it. Results indicated that SCI persons have poor QOL compared to non-disabled people. Also, this study highlights how rehabilitation teams can apply these factors to reduce the discrepancy in QOL scores found in those people and enhance their LS.

**Conclusion:** This review showed that the factors which impact QOL include sociodemographic, physical health problems, SCI, psychological and environmental. Also, it highlights how the rehabilitation nurse should know and involve them in care plane of those groups.

**Keywords:** Spinal Cord Injury, Quality of Life, Factors, Rehabilitation Programs

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### **Prevalence of Chronic Complications of Type 2 Diabetes Mellitus in Outpatients: A Cross-Sectional Hospital Based Survey at KHMC**

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**Objectives:** The aim of this study is to describe the prevalence of chronic complications among type 2 diabetic Jordanians patients.

**Methods:** This cross-sectional study was approved by ethical committee. Every other patient attending the endocrine and internal medicine clinics of a large tertiary

hospital in Amman at (KHMC) was invited for participation from November 2011 to March 2012 . Participants were interviewed face-to-face by trained interviewers on individual bases using a questionnaire to capture information on demographics, disease presentations and complications Medical records were also reviewed to check last reading of HbA1C. Data obtained were analyzed using Statistical Package for Social Sciences (SPSS) version 17.

**Results:** A total of 853 participants, were involved in the study, 429 (51.4%) were males and 424 (48.6%) were females. Their age ranged from 25 to 83 years with a mean of 55.34 years (SD  $\pm$ 10.5). The prevalence of neuropathy, retinopathy, nephropathy and diabetic foot ulcer were 57.1%, 36.8%, 3.3% and 14.0%, respectively. Number of patients with HbA1c  $\leq$ 7 was 211(24.7%) and those with HbA1c  $>$ 7 was 642(75.3%).

**Conclusion:** Chronic complications are highly prevalent among type 2 diabetic outpatients, the glycemic control of diabetic patients was poor, and future efforts should be directed at intensive blood glucose control, strengthening early diagnosis and improving case management to prevent and minimize the occurrence of complications.

**Keywords:** type 2 DM, complication

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### **Normal Saline Instillation Prior Suctioning Patients on Mechanical Ventilator**

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**Objectives:** To determine is instilling of normal saline prior suctioning patients who on mechanical ventilator at the ICU causing benefits or harm for patient's health care status?

**Methods:** Evidence based practice approach, The searching strategy which used in this project was literatures search by using several databases, CINAHL, MEDLINE,

Cochrane Database of Systematic Reviews, Pub Med, Complete Academic search and Science direct from 1995 till 2012. After collecting the Evidences about instilling of normal saline prior suctioning patients who on mechanical ventilator. Critical appraise & analyze for that evidences is done. The final outcome of the process is integrated the facts to produce clinical practice guideline.

**Results:** After the science summary done, the final searching resulted in eleven articles and one clinical practice guidelines (CPGs). Seven article and one CPGs support the unused of normal saline prior suctioning. Other four articles support the use of NSI.

**Conclusion:** In the radiance of the findings of these studies, we could regard that the institutional standard that used normal saline prior suctioning, but the evidence support the unused of normal saline prior suctioning.

**Keywords:** Normal saline instillation, Suction, Endotracheal tubes, Tracheotomies and Sodium chloride

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#### **Socio-Demographics, Predisposing, Enabling and Reinforcing Factors Associated with Cervical Cancer Screening Uptake among Jordanian Women**

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**Objectives:** To identify the socio-demographic, predisposing, enabling and reinforcing factors associated with cervical cancer screening uptake and identify the predictors of cervical cancer screening uptake among Jordanian women.

**Methods:** A cross sectional design was used; a convenience sample of 500 women was recruited from eight nongovernmental organizations and community setting in Amman. The Attitude for cervical cancer screening scale [perceived benefits, perceived barriers, perceived susceptibility

and perceived severity subscales] developed by Ibekwe 2009) was used to collect data, in addition to a socio-demographic, health services utilization questionnaire, and the perceived support for cervical cancer screening scale which were developed by the researcher. Descriptive statistics and inferential analyses were used such as independent t-test, multivariate logistic regressions, and multiple linear regressions.

**Results:** Results showed significant differences in perceived barriers to cervical cancer screening between women who had Pap smear and women who never had Pap smear. Health care provider encouragements, duration of marriage and using private health care sector are the best predictors for cervical cancer screening

**Conclusion:** Health care provider encouragements, marriage duration, and using private health care sector are important factors influencing women's decision to do cervical cancer screening. The results of this can be used to plan and implement a national based program for cervical cancer screening to enhance the quality of life of Jordanian women.

**Keywords:** cervical cancer screening, predisposing, enabling, reinforcing factors.

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#### **Parent's Satisfaction with Care Provided in the Pediatric Intensive Care Unit of a Tertiary Children's Hospital in Amman**

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**Objectives:** To describe the parent's satisfaction during their child's admission to the pediatric intensive care unit (PICU) in three domains: child care, environment and parent- staff communication.

**Methods:** Data were collected from 123 parents whose child received care in the PICU. The parent satisfaction survey (PSS), measured three domains of caring: (a) hospital environment, (b) patient care, and



(c) communication. Data for this survey were collected within the months of June and October of 2013.

**Results:** This study indicates that parents of critically ill children in the PICU are generally satisfied with the overall care ( $M=4.27$ ,  $SD=3.5$ ), environment ( $M=4.05$ ,  $SD=2.2$ ), and communication factors ( $3.86$ ,  $SD=5.7$ ). The results of the PSS report a Cronbach's coefficient alpha yielding  $\alpha=0.87$ , indicating that the study has reliable results. This study found a high correlation between hospital environment and parent satisfaction ( $r=0.635$ ,  $p<0.01$ ), patient care ( $r=0.857$ ,  $p<0.01$ ), and communication ( $r=0.92$ ,  $p<0.01$ ) respectively. The number of hospital admissions was most significant in affecting parent satisfaction ( $R^2=.136$ ,  $F=15.46$ ,  $p=0.001$ ).

**Conclusion:** The results of this study indicate that parents of critically ill children are generally satisfied with overall care, environment and communication factors. Nurses were better than physicians when it came to providing information and understanding parent emotional status, and finally continuing research is needed to examine and assess new aspects of parental satisfaction of patient care in the PICU.

**Keywords:** Parent satisfaction, pediatric intensive care, communication, hospital environment, child care, and family centered care.

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### **Nurses' Perception of Recognition and Empowerment in a Tertiary Hospital of Saudi Arabia**

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**Objectives:** The overall aim for this study is to answer the following research questions: Q1 What is the nurses' perception of empowerment at KFSH&RC-Jeddah? Q2 What is the nurses' perception of recognition at KFSH&RC-Jeddah? Q3

What is the relationship between nurses' perception of recognition and nurses' perception of Empowerment? Q4 What are the differences in nurses' perception of recognition and empowerment according to nurses' demographic variables in Saudi Arabia?

**Methods:** A descriptive correlational study design used with a convenient sample was recruited. After invitation via hospital electronic mail, data collected using a self-report questionnaire. Hundred and eighty nurses participate in this study. An inclusion criterion was nurses who have been working in current position at least for no less than one year. Data analyzed by using SPSS program version 17, t-Test and ANOVA test used to compare means between different groups of nurses and Pearson correlation used to find the association between empowerment and recognition.

**Results:** The study findings shed a light on the perception of recognition and empowerment. Nurses perceive both empowerment and recognition in a moderate level. There was a significant mean difference among nurses' perception of empowerment and recognition between nurses regarding their position, years of experiences, age and working divisions.

**Conclusion:** Study findings particularly give information about the significant positive relationship between empowerment and recognition. On the other hand, it shows the variability of perception of recognition and empowerment among nurses according to nurses' demographic characteristics.

**Keywords:** Empowerment, Recognition, Appreciation, Nurses, Motivation, Reward and Magnet

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**Correlates of Stress and Coping Among Jordanian Nursing Students During Clinical Practice in Psychiatric/Mental Health Course**

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**Objectives:** The purpose of this study was to examine the correlations between the nursing students' characteristics, their stress degrees, stressors, and types of coping strategies they experience during training in psychiatric course

**Methods:** A descriptive, longitudinal design was used. Sixty-five students registered in psychiatric clinical courses were recruited from five Jordanian universities using a systematic random-sampling method. Data collection was conducted in the second semester of the 2012–2013 academic year at two points of time: pre- psychiatric clinical training and post- psychiatric training. The Basic Information Questionnaire, Perceived Stress Scale, and Coping Behavior Inventory were administered.

**Results:** The findings showed that students who utilized avoidance or transference strategies reported high stress degrees. Moreover, the results showed that those students who were in a fourth year, with a low family income, avoid extracurricular activities, with a low academic grade, or registered in other clinical course(s) reported high stress degrees.

**Conclusion:** This study expands the current knowledge in the psychiatric nursing field by investigating the relationships between students' characteristics and their stress and coping experiences in psychiatric nursing training. Awareness of the study results is essential for the clinical teachers who have a responsibility to convey such information to the nursing students. This may help nursing students to adapt those effective coping strategies and ignore ineffective ones. Future studies to

investigate the psychosocial predictors of stress and coping among students who enroll in psychiatric nursing clinical training are considered vital importance.

**Keywords:** Clinical practice, coping, nursing students, psychiatric/mental health nursing, stress.

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**Rehabilitation Post Critical Illness**

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**Objectives:** Evaluation of the impact on physical, psychological and social functioning following critical illness on both patient and family, clinical stories outline length of recovery time. Highlighting the importance of person centered care, increase the knowledge of ICU acquired weakness, myopathies and neuropathies. Rehabilitation goals set early regularly updated, acknowledging certain barriers which may exist from both patient and relatives perspective resulting in challenges for the multidisciplinary team.

**Methods:** During critical care stay and before discharge from critical care as early as clinically possible, clinical assessment to determine risk of developing physical and non physical morbidity - individualized structured program developed. During ward based care and prior to home discharge, individualized structured rehabilitation program developed and delivered by members of the multidisciplinary team. Rehabilitation requires review 2-3 months post discharge from critical care and in the follow up post discharge.

**Results:** Positive effects of individualized rehabilitation compared to limited or no rehabilitation. Early compared to later rehabilitation - allowed earlier discharge. Patient experience, stress and response to stress early referrals proved a positive patient experience. Reduced re-admissions to Critical Care.

**Conclusion:** Rehabilitation should commence on admission to Critical Care and finish post discharge from hospital - NICE Guidelines. Outcome



measures developed measuring success of rehabilitation being carried out during hospital stay. Rehabilitation should be a multidisciplinary approach. Rehabilitation should involve both psychological and physical elements. Optimizing the rehabilitation of patients following critical illness remains a challenge.

**Keywords:** Critical Illness, Intensive Care, Post Traumatic Stress, Rehabilitation, Follow Up.

## Hall A1 Session 2 Nursing - Free Papers

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### The Effectiveness of Basic Wound Care Courses on Knowledge of Registered Nurses at King Hussein Hospital

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**Objectives:** This study was designed to evaluate the effectiveness of basic wound care course on the knowledge of registered nurses at King Hussein Hospital.

**Methods:** Pretest posttest research design was used to evaluate the effectiveness of the wound management courses on nurses' knowledge in the period between December 2013 to Feb 2014. Data was collected using a specially designed test.

**Results:** A total number of eleven wound management two-day courses were conducted. One hundred registered nurses from different wards participated in these courses, 60 (60%) were females. The number of nurses participated in each course ranged from 6-18 participants. The mean age of the participants was  $27.1 \pm 3.3$  years. Work experience range from 1-23 years (mean  $5.3 \pm 3.8$ ). Only nine nurses (9%) reported that they participated in previous wound management courses. The mean score of the post test was higher than the mean score of the pretest (74.5 % compared to 38.5). The paired sample

t test indicated that the difference in the mean score between pre and posttest was statistically significant ( $t = 26.7$   $p < 0.000$ ).

**Conclusion:** The results of this study showed that there is improvement in nurses' knowledge after attending the two-day wound management course. It is recommended to follow the participant to assess the application of knowledge gained in the course in practice.

**Keywords:** wound care, courses, effectiveness, registered nurses

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### Identifying Patients at Risk for Chronic Kidney Disease at Marka Military Medical Center

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**Objectives:** The aim of the study is to assess patients who are at risk for developing Chronic Kidney Disease at Marka Military Medical Center

**Methods:** Cross sectional descriptive design was used in this study. A convenience sample was selected from the regular patients of the family medicine clinic at Marka Military Center and consisted of 100 adult patients from both gender with different diagnoses and different age groups. The patients were assessed by using CKD Risk Assessment: Quick Questionnaire, which developed in September 2007 by University of North Carolina Kidney Center. The CKD quick questionnaire helps to identify patients with silent kidney disease, who are at risk for developing Chronic Renal Failure by giving scores to the patient age, gender and the chronic diseases and conditions that the patients suffered from.

**Results:** The mean age was  $61.3$  ( $SD = 13.2$ ) years with different chronic disease including Diabetes Mellitus, Hypertension, chronic heart failure, and anemia. After applying the CKD Quick Questionnaire on those patients, about 58% of the patients their score was 4 or above, which means

that they have a 1- in 5 chance of having Chronic Kidney Disease (CKD). On the other hand, 42% of the patients their score was from 0 to 3, which means that they don't probably have a risk for being Chronic Kidney Disease (CKD).

**Conclusion:** Patient age and gender, in addition to presence of chronic diseases must be taken into consideration when identifying patients who are at risk for chronic kidney disease (CKD). The large percentage of patients who are at risk for CKD indicate that there is a need to give extra care for the risky patients to prevent developing of CKD.

**Keywords:** Chronic Kidney Disease, CKD quick questionnaire, Risk

## 293

### **Safety and Efficiency of Adaptive Support Ventilation Mode (ASV) as a Weaning Mode for COPD and Chest Trauma Patients**

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**Objectives:** mechanical ventilation is one of the most commonly applied interventions in intensive care units .

Adaptive support ventilation (ASV) is a closed-loop control ventilation that provides both pressure –controlled ventilation and pressure support ventilation according to the patients need. (ASV) is an alternative modes of ventilation which developed in order to avoid barotrauma which keeps the patient comfortable ,and wean him as soon as possible . To compare adaptive support ventilation mode (ASV) and Synchronize intermittent mandatory ventilation ( SIMV ) . Ventilation modes in a trial to obtain the best mechanical ventilation in weaning duration for chronic obstructive pulmonary diseases (COPD) and chest trauma patients .

**Methods:** (80) patients who were ventilated mechanically involve in this study . Quasi experimental design . According to our ventilation weaning protocol. Patients were

divided in two groups, group (A) which include(40) patients, (20) COPD and (20) chest trauma . They were ventilated with ASV mode until extubation , and the other group(B), (40) patients, (20) COPD and (20) chest trauma were ventilated with SIMV mode until extubation . It was conducting from June 2012 to April 2014 at K.H.H – general intensive care unit .

**Results:** Out of the eighty patents included in the study sixty eight patients in both groups were weaned successfully according to their ABGS data and ventilator weaning protocol indices. There were a significant differences for both types of patients between (ASV) compared with (SIMV) mode . Regarding to shorter weaning times for chest trauma patients their mean was (14.20 hr)-(30.15 hr) and the length of stay in the ICU was also shorter with (ASV) mode (10.55 days ) – (19.25 days). For (COPD)patient also there is significant differences in their mean weaning time on ASV (13.25 hr)- SIMV(24.20 hr) and the length of stay in the ICU was also shorter with (ASV) mode that the mean was (10.19 days)-(14.90 days).

P. values for both groups Lo-005

**Conclusion:** The fact of ASV mode is a golden alternative intelligent ventilation solution which keeps the patient comfortable, faster weaning for both obstructive and restrictive cases , decrease the barotrauma and leading to reduction in the total duration MV, length of stay in hospital and its cost.

**Keywords:** Mechanical ventilation (MV)- Adaptive support ventilation mode (ASV)- Faster weaning for COPD and chest trauma patients

## 294

### **Fall Risk Assessment for Patients in General Surgical Ward at King Hussein Hospital**

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**Objectives:** The purpose of this study was to assess fall risk (FR) for patients in general surgical ward at King Hussein Hospital (KHH).

**Methods:** Descriptive research design was used in general surgical ward at KHH to recruit a convenience sample of 100 hospitalized patients. Data were collected face to face interview and assessed by two nurses. Morse Fall Scale (Morse et al, 1989) was used to assess Falling Risk (FR) for patients. Descriptive and inferential statistics were used for data analysis.

**Results:** The sample consisted of 100 patients (50 men and 50 women). Their age ranged from 15 to 95 years (Mean  $\pm$  SD = 50.9  $\pm$  17.7). FR divided according to Morse Fall Scale as follow: high risk (25%), moderate risk (29%) and low risk (46%) of the sample. Independent t -test showed that there were significant increase in FR for patients with age > 65 years ( $t = -4.3$ ;  $P > 0.05$ ), history of falls ( $t = 6.3$ ,  $P > 0.05$ ), secondary diagnosis ( $t = 8.2$ ;  $P > 0.05$ ), intravenous line ( $t = 8.3$ ;  $P > 0.05$ ), and ambulatory aid ( $t = 8.2$ ;  $P > 0.05$ ). Analysis of variance test showed that there were significant differences in FR between groups ( $F = 68.7$ ;  $P > 0.05$ ). Post hoc test results showed that there were significant differences between disabled patients and other patients ( $P > 0.05$ ) and weak patients and normal patients ( $P > 0.05$ ).

**Conclusion:** High risk patients of fall and risk factor were identified so that health care provider should focus on educating the patients and their family about fall prevention precautions. It is recommended that nurse use the Fall Scale in their routine assessment.

**Keywords:** King Hussein Hospital, Fall Risk

## 295

### **Risk of Cesarean Delivery with Induction of Labor**

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**Objectives:** To quantify the risk of cesarean delivery associated with induction of labor

**Methods:** We performed a retrospective cohort study of medical records to review the correlations between induction of labor (IOL) and cesarean rate in Prince Zaid Hospital (PZH), between ( 1st Jan -31st Dec 2013) . All medical records of women who underwent induction of labor were selected. Pregnancy outcomes were evaluated according to the method of induction , and indications of induction

**Results:** Induction of Labor had a 19.2 % rate of all deliveries, 62.4% result from post date pregnancies, 29.1 % of all induced women result in to Cesarean Section. Foleys Balloon and prostaglandins was the main methods used to induce labor, the total rate of c/s deliveries resulting from induction was 29.1% compared to ( 11.4%) result from spontaneous delivery (excluded previous 2 Cesarean Sections more , planned c/s ,and admission for medical cause rather than labor pain), and this show that IOL increase the total rate of c/s comparing with spontaneous deliveries alone . the major cause of c/s in IOL was failure to progress , and in spontaneous labor was fetal distress

**Conclusion:** In the current study the rate of IOL are higher than the national rate which was 12-14% , but no significant increase in the total rate of c/s 22.3%. In comparing our result with literature review result worldwide they were approximate similar to the present study.

**Keywords:** Labor, Induction, Cesarean section, pregnancy

## 296

### **College Students' Satisfaction towards Clinical Practice Settings and Clinical Instructors**

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**Objectives:** The aim of this study was to assess the students' satisfaction towards

clinical practice settings and clinical instructors at the Royal Medical Services College for Allied Health Professions.

**Methods:** A cross-sectional design was conducted among second-year students (Associated nursing, lab technicians, pharmacy, and oral hygiene) at the Royal Medical Services College during the second semester, 2014. The clinical learning opportunities and the degree of students' involvement in learning activities at the clinical area, and the satisfaction of the clinical instructor's interaction with the students were measured using the Clinical Educational Instructional Quality Questionnaire.

**Results:** The study findings showed that the mean score of the satisfaction with the clinical learning opportunities, the satisfaction with the degree of students' involvement in learning activities, the satisfaction with the interaction of the clinical instructors were 62 (SD=1.04), 42 (SD=15), 63 (SD=1.7). Among the demographic profile variables, only last clinical area had a significant correlation ( $r = .23$ ,  $p = .014$ ), ( $r = .24$ ,  $p = .012$ ), ( $r = .21$ ,  $p = .024$ ) with the total scores of clinical learning opportunities and students' involvement and interaction of the clinical instructors respectively.

**Conclusion:** Measures should be taken to strengthen the clinical learning environments for students and a designed program is needed to prepare clinical instructors to the interaction with students at the clinical area.

**Keywords:** clinical setting, clinical instructor, college students

## 297

### **Assessment of Mothers Knowledge regarding Children's Vaccinations in Prince Zaid Bin Al-Hussein Military Hospital**

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mothers about the child's vaccination and the reasons that prevent the completion of the vaccines .

**Methods:** The study lasted 6 months in the period between (January – June 2014) In pediatric ward, and has a (100 cases), the results collected through the questionnaire, we discuss in this study the importance of vaccines for children, how much knowledge do mothers know about vaccines and what are the names of diseases that need vaccination in order to avoid it ,find out the reasons that prevent the completion of the vaccines by their mothers, and information resources about vaccination that available for mothers .

**Results:** The number of cases being studied (100 cases). The results showed that all the mothers perceived the importance of vaccines for children by (100%) , The proportion of mothers know about vaccines and the names of diseases that are taken against vaccines (85%) the proportion of mothers commitment to complete the schedule of vaccines for children (89%). The reasons hindering the completion of vaccines were; the vaccine is available in only specific days of the week and that the proportion (75%),long distance to the medical center and the difficulty to reach it (25%). We show in this study that the main source of information to the mother about the importance of vaccination were through to women's health care centers and child and family planning clinics by (90%), followed by parents and relatives (10%).

**Conclusion:** Encourage the mothers and take care of them to complete the vaccinations for their child and to clarify the importance of this to them, the development of health centers and ensure the availability of the vaccine on an ongoing basis and in all the days, free vaccination-day for faraway and unpopulated areas, handouts and procures describes the schedule of vaccines and their times for the child and distributed through health centers and clinics family planning and children's wards in hospitals.

**Keywords:** Vaccination, Availability

**Objectives:** Assess the knowledge of



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**Attitude of Jordanian Family Members toward Withholding Life Sustaining Support Treatments at End Stage of Life**

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**Objectives:** To explore the attitude of Jordanian family members toward withholding life support treatments at end stage of life.

**Methods:** A thirty-items questionnaire was given to 300 self declared potential withholding life support decision maker adult volunteers who were living in Amman and Irbid ( two major cities in north of Jordan). The participants were recruited from the community (homes, shops, clubs, schools, culture centers). All questionnaires were anonymous.

**Results:** A total of 196 completed questionnaires were analyzed. 67% of the respondents were male.45% of the respondents had college education or higher. 70% of the respondents less likely to ask for withholding life support treatment for their dying patient and more likely to value the opinion of optimum medical care to the end.

**Conclusion:** The results of the study showed that Jordanian family members have negative attitude toward withholding life support treatment for their dying beloved ones. this addresses that health care team especially nurses need to promote interventions to facility family members of dying patient decision making on life support treatment by clarifying ambiguous information, giving more details concerning the dying process ,correcting false believes eventually may help in preventing unnecessary treatments and suffering for the dying patient also may prevent conflicts between family member of dying patient and health care team.

**Keywords:** Attitude, Family Member, Life Support Treatments, End Stage of Life

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**What's Jordanian People Know about Autism and Intervention Modalities?**

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**Objectives:** To determine the Jordanian public's knowledge and understanding of autism, effectiveness of behavioral treatment and other therapy choices which can be used with autism cases?

**Methods:** Descriptive design was used in this study, a sample of 851 men and women, aged from 18 years and older randomly selected from Irbid, Ajloun, and Jerash. Data were collected in 2014; the participants completed a questionnaires' about demographics data, sign and symptoms, choices of treatment, intervention programs, diagnosis, governmental and media roles.

**Results:** Awareness of autism is low. More than half of Jordanian people are not knowledgeable about autism, Only 19 respondents say they knew a friend or relative with autism in their family. 52% Jordanians people do not know the causes of autism. More than 55% of Jordanians people do not know that genetic factor causing autism. Half people do not know that autism is a developmental disorder. Two of third do not know autism can be diagnosed before age two. Most of Jordanian people thought that autism can be diagnosed at age in average 4.4 years. . 59% thought that autism cases having a chance of cure

**Conclusion:** Jordanian people have a low level of knowledge about autism, diagnosis and treatment modalities. In Jordan awareness about autism center, intervention program very poor. The national news and entertainment media have not professional roles to act as source of credible, reliable and in depth information about the disorder.

**Keywords:** Jordanian people, autism, intervention modalities

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**An Argumentative Essay: Ethical and Legal Issues in Health Care Restrain Use in Psychiatric Settings**

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**Objectives:** The aim of this paper to discuss the restraint use in psychiatric settings from different points view, we will examine both sides of this controversial issue based on ethical, legal, and clinical considerations.

**Methods:** Discussion paper

**Results:** Authors point of view based on the evaluation of both opponent, and proponents of restraint, the author of this paper agrees with the opponents of restraint, each patient has the right to refuse treatment and the right to be free from restraints. As it was illustrated that restraint is a very complex issue that underlines many ethical and legal issues and arguments, furthermore the patients autonomy, freedom, and respect of decision making should be considered, moreover as it was illustrated above that restraint has a very serious harm on patient physical and mental health, that can lead to death.

**Conclusion:** The purpose of this paper was to discuss the restrain use in psychiatric settings. Restraint still argumentative issue that nursing deals almost daily in their practice also should be a considered as a last resort and practitioners should consider alternative interventions to promote safety and respect the dignity of the person. There are many alternatives that effective, safe to patient and staff, legally, easy to apply, and accepted politically used instead use of physical restraint such as complete assessment to the patient and put personal safety plane that can help the staff how to deal when the distress situation occur, staff training that put the staff have expert power when he deal white the patient as skillful and knowledgeable person, increase staff visibility in the patient environment help the staff to detect and intervene the distress situation early. The lack of evidence

supporting the use of physical restraints, the negative consequences of restraint for patient, and the low availability of alternatives complicate decision-making to apply restraints.

**Keywords:** Restrain, legal and Ethical Issue in Restrain

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**Knowledge about Middle East Respiratory Syndrome (Corona Virus )**

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**Objectives:** Corona viruses are a group of viruses that attach the respiratory tract of both human and animals highly infectious and difficult to control, they can cause respiratory, gastrointestinal symptoms .corona was first discovered in Sep. 2012 in Saudi Arabia with mortality rate around 42%. Goal: This study aims to determine knowledge among patient and visitors about corona disease.

**Methods:** We investigate ( 100 ) patients and visitors from king Hussein Medical Center during the period 1\2014 to 6\2014 by questionnaire contain 6 questions ,the answer is yes, no, not sure answers collected and analysis .

**Results:** 92% of sample know about corona, 86% know that there is no vaccine for corona virus 78% don't think that camels have relation with corona virus

**Conclusion:** Further lectures and workshops about corona virus are recommended to increase the awareness among patient, visitors and staff to enhance disease protection and management

**Keywords:** Knowledge, Corona Virus

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### **How to Reduce the Cancellation Rate in the Vascular Surgeries Department at the Royal Medical Services?**

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**Objectives:** The aims of this study were to identify the most common causes of elective surgery cancellation at vascular department, and its consequences and to discuss how to reduce these cancellations to improve the quality.

**Methods:** The study was conducted in vascular surgery department operating theaters in King Hussein Medical Center at (RMS). In this study, data were collected from operating theater, records at Vascular surgery operation room were reviewed on the period from April-2012 to April-2014. On these records all listed elective vascular surgeries were included on the study .

**Results:** The results revealed that communication between the hospital and the vascular patient undergoing surgeries makes the high rate of patient cancellation. Other causes were the administrative problems such as the availability of beds, instruments, monitors, staff, and vascular grafts. on the other hands, the health status problems shown as the third cause of high cancellation rate,

**Conclusion:** Communication and administrative problems were found to be the major causes of cancellation of vascular surgeries. It is recommended to use strategies to improve communication between hospital and patients.

**Keywords:** operation theater, cancellation, cost, quality

## **Hall A2 Session 1 Dentistry - Restorative Dentistry & Endodontics**

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### **Successful Posterior Composite Resin Restorations**

*Edward Lynch PhD (UK)*

This lecture will discuss the best way to manage deep carious lesions, the best ways to place posterior composites, better ways to help disinfection of root canals, the latest tooth whitening technique, the latest techniques for minimal invasive dentistry, uses of Ozone and other pharmaceutical agents in dentistry and to learn the best possible management of pulpal exposures

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### **New Technologies for Clinical Dentistry**

*Edward Lynch PhD (UK)*

This lecture will discuss the best way to manage deep carious lesions, the best ways to place posterior composites, better ways to help disinfection of root canals, the latest tooth whitening technique, the latest techniques for minimal invasive dentistry, uses of Ozone and other pharmaceutical agents in dentistry and to learn the best possible management of pulpal exposures

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### **Ozone's Uses in Clinical Dentistry**

*Edward Lynch PhD (UK)*

This lecture will discuss the best way to manage deep carious lesions, the best ways to place posterior composites, better ways to help disinfection of root canals, the latest tooth whitening technique, the latest techniques for minimal invasive dentistry, uses of Ozone and other pharmaceutical agents in dentistry and to learn the best possible management of pulpal exposures



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### **Vital Pulp Therapy: A Paradigm Shift from Treatment of Permanent Teeth with Carious Pulp Exposure**

*Nessrin Taha PhD (Jordan)*

Root canal therapy for teeth with vital pulps enjoys a high success rate approaching 100% if performed to high standards. However epidemiological studies reveal a high incidence of technically inadequate root canal fillings, and a high percentage of apical periodontitis in root filled teeth which may favor more conservative approaches for the management of inflamed vital pulps including partial or full pulpotomy.

Clinical signs and symptoms such as the degree and characteristics of pain do not reflect the actual histological status and subsequently the healing potential of the inflamed pulp.

Histological studies found inflammation to be confined to the area next to the carious exposure and not extending beyond 2 mm from the exposure site. Therefore if the infected tissue is removed and the pulp is dressed with an adequate material the conservation of a remaining healthy pulp is possible.

Proper case selection and proper treatment protocol is the key to success of vital pulp therapy. The ability to control bleeding after amputation of the infected pulp tissue has been suggested as an indicator for the extent of inflammation and the healing potential of the remaining pulp tissue. The pooled success rate of pulpotomy in teeth with irreversible pulpitis and periapical radiolucency has been reported to be 92.5%. This suggests the need for revision of the terminology of reversible and irreversible pulpitis and management guidelines.

## **Hall A2 Session 2 Dentistry - Dental Implantology & Prosthodontics**

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### **Management of Severely Atrophic Maxilla**

*Faleh Tamimi PhD (Canada)*

Treatment with dental implants is usually limited by the quality and quantity of bone available for their placement. Several techniques and guidelines have been created in order to augment maxillofacial bone volume for implant placement, however, many of these procedures lack sufficient scientific evidence. In a series of published clinical trials designed to provide high quality scientific evidence on implant success in bone augmented sites, Dr Tamimi F. *et al.* have identify several risk factors that influence failure of bone augmentation and subsequent dental implant treatments, and can help guide the management of such cases.

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### **Early Implant Failure Using Straumann AG Implant System For Fixed Partial Prosthesis**

*Sami Jebreen DDS\*, Reem Dababneh DDS Consultant in Periodontics Al Hussein Hospital - King Hussein Medical Center \* Brigadier General (AKA 1 Star General), Consultant in Prosthetic Dentistry Head of Dental Department - Al Hussein Hospital - KHMC, Royal Medical Services (Jordan) samijeb@hotmail.com*

**Objectives:** To assess early implant failure using Straumann AG dental implant system for fixed partial prosthesis at King Hussein Medical Center and to determine the effect of several potential risk factors on this early failure

**Methods:** Patients scheduled for partial prosthetic replacement of missing teeth using Straumann AG - SLA dental implants during six months period were included in this study. The following data was recorded for each patient: age, gender, medical history, and smoking habits. Clinical and radiographic examination was performed for each patient prior to the surgical phase of treatment to determine the bone type,

site, diameter and length of the implants to be used in addition to the periodontal condition. Patient's related factors that have been investigated as risk for early implant failure include age, gender, smoking, pre-existing periodontitis, and general health, while implant related risk factors include bone type, site, diameter, length of the implants.

**Results:** A total of 366 implants were placed in 158 patients, their mean age of 44.5 years old, and females comprised of 64.5%. Three implants failed (0.81%), smoking, medical health, and periodontitis were significant risk factors in early implant failure ( $p < 0.05$ ), while none of the local or implant related variables (bone type, site, diameter and length of the implants) have a significant effect on early implant failure ( $P > 0.05$ ).

**Conclusion:** Early failure using Straumann AG implant system was 0.8%, and this early failure was significantly associated with smoking, medical health, and pre-existing periodontitis.

**Keywords:** Early Failure, Fixed Partial Prosthesis, Straumann AG Implant System

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### **Osteointegration Pharmacology**

*Faleh Tamimi PhD*

(*Canada*) Selective serotonin reuptake inhibitors (SSRIs),

the most widely used drugs for the treatment of depression, have been reported to reduce bone formation and increase the risk of bone fracture. Since osseointegration is influenced by bone metabolism, this study aimed to investigate the association between SSRIs and the risk of failures in osseointegrated implants.

This retrospective cohort study was conducted on patients treated with dental implants from January 2007 to January 2013. A total of 916 dental implants in 490 patients (94 implants on 51 patients using SSRIs) were used to estimate the risk of failure associated with the use of SSRIs. Data analysis involved Cox proportional hazards, generalized estimating equation models, multilevel mixed effects parametric survival

analysis, and Kaplan-Meier analysis. After 3 to 67 mo of follow-up, 38 dental implants failed and 784 succeeded in the nonusers group, while 10 failed and 84 succeeded in the SSRI-users group.

The main limitation of this retrospective study was that drug compliance dose and treatment period could not be acquired from the files of the patients.

The primary outcome was that compared with nonusers of SSRIs, SSRI usage was associated with an increased risk of dental implants failure (hazard ratio, 6.28; 95% confidence interval, 1.25-31.61;  $p = .03$ ). The failure rates were 4.6% for SSRI non-users and 10.6% for SSRI users. The secondary outcomes were that small implant diameters ( $\leq 4$  mm;  $p = .02$ ) and smoking habits ( $p = .01$ )

also seemed to be associated with higher risk of implant failure. Our findings indicate that treatment with SSRIs is associated with an increased failure risk of osseointegrated implants, which might suggest a careful surgical treatment planning for SSRI users.

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### **Periodontitis as a Manifestation of Genetic Skin Disorders**

*Reem Dababneh DDS\*, Dr.Sami Jebreen, Dr. Lina Obeidat, Dr.Moeen Al Weshah, Dr.Antwan Khouri, Dr.Nabil Bissada*

*\* Brigadier General (AKA 1 Star General), Consultant in Periodontology, Royal Medical Services (Jordan)  
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**Objectives:** Background: Periodontal disease is a spectrum of different diseases for which certain individuals are at relatively high risk. Periodontitis is defined as a bacterial disease resulting in inflammation within the supporting tissues of the teeth leading to progressive attachment and bone loss. Classification of Periodontal Diseases and Conditions established a term entitled "periodontitis as a manifestation of systemic diseases" which comprises the genetic disorders. The aim of this presentation is to review the literature concerned with genetic skin disorders that are manifested by periodontitis.

**Methods:** Electronic searching of English

literature until June 2014 on the following keywords: genetic disorders, skin, keratoderma, and periodontitis.

**Results:** In addition to Papillon-Lefevre syndrome, other syndromes reported skin manifestation in association with periodontitis including Haim Munk, HOPP, Weary-Kindler, Rothmond Thomson syndrome, and variant Carvajal syndromes. Atypical cases of PLS were also reported, such as partial expression or a late presentation of the syndrome.

**Conclusion:** Periodontists need to be aware that more than one genetic disorder with skin manifestations and periodontitis has been reported, but Papillon-Lefevre syndrome (PLS) is the most recognized syndrome sharing these two features. Most of the periodontal findings appeared in the literature are not described in detail and without genetic testing. For better understanding and management of patients with skin manifestations and periodontitis, a team of specialists in dermatology, periodontics, and genetics is necessary to rule out the possibility of other medical conditions

**Keywords:** Genetic Disorders, Keratoderma, Periodontitis, Skin

### 311

#### **Implant Prosthodontics: Current Status and Future Trends**

*Mohammad Al-Rababah PhD (Jordan)*

This presentation will discuss the advancements implant prosthodontics had witnessed during the last few years. It will elaborate on the ideal workflow to provide long lasting restorations that are both functionally and esthetically customized to meet the increasing demands of our patients. The 'digital age' influence on our choice of both abutment and restorations will be emphasized upon. The role of immediate restorations and new types of materials will also be discussed

### 312

#### **Transplant versus Implant Dentistry**

*Ayat Adel DDS\*, Pr Boukemouche Abdelkader*

*\* Dental surgeon specialist in pathology and oral surgery (Algeria)*

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**Objectives:** The need to replace a missing tooth is an everyday situation in dentistry requiring compliance with the fundamental principles of dental restorations: the function and aesthetics. In this perspective, several solutions were proposed which include the dental implants and dental auto transplants.

**Methods:** Through this work, we will make a comparison between the advantages and disadvantages of the two solutions: transplant and implant, the implant remains the topical solution and autotransplantation that emerges increasingly in dentistry.

**Results:** Dental autotransplantation rarely suggested as an alternative to implant solution in an option that can provide the benefits of a natural tooth, fast and efficient conservative solution as well as osteo-induction. They have no implant companies or dental laboratories advocating their use, but for young patients they are not only the most cost-effective treatment option, but arguably the best. The implant is of a common use, but the indication is limited to a well-defined range of the population.

**Conclusion:** Currently dental implant remains the technique of choice for dental restorations and indications for transplantation remains limited. In the near future, knowledge and skills development practitioners in the field of dental transplantation will be of crucial importance when the regeneration of tooth germs becomes possible.

**Keywords:** Dental Autotransplantation, Dental Implant, Nonrestorable Tooth





## Hall A2 Session 3 Dentistry - Oral and Maxillofacial Surgery & Prosthodontics

313

### **Bone Graft Reconstruction of Maxillofacial Region Using Conventional Bone Graft Materials and Growth Factors**

*Gilbert Triplett PhD (USA)*

Autogenous bone has been the gold standard for bone graft reconstruction throughout the body. It has been used to reconstruct the maxillofacial skeletal complex with excellent outcomes which will be demonstrated. One disadvantage of this reconstruction is the need for a second surgical site to harvest the autogenous bone and the additional morbidity that the harvest inflicts on the patient prolonging recovery and increasing pain and discomfort. The use of genetically engineered bone growth factors (RhBMP-2) which is a molecular signaling 'protein' (Infuse®). Is now available that can duplicate in many cases the results achieved with autogenous bone grafts. Cases will be used to demonstrate the results which we have been achieving for regenerating bone in the face and jaws. The results have been equal to that achieved with autogenous bone. Cases will be used to demonstrate reconstruction of the maxilla, mandible and the ability of the regenerated bone to support dental implants prosthesis.

314

### **Posttraumatic Missile Facial Injuries**

*Tahrir N. Aldelaimi DDS, Maxillofacial Surgery & Laser Surgery (Iraq)*

*Professor of maxillofacial surgery & laser surgery, Department of oral & maxillofacial surgery, College of Dentistry, University of Anbar, Anbar Province (Iraq)*  
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**Objectives:** One of the most demanding aspects of emergency medicine is the management of patients who have suffered facial trauma. Difficult circumstances such as the high number of casualties, severity of the facial wounds, coupled with the

limited number of operating rooms and hospital beds, were a constant challenge to the surgeons. This study presents different types of facial missile injuries and their surgical managements

**Methods:** The following study focuses on maxillofacial injuries that were treated at Maxillofacial Unit, Ramadi Teaching Hospital and Department of Oral & Maxillofacial Surgery, College of Dentistry, Anbar University, Iraq, during the period of May 2003 to February 2014. (628) cases were chosen on the basis of them being only oral and maxillofacial injuries including (72%) males and (28%) females with age range from 4 to 75 years old.

**Results:** Most cases were in the age group (20-29) years, (52%) patients were injured with missile fragments. Isolated soft tissue injuries were found in (20%) patients while, skeletal injuries were found in (80%) patients.

**Conclusion:** Blast injury survivors usually experience multiple injuries that are characterized by gross contamination. The severity of these injuries depends on the type of missile site of injuries and the amount of soft tissue loss and bone destroyed.

**Keywords:** Blast Injury, Facial Injuries, Maxillofacial, Trauma, War Injuries

315

### **Use of Dental Implant in Reconstruction of Maxillofacial Complex**

*Gilbert Triplett PhD (USA)*

Reconstruction of all the structures in the maxillofacial region can be difficult and the esthetics and function are frequently compromised. We have been using dental implants to support prosthesis in cases of severe atrophy and missing facial parts such as orbital prosthesis, nasal prosthesis and auricular prosthesis. In addition, even total facial prosthesis can be fabricated and supported by these carefully placed implant devices making reconstruction more retentive, functional and esthetic. The use of GPS navigation further enhances precision and speed of implant placement. This technology and outcomes will be demonstrated.

**316**

**Reasons for Failures of Fixed Prosthodontic Works**

*Amjad M. Al Rahamneh DDS\*, Khattar S. Haddadin DDS, Abeer S Al-Khreisat DDS  
\* Colonel, Senior Specialist in Prosthodontics (Jordan)  
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**Objectives:** Lost teeth are frequently replaced by fixed prosthodontic work; the objective of this study is to analyze the possible etiological reasons for failures of fixed prosthetic works

**Methods:** 115 patients attending the department of dentistry at out-patient clinics of Al-Hussein hospital for different complaints were screened for fixed prosthodontic works. The prostheses were examined and those which showed signs or symptoms of failure were recoded and analyzed accordingly.

**Results:** The failures recorded were as follow: 47% of endodontic pathology to one of the abutments, 23% due to periodontal problem related to the supporting structures and 16% were due to recurrent caries, and 5% due to esthetic failure related to fracture of porcelain and 9% due to loss of retention.

**Conclusion:** Endodontic failure of fixed prosthodontics was the prominent reason due to over preparing the teeth, followed by periodontal failures due to subgingival finish line which encroaching the biological width. Unguided and mispreparation of the teeth will results in many other failures that will eventually decrease the longevity of the restorations and increase loss of teeth.

**Keywords:** Crown And Bridge, Failure, Fixed Prosthodontics

**317**

**Management of Maxillofacial Injuries from Military Combat, Early Through Later Care**

*Gilbert Triplett PhD (USA)*

Maxillofacial injuries have typically represented approximately 15% of wounds from conventional armed conflict which requires difficult management and reconstruction. With current conflicts and blast and fragmentation devices,

the percentage of facial injuries from the wounding and maiming devices, has increased to approximately 20 to 25%. Early management can improve outcomes and function however the oral complex is frequently the last aspect and is often neglected or poorly addressed leaving the patients with compromised aesthetics and function, In the sense that the complete reconstruction including the dental complex is critical to achieving the optimal result.

**Hall A2 Session 4  
Restorative Dentistry**

**318**

**Tooth Whitening**

*Faleh Tamimi PhD (Canada)*

The mechanism of tooth bleaching using peroxide oxidizers is not fully understood. It is unknown whether peroxide radicals make teeth whiter by deproteinizing, demineralizing, or oxidizing tooth tissues. This study was designed to define the mechanism of tooth bleaching and determine which of tooth enamel chemical components is/are affected by bleaching.

**319**

**Analytical Study for Tooth Surface Loss in a Group of Jordanian Population**

*Khattar S. Haddadin DDS*

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**Objectives:** Tooth surface loss is forming a complicating esthetic and functional problem to a wide group of the Jordanian population. Our objectives are to determine the severity and extent of tooth surface loss (TSL) and to investigate the possible treatment strategies for such cases.

**Methods:** A 133 patients of different age groups 71 males and 62 females were attended the general dentistry clinic in the out-patient clinics of the king Hussein medical center complaining from various dental problems. They were screened for tooth surface loss in the maxillary and mandibular arches. The pattern and

distribution of the tooth surface loss has been recorded according to a modified scale of Smith and Knight. the results were statistically analyzed for severity and distribution

**Results:** 85% of the total sample was of attrition type of TSL, 10% of erosion and Abfraction 5% of unknown causes undetermined by the patient or the dental history. 59% of the total sample has grade 1 and grade 2 tooth surface loss, 32% has grade 3 TSL and 9% have severe form of grade 4 and 5. T-test statistical analysis showed significant differences between some of the age groups with tendency towards increased index with older age patients.

**Conclusion:** TSL is forming a real challenge for the Jordanian population similar to other populations reported in the dental literature, which needs preventive awareness programs and national protocol for treatment to minimize further TSL and its possible consequences like loss of vertical space, complicated restorations and possible teeth loss.

**Keywords:** Etiology, Prevention, Tooth Wear

### 320

#### **Effect of Tooth Loss and Denture Wearing on Oral Health-Related Quality of Life**

*Osama Al-Jabrah DDS*

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**Objectives:** To assess the effects of tooth loss and denture wearing on quality of life.

**Methods:** A clinical oral examination of 115 patients (55 women and 60 men) was performed in this cross-sectional study. They were required to answer a self-reported oral health measure questionnaire. Answers which reflects the impacts of denture wearing on daily life and social activity, were rated and correlated with two variables; number of teeth with the exception of third molars (no teeth, 1-8, 9-16, 17-24, <sup>3</sup>25), and denture status (no dentures, removable partial denture(RPD), complete dentures(CD), Dentate (non-

denture wearers) were assumed as (control). Analyses of data are performed using SPSS (version 17.0) software. ANOVA and chi square tests were used to compare means of self-reported oral health measures by combined dentition/denture groups. Level of significance was set to 0.05.

**Results:** The total number of lost teeth was 2039 (mean 17.7±6.3 teeth). Dentate (control) group was younger and had higher self-reported oral health-related life quality scores compared to denture groups (P<0.05). Significantly (P<0.001) more than 85% of the controls rated their oral health as excellent and very good compared with 48% of CD and 53% of RPD wearers. Control group significantly (P<0.05) reported less pain and distress compared to denture groups. Approximately half of CD wearers avoided eating certain foods compared to 17% of RPD wearers and only 9% in control group.

**Conclusion:** High standards of oral health measures should be considered to reduce tooth loss and denture wearing. Preservation of natural teeth greatly improves the quality of life.

**Keywords:** Denture Wearing, Oral Health Measures, Tooth Loss

### 321

#### **Rothmond Thomson Syndrome Case Report**

*Thamer Bsoul DDS\*, Brigadier General Reem Dababneh DDS, Colonel Ghadeer Muqattash DDS*

*\* Lieutenant Colonel, Prosthodontics specialist at Royal Medical Services (Jordan)  
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**Objectives:** To focus some light on a very rare syndrome that does not exceed 350 reported cases in the literature from dental interest

**Methods:** Case Report: A 42-years old female attended dental clinic complaining of grade three mobility of all her remaining teeth. The clinical and oral examination revealed the presence of roots which were hypoplastic in general .Previously extracted 19 of her teeth due to advanced periodontal disease and moderate to good oral hygiene. The examination of the general condition of the patient showed that the patient was

with short status of 120 cm, her weight was 39kg. She had marked telangiectasia on her face and both limbs especially at the extensor surfaces with multiple cafe-au-lait spots on her neck, shoulders and upper limb. She appeared to have little scalp, eyebrows and lashes hair, her nails were obviously dystrophic hypotrophic with multiple ridging formations.

**Results:** A team work of periodontist, dental surgeon, prosthodontics tended to fabricate a final removable complete denture that was satisfactory to the patient

**Conclusion:** Patients with Rothmond Thomson syndrome are not easily diagnosed and need a team work of the ophthalmologist, dermatologist, internal medicine specialist, surgeon and the dentist to give them the medical care they need

**Keywords:** Rothmond Thomson Syndrome

322

#### **How Can an Edentulous Jaw be Restored?**

*Mahasen S. Ajarmeh DDS*

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**Objectives:** Options to restore an edentulous ridge: Conventional complete denture, removable prosthesis, fixed prosthesis and Implant supported overdenture

**Methods:** Indications, advantages, and disadvantages of each treatment option will be discussed.

**Results:** Each option to restore an edentulous ridge has its Indications, advantages, and disadvantages

**Conclusion:** All the options can work; if we have good case selection for each treatment plan.

**Keywords:** Complete Denture, Edentulous Ridge Fixed, Implant Prostheses

323

#### **Esthetic Gingiva: An Orthodontic and Periodontic Procedure**

*Mohammed Al-Qudah DDS*

*\* Major, Specialist in periodontics at Prince Ali Bin Al Hussein Military Hospital. Jordanian board in periodontics, Royal Medical Services (Jordan)*  
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**Objectives:** To show clinically how and when periodontist and orthodontist should work jointly to enhance smile aesthetic based on harmony of gingival contour. Orthodontic treatment has a direct effect on the periodontal tissues including gingiva. The shape and the contour of the gingiva affects directly on the shape of the tooth consequently affecting its esthetic. So a strong link between the periodontics and the orthodontics became evident from the moment starting orthodontic treatment. To produce an esthetic smile such cooperation is now needed.

**Methods:** Several cases where aesthetic was compromised from compromised gingival contour were due to gingival diseases that resulted from orthodontic wearing appliances. These cases were treated in periodontal clinic with different periodontal surgical techniques like crown lengthening, gingivectomy and gingivoplasty.

**Results:** These procedures produce an esthetic gingival contour and satisfactory results to the patients.

**Conclusion:** Success in improving the esthetics of gingival contours requires orthodontic and periodontic procedures. In orthodontics; correct placement of appliances must take into account. The knowledge of clinical periodontics should be reviewed and updated to ensure that treatment is properly performed and aesthetic outcomes optimized.

**Keywords:** Aesthetic, Gingival Contour, Orthodontics, Periodontics

### **Hall B Session 1**

#### **Medicine - Hypercoagulable State**

324

#### **Cancer and Thrombosis**

*Hikmat Abdel-Razeq MD (Jordan)*

The association between cancer and thrombosis is well-established since the first observation made by Armand Trousseau more than hundred years ago. Patients with cancer are at higher risk for thrombosis; such higher risk is probably secondary to hypercoagulable state due to the cytokines and procogulants secreted by the tumor itself or from its therapy. Venous stasis

associated with the vascular compression by the tumor or the vascular injury by direct invasion, endothelial damage or central catheters is another important risk factor. Despite its established benefits, marked differences were identified among almost four thousands physicians who completed a questionnaire as part of the FRONTLINE study. These differences were related to the indications for thromboprophylaxis, agents used and the duration of anticoagulation. The wide use of LMWH for both prophylaxis and active therapy of venous thromboembolism and the difficulties we have with oral anticoagulants encouraged researchers to test the prolonged use of these agents in cancer patients. Several trials had established that LMWH is probably more efficient than, and at least as safe as, oral anticoagulants. The added convenience for both patients and physicians, as no monitoring is needed, resulted in wider use of LMWH for this indication.

More recently, several trials had highlighted the higher risk of thrombosis among cancer patients undergoing active treatment with chemotherapy even in the ambulatory setting.

Though still unproven, earlier studies had suggested that LMWH may have anti neoplastic activity and may add to the survival of cancer patients.

### 325

#### **Update in Pulmonary Embolism Management**

*Mamoon Zihlif MD (Jordan)*

Within the past few years there have been new updates on the management of pulmonary embolism.

In the first part of the talk we will discuss the introduction of new oral anticoagulants like Rivaroxaban and Dabigatran.

We will discuss the evidence behind the introduction of these agents in the treatment of pulmonary embolism and the advantages and the drawback of these agents.

The other part of the talk will discuss the use of thrombolytic in massive pulmonary

embolism and the indications and contraindication of these drugs.

### 326

#### **New Oral Anticoagulants in Clinical Practice**

*Hikmat Abdel-Razeq MD (Jordan)*

For many decades, warfarin, a vitamin K antagonist, had been the only available oral anticoagulant. Its narrow therapeutic index and multiple drug and diet interactions affected its safety, compliance, and efficacy.<sup>1</sup> Oake, N., Fergusson, D.A., Forster, A.J., and van Walraven, C.

**Frequency of adverse events in patients with poor anticoagulation: a meta-analysis.** *CMAJ.* 2007; 176: 1589–1594

CrossRef | PubMed | Scopus (72) See all References<sup>1x2</sup> Lin, P. Reviewing the reality: why we need to change. *Eur Heart J Suppl.* 2005; 7: E15–E20

CrossRef | Scopus (18) See all References<sup>2</sup> These shortcomings have prompted the development of new oral anticoagulants that target key coagulation factors, such as factors Xa and IIa.

Apixaban and rivaroxaban are specific inhibitors of Factor Xa while dabigatran is a direct thrombin (Factor II) inhibitor. The predictable pharmacological profile of these new agents will allow physicians to use these drugs without the need for routine coagulation monitoring which is the mainstay of warfarin therapy. In addition, these new agents have not been shown to have significant food interactions and limited drug–drug interactions. However, these drugs may potentially cause bleeding complications in patients with reduced drug excretion due to impaired renal function.

In this presentation, the pharmacology of these new oral anticoagulants will be reviewed along with the major clinical trials in venous thromboembolism prevention in total hip and knee replacement orthopedic surgery, the treatment of venous thromboembolic disorders and stroke prevention in atrial fibrillation.



**327**

**Antiphospholipid Syndrome: 30 Years On**  
*Munther Khamashta MD (UK)*

**Hall B Session 2**  
**Medicine - Advances in Allergy and Oncology**

**328**

**Allergen Immunotherapy: Past, Present and Future**

*Mansour Karadsheh MD (Jordan)*

Immunotherapy (SIT) involves the administration of gradually increasing doses of a culprit substance that was proved by proper tests to induce a state of hyper responsiveness. The concept of immunotherapy is credited to Noon and Freeman with the first successful trial of SIT for the desensitization of grass allergy in 1910. After the publication of Freeman and Noon's trial, SIT gained rapid acceptance as an important component of allergic disease treatment, and there followed significant advances into the clinical aspects of immunotherapy. An important milestone was reached with the publication of Frankland and Augustin's study of grass pollen immunotherapy in 1954, which represents the first double-blind, placebo-controlled trial to demonstrate SIT efficacy. Johnstone and Dutton were the first to recognize the concept that SIT could slow the atopic march, showing in a 1968 study that SIT decreased development of asthma in a pediatric population. International validation of the accumulating body of evidence regarding the safety and efficacy was achieved with the publication in 1998 of the World Health Organization (WHO) position paper on SIT. Although generally well tolerated, there remains a small but real risk of a systemic reaction (including life-threatening anaphylaxis) with subcutaneous immunotherapy (SCIT) as documented in the nearly simultaneously reports by Lockey *et al.* and the British Committee on Safety of Medicines. Borne partly from a desire to enhance patient safety and partly to improve compliance, there has been increasing interest in alternative modes of SIT delivery. Most

prominently among these has been the increasing clinical acceptance of sublingual immunotherapy (SLIT) as part of standard allergy practice, particularly in Europe. In 2009, a World Allergy Organization position paper confirmed the safety and clinical efficacy of SLIT, after review of over 60 controlled trials. The international committee concluded that there is substantial evidence in both adults and children for the routine use of SLIT. There are numerous experimental approaches under active investigation to enhance the efficacy of SIT as well as decrease the small but persistent risk of anaphylaxis during its delivery. One such approach is the use of omalizumab, an anti-IgE monoclonal antibody, during the initiation phase of immunotherapy.

Another strategy has been to attempt to modulate the innate immune system in concert with the adaptive changes mediated by traditional SCIT by the chemical addition of Toll-like receptor (TLR) agonists, with pollen extracts linked to a TLR4 agonist. In a similar vein, TLR9 immunostimulatory elements such as CpG nucleotide sequences have been conjugated to Amb a 1 in an effort to reduce allergenicity and improve immunogenicity. Finally, alternative routes of allergen administration have been explored beyond the traditional SCIT and the evolving SLIT. Perhaps the most innovative of these techniques is intralymphatic allergen injection, which in one limited trial offered comparable symptom improvement in grass-allergic patients with three intranodal injections over 2 months versus 3 years of conventional SCIT.

**329**

**Recent Advances in Personalized Oncology: Role of Antibodies**

*Stefano Iacobelli MD (Italy)*

*Stefano Iacobelli, Anna Scattoni, Gianluca Sala, Enza Piccolo*  
*Department of Clinical and Experimental Sciences, University G. D'Annunzio Medical School, Chieti, Italy and MediaPharma s.r.l., Chieti, Italy*

Monoclonal antibody (TMA) based



therapies for cancer have advanced significantly over the past two decades both in their molecular sophistication and clinical efficacy. Initial development efforts focused mainly on humanizing the antibody protein to overcome problems of immunogenicity and on expanding of the target antigen repertoire. In parallel to unconjugated naked TMAs, antibody-drug conjugates (ADCs) have been developed for targeted delivery of potent anti-cancer drugs with the aim of bypassing the morbidity common to conventional chemotherapy. Currently, approximately 60 ADCs are being developed in oncology. Among them, about 20 are undergoing clinical testing, the majority of which are tubulin inhibitor-based immunoconjugates. Herein, we review ADCs targeting solid tumors, with the focus on special programs currently undergoing clinical development. Although well-validated targets, such as epidermal growth factor receptor (ErbB1 and ErbB2), continue to provide opportunities for companies, we found notable trends toward targeting less-well-validated antigens such as new members of the ErbB receptor family and matricellular proteins. By defining the advantages and disadvantages of naked TMAs and ADCs it should be possible to develop a more rational approach to the application of targeted drug delivery strategies in different situations and ultimately, to a broader basket of more effective therapies for cancer patients.

### 330

#### **Antibody Directed Nanoparticles to Improve Targeted Cancer Therapy**

*Pier Giorgio Natali MD (Italy)*

**Pier G Natali**, MTCC/CINBO Labor.Chieti Univ., **Pierpaolo Ceci**, CNR Labor.Rome, **Patrizio Giacomini**, Immunol. Lab., "Regina Elena" National Cancer Inst, Rome, ITALY

In the attempts to improve the therapeutic potential and to overcome the present limitations of antibody drug-conjugates (ADC), we have developed a novel conjugate based on the incorporation of physiological ferritin nanoparticles (NP). Indeed, NP-

based materials represent ideal delivery platforms to increase the cytotoxic payload (many therapeutic molecules incorporated in a single nanoparticle), and tissue delivery because of their dimension (2-200 nm). Furthermore, NP can be empowered with tumor specificity by coupling with selected anti tumor monoclonal antibodies (mAb), thus limiting chemotherapy side effects. To explore this novel approach, we have used as target *in vitro* and *in vivo* the well characterized human melanoma associated antigen NG2 (CSPG4) which displays a restricted normal tissue expression. An average of three molecules of the mAb Ep1 to NG2 were conjugated to a single ferritin cage encapsulating about 50 cisplatin molecules (HfT-Pt-Ep1). The 33 nm HfT-Pt-Ep1 nanoparticle which have an estimated molecular size of about 900 kD, demonstrated by flow cytometry specific binding to a CSPG4(+) melanoma cell line, but not to a CSPG4(-) breast carcinoma cell line. As compared to the cisplatin-containing ferritin nanoparticle alone (HfT-Pt), which inhibited cell proliferation more efficiently in breast carcinoma than melanoma cells, the mAb-derivatized HfT-Pt-Ep1 nanoparticle had a 25-fold preference for the latter. A similar high melanoma specificity was observed *in vivo* upon systemic intravenous administration of HfT-Pt-Ep1 to nude mice carrying transplanted, palpable melanoma and breast carcinoma tumors. Thus, we have been able to determine precise combinations and stoichiometric relationships between mAbs and nanoparticle protein cages, whereby the latter lose their tropism for ubiquitously distributed cellular receptors, and acquire instead remarkably cell lineage-selective binding. HfT-Pt-Ep1 is therefore an interesting model to improve the therapeutic index of ADC. This is strongly supported by the efficacy of our conjugate in melanoma, known for its refractoriness to mono- and combination-chemotherapy. Hopefully, HfT-Pt and similar conjugates will improve the toxicity profiles of the corresponding naked drugs, and eventually overcome refractoriness/resistance to, and the detrimental effects of chemotherapy. In



view of the increasing use of tumor passive immunotherapy, this new strategy is likely to expand the manufacture of ADCs.

**P.G. Natali:** identification of the biological target system, **P. Ceci:** development of ferritin nanoparticles, **P. Giacomini:** production and evaluation of ADCs

**331**

**Recent Advanced in Personalized Oncology:  
Role of Antibody-Drug Conjugates**

*Stefano Iacobelli MD (Italy)*

Monoclonal antibody (TMA) based therapies for cancer have advanced significantly over the past two decades both in their molecular sophistication and clinical efficacy. Initial development efforts focused mainly on humanizing the antibody protein to overcome problems of immunogenicity and on expanding of the target antigen repertoire. In parallel to unconjugated naked TMAs, antibody-drug conjugates (ADCs) have been developed for targeted delivery of potent anti-cancer drugs with the aim of bypassing the morbidity common to conventional chemotherapy. Currently, approximately 60 ADCs are being developed in oncology. Among them, about 20 are undergoing clinical testing, the majority of which are tubulin inhibitor-based immunoconjugates. Herein, we review ADCs targeting solid tumors, with the focus on special programs currently undergoing clinical development. Although well-validated targets, such as epidermal growth factor receptor (ErbB1 and ErbB2), continue to provide opportunities for companies, we found notable trends toward targeting less-well-validated antigens such as new members of the ErbB receptor family and matricellular proteins. By defining the advantages and disadvantages of naked TMAs and ADCs it should be possible to develop a more rational approach to the application of targeted drug delivery strategies in different situations and ultimately, to a broader basket of more effective therapies for cancer patients.

**Hall B Session 3**

**Medicine - Royal Medical Services  
(RMS) - Mediterranean Task  
Force for Cancer Control (MTCC)**

**Symposium:**

**Cancer Prevention and Early  
Diagnosis  
S03**

**332**

**Hepatocellular Cancer: A Preventable  
Disease**

*Massimo Crespi MD (Italy)*

**333**

**Colorectal Cancer Screening**

*Ziad Sharaiha MD (Jordan)*

**334**

**Tobacco Dependence Treatment: The Case  
for the EMR**

*Feras Hawari MD (Jordan)*

Tobacco consumption has been linked to the development of Noncommunicable diseases (NCDs) namely: cardiovascular, cancer, diabetes mellitus and respiratory illnesses. Tobacco use in the EMR is on the rise. As it is the case in Jordan, the majority of the population in the region are young. However, the region is bracing for a significant rise in the incidence of NCDs over the next 15 years. Such estimates are expected to reach as high as 25% or more. The world Economic Forum estimates the burden of cost of NCDs in low-middle income countries to exceed USD 20 trillion over the next 15 years. Although the control of spread of tobacco by preventing the recruitment of new smokers is considered one of the ways to curb the spread of tobacco at national levels, however, treating current smokers and ridding them of this deadly habit has been shown to be both cost effective and more efficacious than prevention strategies alone.

In fact, when treating tobacco dependence, it has been shown that less subjects are needed to be treated to save one life when compared with the use of statins for high cholesterol or the use of antihypertensive



drugs for treating hypertension. Despite all that, tobacco dependence treatment is not practiced readily by healthcare providers, necessary skills and pharmacotherapy are not being made available nor they are covered by healthcare insurance plans in the region and significant healthcare providers are smokers themselves. Experience in the developed world clearly shows the feasibility of providing such services and its effectiveness in reducing morbidity and mortality from tobacco related diseases.

**335**

### **Crucial Educational Messages for Patients by Family Doctors for Cancer Prevention**

*Massimo Crespi MD (Italy)*

## **Hall B Session 4 Medicine - Infection and Vaccination**

**336**

### **Malaria: Current and Future Perspectives**

*David Warell MD (UK)*

#### **Global epidemiology**

WHO estimates about 219 million cases of malaria and 660 000 deaths in 2010, mainly in Africa, and claims 26% reduction in mortality rates between 2000 and 2010 (33% in Africa). However, Murray et al., (2012) dispute these figures, claiming 1 133 000 deaths in 2010. Jordan remains malaria free apart from imported cases, mainly in its armed forces returning from United Nations peace-keeping activities abroad.

#### **Malaria control**

Insecticide resistance is limiting the effectiveness of vector control by chemical insecticides. Biological control methods include introduction of larvivorous fish and insects and genetic modifications of mosquitoes. Malaria transmission is reduced by early case detection, prompt treatment and gametocytocidal drugs such as primaquine and artemisinins.

#### **Malaria vaccines**

Design of an effective vaccine is challenged by *P. falciparum*'s large genome, capable of allelic and antigenic variation, stage-specific immunity and variability in host

susceptibility. Current research aims to achieve 50% protection against severe disease and death for at least one year and >80% effectiveness against clinical disease. The most promising candidate is the Walter Reed Army Institute and GSK's RTS,S/AS01 pre-erythrocytic vaccine. It is a recombinant protein, part of the repeat region of the *P. falciparum* circumsporozoite protein (CSP) combined with hepatitis B virus surface antigen and an adjuvant. The latest Phase III field trial in Africa (RTS,S Clinical Trials Partnership. PLoS Med. 2014 Jul 29;11(7):e1001685. doi: 10.1371/journal.pmed.1001685) showed 46% protection against clinical malaria and 34% against severe malaria in children during the 18 months after vaccination (Targett G Evid Based Med. 2014 Sep 16. pii: ebmed-2014-110089. doi: 10.1136/ebmed-2014-110089. [Epub ahead of print]). On this basis, the RTS,S vaccine has been submitted for regulatory approval by the European Medicines Agency (EMA) and, if approved, will be submitted for evaluation by the WHO.

#### **Malaria eradication**

Forty years after the failure of the WHO's malaria eradication programme, there is now renewed interest resulting from the Bill & Melinda Gates Foundation Malaria Eradication Research Agenda (malERA) initiative. The strategy is to develop malaria vaccines, more effective and affordable drugs, diagnostics and new tools to control mosquitoes, to investigate effectiveness of malaria interventions and to seek advocacy of policies and financing.

#### **Malaria prevention**

Pending the development of an effective vaccine, malaria morbidity and mortality must be combatted in residents of, and visitors to, highly malarious areas (travellers, migrant labourers, military personnel). This is achieved by avoiding mosquito bites between dusk and dawn, sleeping under insecticide treated bed nets and using chemoprophylaxis. In endemic areas, pregnant women can be protected by intermittent preventive treatment.

#### **Antimalarial chemotherapy**

WHO (Management of severe malaria – A practical handbook. Third edition April



2013) recommends that first line treatment for all severe malarias, irrespective of species, is parenteral artesunate, switched to a recommended oral ACT as soon as possible after the first 24 h. Unfortunately, artemisinin resistance is spreading in SE Asia and fake antimalarial drugs, manufactured mainly in China and India, are resulting in unnecessary mortality (PLoS Med. 2008 Feb;5(2):e32.)

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#### **Malaria In Jordan**

*Khalil Kanani MD (Jordan)*

Up to the 1950s, malaria was endemic throughout the country except desert areas. Both *P. vivax* and *P. falciparum* were present, with predominance of the former. Malaria was hyper-endemic in the Low Lands below the sea level. In other areas it was hypo- to meso-endemic and epidemic prone, with hyper-endemic pockets. Malaria eradication program started in 1959. In the course of its implementation, transmission of malaria was interrupted in 1970. Over the last 42 years 8 small isolated incidents of local transmission had occurred in different foci mainly in the Low Lands resulting in 52 introduced malaria cases. During the last ten years (2004 – 2013) from 52 to 175 malaria cases were detected in Jordan annually, predominantly originating from Asia and Africa.

Malaria receptive areas of the country are in the North and Middle West adjacent to the Jordan Valley. Well developed malaria surveillance system based on active and passive case detection and anti-vector activities based mainly on larval source management including environmental and chemical mosquito larvae control, are both the main components of Malaria Control Program in the country. Other anti-adult Anopheles mosquito control interventions are implemented only when local transmission is likely to occur.

In receptive areas about 90% of the population are covered with vector control interventions. Insecticide treated nets (ITNs) and indoor residual spraying (IRS) are not routinely applied in Jordan because of the free status of local transmission.

The malaria surveillance system covers all country governorates. All suspected malaria cases have access to laboratory diagnosis, and all laboratory confirmed malaria cases in all health sectors receive first line anti-malarial treatment according to our national policy. The number of reported malaria cases during 2013 is 117 imported cases.

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#### **Respiratory Viral Infections among Immunocompromised Patients**

*Wail Hayajneh MD (Jordan)*

This presentation will focus on temporal evolution of respiratory viral infections among hemato-oncologically immunocompromised children. Presentations of known and newly evolving viruses will be discussed with focus on changing clinical patterns among variable immunocompromised populations. This is in particular important for newly evolving viruses like influenza, corona, metapneumovirus, and others. Optimization the use of laboratory facilities and rapidly evolving diagnostic advances will be highlighted. Available treatment modalities will also be reviewed. Among above mentioned perspectives local data and country specific issues will be discussed.

### **Hall C Session 1**

#### **Laboratory Medicine - Facts & Update on Neuroendocrine Tumors (NET)**

### 339

#### **Classification of Neuroendocrine Tumors**

*Sylvia Asa MD(Canada)*

The endocrine system is a complex group of cells and organs that produce hormones. They fall into four categories: modified neurons that produce neurotransmitters and neuronal markers (paraganglia), neuroendocrine epithelium that expresses cytokeratins and neuronal markers including neuron specific enolase, synaptophysin and chromogranin, follicular epithelium of thyroid that is of endodermal derivation, and steroidogenic cells that

are of mesenchymal origin. This talk will discuss the classification of tumors composed of neuroendocrine epithelium, including those derived from lung, thyroid C cells, thymus, gut, pituitary, parathyroid, pancreatic islets, and the more rare lesions of ovary, prostate and cervix. The morphologic spectrum of these tumors will be reviewed, and immunohistochemical markers will be discussed to show the value of transcription factors, hormones and biomarkers of proliferation, adhesion and invasion. The importance of clinicopathological correlations will be emphasized and the genetic basis of the various lesions will be reviewed.

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#### **Grading and Staging Systems for Neuroendocrine Tumors**

*Sylvia Asa MD (Canada)*

Neuroendocrine tumors have been graded in many different systems that provide variable information and are not really comparable. This talk will compare the grading systems provided by the World Health Organization (WHO) and the European Neuroendocrine Tumor Society (ENETS) for the various tissues and tumor locations. The AJCC/UIOC staging categories for the various tumors in different locations will be reviewed. The impact of tumor grade and stage on prognosis will also be discussed.

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#### **Approaches to Therapy of Neuroendocrine Tumors**

*Sylvia Asa MD (Canada)*

The treatment of neuroendocrine tumors is complex and highly variable. It involves surgery, hormonal agents, including a group of long-acting somatostatin analogues and other agents to modulate hormone release and action, medical therapy with biological agents that target subcellular processes of proliferation, and a specific category of targeted radiation using somatostatin analogues known as peptide receptor radiotherapy (PRRT). The benefits and challenges of each approach

will be discussed and the applications of the various agents in specific clinical setting will be reviewed.

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#### **Contribution of Molecular Pathology in Lung Cancer Diagnosis and Treatment**

*Maier Sughayer MD (Jordan)*

Lung carcinoma is one of the most common cancers both globally and locally. In Jordan it is now the number 2 cancer in men in incidence and is the number one cancer in cancer-related deaths in both Jordan and the USA. Globally it is responsible for around 1.4 million deaths from lung cancer each year while in the USA 165,000 deaths from this cancer were reported in 2011. 85% of lung cancers are of the non small cell type (NSC ca) and 15% are of the small cell type. At King Hussein Cancer Center 60% of NSC lung cancer are adenocarcinoma. Today the diagnosis of NSC lung cancer not otherwise specified (NOS) is not acceptable and subclassification of this cancer to the specific types of adenocarcinoma or squamous cell carcinoma is of paramount importance for the following reasons: 1. For selecting first line chemotherapy; Pemetrexed based chemotherapy for nonsquamous cell (Scagliotti, 2009), Taxane-based chemotherapy or gemcitabine in patients with squamous cell carcinoma. 2. For avoiding toxic therapy; as Bevacizumab causes grade 5 pulmonary hemorrhage in squamous cell carcinoma (Sandler, 2010) and 3. Guides selection for molecular testing; All nonsquamous, NSCLC should be submitted for EGFR and ALK testing (Lindeman 2013). EGFR is mutated in 17-52% of lung adenocarcinoma depending on the ethnic origin with the highest being in Asians. In western whites it is 24% while in Jordanians it is 24%. Alk gene fusions are seen in 3-6% of lung adenocarcinomas. Both should be tested for in advanced lung nonsquamous non-small cell lung cancer. The first is by molecular techniques and the second is by fluorescent in-situ-hybridization (FISH).

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### **Next Generation Sequencing in Clinical Diagnostics**

*Abdelghani Tbakhi MD (Jordan)*

In recent years, there have been noteworthy advances in DNA sequencing technologies with the emergence and rapid evolution of next generation sequencing (NGS), also known as massively parallel sequencing. The field of Pathology cannot afford to overlook this next generation sequencing (NGS) innovation since, in the hands of pathologists, it has the potential to reform the fabric of healthcare and make personalized genomic medicine a ubiquitous reality.

NGS approach holds a number of potential advantages over traditional methods, including the ability to fully sequence large numbers of genes (hundreds to thousands) in a single test and simultaneously detect several genomic abnormalities in all known cancer-related genes. Adoption of clinical NGS testing will place significant demands on laboratory infrastructure and will require extensive computational expertise and a deep knowledge of cancer medicine and biology to generate truly useful "clinically actionable" reports.

The application of NGS has allowed cancer diagnostics to move from single-gene sequencing (which are laborious and expensive) to comprehensive genome-wide analysis. It is anticipated that the advent of NGS will eventually reduce the overall cancer genomic testing, expedite the turnaround time and increase the span of genome sequencing. It also has the potential to overcome the challenges of lower cell percentage of tumor cells and increase the sensitivity of the assay.

NGS can provide the most comprehensive characterization of the cancer genome by detecting an array of genetic alterations in the cancer cell (e.g., point and deletion mutations, nucleotide substitutions, small insertions, copy number variation, chromosomal rearrangements and epigenetic alterations). Approaches by NGS include whole genome sequencing, targeted exome sequencing and transcriptome sequencing.

A major challenge of applying NGS to cancer diagnostics is making biological sense of the mountains of genomic data and making the test results clinically actionable. This requires integration of the computational, biological and clinical analyses of the genomic data.

## **Hall C Session 2 Laboratory Medicine - PS2 Update on Ovarian Tumors**

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### **Recent Advances in the Pathology of Ovarian Epithelial Tumors**

*Mona El Bahrawy MD (UK)*

Epithelial tumours are the commonest type of ovarian tumours presenting approximately 90% of ovarian tumours. Epithelial tumours are a large group including different types, mainly serous, mucinous, endometrioid, clear cell and transitional. Each differentiation subtype includes benign, borderline and malignant categories. This year the classification of ovarian tumours has been updated in the WHO classification of tumours of female reproductive organs.

This talk will focus mainly on recent advances in the pathology of ovarian carcinoma. Epithelial malignant tumours represent the most lethal gynaecological malignancy. These tumours have for long been managed as a single entity and all treated in the same way regarding surgical and medical management. Recent advances show that there are categorical differences between different histological subtypes of ovarian carcinoma, not just in morphology, but also in terms of tumour origin and molecular pathogenesis. Recent studies also show that there are molecular differences even between tumours of the same histological subtype. Understanding such differences paves the way to development of more specific diagnostic and prognostic biomarkers and to identifying potential tumour type specific therapeutic targets.

The role of the pathologist is essential in understanding and supporting the development of these techniques and



importantly in adopting what proves to be of clinical relevance to include in their evaluation of cases to aid in effective patient management.

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**Borderline Ovarian Tumours**

*Mona El Bahrawy MD (UK)*

Epithelial tumours are the commonest type of ovarian tumours. Epithelial ovarian tumours may be benign, borderline or malignant. Borderline ovarian tumours are an interesting group of epithelial tumours, which pose many challenges to practitioners both in diagnosis as well as in management. These are tumours that most commonly present in young women in the reproductive age group. Most borderline tumours behave in a benign fashion. However, a small percentage may relapse and progress to invasive carcinoma. The commonest types of borderline ovarian tumours are serous and mucinous tumours. In some cases establishing the diagnosis can be challenging particularly in differentiating between a borderline tumour and an invasive carcinoma. Strict criteria must be followed in macroscopic examination, sampling and microscopic examination of the tumour. Establishing the correct diagnosis is essential to avoid under treatment or over treatment of the patient and to give young women the option of fertility sparing surgery.

To date there are no robust clinical, histological or molecular characteristics that well predict the behaviour of the individual tumours to help in developing a patient tailored plan for management. This is an area where much research is required to address this unmet clinical need.

This talk will shed the light on important aspects to be considered in the examination and reporting of borderline ovarian tumours, including preferred terminology and current classification. A snapshot of current efforts and developments in understanding the molecular pathology of borderline ovarian tumours will be presented.

**346**

**Pre-Analytical Variables in Laboratory Medicine**

*Aparna Ahuja MD (India)*

Diagnostic tests remain important tools in patients' management. They help in making the proper diagnosis and treatment for the patients. Diagnostic tests cycle is described as Brain to Brain. Testing process has three phases: preanalytical, analytical and post analytical. Preanalytical phase is the most vulnerable part of the total testing process in any clinical testing. The preanalytical variables include

specimen collection, handling, processing, physiological influences and/or interference factors. Numerous studies showed that 32 – 75% of errors happen in the preanalytical phase due to the complexity of this phase and human intervention. The focus of this speech will be preanalytical variables that can occur during venipuncture and specimen processing and how they relate to laboratory testing.

Preanalytical phase has evolved a lot over years in which many factors have been identified to affect the testing outcome. These factors are either fixed or variable factors. Fixed factors are important and can't be changed, while Variable factors are always considered as area for improvement to overcome poor practice and hence improve the testing outcome with accurate results and correct patient management on time.

Paying close attention to the preanalytical variables associated with blood collection will help to ensure accurate test results in the hematology department, as well as all areas of the clinical laboratory. Patient identification is considered crucial because consequences of errors at this step can be fatal. Poor quality samples as hemolysis, clotting and quantity not sufficient result from improper phlebotomy technique. Specimen labeling is one preanalytical variable that could lead to re-labeling in the lab, which is an added cost, a decreased efficiency and can end up with misidentification.

Poor quality samples are always associated with a cost incurred. Preanalytical phase



has a great impact on the whole testing cycle and patient management because even for the most advanced analytical and post analytical systems, the quality of the preanalytical phase can determine the outcome. Standardization and monitoring preanalytical variables is of primary importance and is associated with the most efficient and disciplined laboratories, resulting in reduced operational costs and increased revenue.

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**Meet the Expert: Gynaecological Pathology Slide Seminar**

*Mona El Bahrawy MD (UK)*

Pathologists play a pivotal role in patient management as much of the treatment plan, whether medical or surgical will be based on the histological diagnosis of tissue diagnostic biopsies and / or resection specimens. It is very important that the pathologist is provided by clinical and operative details which will help the pathologist in the interpretation of the histological features, and in some cases such information provides the key to reaching the correct diagnosis. It is also essential that the pathologist should seek any further information required for thorough assessment of a case.

However, it is equally important that the pathologist with the experience and knowledge combines histological assessment with the relevant ancillary techniques to reach a well-informed opinion in context of the provided clinical information. Where there appears to be a conflict between different parameters, clear communication with the clinical team is instrumental in further clarifying the situation and through a team effort reaching the correct diagnosis.

Real case scenarios that highlight these issues in the field of gynaecological pathology will be presented in this slide seminar.

## **Hall C Session 3 Laboratory Medicine - Hematology & Oncology**

**348**

**Meet the Expert : Endocrine Pathology Slide Seminar**

*Sylvia Asa MD (Canada)*

This seminar will involve presentation of a few cases of pituitary, thyroid and adrenal cortical tumors as well as pheochromocytoma/paranglioma. Each will be followed by a fulsome discussion of common challenges faced in daily practice in diagnostic pathology and the method to approach them.

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**Myeloid Neoplasms with Eosinophilia**

*Nazmi Kamal MD FCAP (Jordan)*

Eosinophilia is a common, hematologic abnormality with different etiologies. The underlying causes can be divided into reactive, neoplastic and unknown.

Classically, many cases of eosinophilia have no demonstrable cause and recognizing the cause can be challenging at times. These cases were historically grouped into the entity of idiopathic hypereosinophilic syndrome, a diagnosis of exclusion. In recent years, an improved understanding of many eosinophilias has changed the way these disorders are managed. As a result, specific diagnoses can now be assigned in many cases that were previously defined as idiopathic hypereosinophilic syndrome. Most notably, chromosomal rearrangements, such as FIP1L1-PDGFR $\alpha$  fusions caused by deletions in chromosome 4, are now designated as myeloid neoplasm associated with eosinophilia in the 2008 World Health Organization classification of tumors of hematopoietic tissues. When present, these specific molecular signatures predict response to specific targeted therapies. Although an improved molecular understanding is revolutionizing the treatment of patients with rare causes of eosinophilia, it still also complicated the approach to evaluating such cases.

The various causes of eosinophilia will



be reviewed in this talk and a framework by which the practicing pathologists may approach these cases will be presented.

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### **Quality Indicators & Quality Control in the Pre-Analytical Phase**

*Aparna Ahuja MD (India)*

The results of in vitro diagnostic testing represent an integral part of the clinical decision making. Although there is widespread perception that most laboratory errors would occur in the analytical phase of testing, there is now consolidated evidence that the vast majority of them arise from the manually intensive activity of the preanalytical phase. Establishing quality control & quality assurance of this crucial phase of the total testing process offers the greatest potential for improving the total quality in laboratory diagnostics.

The standardization and monitoring of all steps of the preanalytical phase should be regarded as the leading objective of a reliable policy for decreasing the uncertainty of this phase of testing, which entails the definition and application of a suitable and sufficiently broad panel of quality indicators that would cover all processes at risk and ultimately decrease their vulnerability. Quality Indicators are tools that allow the quantification of quality in comparison with selected criteria. They can be defined as an objective measure used to access the critical healthcare segments such as, patient safety, timeliness, efficiency, etc. Several quality indicators have been proposed, including those recently issued by the International Federation of Clinical Chemistry (IFCC) Working Group on "Laboratory errors and patient safety". Schemes for registration of errors and subsequent feedback to the participants have been conducted for decades concerning the analytical phase by External Quality Assessment organisations operating in most countries. So far, very few EQA organisations have focussed on preanalytical phase, and most do not offer preanalytical EQAS. It is more difficult to perform & standardise PA EQAS & also, accreditation bodies do not ask the

laboratories for results of such schemes. The methods used can be divided into – collecting information about preanalytical laboratory procedures, circulating real samples to collect information about interferences that might affect the measurement procedure or register actual laboratory errors and relate these to quality indicators. Regardless of the different strategy, the quality indicators for the preanalytical phase should possess some basic characteristics, which include easiness and reliability of monitoring, "patient-centeredness".

## **Hall C Session 4 Laboratory Medicine - Free Papers**

**351**

### **Muscle Disorders at King Hussein Medical Center: An 8-Year Experience**

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**Objectives:** To report on the prevalence of various muscle disorders encountered at King Hussein Medical Center in terms of diagnosis, age and gender distribution.

**Methods:** This is a retrospective study of 636 cases of suspected muscle diseases that were biopsied over a period of eight years at King Hussein Medical Center between January 2006 and December 2013. The biopsies were examined by several methods including H&E stained frozen tissue sections, muscle enzyme histochemistry, immunohistochemistry, and electron microscopic examination. The different disease diagnoses that were encountered were classified and analyzed.

**Results:** A positive biopsy with significant changes was encountered in 437(68.7%) of the patients. There were 168 (26.4%) normal biopsies and 31 (4.8%) inadequate specimens. Of specimens with positive findings there were 169 (38.7%) cases

of dystrophy, 72 (16.4%) cases of inflammatory myositis, 70 (16%) cases of neurogenic atrophy, 36 (8.2%) cases of congenital myopathy, 19 (4.3%) cases of mitochondrial myopathy, and 71 (16.2%) cases that were grouped together as having various other myopathic changes. A total of 272 positive biopsies belonged to male patients, and 165 belonged to female patients. The age range of patients varied from 1 month to 75 year old.

**Conclusion:** Muscle biopsies are frequently encountered at King Hussein Medical Center practice. Accurate histopathologic diagnosis and classification of myopathies requires several advanced techniques which can only be carried out at a fully equipped laboratory center. In this study the largest groups of patients were diagnosed to with dystrophy, followed by inflammatory myositis and neurogenic muscular atrophy.

**Keywords:** Dystrophy, Myopathy, Myositis, Neurogenic atrophy.

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#### **Impact of Individual Donor Nucleic-Acid Amplification Testing of Blood Donors in Interdicting the Transmission of Transfusion Transmitted HIV, Hepatitis B and Hepatitis C in India**

*Alok Deepak Sen MD*

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**Objectives:** In India, blood banks are still routinely using third-generation ELISA Kits for the screening of donated blood for HIV, Hepatitis B and Hepatitis C. The aim of this study was to assess the impact of Individual Donor Nucleic-acid Amplification Testing (ID NAT) for HIV, Hepatitis B and Hepatitis C in preventing the transmission of Transfusion Transmitted Infection (TTI) in ELISA negative Indian blood donors.

**Methods:** 36,106 serum samples collected from healthy blood donors were tested by ELISA for HBs Ag, Anti-HIV and Anti-HCV and by Procleix Ultrio ID NAT assay for HIV, Hepatitis B and Hepatitis C. The first 20,380 samples were additionally tested for Anti-

HBc Antibody to determine the correlation between Anti-HBc and NAT positivity.

**Results:** 99 (0.27%) samples were found to be ELISA negative, ID NAT positive giving an overall yield rate of 1 in 365. Of these, 73 (0.20%) were positive for HBV, 30 (0.08%) for HCV and 02 (0.005%) for HIV by NAT discriminatory assay (06 samples positive for both HBV & HCV). 1,966 of 20,380 samples were Anti-HBc positive, HBs Ag ELISA negative. Only 28 out of 1966 (1.42%) were NAT positive.

**Conclusion:** Introduction of ID NAT assay to the existing screening protocol will minimize the chances of TTIs and significantly reduce discard rates due to Anti HBc screening (8 – 12 %). With 8.5 million units of blood being collected in India annually and subsequent component preparation a 1: 365 yield translates to the prevention of a possible 23,287 x 3 i.e. 69,863 cases of TTI per year.

**Keywords:** Transfusion Transmitted Infection Prevention

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#### **Congenital Deficiency of Coagulation Factors other than Hemophilia A and B Diagnosed at Princess Iman Research and Laboratory Sciences Center over Four Years**

*Raida Oudat MD\*, Rasha Al-Gharyeb MT, Muna Maharmeh MT, Nazmi Kamal MD*

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**Objectives:** To estimate the incidence of congenitally deficient coagulation factors, other than hemophilia A and B, in our coagulation laboratory at Princess Iman Research and Laboratory Sciences Center over four years.

**Methods:** Eighty four patients, M:F ratio of 1.6:1, age range (1-40) year old, who were investigated for quantitative determination of congenital factor deficiency using colorimetric assay, were studied over four years to determine the incidence of rare congenital factor deficiency. The majority of patients (62%) were diagnosed to have

congenital factor deficiency as an incidental finding preoperatively, whereas 29.7% of patients were investigated for factor deficiency because of bleeding symptoms and only 8.3% were investigated because of positive family history. All acquired factor deficiency cases, all hemophilia A and B cases, and all cases on anti-coagulant medications were excluded from the study.

**Results:** 37 patients (44%) were found to have factor VII (FVII) deficiency, 15 (17.9%) were having factor V (FV) deficiency. Both factor X and XI were found to be deficient in 15.5% of patients while factor I (FI), factor II (FII), and factor XII (FXII) were found to be deficient in 2.3%, 1.2%, and 3.6% of patients respectively.

**Conclusion:** Congenital deficiency of coagulation factors is rare though standardization of their detection must be applied. The issue of consanguinity must be discussed particularly in our societies. Efforts should be implemented in the investigations and licensing of recombinant and plasma-derived products, particularly for those deficiencies with no available therapeutic concentrate.

**Keywords:** congenital deficiency, rare factor deficiency, coagulation disorder, bleeding disorder.

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#### **Flow Cytometric Analysis of Acute Leukemia; A Two Year Experience at King Hussein Medical Center**

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**Objectives:** To study the immunophenotypic profile of acute leukemia cases, using 4 color flow cytometry for lineage subtyping.

**Methods:** This is a retrospective review of acute leukemia cases conducted at department of Hematopathology in King Hussein Medical Center between January 2012 to December 2013. A total of 225 cases were analyzed. The diagnosis was based on morphology of peripheral blood and bone marrow aspirate smears and

immunophenotyping by flow cytometry.

**Results:** A total 225 cases of acute leukemia were studied, 108 cases (48%) were acute lymphoblastic leukemia (ALL), 117 cases (52%) were acute myeloid leukemia (AML). 59.5% were males and 40.5% were females with male: female ratio of 1.4:1. Of the ALL cases, 85 (78.7%) were B-ALL and 23 (21.3%) were T-ALL. All cases of B-ALL showed expression of pan B-cell markers (CD19, CD22, Cytoplasmic CD79a) and 60 (70%) cases expressed CD10. Cytoplasmic CD3 and CD5 were the most sensitive markers for diagnosis of T-ALL. Of the 117 AML cases, 13 cases were identified as acute promyelocytic leukemia (APL), while the rest 104 cases showed expression of CD34 in 60% and expression of HLA-DR in 80% of all cases. 11 out of 104 cases (10%) of non-APL were negative for both CD34 and HLA-DR. CD13 and CD33 were expressed in all cases of AML studied.

**Conclusion:** Flow cytometric immunophenotyping is a powerful method in accurate diagnosis, identification and subtyping of acute leukemia. By combining morphology with immunophenotyping we were able to diagnose and classify all cases of acute leukemia at our center.

**Keywords:** flow cytometry, acute leukemia, immunophenotyping

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#### **Flow Cytometric Diagnosis of Chronic Lymphocytic Leukemia (CLL)**

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**Objectives:** Flow cytometry has an essential role in diagnosis of CLL and in distinguishing it from other B-cell lymphoproliferative disorders according to expression of certain markers. This study shows different markers' expression in our lab over a period of 3 years.

**Methods:** 138 patients with Peripheral Blood (PB) lymphocytosis (lymphocyte count > 5x10<sup>9</sup>/L) were diagnosed to have

CLL by flow cytometry on PB samples using specific CLL panel including the following surface immune markers: CD5, CD19, CD23, CD79b, CD25, FMC7, IgM. The age range was 37-84 years. M:F=2:1.

**Results:** The expression of the markers in CLL patients was as follow: CD5 expression in 137 patients (99.3%), CD19 expression in 138 patients (100%), CD23 expression in 130 patients (94%), CD79b expression in 76 patients (55%), CD25 expression in 88 patients (63%) FMC7 expression in 8 patients (6%) and IgM expression in 46 patients (33%). The results show that there is no specific marker for diagnosis of CLL; the diagnosis is made by using a complete panel containing a set of markers including mainly CD5, CD23, CD79b, FMC7, IgM.

**Conclusion:** Flow cytometry is the most valuable test to diagnose CLL. Standardization of the procedure is essential and adding newly described monoclonal antibodies related to prognosis and treatment options is recommended.

**Keywords:** flow cytometry, CLL, CLL panel, monoclonal antibodies.

## Hall D Session 1 Pediatrics - Pediatric Cardiology

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### Transcatheter Pulmonary Valve Replacement: State of the Art

*Ziyad Hijazi MD MD, MPH, MSCAI (Qatar)*

Significant pulmonary valve regurgitation results in progressive right ventricle dilation that may lead to the risk of development of ventricular arrhythmias, right ventricle dysfunction and sudden death. The occurrence of pulmonary regurgitation and or obstruction is not uncommon after surgery for congenital heart defects, including tetralogy of Fallot, pulmonary atresia and any other surgical procedure requiring reconstruction of the right ventricle outflow tract.

Even if a valved conduit or a bioprosthetic valve has been used for this purpose, progressive pulmonary regurgitation and or stenosis of such conduits or valves (homografts, Contegra, porcine valves) can occur. Surgical pulmonary

valve implantation at an appropriate age may restore right ventricular function and improve the symptoms, however cardiopulmonary bypass and ventriculotomy needed for such operations may further impair the right ventricular function.

Therefore timing and indications for resurrection of a competent pulmonary valve are still controversial issues.

Assessment of pulmonary regurgitation severity is essential so that we can know who are the patients who will require valve implantation. Physical examination is essential, however, unfortunately it is not specific and may not yield helpful information. EKG may help identify some patients with right ventricle enlargement. However, the importance of EKG in these patients lies in the QRS duration. Patients with severe PR and long QRS duration ">180msec" are at higher risk of sudden death. CXR is important in delineating heart size and vascularity of the lung parenchyma, but again not specific. Echocardiography is very important in determining severity of PR and in measuring the size of the right ventricle, but again it is not very specific. Using echocardiography, we can determine by Doppler how severe the PR or PS, also looking at the pulsatility of the right pulmonary artery...this is an important criteria to determine severity of PR. CT angiography is very important in assessing the RVOT and branch pulmonary arteries. As well it can delineate the proximity of the coronary arteries from the intended site for the valve. 3-5% of patients may have coronary artery anomalies preventing safe landing of a valve. Finally, MRI is the gold standard to measure the right ventricle end diastolic volume, the pulmonary regurgitant fraction and the right ventricle ejection fraction. Cardiac catheterization is limited to patients that the above tests can't help in determining the severity and or for the interventional procedure.

Bonhoeffer was the first one to implant a percutaneous valve in the pulmonic position using a bovine jugular vein with a valve mounted inside a stent (The Melody Valve) Since then, Cribier and his colleagues reported on the first human application of



another percutaneous heart valve (PHV) in the aortic position. This valve was designed initially for application only in the aortic position and the early clinical experience with this PHV in the aortic position is ongoing.

We have tested the same valve in the right side of the cardiac circulation. The testing involved acute and chronic animal studies that demonstrated the valve can perform well in the pulmonic position. In December 2005, we implanted this valve in a 16 yr old patient who had a failed conduit between the right ventricle and pulmonary artery. Since then, a clinical trial (COMPASSION) sponsored by the United States FDA has been completed in 350 patients. I'll discuss the results of the US clinical trial that is undergoing at the time. Further, the valve received CE approval for the pulmonic position in May, 2010.

Patients who do not have a conduit/ bioprosthetic valve constitute the majority of patients who underwent "transannular patch repair" of their RVOT. Those patients are not eligible for percutaneous valve implantation using the Melody or Edwards valves. I will report on the initial clinical experience using the Venus P valve in such group of patients.

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#### **Transcatheter Closure of ASD In Adults**

*Abdel Fatah Abu-Haweleh MD  
MD, MRCP(UK) BCCA (Jordan)*

Atrial septal defect is the most frequently seen congenital heart disease in adults, accounting for 5 to 10 percent of all congenital heart diseases. Even though many patients have an asymptomatic course, early diagnosis and treatment are important because of complications including rhythm disturbances, paradoxical embolism, pulmonary hypertension, and right heart failure.

Percutaneous ASD closure results in marked symptomatic improvement through decreases in pulmonary artery pressure, right ventricular volume overload, and right ventricular dimensions. ASD closure in adult has special consideration and needs specific assessment. On the other hand,

detection of PFO in about 50% of patients with cryptogenic stroke suggests a casual relationship between PFO and/or atrial septal aneurysm and thromboembolic events.

Percutaneous closure of atrial septal defects and patent foramen ovale has gained significant popularity among interventional cardiology procedures within the past decade thanks to introduction of many new devices.

Device closure is indicated for secundum ASD with stretched diameter < 36 mm + adequate rims

Exception:

- 1) Anomalous pulmonary venous connection
- 2) Proximity to the AV valves / coronary sinus / systemic venous drainage.

The technique of closure and various devices will be discussed in the presentation

### 358

#### **Coarctation of the Aorta in Adult Patients: Treatment Strategy**

*Ziyad Hijazi MD MD, MPH, MSCAI (Qatar)*

Coarctation of the aorta is typically a discrete narrowing of the thoracic aorta just distal to the left subclavian artery. The care of a patient with coarctation depends upon the severity of the coarctation, patient age, and clinical presentation.

The treatment plan for patients with coarctation of the aorta depends upon patient age, presentation, and morphology. Infants in heart failure need immediate and aggressive medical treatment for stabilization prior to surgery. Medical therapy consists of continuous intravenous infusion of prostaglandin E1 to keep the ductus arteriosus open, dopamine and/ or dobutamine, in addition to correction of metabolic acidosis, hypoglycemia, and anemia.

The standard approach is to proceed with surgical repair after the patient has been stabilized. Since the introduction of prostaglandin E1, it is rare for a neonate to require emergency surgical repair because of inability to achieve stability and balloon angioplasty is rarely performed as a palliative emergency procedure.

In children and adults with coarctation of the aorta, indications for intervention include hypertension, heart failure, a peak instantaneous pressure gradient across the coarctation of more than 20 mmHg by Doppler or catheterization, and/or collateral circulation on magnetic resonance imaging (MRI). The resting gradient alone may be an unreliable indicator of severity when there is significant collateral circulation. One of the indications in presence of a gradient less than 20mmHg is elevated LVEDP.

Various catheter interventional techniques will be discussed in details, including balloon angioplasty and stent implantation. Stent implantation is emerging to be the therapy of choice in children/adolescent and adults with coarctation. The preferred approach in almost all adults is the placement of a stent across the area of narrowing. Ideally, if the subclavian artery is far from the narrow area, a covered stent should be the choice. However, covered stents require larger sheath and may be associated with more vascular complication. Any catheter laboratory involved in treating coarctation should be equipped with covered stents to manage complications. Covered stents include the CP stent and other stents. However, larger covered stents should also be available. I'll discuss the details of stent implantation with some examples and how to manage some complications

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#### **Initial Experience of Percutaneous Balloon Aortic Valvuloplasty at Queen Alia Cardiac Center using Rapid Pacing Technique**

*Abdel Fatah Abu-Haweleh MD\*, I Hijazi MD, L Baangood MD, Raid Al Emlah Cath Tech*

*\* Brigadier General (AKA 1 Star General), Chief of Congenital & Pediatric Cardiology (Jordan)*

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**Objectives:** Balloon aortic valvuloplasty has been adopted as an alternative or palliation to surgical option for relief of aortic stenosis Objective: The purpose of this study is to evaluate our initial results of balloon aortic valvuloplasty in treatment of congenital aortic stenosis at QAH using

rapid pacing technique as an alternative approach to surgical valvotomy.

**Methods:** Fifteen patients with congenital aortic stenosis underwent percutaneous balloon valvuloplasty between June 2013 and March 2014 .the patient age ranged between 1-19 years. Under general anesthesia, with rapid pacing, trans-femoral artery balloon was placed across the aortic valve percutaneously and inflated until waist produced by the stenotic valve is abolished. The balloons were inflated once in almost 94% of patients. Aortic valve pressure gradient were measured before and immediately after BAV. The Balloons size ranged from 25- 10mm, the balloon to annulus ratio ranged from 0.9-1:1.

**Results:** The immediate pressure gradient was dropped significantly from 62 to 20 mmHg and increased mildly at follow up in few patients. The average follow up was 1-11months, there were no deaths, moderate aortic incompetence was noticed in 20% of patients and 80% had no or mild aortic incompetence following the procedure. One patient had suboptimal result and required latter surgical repair, and one patient had mild pericardial effusion treated conservatively.

**Conclusion:** Aortic balloon valvuloplasty is safe and good alternative to surgical aortic valvotomy. Poststenotic dilatation, aortic cusps doming and the presence of central jet are good predictors of early outcome,

**Keywords:** Aortic Stenosis, Balloon Valvuloplasty

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#### **Paravalvular Leaks: Evaluation and Management Strategy**

*Ziyad Hijazi MD MD, MPH, MSCAI (Qatar)*

Significant prosthetic paravalvular leaks (PPVL) are an uncommon but not rare observation after placement of prosthetic mechanical and tissue valves, reported in a range of about 1% per patient-year, most commonly with mitral valves, although higher values have been reported, particularly in the setting of endocarditis. Significant PPVL can be noted immediately after valve replacement or months to years later. The etiology is multifactorial:



the annulus may be hostile to placement of stitches, such as with severe annular calcification or, less commonly, surgical problems can result in inadequate suturing of the valve ring to the annulus. Stitches may dehiscence in the setting of infection, a particularly important and sometimes refractory cause of PPVL. The prosthesis may not be well matched to the shape of the annulus, an important problem when mechanical valves are placed via a percutaneous route, with seating dependent on balloon or self expansion of a valve ring.

The clinical significance of paravalvular leaks is only partly determined by the volume of regurgitation. The primary adverse clinical effects are volume overload with resultant effects on myocardial mechanics and hemodynamics, and fragmentation of red blood cells passing at high velocity through the narrow PVL, resulting in hemolysis.

Medical therapy is usually inadequate, consisting of transfusions for hemolysis hypertransfusion and erythropoietin have been used to increase viscosity and hence resistance to flow through the leak) and the usual polypharmacy for management of hemodynamics. Repeat surgery has been the standard of care, but the success rates, including freedom from recurrence, have been poor, and morbidity and mortality have been significant. Multiple reoperations, a consequence of the high recurrence rate, have had a particularly unfavorable risk/benefit profile. As a result, a percutaneous approach has been developed, albeit with devices designed for other structural heart disease interventions. Percutaneous PPVL closure appears to avoid some of the morbidity and mortality associated with re-operation, but the success rates have been quite variable. Formal guidelines for device placement have not been developed and the literature consists mostly of isolated case reports and small observational studies. No technology is specifically approved for this indication. However, the availability of the AVP-III and the Occlutech PVL devices have contributed to the success of elimination of these leaks. For mitral leaks, the percutaneous technique can be done: retrograde through

the aortic valve; antegrade via transeptal approach and combined (transeptal and exteriorizing forming a loop). Recently, many operators prefer the trans-apical approach (percutaneous trans-apical vs via limited thoracotomy). I will discuss these techniques and show some examples.

## Hall D Session 2 Pediatrics - Immunology, Bone Marrow and Stem Cell Transplantation

361

### Treatment of Chronic Graft-Versus-Host Disease (GVHD)

*Tayfun Güngör MD (Switzerland)*

Chronic graft-versus-host disease (cGVHD) is the leading cause of late non-relapse death after allogeneic hemopoietic stem cell transplantation (HSCT). The prevalence of cGVHD varies from 25–80% in long-term survivors. Its prevention is of paramount importance in non-malignant disorders; however, several studies claim that cGVHD may be associated with less risk of relapse in malignant diseases.

Toxicity of the conditioning regime (cytokine release), HLA-disparities between donor and recipient, donor source and its T-cell content, the use of in-vivo (serotherapy, i.e. ATG or alemtuzumab) or in-vitro T-cell depletion (Miltenyi CliniMACS) techniques, not timely diagnosed or treated infections and many still unknown factors may account for its emergence.

Chronic GVHD may involve the skin, joint, oral and vaginal tissues, bile duct, lung, gut, thymic epithelia, and other tissues leading to progressive and finally irreversible organ dysfunction. Due to its chameleon-like clinical features with broad interindividual variability a clear diagnostic and management strategy for cGVHD has been difficult to achieve and there is paucity of evidence for the majority of treatment modalities. Chronic GVHD-associated thymic dysfunction and sustained and intensified immunosuppressive treatment to treat cGVHD may increase the risk for opportunistic infections and secondary autoimmunity.

The National Institutes of Health (NIH) consensus development project and the German-Austrian-Swiss working party on bone marrow and blood stem cell transplantation as well as a consensus group in the UK have developed criteria for clinical trials in cGvHD.

In this lecture, we provide a summary of evidence-based approaches to the diagnosis, staging and management of cGvHD, i.e. immunosuppressive and anti-inflammatory drugs, as well as immunomodulatory approaches, e.g. extracorporeal photopheresis (ECP). In addition, organ-specific management and supportive care of patients with cGvHD will be discussed. Joint guidelines for diagnostics and treatment are urgently needed to provide an evidence-based approach to preventing or treating this complex disorder.

### 362

#### **Stem Cell Transplantation (SCT) in Hemophagocytic Lymphohistiocytosis (HLH)** *Tayfun Güngör MD (Switzerland)*

The granule-dependent cytotoxic activity of CD8+ T- and NK-cells plays a critical role in killing virally infected cells and tumor cells. Defects in this cytotoxic pathway may result in hemophagocytic lymphohistiocytosis (HLH) characterized by episodes of severe hyperinflammation due to uncontrolled activation of T-lymphocytes and macrophages infiltrating organs, i.e. liver, spleen, lymph nodes, CNS and bone marrow. Triggering events are infections with intracellular pathogens, but sometimes initiating causes remain undetectable.

HLH occurs in infants and small children with mutations in the genes encoding perforin, munc 13-4, munc 18-2 and syntaxin 11, corresponding to familial HLH types 2-5, respectively. In 2 other conditions with defective cytotoxic functions (Griscelli type 2 and Chédiak-Higashi syndrome) HLH is not an isolated feature since the mutated genes (Rab 27a and Lyst, respectively) are involved in the exocytosis of pigment as well as cytotoxic granules. These patients display pigment dilution and hypopigmentation of hair and in

Chédiak-Higashi syndrome also progressive neurological deterioration. Other forms of HLH with X-linked inheritance are X-linked lymphoproliferative disease (X-LP; SH2D1A-gene) and XIAP-syndrome (BIRC 4-gene). HLH is diagnosed according to the Histiocyte Society's criteria (fever, splenomegaly, cytopenia, hypofibrinogenemia, hyperlipidemia, hyperferritinemia), elevated T-cell activation markers, and evidence of functional defects in cytotoxicity. Diagnosis of HLH is based on clinical features (skin, hair), giant intracytoplasmic granules in blood microscopy, microscopic hair shaft analysis, flow-cytometry of intracellular perforin and NKT-cells, degranulation/cytotoxicity assays and on gene sequencing. Initial treatment of hyperinflammation is based on steroids, VP16 and CSA (HLH society) or serotherapy, i.e. ATG or alemtuzumab (Paris protocol). Intravenous immunoglobulins, specific antimicrobial prophylaxis/therapy and intrathecal treatment in the presence of CNS-involvement are important to achieve remission of inflammation and clinical stabilization before starting hemopoietic stem cell transplantation. In this lecture, reduced-toxicity conditioning regimens for allogeneic HSCT by using family or alternative donors will be discussed.

### 363

#### **Preemptive Hematopoietic Stem Cell Transplantation for Severe Combined Immunodeficiency: Single Center Experience**

*Mohammad Almutereen MD\*, Adel Alwahadneh MD\*, Sawzan Shwabka RN\*, Khetam Khrabsha RN\*, Ola Hmaida RN\*, Mohammad Abu-shukair MD\*, Zyeed Hababbeh MD\*, Raed Alzyoud MD\**

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**Objectives:** Severe combined immunodeficiency (SCID) is a life threatening disorder; early diagnosis and preemptive hematopoietic stem cell transplantation (HSCT) during the neonatal period before the development of infections are associated with better outcome. We

are aiming to review our experience in Queen Rania Children Hospital (QRCH) in preemptive HSCT

**Methods:** The charts of 4 patients who were diagnosed with SCID between January/2009 and May/2014 in QRCH have been reviewed. All patients were screened for lymphopenia and diagnosed with SCID at birth due to positive family history and underwent preemptive HSCT during the neonatal period.

**Results:** Matched sibling donor-stem cell transplant with no pre-transplant conditioning therapy using raw marrow were used in 3 patients. One patient received T-cell depleted stem cell from haploidentical mother after Busulfan/Fludarabine based conditioning regimen with serotherapy. For prevention of graft versus host disease, cyclosporine was used in all patients. Mycophenolate mofetil was added in one patient. All patients are alive, show stable donor chimerism and immune-reconstitution. No significant complication has been reported.

**Conclusion:** Neonatal screening for SCID leads to early diagnosis and successful therapy using preemptive HSCT with excellent outcome.

**Keywords:** Severe Combined Immunodeficiency, Preemptive Stem Cell Transplantation, Neonatal Screening.

### 364

#### **Hematopoietic Stem Cell Transplantation as a Curative Treatment for Primary Hemophagocytic Lymphohistiocytosis in Children: Queen Rania Children's Hospital Experience**

Raed Alzyoud MD\*, Adel Wahadneh MD, Mohammad Abu-Shukair MD, Zeyad Hababbeh MD, Mohammad Mutereen MD, Haifa Bin Dahman MD.

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**Objectives:** To describe hematopoietic stem cell transplantation (HSCT) outcomes, as curative treatment of primary

hemophagocytic lymphohistiocytosis (HLH) in children, in a single center.

**Methods:** We reviewed the medical records of HLH patients who had been treated by HSCT at Queen Rania Children's Hospital. We reviewed the pre-transplant diagnosis, clinical condition, and HSCT details included demographic data, HLH treatment, donor, conditioning regimen, HSC source, transplant course, and post-transplant complications. Seven cases of HLH were included; three cases of Chediak Higashi Syndrome (CHS), three cases of Griscelli syndrome type II (GS-II) and one case of familial HLH.

**Results:** All patients received HSCT from HLA-matched donor, five from a matched sibling, and two from matched family donor, all treated with the less toxic myeloablative regimen; Busulfan and Fludarabine, two were received matched family donor HSCT, had Rabbit ATG serotherapy in the preparative regimen. All seven cases were engrafted and still surviving with stable donor chimerism. Three patients developed acute graft versus host disease (GVHD), one of them was persisted to chronic GVHD, but all were cured without Sequel and came off anti GVHD treatment. None of the patients developed relapse of HLH or the accelerated phase during follow up duration ranged 24(5-44) months.

**Conclusion:** Hemophagocytic lymphohistiocytosis (HLH) is fatal disease processes can be cured by HSCT if a matched donor is available with favorable outcomes

**Keywords:** Hemophagocytic lymphohistiocytosis, Hematopoietic Stem cell Transplantation

### 365

#### **Bone Marrow Transplantation for Bone Marrow Failure**

Isam Haddadin MD (Jordan)

Isam Haddadin, Mufeed Hamory, Rami Majali, Fareed Hadad, Maher Khader, Mona Khawar, Sameeha Abdel Salam.

The Bone Marrow Failure Syndromes (BMF) include a group of disorders that can be either inherited or acquired. These diseases are disorders of the hematopoietic

stem cell that can involve either one cell line or all cell lines. They include severe aplastic anemia, Amegakaryocytic thrombocytopenia and others.

At Queen Rania Al Abdulla children Hospital between Jan 2010 and July 2014 we did bone marrow transplantation for 17 children with (**BMF**). Patient diagnosis severe Aplastic Anemia N=8, Fanconi Anemia N=6, Diamond-Blackfan Anemia N=2 and Amegakaryocytic thrombocytopenia N=1. The median age was 8 years (15-1 year).

All pt received HLA-matched related bone marrow stem cell and the average stem cell dose was 3.8million cell kg.

The average engraftment was at day+ 14 post **BMT**. One pt died because of disseminated fungal infection.

The median follow up was 24 months (range 2-51 months).

The overall survival was 94%. We conclude that **BMT** for **BMF** has excellent results at our centre.

### 366

#### **Hematopoietic Stem Cell Transplantation for B-Thalassemia Major in Children**

*Mufeed Hammoury MD (Jordan)*

**Objective:** To describe the outcome of children who underwent allogeneic hematopoietic stem Cell transplantation (HSCT) for B-Thalassemia major at Queen Rania AL- Abdullah Children Hospital.

**Methods:** We conducted a retrospective review of the medical files B-Thalassemia major for all children (< 15 years) who had and received HSCT between June ,2010 and June,2013 .The patients were studied regarding: age, gender, primary diagnosis , the infused bone marrow stem cell (CD34) count , time for engraftment , complications and outcome .

**Results:** A total of 15 children were transplanted for B-Thalassemia major , at an average of 5 cases per year .All received allogeneic bone marrow transplantation from matched related donors. Eight patients (53.3%) were males and seven (46.7%) were females. Their ages ranged between 2 and 15 years, with a median age of 7 years. The median CD34 count was

2.6 million /Kg (0.98-12) .The median time for neutrophil engraftment was 14 days .At a median follow up of 16 months (1.5-35) ,14 patients were alive. One patient ( with Thalassemia Major ) developed BK virus-associated hemorrhagic cystitis and simultaneous CMV reactivation that requested management,

**Conclusion:** HSCT can be performed for B-Thalassemia major with good outcome and considerable success in developing countries with results comparable to international data.

### Hall D Session 3

#### **Pediatrics - Pediatric Infectious Diseases & Vaccination**

### 367

#### **Laboratory Diagnosis in Respiratory Tract Infection**

*Walid Abu Hammour MD (UAE)*

The diagnosis of respiratory infections has evolved substantially in recent years, with the emergence of new pathogens and the development of novel detection methods. This presentation reviews recent advances in specimen collection and detection methods for diagnosis of respiratory virus infections as well as bacterial infections. Also it discusses the performance characteristics and limitations of these methods.

### 368

#### **Emergency in Pediatric Infection Disease**

*Walid Abo Homour MD (UAE)*

This article reviews principles of recognition and management of a selection of commonly encountered infectious disease emergencies, including sepsis, necrotizing soft tissue infections, acute meningitis, and the emerging issue of severe *Clostridium difficile* colitis. Less common but potentially deadly environmentally acquired or zoonotic pathogens are discussed, as are special patient populations, including the febrile returning traveler and the asplenic patient.

#### **Pediatric Infectious Disease Emergencies:**

Infectious disease emergencies can be





rapidly fatal without prompt recognition and treatment which includes empiric intravenous (IV) antibiotics with or without surgical intervention. A high index of suspicion is often needed to diagnose these infections. This presentation reviews principles of recognition and management of a selection of commonly encountered infectious disease emergencies.

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#### **Invasive Fungal Infection**

*Montaser Bilbisi MD (Jordan)*

Invasive Fungal Infection present a challenge both for the practicing Physician, and for the patient. New Paradigms in Diagnosis and Management Strategies of Infections due to Candida and Filamentous fungal species (with focus on Aspergillus species) will be discussed , and local Susceptibility data will be shared . Risk factors and Clinical presentations of Invasive fungal infections in both the Immune competent as well as the Immune compromised host will be stressed.

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#### **Immunization of Immunocompromised Children: Evolving Concepts**

*Wail Hayajneh MD (Jordan)*

This presentation will highlight the basics and advances in immunization of children suffering of immunological disturbances secondary to malignancies, transplantation, or treatments used in these patients populations. Variable levels and types of immununocompromising conditions require different approaches and necessitate different setups of evaluation. It is worth discussing also the setups and approaches in resources-limited countries where laboratory facilities are limited. In the context of above mentioned perspectives, available guidelines will be tested in the path to develop tentative guidelines for our children in children with all variables and restrictions looked at.

## **Hall E Session 1 Gynecology - Gynecological Cancers**

**371**

#### **Imaging in Endometrial Cancer**

*Mamdouh Mahfouz MD (Egypt)*

Cancers of the uterine corpus and cervix are the most common gynecologic malignancies worldwide. The International Federation of Gynecology and Obstetrics (FIGO) staging system was established when it was recognized that the recurrence rate and patient outcomes were directly related to the degree of tumor spread at the patient's initial presentation. Changes in understanding of tumor biology led to a recent update in the FIGO staging system reflecting the variation in treatment strategies . Patients with endometrial cancer are primarily treated with hysterectomy; thus, staging is done at surgery and histologic analysis. Magnetic resonance imaging may accurately depict the extent of endometrial cancer at diagnosis and, in conjunction with the tumor grade and histologic subtype, help stratify risk, which determines the therapeutic course . MR imaging is highly sensitive and specific for depicting important prognostic factors and, when available, is recommended as an adjunct to clinical examination. The MR imaging findings of uterine carcinoma should be discussed in a multidisciplinary setting in conjunction with clinical and histologic findings, an approach that provides accurate staging and risk stratification and allows for individualized treatment.

This presentation emphasizes the diagnostic role of MR imaging in diagnosis and staging of endometrial cancer. The role of other imaging modalities, including sonography and CT will be mentioned

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### **Histopathology of Endometrial Cancer**

*Mona El- Bahrawy MD (UK)*

Endometrial cancer is the commonest gynaecological malignancy. Early diagnosis is critical for satisfactory clinical outcome. Pathologists play a critical role in the management of patients with endometrial cancer. Endometrial biopsies represent a large proportion of the workload of a gynaecological pathologist and many of these biopsies are for women presenting with postmenopausal bleeding, for suspicion that the cause may be endometrial neoplasia. Establishing the presence of tumour as well as additional information, such as tumour type and tumour grade are important for setting the provisional treatment plan for the patient. Pathologists also evaluate the post operative resection specimens for endometrial cancer. There are certain parameters that must be assessed and reported to aid in the development of the definitive post operative treatment plan for the patient.

Some cases represent diagnostic challenges for the pathologist. This may be related to different issues, including limitations caused by the nature or the quality of the specimen provided. Team work and continuous clear communication between pathologists, radiologists, surgeons and oncologists is essential to share relevant information. It is also essential that pathologists clearly communicate to the clinical team the degree of certainty or limitations about any aspect of their assessment of a case, so clinicians can make a well informed decision about patient management in the light of such knowledge.

This talk will shed the light on the key issues that should be addressed in the pathology report in cases of endometrial cancer, the potential limitations, and the importance of clinical and operative data in aid of thorough histological assessment.

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### **Surgical Treatment of Endometrial Cancer**

*Christhardt Köhler MD (Germany)*

What is the recommended surgical approach?

By the laparoscopic approach less intraoperative blood loss, less severe post-operative adverse events and significantly shorter hospital stay are observed as compared with laparotomy. The oncologic outcome is not different between laparoscopy and laparotomy. Therefore, laparoscopic surgery is the approach to be used.

When is lymphadenectomy indicated?

There is overall consensus that high risk patients (stage IB G3 with endometrioid type or all stages with non-endometrioid type) should undergo lymphadenectomy. There is overall consensus that low risk patients (stage IA G1 or G2 and tumor diameter  $\leq 2$  cm with endometrioid type) should not undergo lymphadenectomy. The value of lymphadenectomy for patients with intermediate risk (stage IA G3 with endometrioid type or stage IB G1 or G2 with endometrioid type or tumor diameter  $> 2$  cm or stage II) is controversially discussed mainly due to increased morbidity. If lymphadenectomy is indicated pelvic and paraaortic lymphadenectomy must be performed. Sentinel lymphadenectomy has the potential to decrease morbidity and to increase oncologic safety and should be evaluated in well designed studies.

Is radical hysterectomy indicated in patients with stage II disease?

Removal of the parametrium will increase survival and the rate of local recurrences is diminished. Since the parametrial tissue can be removed by radical nerve-sparing hysterectomy without increasing morbidity this is the treatment of choice for patients with endometrial cancer stage II.

- Open surgery is outdated
- Sentinel lymphadenectomy is the future
- Radical hysterectomy should only be done nerve-sparing

**374**

### **Role of Radiotherapy in Endometrial Cancer**

*Imad Jaradat MD (Jordan)*

Radiotherapy (External beam and brachytherapy) plays an important role in the management of uterine-confined endometrial cancer.

The aim of pelvic radiotherapy is to reduce the risk for vaginal and pelvic recurrences, while brachytherapy is to reduce vaginal recurrences.

After surgery the risk is about 20% for relapse and of these recurrences about 75% occur in the vagina.

Key questions need to answer:

Which patients require no adjuvant radiotherapy after surgery

Which patients should receive vaginal cuff brachytherapy

Which patients should receive external beam radiotherapy

Which patients should receive both external beam and brachytherapy

Adjuvant radiotherapy:

Several phase III trials have assessed its role in patients with uterine-confined disease, and the use of adjuvant radiotherapy improves local control and progression-free survival.

Trials that have evaluated the role of A-RT

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### **Recent Advances in Ovarian Cancer**

*Ghadeer Abdeen MD (Jordan)*

Ovarian cancer is the fifth most common cancer in women and is responsible for the highest mortality among all gynecologic cancers.

Approximately 75% to 85% of patients with epithelial ovarian cancer are diagnosed at a time when the disease has spread throughout the peritoneal cavity. The standard of care for ovarian cancer is debulking surgery followed by a taxane-platinum chemotherapy. Although these regimens have a high initial response rate, most patients will relapse with a median progression-free survival (PFS) of 16 months; subsequently, the majority will die as a result of their disease. Therefore, new treatment options are needed.

We are currently experiencing a shift toward the addition of molecularly targeted and biological anticancer therapies to standard treatment.

This represents a new option in therapy and extends the armamentarium of standard therapy for ovarian cancer

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### **Disease-Based Therapy of Women Diagnosed with Cervical Cancer**

*Christhardt Köhler MD (Germany)*

Treatment of women diagnosed with cervical cancer must be individualized according to the biology and extent of the disease.

Patients with early-stage disease and diameter not larger than 2 cm and seeking parenthood are treated by laparoscopic sentinel lymphadenectomy. If frozen section shows tumor-free lymph nodes, vaginal radical trachelectomy is performed. The oncologic safety of this approach is equal to radical hysterectomy.

If patients are not seeking parenthood and tumor size is smaller than 4 cm, laparoscopic staging including lymphadenectomy is done. When the lymph nodes are free of tumor and if the tissue surrounding the cervix is not tumor-invaded, nerve-sparing vaginal-assisted laparoscopic radical hysterectomy is the treatment of choice. Using this approach, laparoscopic staging surgery alone is sufficient in 90% of patients and only 10% need adjuvant therapy such as chemoradiation.

Patients with tumor-involved lymph nodes or tumor size larger than 4 cm in diameter are candidates for primary chemoradiation for whom debulking of positive lymph nodes prior to chemoradiation can be beneficial.

When radical hysterectomy is performed, it should always be done nerve-sparing using the autonomic nerves as landmarks.

In experienced hands, the laparoscopic sentinel concept is useful and safe for patients with tumor diameter of less than 2 cm in diameter

- Open surgery belongs in the last century
- Laparoscopic staging reduces bimodal



- therapy to <10%
- Radical Hysterectomy exclusively nerve sparing
- Autonomic nerves serve as landmark
- T1 and seeking parenthood
  - Tumor  $\leq 2$ cm radical vaginal trachelectomy (RVT)
  - Tumor  $> 2$ cm and pN0 neoadjuvant chemotherapy and RVT
- Sentinelconcept in tumor  $\leq 2$ cm
- pN1 or T $> 4$ cm primary chemoradiation

## Hall E Session 2 Obstetrics

**377**

### **Remarkable People, Remarkable Events!**

*Zaid Kilani MD (Jordan)*

In my memorial lecture, I will start with the sixteen century, the time I believe when the wheel of assisted reproduction started. The basement of the progress of the assisted reproduction started with the discovery of the microscope. Here the role of Robert Hooke will be mentioned who is indeed the discoverer of the microscope. I will mention Van Leeuwenhoek, who is believed wrongly, to be the discoverer of the microscope, nevertheless, the very important milestone in his life is he was the discoverer of the sperm. Many names will be mentioned but the role of Regnier De Graff will be elaborated in describing the follicle followed by and at last Edouard Van Beneden who indeed recognized that fertilization occur as a result of meeting two mammalian haploid gametes.

I will focus on the discovery of DNA Double Helix Structure by Crick and Watson and the DNA structure by Maurice Wilkins then I will proceed to chemistry and the discovery of the antagonists by Roger Guillemin and Andrew Schally. The role of McArthur and her work on LH will be emphasized. The story of in vitro fertilization and when it was started in 1931 will be discussed, followed by the story of a dream became a reality by Robert Edward and Patrick Steptoe the delivery of Louise Brown July 1978. Undoubtedly the IVF opened doors for new techniques in infertility treatment,

new medications, culture media and new sciences.

The story of pre-implantation genetic diagnosis and Alan Handyside will be touched. Finally, message to the benefit of humanity and the duty of future Arab clinicians and scientists.

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### **Birth Asphaxia**

*Edward Bell MD (USA)*

Perinatal asphyxia is a leading cause of neonatal mortality and morbidity worldwide. Many cases of asphyxia can be prevented by vigilant obstetric care. In addition, death and disability of the infant can often be prevented or limited by proper resuscitation and stabilization and by subsequent care of the infant.

All organs in the body are susceptible to damage from perinatal asphyxia. The brain is among the most vulnerable organs. The injury to neuronal cells occurs from hypoxia and ischemia, which combine to reduce oxygen delivery to the neurons. Thus, the neurological condition resulting from asphyxia is called hypoxic-ischemic encephalopathy (HIE). The damage to the brain occurs during two phases. Primary energy failure occurs as a direct result of the brain hypoxia and ischemia and is caused by reductions in high-energy phosphorylated metabolites, such as ATP. After reperfusion and a latent phase, secondary energy failure can occur. During the latent phase, phosphorylated metabolites may recover, and it is thought that therapeutic interventions may have a greater chance of success if introduced during this latent phase.

The only proven therapy for HIE is hypothermia. Both head cooling and whole-body cooling have been shown to be effective in reducing the risk of death or neurodevelopmental impairment with HIE, although whole-body cooling has been more extensively studied. But the risk of death or major disability with standard cooling is reduced in absolute numbers only by 15%, from 61% to 46%. This means the number needed to treat is 6.7; for every 7 babies cooled, 1 baby can be

prevented from dying or surviving with a major handicap. This is an impressive measure of efficacy, but there are many more infants (46%) who die or experience major handicap despite cooling with our standard protocols. There is a great need and opportunity for further advances in this field.

There are a number of studies underway or recently concluded that have pursued additional strategies for neuroprotection of infants with HIE. These studies have addressed the duration and depth of cooling, the efficacy of cooling initiated more than 6 hours after birth, the efficacy of cooling for late preterm infants, and the efficacy of combining other therapies, such as erythropoietin, with cooling.

We can expect that the next few years will show even greater progress in the treatment of hypoxic-ischemic encephalopathy. However, the best strategy of all is still prevention.

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#### **Modern Management of Gestational Diabetes Mellitus (GDM)**

*Hassan Shehata MD (UK)*

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#### **Lupus and Pregnancy**

*Munther Khamashta MD (UK)*

### **Hall E Session 3 Gynecology**

**381**

#### **Stopping the Epidemic of IVF Multiple Births whilst Maintaining the Pregnancy Rate**

*Timothy John Child MD (UK)*

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#### **Lymph Node Dissection in Gynecologic Oncology: Pelvic and Para-Aortic Anatomy and Common Anatomical Abnormalities**

*Christhardt Köhler MD (Germany)*

Pelvic and/or paraaortic lymphadenectomy is integral part of comprehensive staging and surgical therapy of various gynecologic malignancies. Therefore knowledge of normal anatomy and possible abnormalities is essential to perform these operations safe and oncologic adequate.

Within this area arteries are most stable landmarks. Vascular abnormalities in the paraaortic region are caused by embryologic development of vessel in the 6+7<sup>th</sup> week of gestation. Venous system is more affected because of bilateral anlage. Pelvic and paraaortic lymphadenectomy can be done by open or laparoscopic or robotic approach. Indeed, gynecologist often feel comfortable in the pelvis but have fears in paraaortic region.

This presentation demonstrates normal anatomy as well as possible variations in order to sharpen the mind and avoid major complications, especially vascular and lymphatic problems.

Preconditions for successful laparoscopic LND are adequate equipment, team-work and standardised operation steps.

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#### **Premature Ovarian Failure**

*Mazen El-Zibdeh MD MRCOG FRCOG (Jordan)*

Ovarian aging is a process associated with the decline in number of ovarian follicles, menstrual irregularities, ovarian hormone deficiency, anovulation, decrease of fertility and finally complete irreversible cessation of menses, known as menopause which usually occurs at the mean age of 51 years. In premature ovarian insufficiency (POI) the ovaries stop functioning normally in women who are younger than 40 years of age.

POI, may be due to inappropriate gonadotropin stimulation of the ovaries as a result of hyno thalamic-pituitary disorder or due to spontaneous follicular depletion associated with accelerated atresia and follicular dysfunction. Genetic and chromosomal abnormalities are seen in 20-30 % of cases like Fragile X-Chromosome and Turners' syndrome. Also certain autoimmune diseases and enzyme deficiency states are found associated with POI.

In my presentation the etiology of POI, clinical syndromes and the work up of this condition will be discussed. Patients' management in regards to fertility prospect and HRT will be discussed.



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**Preimplantation Genetic Screening (PGS) :  
Does it Increase IVF Success?**

*Timothy John Child MD (UK)*

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**Training Opportunities in the UK**

*Hassan Shehata MD (UK)*

**Hall E Session 4**

**Gynecology - Free Papers**

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**Spontaneous Pregnancy Rate after  
Hysteroscopic Removal of Endometrial  
Polyps in Infertility patients: Experience at  
King Hussein Medical Center**

*Ziad Shraideh MD*

*Brigadier General, Specialty Chief  
Consultant Obstetrician & Minimally  
Invasive Gynaecologist, Royal Medical  
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**Objectives:** To evaluate the effectiveness of hysteroscopic trans-cervical resection of endometrial polyps in improving pregnancy rates in patients with endometrial polyps.

**Methods:** Retrospective study at King Hussein Medical Centre from March 2006 to January 2012. One hundred and 25 patients were included with a diagnosis of primary or secondary infertility for a minimum of 2 years. Endometrial polyps were diagnosed by trans-vaginal Ultrasound scan and confirmed later by hysteroscopy. The inclusion criteria were age under 38 years, menstrual irregularities for at least 6 months, no other infertility cause was found after diagnostic workup of the couples, minimum 2 years of infertility and 18 months of follow-up with attempts to conceive after hysteroscopic polypectomy. All polyps were larger than 1.5 cm. The effect of the different sizes of the polyps was not evaluated in our study.

**Results:** All 125 Patients had endometrial polyps on transvaginal scans and confirmed at hysteroscopic removal and histologic examination. Among patients of the study group, there were no significant differences in age, type or length of infertility, or follow-up period after the procedure. The mean

size of the endometrial polyps was 3.0 cm  $\pm$  0.5cm. Sixty patients had endometrial polyp  $\leq$  2.8 cm and 65 patients had bigger or multiple endometrial polyps. Following the procedure, menstrual irregularity was back to normal in 90% of patients. After the procedure, the spontaneous pregnancy rate was 80% (100 patients of the total number of patients) and delivery at term rate was 70% (70 patients out of the 100 patients who conceived). Spontaneous abortion rate in the first trimester of pregnancy was 12% (12 patients) of the total number of pregnant patients. Type of infertility did not affect fertility rates after hysteroscopic polypectomy. There were no complications related to the procedure in the study patients and only 13 patients (10.5%) had recurrence of their menstrual irregularities.

**Conclusion:** Fertility rate in patients with endometrial polyps and menstrual irregularities with no other cause to explain their infertility is significantly improved with trans-cervical polypectomy. The procedure is also safe with low recurrence rate.

**Keywords:** Hysteroscopy, infertility, polyp

387

**Antenatal Diagnosis of Esophageal Atresia  
with the Upper Neck Pouch Sign: A Case  
Report**

*Vera Amarin MD\*, Najeh Alomari MD,  
Mohamed Dajah MD, Manar Abo Karaka  
MD*

*\* Colonel, Consultant Obstetric and  
Gynecology, Maternal Fetal Medicine,  
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Esophageal atresia is a relatively common congenital malformation occurring in 1:3000-4500 live births antenatal suspicion of esophageal atresia is usually based on the finding of a small or absent fetal stomach bubble associated with maternal polyhydramnios. However, these findings have a low predictive value with 56% to 83% of false positive predictive value. The upper neck pouch sign is another sign that helps in the antenatal diagnosis of esophageal atresia.

We report a case of esophageal atresia by



detecting an upper neck pouch sign that was diagnosed on USG at 27 weeks of gestation;

The diagnosis was confirmed postnatally. This diagnostic method allows early supposition of oesophageal atresia and even if enables parents and surgeons to be prepared for the birth and treatment of their affected child, thereby avoiding potentially hazardous delay in diagnosis, and may lead to the earlier identification of associated abnormalities.

**Keywords:** prenatal diagnosis, esophageal atresia, upper neck pouch sign

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**Gestational Thrombocytopenia / Pregnancy with Mild Immune Thrombocytopenic Purpura: A Low Risk Pregnancy**

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**Objectives:** To evaluate risk of bleeding and neonatal outcome in pregnancies with gestational and mild immune thrombocytopenia.

**Methods:** Two groups of pregnant women were studied. Group 1 included 37 pregnancies with mild thrombocytopenia. Group 2 included 100 women with uneventful antenatal course and normal platelets count (150.000-450.000/mm<sup>3</sup>). Pregnancy outcomes were followed prospectively or reviewed retrospectively using medical records. Mild thrombocytopenia was considered when mean platelet count ranged from 60.000/mm<sup>3</sup> up to 90.000/mm<sup>3</sup>. Thrombocytopenia secondary to pregnancy or immune thrombocytopenic purpura were included in the study. Thrombocytopenia due to other hematological disease, due to toxemia of pregnancy or due to systemic lupus erythematosus was excluded. Amount of post vaginal or surgical bleeding was estimated. Hb drop of more than 2% for vaginal delivery, and more than 3% for operative delivery were taken as significant. The neonatal outcomes were also studied

looking at platelets count, prematurity and body weight. Results for both groups were compared.

**Results:** Estimated blood loss, prematurity and fetal body weight at birth was found comparable in both groups. A marginal decrease in neonatal platelet count was noted in pregnant women with low platelets however this was not statistically significant.

**Conclusion:** Mild thrombocytopenia; gestational and immune, appear not to increase the risk of pregnancy. Babies born to mothers with thrombocytopenia did not show an increase in morbidity. Larger studies are needed.

**Keywords:** thrombocytopenia, pregnancy, blood loss, fetus.

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**Relationship between Reactive Oxygen Species (ROS), Malondialdehyde (MDA), Total Antioxidants (TAS), Leukocytes and Round Cells in Seminal Plasma and their Effect on Sperm Parameters and ICSI Outcome**

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**Objectives:** The objectives of this study were to determine WBC, round cells, ROS, MDA and total antioxidant level in seminal plasma and their correlation with sperm parameters, DNA integrity and DNA fragmentation and to find out the role of WBC, round cells in male infertility.

**Methods:** Semen samples collected from 123 infertile men were examined according the WHO guidelines (1999). MDA in seminal plasma was measured using the Bioxytech MDA kit. Concentration of ROS was measured using Oxystat kit. Chromatin condensation evaluated by (Chromomycin CMA3). DNA fragmentation was assessed using TUNEL assay.

**Results:** The concentrations of WBC and round cells were  $0.79 \pm 1.78$  mill/ml and

9.6±5.1mill/ml. The levels of ROS and MDA and TAS in seminal plasma were 76.4 ± 82.0 μMol/l and MDA 0.956±0.595 μmol/107 respectively). Sperm concentration, vitality, motility, morphology, membrane integrity (HOS-test), DNA condensation and DNA fragmentation was as follow: (43.1±37.5mill/ML; 40.3±25.9%; 51.1±13.4%; 61.3±17.1%; 70.0±19.4%; and 5.0±4.4 respectively). An inverse correlation was found between ROS concentration and sperm vitality ( $r=-0.111$ ;  $p=0.453$ ; membrane integrity ( $r=-0.042$ ;  $p=0.778$ ) and Morphology ( $r=-0.141$ ;  $p=0.340$ ). Regression analyses between MDA and various sperm parameters showed a statistically significant correlation ( $r=0.2319$ ;  $p=0.0001$ ) between MDA and WBC as well as between MDA and "round cells" ( $r=0.939$ ;  $p=0.0084$ ). DNA fragmentation correlates negatively with motility ( $r=-0.078$ ;  $p=0.0.600$ ) and vitality ( $r=-0.108$ ;  $p=0.467$ ). The correlations between MDA and leukocytes as well as "round cells" indicate an association between these cells and the induction of lipid peroxidation in sperm cell suspensions.

**Conclusion:** The inverse correlation between ROS and sperm vitality, membrane integrity and morphology and TAS in addition to the significant correlation between MDA and WBC and Round cells could be one of the mechanisms explaining the decrease of the fertilizing potential of spermatozoa in infertile patients.

**Keywords:** Reactive oxygen species, seminal plasma, ICSI

### 390

#### **Effectiveness of Sacrocolpopexy at King Hussein Medical Center**

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**Objectives:** To determine the effectiveness of Sacrocolpopexy procedure for patients underwent this surgery for different degrees of uterine and vaginal vault

prolapse.

**Methods:** In this retrospective study, we reviewed the records of patients who underwent sacrocolpopexy at King Hussein Medical Center over a period of 5 years , with follow up after 6 months and one year, recording the postoperative outcomes regarding the recurrence of prolapse and any new complaints.

**Results:** Out of 55 patients underwent surgery, none had apical prolapse. 4(7.2%) patients had anterior wall prolapse (Cystocele).5 (9%) were found to have posterior wall prolapse, one of them Enterocoele, and four Rectocoele .Three patients developed stress urinary incontinence, which they had not before surgery.

**Conclusion:** Sacrocolpopexy is a reliable and effective procedure for treatment of uterine and vaginal vault prolapses. Preoperative counseling should be done regarding the low risk of recurrent prolapse and for the development of urinary incontinence.

**Keywords:** Sacrocolpopexy, Prolapse, Cystocele , Rectocoele

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#### **Cancer of Female Genital Tract: A Clinical-Pathological Review at King Hussein Medical Center**

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**Objectives:** The aim of our study was to determine the incidence, clinical and pathological features and management options of different types of cancers that involve female genital tract organs.

**Methods:** A retrospective study was performed on the files of patients who had been treated at KHMC for different gynecologic cancers. The period studied were from Jan 2009 until May 2014. The data was extracted from the files that include patient's age, parity, menopausal status, treatment OPTIONS, type of surgery

, origin of tumor, final histopathology reports, stage of the disease and adjuvant therapy. Data were arranged and statistically analyzed.

**Results:** 341 cases were identified. Mean age for all types of cancer was 44.7 years (median 14-84 years). More than half of patients were at pre-menopausal status (57.5%). Endometrial cancer was the most common pathology found (48.8%) followed by ovarian cancer (30.9%) and cervical cancer (14.6%). Vulvar and vaginal cancers were less commonly detected in 4.4% and 1.2% respectively. Primary surgical treatment was performed on (58.1%), primary radiotherapy (15.5%), primary chemotherapy in (23.5%) and palliative treatment for (2.9%). Most patients were diagnosed at early stage disease (stage I and II) forming 64%.

**Conclusion:** Cancers involving female genital tract can happen to young women specially pre-menopausal. Since more than one third of cases are diagnosed at late stage disease proper and effective screening programs should be introduced to diagnose cases at an pre-cancer or early stage disease

**Keywords:** Cancer, Female, Genital

### 392

#### **Women's' Attitude Toward Menstruation and Menstrual Suppression in Tafelah Province - Jordan**

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**Objectives:** To highlight and analyse the attitude of women toward menstruation and menstrual suppression in rural areas in south of Jordan (Tafelah province)

**Methods:** Women attending the gynecology clinic at Prince Zaid hospital were offered to participate in a semi-structured interviews done by gynecologist to answer questions regarding their menstrual history, their knowledge about menstrual suppression, in addition to personal questions as age, marital status, parity, and level of education.

**Results:** Out of the 3756 women seen in

the clinic over a period of 12 months, 370 were willing to participate in the interviews, 285 women (77%) were familiar with the concept of menstrual suppression, however only 85 women (23%) were willing to stop their menses at least temporarily the majority were college students (93%) as it interferes with their daily activity.

**Conclusion:** Menstruation is a major event in every woman's life, and women are more comfortable talking about it even in rural areas as Tafelah, however more efforts are needed to be done by health care workers to increase women's knowledge about menstruation and menstrual suppression as this will improve reproductive health care and health education.

**Keywords:** menstruation, menstrual suppression, Tafelah province

### 393

#### **Case-Based Review of MRI Cervical Cancer Staging**

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**Objectives:** To outline the role of magnetic resonant imaging in the diagnosis, management and follow up of cervical cancer patients.

**Methods:** About 12,360 new cases of invasive cervical cancer will be diagnosed in the United States in 2014 according to the American Cancer Society. The International Federation of Gynecology and Obstetrics (FIGO) cervical cancer staging is based on clinical assessment. However, revised FIGO editions have encouraged utilization of imaging as an adjunct staging tool. The role of pelvic MRI in cervical cancer is vital as it can potentially influence treatment options: primary surgery or combined chemotherapy and radiotherapy. In addition, MRI has become a part of radiotherapy planning.

**Results:** The case-based review will discuss the MRI findings of cervical cancer and their correlate in FIGO staging system.

**Conclusion:** Cervical cancer staging by MRI positively impacts the multidisciplinary



management and prognosis.

**Keywords:** Cervical, Cancer, MRI, Staging.

## Hall F Session 1 Radiology I

394

### Brain Tumors: Pseudo-Progression and Pseudo-Response

Walter Kucharczyk MD (Canada)

It is well-recognized that the effect of radiation therapy, which is standard therapy following tumor resection, must be taken into account when evaluating tumor response to therapy. A large number of patients with high grade gliomas treated with XRT alone, and especially with XRT + TMZ, have transient clinical or radiological deterioration soon after XRT+TMZ which later resolves. This treatment-induced change is known as "pseudoprogression" (PsProg). Distinguishing PsProg from true progressive (TProg) disease can be especially difficult in the period immediately following completion of radiotherapy. Nearly 50% of patients with apparent disease progression on the first post-XRT MRI actually have radiographic PsProg. Although no specific etiology is known, it is postulated that radiographic PsProg is due to either a transient intense inflammatory response to therapy or treatment-induced tumor cell death and necrosis. Brandes et al hypothesized that this could represent glioma killing effects of the treatment since they found a significant association with better outcomes in patients with pseudoprogression in comparison to those with stable MRI or with real progression. MRI shows the lesion is larger in about 50% of patients at 1 month post-completion XRT-TMZ. Approximately 1/2 of these (20-30% of all patients) are pseudoprogression. PsProg is rare with XRT doses < 40 Gy, PsProg does not occur with chemotherapy alone, and PsProg does not occur outside the treatment area (95% iso-dose line). The original working definition for RANO was that PsProg occurred in the first 12 weeks post-completion of XRT. Subsequently it was recognized that it not infrequently (~30% of all PsProg\*) can occur later, in

the 12-24 week period, or even later, up to 40 wks. ... and occasionally before completion of XRT. Peak incidence is ~4 weeks post completion XRT

MR perfusion imaging offers a possible but not infallible means to distinguish pseudo-progression from true progression. In one study, patients with true progression were found to have a 12% increase in rCBV one month after treatment while patients with pseudo-progression were found to have a 41% decrease [Mangla et al. *Radiology* 2010; 256:575-584]. DWI, MR spectroscopy and PET may also help in distinguishing PsProg from TProg.

### Pseudo-Response

Patients with recurrent malignant glioma treated with antiangiogenic agents, especially those targeting vascular endothelial growth factor (VEGF), such as **bevacizumab**, and the VEGF receptor, such as **cediranib**, can produce marked decrease in contrast enhancement and vasogenic edema as early as 1-2 days after initiation of therapy and commonly result in high radiologic response rates of 25 - 60% (de Groot et al. *Neuro Oncol.* 2010 Mar;12(3):233-42). These drugs are typically reserved for second-line therapy, but are now occasionally being used earlier. Responses to this regimen, as defined by a decrease in contrast enhancement, have led to significant improvements in progression-free survival rates but not in overall survival duration. Therapeutic failure usually becomes evident by the progressive increase in volume of hyperintense tissue on the FLAIR and/or T2W'd images despite no increase in enhancement. These gliomas demonstrated an apparent phenotypic shift to a predominantly infiltrative pattern of tumor progression. Pathologic examination of abnormal FLAIR areas on MRI revealed infiltrative tumor with areas of thin-walled blood vessels, suggesting vascular "normalization," which was uncharacteristically adjacent to regions of necrosis.

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**Role of CMR in Hypertrophic Cardiomyopathy**

*Wael Jaroudi MD, American University of Beirut (Lebanon)*

Hypertrophic Cardiomyopathy (HCM) is the most common genetic disease of the heart. HCM is characterized by a wide range of clinical expression, ranging from asymptomatic mutation carriers to sudden cardiac death as the first manifestation of the disease.

Characterized by LV hypertrophy, most often in the septum and anterior wall  
Autosomal dominant mode

Hypertrophy unexplained clinically

Substantial portion have LV outflow tract obstruction

1 in 500 prevalence

Annual mortality rate ~ 1.5% (> 50 % SCD)

**396**

**Viral and Prion Infections of the Central Nervous System**

*Walter Kucharczyk MD (Canada)*

**Viral Infections**

The CNS diseases due to viruses include meningitis, encephalitis, meningo-encephalitis, ventriculitis, vasculitis, and post-infectious syndromes. Meningitis is most often caused by enteroviruses. Encephalitis is most often caused by herpes simplex and arboviruses. Viruses enter the CNS through 2 distinct routes: hematogenous (most common path) and neuronal retrograde (usually limited to herpes, rabies, enteroviruses). Although meningitis is more common than encephalitis, this presentation will concentrate of encephalitis because there are more imaging findings and the differential diagnosis can be more difficult. The incidence of viral encephalitis in North America is ~35-70 cases / million / yr. Herpes simplex is commonest, accounting for ~10% of all cases.

MRI is preferred over CT for imaging investigation. The findings may include multifocal white and/or gray matter lesions, +ve on FLAIR / T2W images, widespread throughout any part of brain.

Some are associated with hemorrhage, especially herpes simplex. Many are +ve on DWI with low ADC. Viruses often involve the cortical gray matter, the deep gray matter, especially the thalamus, and the brainstem. Early herpes encephalitis has a very characteristic predilection to the anterior and mesial temporal lobes, and the insular cortex.

**Prions**

Prions (proteinaceous infectious particles) are infective agents comprised of protein, lacking nucleic acid. Prion diseases occur in both animals and humans, resulting in varying degrees of spongiform neuronal degeneration, neuronal loss, and amyloid-like plaques predominantly affecting gray matter structures. Human forms of prion infection include sporadic, familial (inherited), and acquired. Sporadic CJD (sCJD) accounts for approximately 85% of human cases, with the remainder being predominantly hereditary, including familial CJD, GSS, and familial fatal insomnia. Iatrogenic causes include dura mater grafts, corneal implants and contaminated human growth hormone. New variant CJD (vCJD), which is thought to be transmitted via contaminated meat from cows infected with bovine spongiform encephalopathy (BSE), gained recognition from a public health perspective in the late 1990's. Overall, CJD is rare with an incidence of less than 1 per million. Sporadic CJD is characterized by a rapidly progressive dementia resulting in death over weeks to months. MRI is the mainstay of imaging investigation. Typical findings of sCJD on conventional sequences include symmetric hyperintensity on FLAIR and DWI involving the basal ganglia, in particular, the corpus striatum, and/or in the cerebral cortex, either symmetric or asymmetric. DWI shows persistent restricted diffusion in the typical areas of involvement. The histopathology of CJD is characterized by neuronal loss and spongiform changes. DWI lesions co-localize strongly with the histopathologic lesions. MRI findings can precede the onset of characteristic clinical disease, particularly with the use of DWI. No mass effect or enhancement is seen and there is progression to atrophy in the

terminal stages. The variant form of CJD (vCJD) shows distinctive imaging findings, in particular, symmetric high signal in the pulvinar compared to the signal in the remainder of the basal ganglia. This is termed the "pulvinar sign". In summary, MRI plays an extremely important role in early diagnosis, especially with DWI and FLAIR images. When typical MRI findings are observed in an appropriate clinical context, the diagnosis of prion disease is very likely and brain biopsy can usually be avoided.

### 397

#### **Stress CMR: Review and Cases**

*Wael Jaroudi MD, American University of Beirut (Lebanon)*

Stress Cardiac MRI:

Cardiac MRI stress test is a diagnostic test. It is used to check the blood flow to the heart. An exercise stress test is another way to check the blood flow, but if you cannot exercise or if your heart rate does not up enough with exercise, this test may be done instead. The test can help determine if your heart is getting enough blood while you are active compared to when you are resting.

Most Common Indications:

Chest pain (outpatient, inpatient or Emergency room)

Revascularization decision

Differentiate ischemic vs. non ischemic cardiomyopathy

Equivocal stress test with other imaging modalities

Pre-op clearance

## **Hall F Session 2 Radiology II**

### 398

#### **Susceptibility-Weighted Imaging of the Brain: Principles and Applications in Neuro-Imaging**

*Walter Kucharczyk MD (Canada)*

Magnetic susceptibility ( $\chi$ ) is the degree to which a tissue magnetizes in an applied magnetic field. At a given applied magnetic field (B) if a tissue magnetizes more than

another tissue magnetizes, it has "higher magnetic susceptibility. If  $\chi$  is positive, the material is paramagnetic. The magnetic field in the material is strengthened by the induced magnetization. If  $\chi$  is negative, the material is diamagnetic. As a result, the magnetic field in the material is weakened by the induced magnetization. Ferromagnetic materials have positive susceptibility, and possess permanent magnetization even without an external magnetic field.

Most tissues are weakly diamagnetic and usually cannot be distinguished from another on the basis of their susceptibility. Other tissues have greater susceptibility effects. Calcifications have a strong diamagnetic effect. Strongly paramagnetic tissues are blood, iron, GBCA\*, and possibly melanin. If images have true susceptibility weighting, these tissues can be distinguished from other tissues and from one another, thus adding to the ability of MRI to characterize tissues and hence make MRI a more powerful differential diagnostic tool.

Only the "magnitude" of the MR signal is displayed in MR images in the vast majority of cases. But the MR signal also has a "phase". The phase information is usually discarded, but phase can yield useful information in some cases, and in my opinion it is the phase component of the image that yields the truest form of susceptibility weighting.

Properly filtered, phase images add another type of image contrast to assist in characterizing tissue based on MRI "signature". Thus phase aids in differential diagnosis:

- Calcifications are diamagnetic  
→ phase change is negative
- Blood, hemosiderin, iron are paramagnetic  
→ phase change is positive
- GBCA at tissue concentrations is paramagnetic but the paramagnetic effect is not strong enough to cause noticeable phase change
- I have found susceptibility-weighted types of sequences useful for:
- Detecting calcium, blood, and hemosiderin



- Ddx of calcium vs blood/hemosiderin
- Ddx of blood/hemosiderin vs Gd-enhancement

I will explain the magnitude and phase components of these images and show examples how these components can be used for problem-solving and diagnosis.

**399**

#### **Focal Liver Lesion**

*Mamdouh Mahfouz MD (Egypt)*

Focal liver lesions are common in the general population. The increasing and widespread use of imaging studies has increased the detection of incidental focal hepatic lesions. It is important to consider not only malignant liver lesions, but also benign solid and cystic liver lesions such as hemangioma, focal nodular hyperplasia, hepatocellular adenoma, and hepatic cysts, in the differential diagnosis. Imaging plays a pivotal role for the diagnosis, staging, treatment planning, and follow-up of focal hepatic lesions.

To maximize lesion detection and characterization, imaging needs to be performed with appropriate equipment by using protocols carefully designed on the basis of the underlying clinical context. In addition, the decision of an imaging modality cannot be based on the diagnostic accuracy of an imaging test solely but must also consider patient safety and cost-effectiveness.

This presentation focuses on the imaging features of focal hepatic lesions on different imaging modalities, including sonography, CT, and MRI.

**400**

#### **Advanced MR Imaging of Brain Tumors**

*Asem Mansour MD (Jordan)*

MR Neuroimaging plays an essential role in the primary diagnosis of intracranial tumors and for following the course and evaluating therapeutic effects. While conventional MR sequences provide high-resolution morphologic assessment of the tumor and its location and extent, MR spectroscopy can supply additional insights into metabolism and MR perfusion can

better assess the vascularity of the tumor. These modalities combined can help identify tumor grade, invasive growth into neighboring tissue, and treatment-induced changes, as well as recurrences. Functional MR, on the other hand, can assess certain functional aspects of the brain and relate them to anatomy to ensure that the best surgical approach can be taken which usually translates into better outcome. Such simultaneous assessment of morphologic, functional, and metabolic aspects of the tumor can be very helpful in providing the best treatment options and patient care.

**401**

#### **Renal Cystic Lesion**

*Mamdouh Mahfouz MD (Egypt)*

Renal cystic disease refers to a wide range of hereditary, developmental, and acquired conditions including neoplasms with cystic changes. Depending on the disease classification, the presentation of disease may be from birth, or much later into adult life. Cystic disease may involve one or both kidneys and may or may not occur in the presence of other anomalies. One third of people older than 50 years develop renal cysts. Although most are simple cysts, renal cystic disease has multiple etiologies including developmental as multicystic dysplastic kidney (MCDK), Genetic as autosomal recessive polycystic kidney disease (ARPKD), autosomal dominant polycystic kidney disease (ADPKD), juvenile nephronophthisis (JNPHP), medullary cystic kidney disease (MCKD), glomerulocystic kidney disease (GCKD) as well as cysts associated with systemic disease, acquired simple cysts and cystic renal neoplasms.

The most common larger cysts include acquired cysts, simple cysts, and cysts associated with ADPKD. Smaller cysts characterize ARPKD, JNPHP, MCKD, and MSK. In adults, renal angiomyolipomas and RCC may also have cystic component. Imaging diagnosis of renal cystic disease depends mainly on ultrasound. Computed tomography (CT) and magnetic resonance imaging (MRI) may be required if the ultrasound results are inconclusive or if more information is needed.

The purpose of this presentation is to describe an approach for the diagnosis of different types of renal cystic disease taking into consideration the diagnostic criteria of each disease and the differential diagnosis.

### Hall F Session 3 Radiology III

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#### **Anatomy and Differential Diagnosis of Pituitary and Parasellar Lesions**

*Walter Kucharczyk MD (Canada)*

The diagnosis and differential diagnosis of lesions of the sella turcica, parasellar region and central skull are best achieved by a thorough knowledge of the anatomy in this area and the component tissues and structures.

This anatomic approach to image analysis and differential diagnosis consists of the following steps:

- Identify the pituitary gland & sella turcica
- Determine epicenter of lesion:
- ...is it in the sella? (is the sella enlarged?)
- ...or is it above, below, or lateral to the sella?
- Analyze the pattern of signal intensity
- ---> Establish Differential Diagnosis

The most important structures and tissues in and around this area are:

- Pituitary gland
- Pituitary stalk
- Diaphragma sella and adjacent dura
- Optic nerves and chiasm
- Hypothalamus
- Cavernous sinuses
- Internal carotid arteries
- Cranial nerves in the cavernous sinuses
- Bony skull base, including the clivus
- Sphenoid sinus and its mucosal lining

Knowledge of the anatomy and appearance of each of the above structures on CT and MRI, and their relationship to one another, as well as knowledge of the most common pathologies to arise from each structure, is an effective and intelligent way of establishing a diagnosis. The anatomy of the area will be shown in detail, followed by examples of common pathologies and the process by which diagnosis is achieved.

403

#### **Pituitary Tumors: Experience in a Large Series at King Hussein Medical Center**

*Amer Al-Shurbaji MD (Jordan)*

*Amer Al-Shurbaji, Salah alalawi, Basil yonis.*

**Introduction:** The results of pituitary surgery at King Hussein medical Center have changed dramatically over the last nine years using new techniques and microsurgical dissection. Thanks to the new technological improvements in radiology, microsurgery, and diagnostic procedures.

**Methods:** Analysis of our 509 cases of pituitary tumors that were operated from November 2003 till July 2014 by a single surgeon at KHMC, using direct microscopic endonasal transsphenoidal, endoscopic endonasal transsphenoidal, and frontolateral approaches.

**Results:** data obtained by radiological and endocrinological assessment showed ninety percent cure in cushing disease ,fifty five percent in acromegaly, total resection of non functioning tumors in seventy five percent of cases. Mortality three cases,morbidity in five percent of cases

**Discussion:**Pituitary tumors should be managed by a multidisciplinary team consisting of neurosurgeons, endocrinologists and radiologists. Adopting this strategy along with using different approaches for different types of pituitary tumors resulted in a very good surgical outcome in comparison to the standard international levels, especially in acromegaly and Cushing disease.

**Conclusion:** Pituitary surgery is a rewarding surgery when managed as a team work , and should be managed at special centers with good experience to deal with these tumors , their follow up and complications.

**Key words:** pituitary, endoscopic, transsphenoidal

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### High Resolution MRI Quantitative Measurement in MS

*Ali Al-Radaideh MD (Jordan)*

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**Introduction:** Multiple sclerosis (MS) is an autoimmune disease affecting the nervous system and causing various neurological complications mainly due to demyelination and axonal loss. Although there are different types of MS lesions, most appear as areas of demyelination in the brain's white matter (WM). MRI has played an important role and emerged as a powerful non-invasive technique to assist in the diagnosis and monitoring of multiple sclerosis. The use of MRI in MS has been increasing in the field of research in recent years. Standard MRI techniques for MS now include central nervous system atrophy, T1 and T2 weighted imaging and gadolinium enhancement. These measures provide a better understanding to the underlying mechanisms of MS disease and have uncovered remarkable information about MS in recent years. However, the contribution of MRI conventional measures to MS is only at the macroscopic level. They lack the specificity required to understand the MS disease process and have thus failed to provide a complete picture of the underlying pathology which leads to a so called clinico-radiological paradox. In other words, the clinical status of MS patient does not correlate well with MRI findings. Advanced quantitative MRI measures are capable of revealing a range of changes that occur in the normal appearing brain tissue (NABT) which cannot be detected on standard MR images. These advanced quantitative MRI measures include

magnetization transfer (MT), T1 and T2 relaxometry, magnetic susceptibility mapping, diffusion imaging and magnetic resonance spectroscopy (MRS). The increased signal to noise ratio (SNR) and spatial resolution available at ultra high field MRI also improves specificity as well as sensitivity to MS lesions and diffuse changes in the central nervous system (CNS). A reduction in scanning time is of importance for most MS patients especially those who are debilitated and thus cannot stay still in the scanner for long time. The main aim of this work is to study the diffuse occult disease outside the macroscopic lesions in the NABT (including the deep grey matter structures) in MS patients using advanced quantitative imaging techniques at 3 Tesla MRI mentioned above.

### Methods:

**Subjects:** So far, nine patients with relapsing remitting multiple sclerosis (RRMS) and two patients with secondary progress multiple sclerosis (SPMS) were recruited from King Hussien Medical Center. No single healthy volunteer has been scanned yet. All subjects were consented according to local ethics approval. The Extended Disability Status Scale (EDSS) score was calculated for each patient. **MR Imaging:** Scanning was performed on a 3T Siemens Trio MR system, equipped with 8-channel head coil. The imaging protocol included the following imaging sequences: High resolution 3D-T1 weighted MPRAGE with spatial resolution = 0.9 mm<sup>3</sup> isotropic resolution; reconstruction matrix = 224×256×144; TE = 3.4 ms; TR = 1900 ms; inversion time = 900 ms; flip angle = 9°; number of slices = 144; scan time = 5:53 min. High resolution 3D-T2\* weighted gradient echo sequence with spatial resolution = 1 mm<sup>3</sup> isotropic resolution, reconstruction matrix = 192×192×104; TE = 20 ms; TR = 33 ms; flip angle = 15°; number of slices = 104; scan time = 5:30 min. Both magnitude and phase images were reconstructed for further analysis. 2D-T2 weighted Fluid Attenuated Inversion Recovery (FLAIR) with spatial resolution = 0.5×0.5×4 mm<sup>3</sup>; reconstruction matrix = 464×512×28; TE = 93 ms; TR = 9000 ms; flip angle = 130°; number of slices = 28; scan time =

4:50 min. 2D-dual echo (proton density-T2 weighted) spin echo with spatial resolution =  $0.9 \times 0.9 \times 5$  mm<sup>3</sup>; reconstruction matrix =  $256 \times 256 \times 19$ ; TE<sub>1</sub> = 38 ms; TE<sub>2</sub> = 84 ms; TR = 3880 ms; flip angle = 150°; number of slices = 19; scan time = 2:10 min. 3D Magnetization Transfer (MT) prepared-gradient echo sequence with spatial resolution =  $1 \times 1 \times 2$  mm<sup>3</sup>; reconstruction matrix =  $256 \times 256 \times 26$ ; TE = 5 ms; TR = 60 ms; flip angle = 10°; number of slices = 26; scan time = 3.23 min. The MT RF pulse was applied at 1.05 kHz off resonance to water. The same sequence was repeated with similar parameters but with the MT RF pulse 'off'. T1 maps were created from 3D-T1 weighted MPRAGE (short MPRAGE) images acquired at 8 different inversion times (130, 400, 250, 600, 900, 1200, 1600, 2200 ms) with spatial resolution =  $1 \times 1 \times 3.6$  mm<sup>3</sup>; reconstruction matrix =  $192 \times 192 \times 16$ ; TE = 2.28 ms; TR = 8000 ms; flip angle = 9°; number of slices = 16; scan time per inversion time = 2.26 min. Post Processing and Analysis: High resolution 3D-T1 weighted MPRAGE images were used in FreeSurfer (<http://surfer.nmr.mgh.harvard.edu>) for cortical thickness and volumetry. The reference scan of the MT-GRE sequence acquired with the MT RF pulse OFF was co-registered to the short MPRAGE repeat-acquired with inversion time that nulled the grey matter-using rigid body registration with 6 degrees of freedom in FSL (FMRIB, Oxford UK) and the co-registration matrix was applied to the MT-GRE sequence acquired with the MT RF pulse ON so that the two volumes of MT-GRE sequences are co-registered to the short MPRAGE sequence. MTR maps were then calculated on voxel by voxel basis using  $[MTR = (So - Smt)/So]$ . T1 maps were calculated from the repeated 3D-T1 weighted MPRAGE images using Neuroi software. The 3D-short MPRAGE repeat acquired with inversion time that nulled the grey matter was used in SPM8 to segment the white matter and produce a binary mask of the normal appearing white matter tissue (NAWM). NAWM mask was then applied to the calculated MTR and T1 maps to extract the corresponding maps of the normal appearing white matter

which were used in MATLAB ([www.mathworks.com](http://www.mathworks.com)) for further analysis. For the magnetic susceptibility maps, phase images were unwrapped, filtered and converted into susceptibility maps on which different region-of-interest (ROIs) were drawn to cover the caudate nucleus, Putamen, Globus Pallidus, Thalamus, Pulvinar, red Nucleus and Substantia Nigra. Furthermore, the posterior horn of internal capsule was also drawn and their magnetic susceptibility values were used as a reference for normalization. Lesion load was then calculated using the 'lesion segmentation tool' (LST) in SPM8 using both the T1 weighted MPRAGE and T2 weighted FLAIR image.

**Results:** We have not performed any statistical analysis to compare with health controls yet. Only processing steps have been carried out on MS patients. In next coming weeks, more subjects will be scanned along with age and sex matched controls and results will be analyzed and presented by the time of oral presentation.

**Conclusion:** No conclusion has been driven yet. Results will be discussed and a conclusion could be derived by the time of oral presentation.

#### 405

##### **Innovative Therapy Application of HIFU in Gynecology-Oncology**

*Ilya Gipp MD (Finland)*

The high frequency focused ultrasound uses a special transducer to focus a beam of ultrasound waves on to the fibroid located within the body. The focused ultrasound waves generate high temperatures within smaller areas. The temperature when maintained for sufficient a period of time results in the ablation of the fibroids. The therapy procedure guided by Magnetic Resonance Imaging (MRI) with real time feedback helps in the focused ablation of the target location.[2] The real-time feedback loop ensures that adequate heating takes place, treating every bit of tissue that has been targeted and volumetric ablation .



## Hall F Session 4 Radiology IV

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### **Recent Advances in Radiotherapy Technique Advanced Technology of Radiotherapy**

*Jonathan Yao MD (USA)*

The next generation of radiation treatment device developed by LinaTech will be described in details, which will contribute an extraordinary of benefit for future cancer treatment, especially for the lung treatment, when the lung is in the constantly movement, with its: the novel design of non-coplanar sphere space radiation treatment; the fully digital pulse control techniques for future 4D pulse dynamic treatment; the double layered MLC to reduce the inter-leaf and leaf-end transmission to minimum; the automatically robotic couch patient settle up to reduce the patient setup error with fastest efficiency; the FFF design to pump up the dose rate up to over 1000cGy/min to allow finishing most patient treatment within 3min; the large field size of 30cm x 40cm to allow the broad coverage of patient, etc.

407

### **The Role of PET/CT in the Management of Patient with Nasopharyngeal Carcinoma**

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**Objectives:** Nasopharyngeal carcinoma (NPC) is a tumor arising from the epithelial cells that cover the surface and line the nasopharynx. It then typically metastases to cervical lymph nodes. Distant metastases may occur in bone, lung, mediastinum and, more rarely, the liver. The aim of this study was to evaluate the role of PET/CT in the management of patients with NPC

**Methods:** One hundred and 49 PET/CT studies for patient with NPC performed over the last 8 years (from 2005-2013) were reviewed. Two third of the patents were male and their ages range from 15-76 years with the average of 41.3. -Indications include primary tumor assessment, staging, and assessment of response to treatment, local recurrence, regional and distant metastases and follow up.

**Results:** PET was highly sensitive in the assessment of the primary tumor and regional spread in the head and neck area (including regional LNs) either in the initial staging or assessment of local recurrence but show lower specificity mostly due to the anatomical complexity of the region, presence of normal physiological uptake in the area and many benign lesion that can give false positive results. -PET was also highly sensitive in detecting distant metastases and one of its advantages over CT and MRI is that it can detect metastatic foci in hidden or unexpected areas which are usually overlooked.

**Conclusion:** PET/CT is highly sensitive tool in the assessment NPC in the initial stage of the disease or during follow up.

**Keywords:** Nasopharyngeal carcinoma, PET/CT, Oncology

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### **The Metabolic Joint Asymmetry Score derived from Conventional Bone Scintigraphy: A New Tool to Differentiate Psoriatic from Rheumatoid Arthritis**

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**Objectives:** Clinical differentiation of psoriatic arthritis (PsA) and rheumatoid arthritis (rA) based on the pattern of joint involvement can be difficult. We investigated a metabolic joint asymmetry score (MJAS), reflecting the overall asymmetric metabolic joint involvement in conventional bone scintigraphy, for

differentiating PsA from rA in patients presenting with peripheral polyarthritis.

**Methods:** n=106 patients (n=61, PsA; n=45, rA) with peripheral polyarthritis (? 5 joints) as well as n=26 control subjects with no history of chronic joint disorders were analyzed. The intensity of articular <sup>99m</sup>Tc-MDP uptake in 40 peripheral joint pairs was scored in each joint based on a scale of 0–3. The MJAS of each patient was defined as the sum of the differences in the uptake score of each joint pair. The association of MJAS with the underlying condition (Psoriasis criteria, Revised Criteria of the ACR) was examined.

**Results:** 5280 peripheral joint pairs were investigated. There was no significant difference in the total number of involved joints in PsA ( $15 \pm 8$ ) versus rA ( $17 \pm 9$ ) patients ( $p=0.132$ ), but a significantly reduced involvement in the control group ( $6 \pm 5$ ,  $p<0.001$ ). MJAS was markedly higher in PsA ( $17 \pm 10$ ) than in rA ( $5 \pm 4$ ,  $p<0.001$ ), and was correlated with the total number of involved joints in PsA, but not in rA.

**Conclusion:** The new and easily reproducible quantification method of metabolic joint involvement permits differentiation of psoriatic from rheumatoid peripheral arthritis with MJAS being markedly higher in patients with PsA as compared to rA. It might offer an effective complementary tool for characterizing patients with peripheral polyarthritis.

**Keywords:** Psoriasis, rheumatoid, <sup>99m</sup>Tc-MDP

#### 409

##### **Comparison between Ga68-DOTATOC PET/CT and Conventional In111-**

##### **Octreotide Imaging in Neuroendocrine Tumors**

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**Objectives:** Somatostatin scintigraphy is widely used for detection and staging of neuroendocrine tumours, a heterogeneous

group of neoplasms with over expression of somatostatin receptors allowing functional imaging. Because of its superior imaging properties, there is growing interest in the use of positron emission tomography (PET/CT) for somatostatin scintigraphy. To evaluate the diagnostic value of <sup>68</sup>Ga-labeled octreotide (<sup>68</sup>Ga-DOTA-TOC) PET/CT in patients with known neuroendocrine tumors in comparison with conventional scintigraphy by Indium111octreotide.

**Methods:** 18 patients (9 men, 9 women) ; age range 37–72 years were prospectively studied in the period between March 2012 and November 2013. All had documented neuroendocrine tumor by histopathology, with localized, recurrent or metastatic disease. Each patient received 100–180 MBq <sup>68</sup>Ga-DOTA-TOC. Imaging results of PET/CT were compared with <sup>111</sup>In-octreotide scans. Each imaging modality was interpreted separately by observers who were unaware of imaging findings before comparison with PET/CT. Positive lesions were compared in number between conventional imaging by <sup>111</sup>In-octreotide and <sup>68</sup>Ga-DOTATOC PET/CT and classified according to the site of lesion. Statistical analysis was done by SPSS software using paired sample test.

**Results:** PET/CT by <sup>68</sup>Ga-DOTATOC detected a total of 68 lesions, while <sup>111</sup>In-octreotide was positive in only 19 lesions. <sup>68</sup>Ga-DOTATOC PET/CT detected more lesions in 72% ( 13 patients). This resulted in upstaging to metastatic disease in 4 patients (22%).<sup>68</sup>Ga-DOTATOC showed higher diagnostic efficacy compared with conventional <sup>111</sup>In-scintigraphy with a significant statistical difference ( $P < 0.001$ ).

**Conclusion:** <sup>68</sup>Ga-DOTA-TOC PET shows a significantly higher detection rate compared with conventional somatostatin receptor scintigraphy with clinical impact in a considerable number of patients.

**Keywords:** <sup>68</sup>Ga-DOTATOC, Neuroendocrine , <sup>111</sup>In-octreotide



410

**18F-Choline PET/CT; A New Modality and Potential Values in Staging Prostate Cancer**

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**Objectives:** To assess the value of 18F-Choline positron emission tomography (PET)/computed tomography (CT) in staging prostate cancer.

**Methods:** Included in this retrospective study were 81 patients with suspected (n=14) or biopsy proved (n=67) prostate cancer (mean age of 63+ 8. In 39 patients, radical prostatectomy with extended pelvic lymph nodes (LN) dissection was performed. Imaging was performed with an integrated PET/CT system after injection of 4MBq 18F-Choline per kilogram of body weight with immediate acquisition of the pelvis followed by delayed whole body image after 60 minutes. 18F-Choline PET studies were analyzed using visual and semi quantitative analysis. Analysis was performed on a per-patient basis.

**Results:** A per-patient analysis of 18F-Choline PET/CT studies revealed sensitivity, specificity, and accuracy in the detection of local prostate cancer of 85%, 81% and 83%, respectively. In the detection of metastatic lymph nodes values were 75%, 85% and 80% respectively, and in the detection of bone metastasis values were 94%, 100%, and 98% respectively. ROC analysis revealed SUVmax > 5.4 as best cut-off criterion for the detection of primary prostate cancer and local recurrence with area under curve of 0.8. ROC revealed SUVmax>4.8 for lymph nodes metastasis, and area under curve of 0.7.

**Conclusion:** 18F-Choline PET/CT may have potential application in the assessment of patients with cancer, and it can be used in staging and detection of local recurrence.

**Keywords:** prostate cancer; PET/CT;18F-Choline

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**Quality of Life and Psychological Wellbeing of Breast Cancer Survivors in Jordan**

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**Objectives:** To assess quality of life and psychological well-being of breast cancer survivors in Jordan ,also predictors of Quality of Life

**Methods:** This project was a cross-sectional study on breast cancer survivors. Assessment was performed using the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30), the Breast module (QLQ-BR23) and the Hospital Anxiety and Depression Scale (HADS). Data on potential predictors of scores were also collected.

**Results:** 236 females with mean age of 50.7 years (SD:10.7)were interviewed. The mean Global health score for the QLQ-C30 was 63.7(SD:20.2). The mean HADS scores was 18.00(SD:9.00). Out of study participants, 53% scored abnormal on the anxiety scale and 45% scored abnormal on the depression scale. Significant predictors scores were similar to those reported in published studies such as the presence of recurrence since baseline, family history of cancer, educational status, current social problems, extent of the disease, presence of financial difficulties, employment status.

**Conclusion:** Jordan breast cancer survivors have an overall good quality of life scores,



however mental aspect is more impaired. There is an urgent need for a psychosocial support program for patients diagnosed with breast cancer at the Ministry of Health Hospitals in Jordan.

**Keywords:** breast cancer, jordan, quality of life, psychological wellbeing, Hospital anxiety and depression scale.

#### 412

##### **Application of the 1994 WHO Classification to Jordanian Women**

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**Objectives:** Osteoporosis is now one of the most serious problems in aged Jordanian women. The aim of this study was examine the applicability of the of the 1994 WHO classification to Jordanian women

**Methods:** We have investigated bone mineral density (BMD) of the spine and left hip in 1878 Jordanian female. There ages ranges from 18-87 years with mean of 54 years. All women where referred for the first time for bone mineral density assessment and were free from diseases or drugs known to influence bone or calcium metabolism. Bone mineral density was measured in the lumbar spine and left hip using dual photon densitometer (Hologic QDR).

**Results:** The peak bone mass for Jordanian females in the third decay are lower than that of white Caucasian women by 9-11% in spine and neck of femur. The incidence of postmenopausal osteoporosis was 30% when using WHO T-score for white Caucasian women and drop to 23% if we used the calculated Jordanian peak mass reference value.

**Conclusion:** The peak bone mass for Jordanian females is lower than that of white Caucasian women. Using the BMD values of white Caucasian women will results in labeling higher percentage of Jordanian women as osteoporotic and

osteopenic.

**Keywords:** BMD, DEXA, Osteoporosis

## **Hall G Session 1 Surgery - Recent Advances in Neurosurgery**

#### 413

##### **Spinal Navigation: Where do we Stand?**

*Abdulkarim Masaddi MD (UAE)*

Navigation in Brain Neurosurgery is considered as a must and it is becoming an essential tool for intra parenchymal brain tumors and some functional brain neurosurgery. Neurosurgeons are very familiar with the use of Brain Navigation, but little between them experienced the use of navigation in spine surgery.

When spinal navigation started 2 decades ago and when pre-operative CT-based spinal image guidance was the main technique: It was hard to convince surgeons about the real benefits. Due to complicated planning, time consuming, doubtful accuracy, incomplete tools, etc. Then in the mid last decade more refinement of the spinal navigation techniques with the introduction of pre-calibrated instruments, followed few years later by the revolutionary 3D integrated imaging modality with automatic real time registration which resulted in increased placement accuracy of pedicle screws compared to conventional fluoroscopy guided technique and increased safety to the surgeons and O.R. Staff by significant reduction of radiation exposure, significant reduction inoperative spine and the possible immediate intraoperative diagnosis of screws malposition which allows revision whenever necessary without a need for post-operative scanning.

Spinal Navigation started in the gulf area at the end of 19th century and developed progressively to mid 2005 when more centers started using it, with the use of pre-calibrated instruments in the beginning and soon after with the introduction of 3D Fluoroscopy then imaging integrated to the navigation, together with the development of navigational screws and cages, all these development made the image guidance

in spine surgery very friendly and safe, it improved the O-arm accuracy of implant positioning and increased the safety of the patients, surgeons and O.R. Staff, even time of surgery became shorter. It provides great help for difficult deformity and revision cases, helps in avoiding 2D surgery and allows intraoperative correction of screws malposition.

In this paper we will demonstrate the evolution of spinal navigation in the Gulf region since the beginning up to the present.

The multi slice Intraoperative CT scan has started recently, no follow up or significant number of patients can be provided, we will demonstrate few cases only about this technique.

**414**

**Spinal Cord Tumor Surgery: Experience at KHMC**

*Abdallah Al-Akayleh MD (Jordan)*

**415**

**Cervical Vertebroplasty: New Technique in Osteoporosis Spine Surgery**

*Abdulkarim Masaddi MD (UAE)*

Cervical Spondylosis is a familiar pathology that spine surgeons are facing in their daily practice. The diagnosis and treatment of this disease is standardized. The majority of patients respond well to conservative management including physiotherapy, medications, short rest with cervical collar and injection techniques.

Surgical treatment is preserved for failure of conservative treatment and when there is neurological deterioration and other serious conditions.

Anterior cervical discectomy and fusion is still considered as the treatment of choice, in spite of the emerging popularity of arthroplasty technique.

With the aging population, technical challenging difficulties and higher rate of complications arise, one of the causes is the severe osteoporosis which represents some technical problems: easy to break the vertebral body while using the caspar pins to distract between the vertebral bodies, vertebral bodies and end plate compression

fractures due to the soft bone in contact with hard implant (cage or expandable corpectomy cages or other), loosening of the screws when anterior plating is used. More and more we see relatively young patients in the Gulf and Middle east area mainly women with early significant osteoporosis: such patients may have good indications for cervical arthroplasty to treat their cervical disc problems.

In this paper we will present our short experience with preliminary results in the management of cervical spondylosis in patients with severe osteoporosis. 15 patients were operated over the last 6 years for cervical spondylosis, they were all having significant osteoporosis, 6 of them had corpectomy with expandable cage and plating. In the remaining patients: 3 patients had cage fusion with plate, cage with TDR in 2 patients and all the rest received standalone cages only. All these patients had open vertebroplasty augmenting the vertebral bodies adjacent to the cages, artificial disc or expandable cage. No complications were noted with this procedure in these patients.

The average age is 70 years (from 52 to 90). Symptoms from 6 months to 5 years. The average follow up is around 12 months. But from the practical point we follow our patients for 6 months only, except if needed.

The indications, surgical techniques and results with our conclusion will be presented.

To our knowledge, very few papers exist in the literature concerning this technique.

**416**

**Surgical Treatment for Parkinson's Disease and Movement Disorders**

*Mohammad Samaha MD*

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We have introduced the stereotactic neurosurgery in our hospital in 1996, and the functional neurosurgery in 1997 for intractable advanced Parkinson's Disease and Essential tremor by radiofrequency lesioning surgeries ; Globus Internus

Pallidotomies (GPi), and Ventrointermediate nucleus (VIM) thalamotomies. We have treated more than (700) cases for ages between (26-79) years; (580) pallidotomies for the Parkinsonian rigidity, bradykinesia, muscle pain, and dopamine induced dyskinesia, and (120) VIM thalamotomies for Parkinsonian tremor, essential tremor, ischemic tremor, and multiple sclerosis tremor. The successful rate for disease control exceeded (85%) in a period of follow up between (3) months to (10) years. In 1999 we introduced the deep brain stimulation (DBS) for advanced Parkinson's disease, all types of tremor, Dystonia, and Tourette's disease. Since that time we operated upon (62) patients by DBS with also a success rate over 85% with the advantage of the frequent neuromodulations accompanying the disease progress and less surgical complication.

The lesioning modality is still effective in comparison to the (DBS), also it is cheaper, and suits our part of society who refuse to have an implant in their brain. For the patients of Dystonia, we achieved a cure in patients with the successful Staged pallidotomies and a good control rate in (DBS) surgeries.

#### 417

##### **Neuroendoscopy: King Hussein Medical Center Experience**

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**Objective:** Neuroendoscopy is a corner stone in minimal invasive surgery in the field of neurosurgery and an alternative to shunts in different types of cranial pathologies. In this paper we present our experience with neuroendoscope at King Hussein Medical Centre.

**Methods:** During the last 8 years 218 cases were operated on using neuronendoscope. Procedures and cases are described.

Pathology was hydrocephalus in 174 cases, arachnoid cyst 15 cases, tumour biopsies

17 cases, chronic subdural haematoma 5 cases, craniopharyngioma 4 cases, and 3 cases others.

The 174 cases of hydrocephalus included the following etiologies; 71 cases congenital aqueductal stenosis, 53 cases secondary to brain tumor, 8 cases secondary to intraventricular bleeding, 19 cases with shunt failure, 23 cases of complicated hydrocephalus.

**Results:** The mean age for the 174 cases of hydrocephalus was 2.5 years (7 days to 66 years). Procedures included 163 cases of third ventriculostomy, 7 cases of aqueductoplasty, and 4 cases of lamina terminalis fenestration. Procedure was successful in 83% of congenital aqueductal stenosis cases, 80% of brain tumour, 37.5% secondary to intraventricular bleeding, and 68.4% with shunt failure. For complicated hydrocephalus unification of the ventricle and fenestration of loculation was achieved in all cases. The four cases of craniopharyngioma were operated on as a recurrence and the cysts were aspirated, fenestrated and a reservoir inserted. Tumour biopsies were diagnostic in 88% of cases.

**Conclusion:** The experience with neuronendoscope suggests a positive effect on reducing invasiveness of surgery and thus reducing complications rate, intensive care stay, hospitalisation, and operating time which indeed reflected on surgery outcome and patient's morbidity.

**Key words:** Neuronendoscope, Hydrocephalus

#### 418

##### **Meningioma: A Retrospective Study of 627 Cases Operated at KPMC**

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**Objectives:** Six hundred twenty seven cases of meningiomas operated in King Hussein Medical Center during the last twelve years.

**Methods:** Our study is a retrospective study to review a patient's files, radiological

reports, and histopathological reports, to find the age, gender, location, distribution, and anaplastic changes. 1. AGE: Below thirty, Thirty to forty, Forty to fifty, Fifty to sixty, Sixty to seventy, Above seventy. 2. Gender: Male, Female. 3. Location: Parasagittal, Convexity, Olfactory groove, Parasellar, Sphenoidal, Petroclival, CP angle, Foramen magnum. 4. Anaplastic changes: Grade I, Grade II, Grade III.

**Results:** We will show the results with tables, diagram and flow chart.

**Conclusion:** Meningioma are benign lesions, has a middle aged female predominance and parasagittal location is the most common site, and in some cases has anaplastic changes.

**Keywords:** Meningioma, brain tumor, benign, anaplastic, malignant.

## Hall G Session 2

### Surgery - Urology - Management of Complicated Urethral Stricture

419

#### Endoscopic Management of Urethral Stricture

*Abdul-Naser Shunaigat MD (Jordan)*

Urethral stricture disease is one of the oldest urological pathologies described in the literature. It can be caused by different etiologies ranging from infection to injuries of various mechanisms and intensities.

The presentation of urethral strictures ranges from asymptomatic, to severe discomfort and urinary retention.

The principle of treatment of urethral strictures, regardless of the procedure utilized, is to resume the normal anatomical drainage pathway of the urinary bladder with a safe and effective technology that carries minimal complications and side effects. Procedure type is governed by extent, site and degree of scar tissue associated with the stricture.

Whilst treatment options vary from simple minor dilation, to advanced major open surgeries, endoscopic management plays a major role in urethral stricture disease including optical internal urethrotomy (OIU) and Laser urethrotomy. I will be talking about the different endoscopic procedures in urethral strictures, with comparative

data in the literature, where applicable.

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#### Management of Bulbar Urethral Strictures

*Abdel-Wahab El-Kassaby MD (Egypt)*

421

#### Management of Posterior Urethral Distraction Injuries

*Abdel-Wahab El-Kassaby MD (Egypt)*

422

#### Diagnosis and Management of Urethral Injury

*Ibrahim Bani-Hani MD (Jordan)*

423

#### Management of Urological Complication in Spinal Cord Injured Patient

*Jean Jacques Wyndaele MD (Belgium)*

## Hall G Session 3

### Surgery - Onco-Surgery GI Cancer

424

#### Introduction: GI Cancer, Past, Present and Future

*Salah Halasa MD (Jordan)*

425

#### Oesophagogastric (OG) Junction Cancer, Team Center

*Rajab Kerwat MD (UK)*

Oesophago-gastric cancer remains among the leading causes of cancer-related death worldwide. By contrast with the decreasing prevalence of gastric cancer, incidence and prevalence of Oesophago-gastric junction adenocarcinoma are rising rapidly in developed countries. Various treatment strategies for junctional tumours are presented. Here we review findings from the latest randomised trials and meta-analyses, regarding endoscopic, surgical, and perioperative treatments options. A team approach, from all diagnostic and therapeutic disciplines, including gastroenterologists, surgeons, oncologists, radiologists, and palliative team, is mandatory to administer a wide range of treatment modalities, to achieve the best patient outcome.

**426**

**Role of Radiology in Diagnosis of GI Cancer**  
*Abdullah Al-Omari MD (Jordan)*

There have been multiple advances in radiology over the past decades which have directly improved the quality of oncologic imaging, the most recent generations of ultrasounds, MRIs and CT scanners allowed markedly improved spatial and temporal resolutions, modern imaging protocols have been refined and are now specifically tailored to the patient's known malignancy. The last few years have also seen the widespread use of 3-D imaging (including volume rendering and maximum intensity projection imaging), which has also markedly improved the quality of diagnosis.

**427**

**Recent Advances in the Treatment of Oesophageal and Gastric Cancer**  
*Rajab Kerwat MD (UK)*

Gastric cancer remains the second leading cause of cancer death worldwide, despite a steady decrease in its incidence. Many aspects of the diagnosis, staging and treatment of gastric cancer remains controversial hence the Multidisciplinary approach in the overall management is an essential tool in its modern management. The presentation will discuss the widely accepted aspects of the surgical and oncological treatment of gastric cancer in staging, extent of surgical resection, with both open and minimally invasive surgical techniques.

The importance of Multimodal multidisciplinary patient tailored approach in the surgical management of gastric cancer is highlighted.

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**Spectrum of Ultrasound in Diagnosis of GI Cancer Pre-Operatively**  
*Tareq Bisheh MD (Jordan)*

- Gastro-Intestinal cancer is a term for the group of cancers that affect the digestive system. This includes cancers of the esophagus, gallbladder, liver, pancreas, stomach and bowel (the bowel includes the small intestine, large intestine or colon and rectum).
- Ultrasound is usually the first imaging modality used in suspected GI cancer.
- Ultrasound has different diagnostic values in different types of cancer.
- Endoscopic ultrasound plays an important role in local staging.
- Ultrasound is useful as diagnostic and interventional tool in management of GI cancer.

**Hall G Session 4**  
**Surgery - Onco-Surgery GI Cancer**

**429**

**Preventive Surgery: Is it an Acceptable Strategy for Cancer Prevention?**  
*Alberto Montori MD (Italy)*

It is my opinion that the latest progress in Molecular Biology and Oncology, as well as the development of the high technologies have had a tremendous impact on surgical practice.

The primary and secondary prevention of G.I. cancer should interact in a synergic way in order to obtain the best results.

Surgeons today considering changing concepts, need to be directly involved in the screening process and in the early detection of cancers. Accepting that in the future their role in decision making for the patient, will extend well beyond the Operating Room (O.R.). The screening and early detection of cancers have given a valuable contribution to answering the following questions: - which areas of screening require quality assurance? - what method should be used? - what further action is required? - what impact do screening campaigns have on the





Surgeon's performance and what outcome for patients?

The surgical and endoscopic (operative endoscopy and laparoscopic surgery) integration is a true evolution in General Surgery: this progress offers new possibilities for the endoscopic management of surgical complications and surgical management of endoscopic failures in treating malignancies (Neo skin, endo oral polyps lesions, vocal cords polyps lesions, Cryptorchidism.). The local excision of cancer in low risk patients is appealing and even now- a-days there are many clinical control trials in order to establish the indication for local excision of early cancer. In this context Prophylactic Surgery is an important part of the management of some syndromes of susceptibility to cancer: in general young women survive breast mastectomy cancer are having their remaining healthy breast needlessly removed because they overestimate the risk of the disease risk ( 10% ) that the cancer would recur in their breasts. Actually a double mastectomy is required ( between 2 and 4 % ).Whereas a double mastectomy and ovarian removal are predicted to increase the life expectancy of carriers of BRCA1 or BRCA2 mutation; in these cases the risk of cancer returning is around 75%. Thyroidectomy is the standard of care for children from families with multiple endocrine neoplasia type2 or familial medullary thyroid carcinoma which have mutations in the RET proto-oncogene. Colectomy in cases of Familial Adenomatous Polyposis coli syndrome (FAP); colonic resection in young patients with heavy history of colonic cancer affected by adenoma coli with cancer foci infiltrating the stalk even after Endoscopic polypectomy. An extensive colectomy is required when indicated, in Hereditary Mixed Polyposis Syndrome (HMPS); total proctocolectomy with ileal pouch reconstruction is indicated in IBD when there is evidence of low or high grade dysplasia in rectal mucosa, both having predictive value for future cancer. Gastrectomy seems reasonable for the carriers of mutations in families with highly penetrant mutations, Gastric resection for enterocromaffin-like cells (ECL), gastric carcinoids type 2

seems to be the treatment of choice, even for high grade dysplasia in adenomatous polyp of proximal-papillary segment of the duodenum and for advanced GIST of the stomach. Endoscopic Esophageal Mucosa Resection or Sub-mucosal Dissection is often used in the treatment of Barrett esophagus with intestinal metaplasia. In some cases partial esophagectomy without thoracotomy is indicated.

Gallstone disease, even asymptomatic, may develop cancer in 3-5% of patients in the Chilean, North and South American, Indian and European-American Indian of mixed population; these are high risk patients and a prophylactic cholecystectomy can be performed. Even in patients with haemolytic anemia, in some diabetic patients or with porcelain gall bladder or affected by adenomatous polyp more than 1 cm or with sickle-cell disease. Clinical judgment and caution as to the appropriateness of the surgical operation remain paramount in each specific case of incidental cholecystectomy ( performed in addition to the planned intervention in patients with asymptomatic gallstones. Traditional open surgery, minimally access surgery to less invasive surgery: so doing functional prophylactic surgery can be performed with a good future for patient and a better quality of life without increasing the risk related to surgery.

#### 430

##### **Neoadjuvant Treatment for GI Cancer**

*Adnan Qasem MD (Jordan)*

The concept of neoadjuvant chemo RT for rectal cancer was soon developed from Swedish to German trials. Highlights will be given from the idea till became the standard of care.

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##### **Recent Advances in Colorectal Surgery**

*Tareq Al-Jaberi MD (Jordan)*



**432**

### **Adjuvant Treatment for GI Cancer**

*Laith Jabali MD (Jordan)*

Will discuss the Incidence of rectal cancer in Jordan, Staging, Screening, Genetic conditions increasing risk, Surgical Management, Patterns of Failure, Early Stage Management (I:T1-2N0 Duke's A), Locally Advanced Management Stage II and III (Dukes B and C), Pre-Op vs Post-Op?, RT Therapy Techniques, And Toxicities.

## **Hall H Session 1 Community Medicine**

**433**

### **Global Emerging and Re-Emerging Infectious Disease Threats**

*Kashef Ijaz MD, MPH, US CDC, Atlanta, GA, (USA)*

Following Severe Acute Respiratory Syndrome (SARS) and the recent emergence and re-emergence of infectious diseases like Middle-East Respiratory Syndrome Coronavirus (MERS-CoV) and Ebola Virus Disease (EVD) respectively with subsequent spread to other countries highlights the importance of building public health capacity to prevent, detect and rapidly respond to such events under the context of Global Health Security Agenda (GHSA). It also emphasizes the need for assisting countries with building core capacities for IHR (2005). A brief overview and update of recent outbreaks of MERS-CoV and EVD will be presented and discussed and how working together on GHSA and implementing IHR can result in prevention and control of infectious disease threats.

**434**

### **Monitoring Public Health Events Through Event-Based Surveillance**

*Kashef Ijaz MD (USA)*

Disease outbreaks of international public health importance continue to occur frequently and unpredictably. Detection and tracking significant public health

threats in countries can be challenging. In addition to traditional public health surveillance methods, event-based surveillance, a methodology for monitoring and evaluating public health events using reports from publically available sources such as electronic media, publically available databases and newspaper etc. for indications of any emerging threats to public health can be a useful strategy. Event-based surveillance also supports the emergency operations center by confirming and monitoring outbreaks and in the deployment of important public health resources to prevent and control outbreaks. The Global Disease Detection Operations Center, modeled after WHO's alert and response operations, was established in early 2007 to serve as CDC's platform dedicated to monitoring global public health events using event-based surveillance. A brief overview of methodology and experience of Event-based surveillance conducted by the Global Disease Detection Operations Center will be presented.

**435**

### **Future of HealthCare: The Community Medicine Approach**

*Ahmad Mattar MD (USA)*

Rapid demand of quality in healthcare, decreasing resources and ever increasing cost of care have all brought to the forefront the need for creative and innovative changes in the current health care approach. More so, present time demands "proactive medicine" rather than traditional "reactive" medicine, from physicians and other healthcare professionals. One of the approaches which is not only cost effective but also creative is "The Community Medicine approach", which not only includes traditional practice (disease management and treatment), but also emphasizes prevention, screening, early diagnosis, increasing access to affordable medical care and identifying causative factors (i.e. environmental and occupational hazard). One of the most important aspects of the community medicine approach is focusing on prevention of dis-

ease using various social, environmental and cultural strategies of health promotion and education. The success of the community medicine approach programs rely upon the transfer of information from health professionals to the general public using one-to-one or one to many communication (mass communication). This integrated approach has been shown to decrease the cost over a period of time while leading to increased productivity and healthier communities.

**436**

**EBOLA: Recent Emergence and Global Implications**

*Kevin Russell MD (USA)*

We are in the midst of the largest outbreak of Ebola that has ever occurred, and in an area not previously affected—West Africa. A complex situation of regional cultural norms, urban involvement, distrust, misinformation, inadequate medical infrastructure, and security challenges have resulted in this horrific outbreak. Countless international organizations have assisted or are attempting to assist. This epidemic speaks to the need for strong on-the-ground leadership, structure, and guidance to bring all facets of aid and National local support together for effective treatment, contact investigation, messaging, and ultimate control, in support of the National programs. Ebola is a devastating disease, but one that can be halted with appropriate measures. Implications of this outbreak on regional security, and the need for global militaries to prepare, are clear. Ebola virus disease will be reviewed, the progression of the local outbreak outlined, and the many complexities that have contributed to poor control will be discussed. Additionally, the audience will be reminded of the Global Health Security Agenda, and its ultimate intent to Prevent, Detect, and Respond to just such an infectious disease health emergency; global militaries must be part of the process for success to be achieved.

**437**

**Epidemiological and Clinical Characterization of Staphylococcal Food Poisoning: Report of an Outbreak**

*Mahmud Abdallat MD\*, Eqab Abuwandi, MD, MPH, JB\*, Mohammed Hababbeh, MD, FM, JB^*

*\* Head of Preventive Medicine Specialty, Royal Medical Services (Jordan)  
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**Objectives:** To report and to determine the cause and source of food poisoning outbreak which occurred at a Military Training School in Zarqa at July 15th 2008 and to characterize staphylococcal food poisoning.

**Methods:** A total of 243 students who developed symptoms and signs of suspected food poisoning at a Military Training School in Zarqa on July 15th 2008 were interviewed using a structured special food poisoning questionnaire. Data were transferred to a specified food poisoning attack rate table chart where the incubation period, attack rates, attributable risks, relative risks, chi square, confidence intervals and p-value were calculated. Stool specimens, food and water samples were collected and analyzed

**Results:** Epidemiological data analysis and laboratory result, indicate that this food poisoning was caused by *Staphylococcus aureus* and the incriminated food was the dairy product (Labanah) component of the breakfast meal.

**Conclusion:** This outbreak highlights the public health significance of positive food poisoning outbreaks that may involve a large number of people in a close community.

**Keywords:** Epidemiology, *Staphylococcus aureus*, Outbreak.

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### **Epidemiological Characteristics of Cancer in Jordan (1996-2009)**

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**Objectives:** The purpose of this paper is to provide health professionals, researchers and policy-makers and all others who are interested with detailed information about the most common types of cancer in Jordan and their distribution by age, sex, address. Data provided by Jordan Cancer Registry may help in promoting new researches, to assist in planning and evaluation Cancer Control Strategies and identify priorities for public health actions. And also to describe the epidemiological features of Cancer in Jordan using 14-year data from the Jordan Cancer Registry (JCR). Increased understanding of Cancer incidence trends over the years will contribute to better prevention and control efforts

**Methods:** This is a descriptive study of cancer cases registered at JCR between January 1996 and December 2009. The age, gender, and tumor type were recorded.

**Results:** A total of 7966 recorded Cancer cases were reviewed. The average crude incidence rate was 66.2 per 100 000 for males and 70.0 per 100 000 for females (age-standardized rates: 119 per 100 000 adult males and 116 per 100 000 adult females). The 5 most frequently reported cancers among adult males were: lung (10.6%), colorectal (9.8%), leukemia (9.3%), urinary and bladder (8.6%) and prostate (7.4%). For adult females these were: breast (32.0%), colorectal (9.0%), leukemia (6.7%), thyroid (4.9%) and corpus uteri (4.6%). Cancer rates have changed little since 1996.

**Conclusion:** Trends indicate the need to increase the prevention and control efforts of the National Cancer Control Program including early detection of cancer. Health professionals policy-makers and all other concerned stakeholders

**Keywords:** Epidemiology, Cancer Registry, Prevention.

### **Hall H Session 2 Community Medicine**

439

### **Epidemiology and Survival Analysis of Colorectal Cancer, Jordan 2005-2010**

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**Objectives:** To Describe the epidemiology of Colorectal Cancer from 2005-2010, to measure the observed five year survival rate(SR) in the years 2005-2006, and the effect of factors which influence survival.

**Methods:** This descriptive study has explored CRC cases registered in Jordan Cancer Registry(JCR) from 2005-2010. Demographic characteristics, tumor variables, and vital statuses of patients were obtained from JCR files, and Civil Registration Department. SR for patients diagnosed in 2005 -2006 was identified through observation for five years from date of diagnosis to last date of follow-up(cut-off-point-31/12/2011). The follow-up end point was death from any cause. Overall survival rate was estimated using Kaplan-Meier product limit technique.

**Results:** Number of CRC cases has increased from 370 in 2005 to 570 in 2010. Yearly average=50. Median age at diagnosis was 62 years for males, and 58 years for females. Male:female ratio(1.3:1). The most commonly affected age group was 60 years and above(52%). About 27.5% of cases were localized, 22.8 % regional, and 15% advanced. The overall SR for the years 2005-2006 was 62%. SR was 84%, 75%, 70%, and 65% for the first, second, third, and fourth years respectively. The highest SR was in the age group 0-29 years(79%) P=0.02. The best SR was for localized stage(79%), and the lowest was for advanced stage(26%) (P=0.01).

**Conclusion:** The number of CRC cases in Jordan is apparently increasing. SR for CRC was significantly associated with age, and stage of tumor, where, younger patients with early stages had better prognosis. Thorough analytic studies are needed to identify risk factors of cancer, and variables which influence survival.

**Keywords:** Epidemiology, Colorectal, Cancer, Survival, Jordan

#### 440

##### **Adherence to Medication and Healthy Behaviors among Patients with Coronary Heart Disease in Jordan**

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**Objectives:** To explore which demographic, psychosocial and clinical factors predict better adherence to behaviors, particularly smoking cessation, physical activity, healthy diet, and medication adherence.

**Methods:** A cross-sectional survey was conducted using a convenient sample of 350 patients who visited the outpatients' clinic in four hospitals.

**Results:** Data were obtained from 254 patients (response rate 73%). The mean age of respondents was 52 (standard deviation [SD] 15.6) years. Just over half of the subjects were male (141, 56.9%). Most were overweight (47.8%) or obese (28.5%). In addition 30% of the participants were still smokers after CHD diagnosis; 53 (21.5%) described themselves as ex-smokers. Surprisingly, around one-third of participants had been hospitalized, for cardiac reason, at last two times in the past 12 months. One third of participants (88, 34.8%) performed regular walking exercise. Only 16% of participants reported that they had been instructed to perform regular activity. Stepwise multiple regressions revealed younger age and low body mass index (BMI) as independent predictors for more physical activity. Only 51 (20.9%) reported always following low fat dietary regimen and participants who received dietary recommendation advice were significantly more likely to be on a healthy diet (OR = 10.3 [95%

CI: 3.79-30.80],  $P < 0.001$ ). Most of the participants (183, 72%) reported low medication adherence (score = 6) based on the Morisky scale and only 5 (2%) reported a high adherence score (score=8). Male gender and having chronic back pain was independent predicts for better medication adherence

**Conclusion:** Our findings highlight the poor adherence to secondary prevention behaviors among Jordanian CHD patients. Most participants did not following healthy behaviors in managing their CHD risk factors and they demonstrated a higher risk of hospital readmission. There is urgent need for aggressive and targeted strategies to enhance the adherence level.

**Keywords:** Coronary heart disease, patients' illness perception, adherence to healthy behaviors.

#### 441

##### **Epidemiology and Survival Analysis of Breast Cancer Patients in Jordan, 2005-2010**

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**Objectives:** To describe the epidemiological aspects of breast cancer in Jordan (2005-2010) and to identify the observed 5- years survival for the years 2005-2006 and the variables that may influence the survival rate

**Methods:** Descriptive study :All breast cancer cases that diagnosed and registered in Jordan during the period 2005-2010 (5054 patients) for epidemiological analysis. only Cases diagnosed in 2005-2006 were included for survival analysis only (1450 patients). Relevant data were collected on all patients utilizing all possible sources: Jordan cancer registry files, hospital medical record and histopathology reports. The status of all patients whether alive or dead were ascertained from Civil Registration System by using their national numbers. Data were analyzed using SPSS IBM 20. Survival probabilities by age,

morphology grade and stage and other relevant variables were obtained by using Kaplan Meier Product Limit technique

**Results:** Overall five years survival for breast cancer in Jordan regardless the stage or grade is 74%. 5 years survival rate was (60%) in the group less than 30 years and 70 years and above ,while the best survival was seen in the age group 40-49 years (78%) with significant association (P value 0.01). no significant association between survival and other variables as sex, morphology and grade of tumor . For summary stage, 5 years survival varied from 82% for localized and for regional 69%, while for distant metastasis 52% with significant association P value 0.01

**Conclusion:** Stage and age and were factors that significantly influenced cancer survival at univariate analysis ,but with Cox regression analysis, the most important factor was Tumor stage. So every effort should be done to improve early diagnosis through early screening programs to high risk groups. Breast self examination and health education through media and campaign are very important to diagnose case early this will improve the survival of patients ,Complete documentation on the medical records is an important issue for survival studies.

**Keywords:** Breast Cancer, Stage, Survival Analysis

#### 442

##### **Perceptions of Medical Students undergoing Cadaveric Training**

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**Objectives:** Examining the perceptions of medical students about socio-cognitive aspects of dissection of human body in Anatomy department of College of Medicine, Hawler Medical University, Erbil/ Iraq

**Methods:** A cross-sectional analytic study including first year students of the academic year 2013-2014. Where

and Quethionnaite was distributed and them Statistical Package of Social Science software (SPSS, version 19.1) used for data entry and analysis

A total of 146 questionnaires were returned. A greater percentage of the students preferred learning with cadavers to computer assisted learning. Most of them thought that they need improvement in their cadaveric training.

**Conclusion:** Emotional, affective and cognitive aspects of dissection should be thoroughly engaged in the training of our future anatomists and medics.

**Keywords:** Perception, Student, Cadaver

#### 443

##### **Treatment of Combat-Related Traumatic Chronic Osteomyelitis with Tigecycline: A Case Series**

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**Objectives:** To evaluate the efficacy of Tigecycline treatment in Combat-Related Traumatic Chronic Osteomyelitis (CRTCO)

**Methods:** This study evaluates Tigecycline in the treatment of CRTCO. Cases' charts were reviewed for patients who were treated over the period 2011-June 2012. During the Tigecycline treatment period, orthopedic surgeons taking care of patients were not informed about the pending study

**Results:** Ten cases were included (one female and 9 males), their mean age 45.5 years. The most bones affected with CRTCO were femur followed by tibia. Microbiological diagnoses were obtained mostly from culture of bone biopsies and bone swabs. Bacteria isolated were identified as *Acinetobacter* spp. [6], *Klebsiella pneumoniae* [6], *Escherichia coli* [5], *Pseudomonas aeruginosa* [4], *Enterococcus* spp. [3] and *Staphylococcus aureus*. The mean duration of Tigecycline treatment was 35.7 days (range 21-91). Patients were treated with other



antimicrobials prior to tigecycline for extended periods. Paired difference of the ESR for eight available patients' pair was not significant ( $p = 0.055$ ), the same was observed for CRP ( $p = 0.9$ ). There were seven (70%) clinically cured or improved patients with tigecycline treatment.

**Conclusion:** CRTCO is a polymicrobial infection mostly caused by Gram-negative bacilli. The outcome of treating these patients with Tigecycline is promising.

**Keywords:** Combat-related osteomyelitis, traumatic osteomyelitis, gram-negative bacilli, Civilian osteomyelitis

#### 444

##### **Epidemiology of Cervical Cancer in Jordan during the period from 2004 to 2009**

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**Objectives:** This study was conducted to describe the trend and epidemiology of Cervical Cancer in Jordan from 2004-2009

**Methods:** This descriptive study utilized all data about Cervical Cancer cases registered in the Jordan cancer registry during the period 2004-2009

**Results:** A total of 376 women were diagnosed with Cervical Cancer during the study period. Of them, 256 (64%) were Jordanians. The age range was 23 to 97 years (mean 51, SD 13). The majority of patients (92%) were married. The incidence rate of CC has increased from 0.8 to 1.5/100,000 women from 2004-2009. The average annual incidence rate was 1.5/100,000 women. The incidence rate was highest in women aged 70-74 years. Age standardized rates (ASR) has increased linearly from 9 per 100,000 women in 2004 to 21 per 100,000 women in 2007, and decreased to 15 per 100,000 women in 2008 and 2009. About 65% of the cases were of Squamous cell carcinoma morphology

**Conclusion:** (Cervical Cancer) incidence in Jordan is low compared to regional and

international incidences; this may be a result of under reporting and inadequate case finding. Implementation of screening measures including pap smears which is currently applied in developed countries, could lead to better case finding, early diagnosis and prevention of cervical cancer.

**Keywords:** Cervical cancer, Epidemiology, Jordan

#### 445

##### **The Effect of Paternal and Maternal Smoking Status of their Youth's Smoking Behavior among Jordanians**

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**Objectives:** The current study was conducted to explore the relationship between youth smoking behavior and paternal and maternal smoking status in Jordan.

**Methods:** A nationally representative stratified multistage cluster sample design was utilized from the 2005 Communication Partnership for Family Health (CPFH) baseline cross-sectional survey (N=936). Youth smokers were defined as subjects who, at the time of the study, smoked one cigarette or more a day. Parental smoking was self-reported by both the father and the mother of each youth. Socio-economic factors were assessed using social class and maternal education. Logistic regression analysis was used to measure the adjusted Odds Ratios of youth smoking by the different independent variables.

**Results:** A total of 936 never-married Jordanian youth were interviewed. Females were excluded from the analysis as their smoking prevalence was only 2.4%. Overall, 28.1% of male Jordanian youth reported smoking. Maternal education and paternal smoking were significantly associated with youth smoking status. Maternal smoking, SES, and the presence of a household smoke-free area were not significant predictors of youth smoking status.

**Conclusion:** Youth tobacco control programs should be multi component programs that not only include youth, but the whole family. Families, especially mothers, should be made aware of the effect that their smoking behavior has on their children's choice to remain tobacco free. As long as Jordan remains a family-unit collective society, only implementing school-based smoking prevention program will not suffice.

**Keywords:** tobacco, maternal smoking, multistage cluster.

446

**The Use of Red Blood Cell Indices in order to Detect Thalassemia Minor: Experience at Prince Ali Bin Al-Hussein Military Hospital in Al-Karak**

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**Objectives:** To establish a cost-effective screening criterion for thalassemia trait using fully automated blood counts.

**Methods:** The study was conducted on patients with mean corpuscular volume less than 80 fL at Prince Ali Bin Al-Hussein Military Hospital in Al-Karak city, during the years 2012 to mid-2013. Patients were divided into two groups according to definitive diagnosis by high performance liquid chromatography or genotyping performed at Princess Eman Research and Laboratory Sciences Center. Group I: consistent with thalassemia trait and Group II: Microcytic anemia not consistent with thalassemia trait. Receiver Operating Characteristic curve analysis had been used to find the best red blood cell indices' cutoff values.

**Results:** The discrimination of thalassemia trait from other forms of microcytic anemias, have to be highly sensitive and specific, whenever using the following red blood cell indices' cutoff values; mean corpuscular volume 70 fL and Red-cell distribution was width coefficient variation

17%.

**Conclusion:** Thalassemias are a group of autosomal-recessive inherited human disorders, heterozygote screening and genetic counseling by primary health care strategies by the use of red blood cell indices are useful for the prevention, control, and eradication of thalassemia major in the future generations.

**Keywords:** Key words: Red blood cell Indices' Cutoff values, Thalassemia trait detection.

447

**Obesity and Body Mass Index for age in Students in Military Education Schools**

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**Objectives:** To estimate the overweight and the risk of overweight among boys and girls in military funded schools.

**Methods:** The study included 1222 boys and 917 girls, their age ranged from 16 to 19 years. The age, weight and height obtained, the body mass index [weight (kg)/height (meter) square] analyzed and compared with that in the World Health Organization child growth standard, the body mass index-for-age of more than 85 percentile are the risk of overweight while more than 95 percentile are the overweight cases.

**Results:** About 12% and 5.7% of boys are at risk of overweight and overweight, respectively, while 20.2% and 13.1% of girls are at risk of overweight and overweight, respectively.

**Conclusion:** Obesity and the risk of obesity are more prominent in girls compared with boys.

**Keywords:** Keywords: Obesity, Body mass index-for-age, children, military educational schools.

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**Epidemiology of Mortality due to Cancer in Jordan -2011 (Jordan Cancer Registry (JCR) data)**

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**Objectives:** To explore the epidemiology of mortality data in(JCR) and to compare the most common and the least common causes of death in both sexes in the year 2011

**Methods:** Descriptive study, all cancer cases registered for the year 2011 and follow up these patients from the hospitals and from data of Civil registration was compared and linked data variables collected are primary site, date of diagnosis and date of death and demographic data ,SPSS IBM20 Version was used for analysis .frequencies of most common causes of deaths for both sexes and by age group was done. cut of A point was 31 Dec-2013

**Results:** Number of deaths from cancer registered in JCR 2011 is 1515 (889 (59%) for male, 626 (41) for females ,( male to female ratio 1:4:1) median age 61 (63 for male and 57 for females ).Top five causes of mortality in JCR for both genders is lung 16.5%,followed by breast 11.2 % then colorectal cancer 10.7% then brain and CNS 6.5% and Leukemia 4.9 % while the most common cancer that lead to death is mesothelioma 100%,pancrease 77.5% then lung 76.5% then liver and biliary tract 74.5% and esophagus 61.5% while the least cancer lead to death is thyroid gland 6%,Hodgkin lymphoma 11.3%, breast 17.8%,uterus18.8% and ovary 20%

**Conclusion:** Identifying mortality data is crucial for follow up and to determine the survival of patients from cancer according to primary site and by age group. Compiling and linkage data base from mortality section data and JCR data is important issue to complete mortality data. Establishing screening programs for the most common cause of death is beneficial to alleviate the burden of cancer in Jordan. Further detailed studies is needed

**Keywords:** Mortality due to Cancer, JCR-2011

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**Corona Virus Up To Date**

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**Objectives:** To view the sequence of corona virus infections since September 2012 till June 2014 worldwide focusing on Middle East and especially in Jordan .

**Methods:** Middle East Respiratory Syndrome coronavirus (MERS-CoV), causing severe respiratory illness emerged in 2012 in Saudi Arabia, Since April 2012, over 630 cases of MERS-CoV infection have been reported ,in several countries in the Middle East, including Saudi Arabia, Qatar, Jordan, the United Arab Emirates, Oman, Kuwait, Yemen, and Lebanon . Isolated cases have also occurred in Tunisia, Egypt, Europe, Asia, and the United States. The median age is 49 years ,and 66 % of cases were males.

**Results:** Globally, 704 laboratory-confirmed cases of infection with MERS-CoV, including at least 289 related deaths have officially been reported to WHO. In Jordan 11 laboratory-confirmed cases ,6 deaths,3 completely cured, and 2 from Saudi Arabia

**Conclusion:** Continuous surveillance for acute respiratory infections and to carefully review any unusual patternsis needed Infection prevention and control measures are critical to prevent the possible spread of MERS-CoV in health care facilities, so increased level of infection control precautions is recommended

**Keywords:** Corona virus , Control Measures, Emerging Disease

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**The Importance of Breastfeeding for Child Growth: Experience at Prince Hashem Bin Al-Hussein Military Hospital**

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**Objectives:** to compare the child growth nutritional indicators between primarily breastfeeding and primarily bottle feeding.

**Methods:** A comparative study conducted on included 237 children attended the public health clinic at Prince Hashem Military Hospital in Al-Zarqa city for immunization within the National Expanded Program for Immunization, of which 127 were males and 110 females, their age was  $9.4 \pm 8.1$  years, ranged from 10 days to 37 months. After vaccination weight were taken for each of them. They divided into two groups; primarily breast feeding group and primarily bottle feeding group. We compared the weight-for-age between the two groups depending on the reference of the World Health Organization child growth standards.

**Results:** The study showed that weight-for-age for males ( $62.3 \pm 27.2$ ) and females ( $71.4 \pm 32.4$ ) among primarily breast feeding group, which was significantly more than males ( $51.8 \pm 29.5$ ) and females ( $57.1 \pm 33.6$ ) among primarily bottle feeding, respectively.

**Conclusion:** Child growth nutritional indicators was better among primarily breast feeding. Therefore it is necessary to encourage mothers to breastfeed.

**Keywords:** Child Growth Indicators, Breastfeeding, Bottle Feeding.

### Hall H Session 3 Family & Emergency Medicine - Multi Injured Patients

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#### War and Violence: Role of Physicians in Care and Prevention

*Mark Davis MD (USA)*

In 2002, 5 people died every hour as a direct result of armed conflict, and war is one of the ten leading causes of disability for people between fifteen and forty-four years of age. By 2020, war will be among the leading fifteen causes of death worldwide. The medical community has come to view war and violence as health risks and thus see their responsibilities as including caring for the victims of war and also working to cure it. War is an

adverse serious health event requiring emergency medical care on a grand scale. Health workers must prepare to care for combatants and civilians injured, those needing more chronic care, and in addition provide services to refugee populations created by conflict (the traditional "healing role").

Armed Conflict can also be viewed as a major cause of preventable death and disability around the world. While most healthcare workers prepare to serve in a reactive, healing role in war others have worked to identify, document, and attempt to limit injury and death, often focusing on one group within a conflict ("Political Activism"). "Care" and "Political Activism" are designed to save lives in the acute setting, but generally do not address the cause of the disease (the conflict itself). In addition, they may have the unintended consequence of exacerbating or prolonging the conflict. "Peace Promotion" is an attempt at Prevention and a newer proactive frame from which to consider healthcare intervention in conflict. Peace through Health actions that utilize common health needs and healthcare worker experiences across the divide may hold promise to promote reconciliation and therefore the vector for death and disability in this circumstance. Each method of health worker involvement in the conflict setting requires evaluation to consider its true effect on death and disability during and beyond the acute intervention.

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#### Emergency Medicine in the Field: Key Lessons from Recent Conflicts

*Timothy Hodgetts MD (UK)*

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#### Facial Fracture Management in the Multi-Injured Patient

*Khaldoun Haddadin MD (Jordan)*

Complex facial fractures occur frequently subsequent to high-energy forces in the Multi-Injured patient. They may present as neurologic, ophthalmologic, aero-digestive, skeletal, soft-tissue, or otologic complaints. Facial disfigurement and functional

derangements are frequent results and may arise from an inability to identify the existence and extent of an injury and not just from technical limitations in treatment. The use of computerized tomography, adequate exposure with extended open reduction, primary bone grafting, and rigid fixation to restore the facial buttresses and the patient as close as possible to his pre-traumatic appearance and function – ideally in one stage.

An interdisciplinary trauma team able to treat injuries to the airway, globe, paranasal sinuses and cranial base is required. Intracranial pressure, CSF-leaks, enophthalmos, telecanthus, obstruction of the nasolacrimal duct, loss of occlusion and deformities due to changes in facial height, width and projection are just some of the problems that need attention. A logical sequence of reconstruction is highly recommended.

Discussion will focus on life-threatening problems, classification of facial fractures, timing of fixation, surgical approaches to the facial skeleton and controversies in management.

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#### **Controversies in Resuscitation of the Poly-Trauma Patient**

*Mark Davis MD (USA)*

Trauma is a leading cause of death in patients under age 35 and its impact on morbidity and mortality worldwide for all age groups is significant. This includes increasing impact of blunt trauma due to motor vehicle collisions. Penetrating trauma remains a significant cause of morbidity and mortality both in areas of armed conflict and where personal violence and weapon availability is prevalent. Traditional teachings regarding timing and nature of diagnostic evaluation as well as interventions continue to evolve with new data and availability of newer therapeutic agents. Current approaches look to improve overall/long-term outcomes by carefully considering impact and efficacy of tests and interventions including limiting potentially unnecessary exposure to radiation, recognizing and

preventing potential sources of error, and careful consideration of the use of potentially lifesaving, but often expensive, agents that may also have significant risk. Newer approaches include: Expanded indications and role of ultrasound in trauma; Thoughtful patient and study selection for CT imaging, based in part on data quantifying long-term risks associated with CT and 'whole body' scanning; Active consideration of potential cognitive and procedural errors with team training to improve performance in resuscitation of the trauma patient; and, Informed use of newer therapies in the hypovolemic, bleeding patient.

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#### **Emergencies in Cardiac Trauma**

*Ali Aboruman MD (Jordan)*

##### **Introduction**

Blunt thoracocardiac injury (BTI) encompasses a spectrum of pathology ranging from clinically silent, transient arrhythmias, tamponade to deadly cardiac wall rupture. The most common records form is "cardiac contusion" (ie, injury to the myocardium), which remains the subject of considerable debate but we may consider cardiac arrhythmias as part of injury the percentage will increase. The absence of a clear definition and accepted gold standard for testing makes the diagnosis of cardiac contusion difficult. Important considerations in blunt cardiac trauma include arrhythmia, tamponade cardiac wall motion abnormalities, possibly progressing to cardiogenic shock, and rupture of valves, the septum, or a ventricular, atrial, or septal wall.

##### **Discussion**

- As we know the heart is the pump of our circulatory system
- The cardiovascular system provides the transport system of the body, Using blood as the transport medium, the heart continually propels oxygen, nutrients, wastes, and many other substances into the interconnecting blood vessels that move past the body cells, so we had to maintain cardiac function to save organs.



Cardiac injury may be classified in deferent ways ,( direct / indirect ),( electrical/ compression/ bleeding ),( primary / secondary),( penetrating/ blunt ),( solitary , multiple organ injury ) ..... etc. The management of penetrating cardiac injury is controversial. To facilitate decision making, a simple clinical classification of patients with such an injury is proposed. Five categories are considered: Benign presentation. Associated thoracoabdominal injury. Cardiac tamponade, Critically unstable. Lifeless. In old triage cardiac trauma classified D especially in mass casualty incident , But today Investigation, if indicated, and the timing and setting of surgical intervention are dependent on highly suspensions and early intervention to maintain the function of the cardiovascular system. During the first half of this year 2014 we face with three survival cardiac injured patient and we well present them to you .

## Hall H Session 4 Family & Emergency Medicine - Miscellaneous

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### **The Pivotal Role of Family Medicine Residency Training in a Modern Healthcare: US Model**

*Ahmad Matter MD (USA)*

“With spiraling health care expenditure to the point of un-affordability in the United States, and without parallel improvements in quality, the US government has been reexamining the entire health care system with more emphasis on quality justifying cost. This is the foundation for the much maligned “Obama Care”, which creates a great emphasis and even greater need for well qualified primary care physicians. Family Medicine has been recognized since the 1960’s as the specialty most suitable to serve such a role. The making of a well trained family physician is the primary goal of each of the 483 family medicine residency programs scattered across the United States of America. Understanding the structure, function and the pivotal role of FM residency programs in a modern

healthcare system may be a beneficial model to consider and possibly duplicate in other parts of the world”.

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### **The Efficiency of the Well Trained Family Medicine Specialist in Providing Quality Care within the Public Health Sector**

*Suleiman Abbadi MD (Jordan)*

Family physicians are the only dedicated specialists that are constant in treating the person as a whole Following the increasingly fragmented medical care because of the sub specialization that started after the second world war.. In the developed world...family medicine became one of the main pillars of the health care systems both in the public and the private sectors alike that is why 1 in 4 patients go to a family Doctor for care. Jordan along with Bahrain took the lead in establishing the specialty of family medicine in 1981 .

As allways. Royal Medical Services ( RMS) pioneered in establishing the specialty in 1981.

Since that time specialists of family medicine are just everywhere in the medical units serving the members of the armed forces and their dependents.....that is why they are in all field units...emergency departments...comprehensive health centers....aviation ...marine medicine... and everywhere that a trained generalists is needed...not only that but in all areas that there are shortages of the other major specialties in the health centers especially when highly specialized interventions are not available..

Details will be discussed on how efficient a well-trained Family Physician is, to serve the purpose of the royal medical services ,in providing comprehensive quality care to all members of the armed forces and their dependents. And how huge is the need for such specialty in all levels of medical care scheme in the Royal Medical Services and in the public sector in general.



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### Screening in Family Medicine

Mazen Al-Bashir MD (Jordan)

In any medical practice certain objectives should be fulfilled. In Family Medicine which is characterized as being primary, continuing, personal and most important comprehensive, early detection and screening cannot be stressed more. Screening is not to be taken lightly; it should comply with certain standards and norms. The tools applied through screening activities shed light and explain certain challenges of the science and practice of Family medicine.

## Hall I Session 1

### Surgery - General + Cardiac + Plastic Free Papers

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#### Implementing Enhanced Recovery after Surgery Program in a Colorectal Unit at King Hussein Medical Center / Amman

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**Objectives:** Enhanced recovery after surgery (ERAS) is a multimodal approach in perioperative care that is directed to fasten patients' recovery, decrease morbidity and postoperative hospital stay. This prospective study evaluated the outcome of ERAS program in a colorectal unit at tertiary referral center.

**Methods:** Data were collected from consecutive patients undergoing colorectal surgery for cancer during 2 time periods, before and after implementation of an ERAS program. Data collected included patient demographics, type of surgery, complications and length of hospital stay.

**Results:** There were 28 patients in the ERAS group and 31 patients in the traditional care group. Male to female ratio in both groups was similar. Median age for the ERAS

and traditional care groups was 57.3 and 59.1 years, respectively, and the median ASA score was 2 for both groups. Fifteen patients in the ERAS group underwent colonic resection compared to 18 in the traditional care group. There were 3 complications in the ERAS group (2 wound infections and 1 peritonitis due to infected hematoma), and 8 complications in the traditional care group (7 wound infections and 1 pneumonia). Length of hospital stay was 4.9 and 8 days in the ERAS and traditional care groups, respectively.

**Conclusion:** Implementation of this patient care-directed enhanced recovery program is feasible. It is associated with decrease postoperative complications and length of hospital stay.

**Keywords:** Enhanced recovery, Traditional Care, Colorectal Surgery

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#### Pseudo Papillary Pancreatic Tumor

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**Objectives:** Pseudopapillary tumor is an uncommon neoplasm that mainly occurs in women in the second to fourth decades of life. It is characterized by low potential for malignancy and a favorable prognosis. Since Gruber-Frantz described this tumor in 1959 as a "papillary tumor of the pancreas, benign or malignant.

**Methods:** 34 year old female she presented with abdominal distention, nausea, bloating, decrease appetite, generalized fatigue and weakness of 2 months duration. Physical examination revealed massive abdominal distention, huge ill-defined borders epigastric abdominal mass, not tender, soft abdomen and she had incarcerated umbilical hernia.

**Results:** Chest & abdominal CT scan: Clear lungs but large soft tissues mass arising from the head of the pancreas 19\*16\*20 cm reaching the iliac Crest displace the

aorta to the left cm, minimal pancreatic duct & CBD dilatation. Mild dilatation of the right renal vein and right ureter, portal vein is normal and no lymph adenopathy, there is hypodense nodule in the liver segment 7. Liver & kidney function test: were normal apart from GGT which was 59. Fine needle biopsy showed Pseudo papillary pancreatic tumor. Exploratory laparotomy: revealed huge pancreatic tumor. Whipple procedure was done. Histopathology showed Pseudo papillary pancreatic tumor. The patient was discharged 7 days later and she underwent uneventful course and returned home.

**Conclusion:** Pseudo papillary pancreatic tumor is a rare, low grade and huge tumor in pancreas. We report such a case and we review the literature pertaining to Pseudo papillary pancreatic tumor

**Keywords:** Pseudo Papillary Pancreatic Tumor

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##### **Outcome of Thyroidectomy versus Lobectomy and Isthmusectomy in the Management of Papillary Thyroid Carcinoma**

Osama T AbuSalem MD\*, Mohammad Sabri, Natheer Nawasreh, Muawya Alkeyyam, Aseem Ismaeil alerood\*\*  
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**Objectives:** To assess the results of thyroidectomy versus lobectomy and removal of the isthmus in the management of papillary thyroid carcinoma at North of Jordan.

**Methods:** This study was done between 1st of January 2008 till 1st January 2014. forty patients were included in this study. We have two groups .First Group (24 patients): patients who underwent total thyroidectomy while the other Group (16 patients) those patients who had more conservative treatment as lobectomy and removal of the isthmus. We used different statistical methods for comparison both groups.

**Results:** In both groups, all patients were having papillary carcinoma of the thyroid gland. There was no significant difference in tumor site between right and left lobes.

The major difference was in the recurrence rate in which hemithyroidectomy with isthmusectomy had recurrence rate in 4 patients(25% of the cases).while hoarseness, keloid, bleeding, respiratory obstruction, loss of high tone sounds ,parathyroid insufficiency and wound infection were the same in both groups

**Conclusion:** In our study, it shows lobectomy and removal of the isthmus has a higher tumor recurrence than total thyroidectomies in cases of papillary thyroid cancers which justify further management of papillary thyroid cancer.

**Keywords:** Thyroid gland. Carcinoma, Hemithyroidectomy, Isthmus removal.

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##### **Endoscopic Pilonidal Sinus Treatment (EPSiT)**

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**Objectives:** To present a case of pilonidal sinus which was managed endoscopically for the first time at Royal Medical Services.

**Methods:** A twenty years old female patient presented to surgical clinic at Prince Hashim hospital with a pilonidal sinus. As our patient is a university student and a conventional treatment would interfere with her study, endoscopic procedure was offered for her, she accepted the optional treatment and planed for surgery.

**Results:** EPSiT is a novel technique in that the sinus and its lateral tracks are visualized, no surgical wounds, minimal post-operative pain, and no hospital stay.

**Conclusion:** EPSiT is a simple day case procedure aiming to eradicate the pilonidal sinus without excision, it is more cost effective with early recovery, early return to work and resuming daily activities. Although further studies are necessary to validate its use in daily practice.

**Keywords:** Pilonidal Sinus. Endoscopic Pilonidal Sinus Treatment (EPSiT)

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#### **Atypical Presentation of Diverticulitis**

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**Objectives:** Diverticular disease is very common disease, and most elderly patients having operations for other abdominal conditions are found to have diverticula, mainly in the sigmoid colon. Our case presents atypical presentation of diverticulitis when misdiagnosed as case of acute appendicitis, as presentation as right sided lower abdominal pain that enhanced by investigation that showed Leucocytosis and radiological finding of right iliac fossa mass with free fluid that goes with perforated appendicular mass, and during surgery observe the complications of sigmoid diverticulitis.

**Methods:** A 45 year old male patient, noted attacks of abdominal pain during last 2 days, started in para-umbilical area then shifted to lower abdomen especially right iliac fossa, associated with nausea, vomiting, fever and sweating. He noted in the history he had attacks of distension, flatulence and a sensation of incomplete defecation more than 5 years ago. Diagnosed as a case of irritable bowel syndrome, relieved slightly on conservative treatment. by examination and during whole instigation(( including blood lab tests, ultrasound and CT scan)).. goes with perforated appendicular mass so we decide to do appendectomy

**Results:** Intra-op showed evidence of perforated of sigmoid diverticulitis that missed and considered as case of appendicitis and by Histopathology reports showed non-inflamed appendix, with inflammatory process and fibrinopurulent exudates, without evidence of malignant process.

**Conclusion:** Diverticulitis may come as presentation that resembles the cases of acute complicated appendicitis. And we may find the whole scenario intra-operation, so CT scan before surgery if seen by expert radiologist that can detect the area may will not proceed to surgery

and may patient improved by intravenous antibiotic and resting bowel.

**Keywords:** Diverticulosis, Diverticulitis, Fistula

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#### **Auricular Reconstruction for Microtia with Two Stage Nagata Technique: Newly Introduced Procedure to King Hussein Medical Center - Case Presentation**

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**Objectives:** Total auricular reconstruction remains one of the most struggling fields in plastic surgery, it resembles most aspects of reconstruction; such as free costal cartilage graft, random & pedicled local flaps, skin graft and meticulous 3 Dimensional sculpturing of ear topography. We present a case of newly introduced technique for microtia reconstruction utilizing two stage Nagata technique .

**Methods:** Our patient is a nine year old boy, with a right lobule type microtia, mild hemifacial microsomia and low temporal hair line A 2 dimensional paper template and 3 dimensional silicone template were designed upon clinical anthropometric measurements of normal left auricle. After creation of skin pocket preserving sub dermal plexus and skin perforator pedicle with primary transposition of lobule, sculpturing of 3 dimensional framework from ipsilateral 6th,7th,8th and 9th costal cartilages was guided with 2 D and 3 D templates. After insertion of the framework negative pressure maneuver was utilized to re-drape the skin over the framework and assist in skin closure .

**Results:** Nagata 3 Dimensional framework provided all aesthetic subunits .No skin envelope ischaemia or cartilage exposure were noted.

**Conclusion:** Satoru Nagata of Japan came

up with the 3 dimensional topography framework which resembles normal auricle in all subunits, he reduced the previous multistage techniques in to more efficient 2 stage and even single stage technique with the effort of his student Zung Chung Chen of Taiwan. The safety of this procedure in experienced hands eliminates most of possible complications explaining the worldwide shift among microtia surgeons to adapt this procedure.

**Keywords:** Auricular reconstruction, microtia, 3 Dimensional Framework

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**Chang Gung Cleft Lip Repair with Semi Open Rhinoplasty Technique: Case Series of a Newly Introduced Technique**

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**Objectives:** The treatment protocol of Nordhof craniofacial foundation and chang gung craniofacial cleft surgery center is amongst the best in cleft lip surgery which involves a whole management protocol of naso-alveolar molding and cleft lip repair with primary rhinoplasty. Presenting our early experience of a novel technique of cleft lip repair.

**Methods:** Since 1-1-2014 this technique was introduced at the royal Jordanian rehabilitation center. The management involves orthodontic and plastic surgery team collaboration. Surgery was performed at the age of 3 months; it involves the classical rotation advancement flaps to restore lip harmony; furthermore, the modification of chang gung cleft lip repair adds the semi open rhinoplasty through a tajima incision to address all aspects of cleft lip nasal deformity through the septum and lower lateral cartilages manipulation and nasal floor reconstruction. Other modifications included a triangular white roll flap and Nordhof triangular flap to

restore lip volume and aesthetic subunits. All cases showed sufficient vertical and horizontal lip length. The overall lip aesthetic subunit alignment was perfect. Nasal deformity restoration was stable with no recurrence.

**Results:** All cases showed sufficient vertical and horizontal lip length. The overall lip aesthetic subunit alignment was perfect. Nasal deformity restoration was stable with no recurrence.

**Conclusion:** Cleft lip is still considered a social stigma in our community; these individuals have the right to lead a normal life in all aspects. Nordhof craniofacial foundation is one of the leading organizations all over the world. Their past and ongoing work is now a row model to follow upon.

**Keywords:** Chang gung cleft lip repair, semi-open rhinoplasty

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**The Relation between Clinico-Pathological Variables and Axillary Lymph Status in Breast Cancer in a Single Cancer Center in Jordan**

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**Objectives:** To correlate between estrogen and progesterone receptor status, tumor size, age of patients, tumor histological type and tumor grade with axillary lymph node involvement

**Methods:** A retrospective study conducted in Al-Hussein Hospital from Jan 2011 till Jan 2013. This study revised the histopathology reports of 204 patients who underwent modified radical mastectomy for invasive breast cancer. Various factors were statistically correlated with LN involvement using contingency tables and P values

**Results:** Mean age of patients was 51.3 years. The average tumor size was 3.5cm. 67.1% of the Patients had tumor size between 2-5 cm (T2). 170(83.3%) patients

had invasive ductal carcinoma (NOS) which was the most common tumor. 119 (58.3%) patients had grade 2 which was the commonest tumor grade. 75% of the tumors were both ER and PR positive. There was a significant P value when correlating grade of tumor, size of tumor, and tumor histological type with LN involvement in the study. The other factors (Age, receptor status) had no significant correlation with lymph node involvement.

**Conclusion:** The study showed a strong relation between histological grade, histological type, and size of tumor with LN involvement but failed to show a significant relation with receptor status and age. Patients were within the Age group 40-60 years and had an advanced loco-regional tumor, predominantly IDC that had mostly both ER, PR receptor positive. The results in this study encourage to start screening for breast cancer before the age of 40 years.

**Keywords:** Breast cancer, prognostic factors, histological grade, histological type, tumor size, receptor status, lymph node involvement

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#### **Clinicopathological Factors Influencing Lymph node Metastasis in Breast Carcinoma**

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**Objectives:** Evaluate the clinicopathological factors influencing lymph node (LN) metastasis in breast carcinoma

**Methods:** Descriptive review for 140 breast cancer females operated at KPMC January 2007-December 2011. We analyzed the relation between extent of axillary (LN) involvement by metastatic breast carcinoma and certain clinicopathological factors including the age, tumour size, grade, subtype and lymphovascular invasion

**Results:** Majority node positive (71.3%); 32.8% N1 15.7% N2 and 22.8% were N3. The node negative females comprised only 28.5%. The microscopic tumour size (0.2 to 12cm), with the majority

(85%) more than 2cm in size. By grading system: (53%) grade 2, (41%) grade 3 and only (6%) grade 1. The diagnosis of Infiltrative ductal carcinoma (IDC) of no special type was found in 73% of the cases, most of them showed nodal positivity. The vast majority of the Infiltrative Lobular carcinoma (ILC) revealed nodal positivity. The others had different tumour subtypes with variable degree of nodal positivity. Lymphovascular invasion (LVI) was found in (56%). Younger patients found to have larger tumor sizes, more positive (LN) and higher tumor grades. Tumour size and lymphovascular invasion directly related to axillary (LN) metastasis. The tumour grade was correlated to the extent of nodal involvement. Certain tumour subtypes carried high incidence of nodal positivity; such as IDC, ILC and Micropapillary carcinoma

**Conclusion:** Some clinicopathological factors were found to be directly influencing LN metastasis in breast cancer; as Tumour size and LVI. While others as the grade and tumour subtypes had affected the extent/rate of nodal involvement. Those factors may help in determining when to use Sentinel LN evaluation instead of axillary LN dissection

**Keywords:** Clinicopathological factors, Breast Carcinoma, Lymph Nodes Metastasis

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#### **Transcatheter Aortic Valve Implantation: our Hope for Inoperable Conventional Aortic Valve Replacement, Systemic Review**

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**Objectives:** Transcatheter aortic valve implantation (TAVI) is now an acceptable and alternative technique for patients with severe aortic stenosis who are inoperable or high risk for conventional high risk surgical aortic valve replacement (AVR). The risk and benefits still controversial.

**Methods:** Identifying the relevant studies

that compare TAVI with AVR in term of patient selection, preoperative risk factors for each procedure, intraoperative factors and techniques, and postoperative possible complications ,mortality ,hospital stay, and cost effectiveness.

**Results:** High surgical risk was defined by Logistic EuroSCORE (LogES)>20% and/ or STS score (STS)>10%. Preoperative morbidities, peri-operative outcomes and complications, length of hospital stay and 30-day mortality were compared. The rate of peri-operative neurological complications was the same. vascular complications and permanent pacemaker implantation was higher with TAVI.30-day mortality was higher in AVR than TAVI .The procedural cost in TAVI still much higher than AVR ,but when including the total hospital stay and the rate of re-admission to the hospital the cost of conventional AVR increased to about two thirds to the total cost of TAVI .

**Conclusion:** Compared to conventional AVR ,TAVI has lower mortality rate, it is worthy to introduce this procedure to our institute despite the high procedural cost for the hope of inoperable and high risk sever aortic stenosis.

**Keywords:** Transcatheter, Aortic Valve, Aortic Stenosis

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##### **Balloon Aortic Valvuloplasty before Aortic Valve Replacement in High Risk Groups**

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**Objectives:** Severe aortic valve stenosis may be a lethal condition if not treated. It can present in some patients with a higher surgical risk score. Balloon aortic valvuloplasty can be performed as a bridge therapy before surgery to decrease the risk of aortic valve replacement

**Methods:** The records of 18 patients with high risk score for surgery who underwent balloon aortic valvuloplasty in the period between 1993-2011 were reviewed. The median age for the patients was 78 years.

The median time interval between balloon aortic valvuloplasty was 28 days. The median range for left ventricular ejection fraction in the preoperative period was 0.23.

**Results:** No single death or stroke could be recorded after balloon aortic valvuloplasty. One patient developed severe aortic valve regurgitation, and the median left ventricular ejection fraction improved 0.35. 3 patients needed femoral artery intervention, and 4 patients needed temporary circulatory support

**Conclusion:** Balloon aortic valvuloplasty could be an ideal option as a temporary measure in patients who are considered to be high risk groups for aortic valve replacement

**Keywords:** Aortic valve, Balloon aortic, valvuloplasty, valve replacement

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##### **Outcome Analysis of Redo Coronary Artery Bypass Graft in Patients above 70 Years Old**

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**Objectives:** The survival after CABG is significantly improving, and nowadays, nearly every second patient who undergoes cardiac surgery is older than 70 years. Therefore, it is predictable that the number of elderly patients requiring reoperation will significantly expand in the future. Data regarding the outcomes, long-term results and complications after reoperation in advanced age are scarce. The aim of our study is to reveal the results of redo CABG in patients older than 70.

**Methods:** This retrospective study was



carried out in Liverpool Heart and Chest Hospital, for 148 patients above the age of 70 (Mean age 74.29 +/- 3.4 years) who underwent reoperation for Coronary Artery Bypass Graft (CABG) over 10 years period, between 2001-2011. Outcome represented by post operative mortality and morbidity was analyzed. We used Major Adverse Vascular Events (MAVE) as in-hospital safety of treatment assessment tools.

**Results:** The mean EURO score for those patients was 7.41+/- 2.67. The 30-days mortality was 6% (9 out of 148), and the one-year survival was 84.4% (n=125). MAVE shows 4.7% post-operative Q-wave MI and 4% stroke. Renal impairment was noted in 14.2%. Rate of re-exploration was 12.8% mainly for bleeding and tamponade 8.1% and 2.7% respectively. Mean length of hospital stay was 16.3 days.

**Conclusion:** This study shows good survival rate and acceptable post operative mortality and morbidity in this high risk group of patients. Therefore, Redo CABG in advanced age alone should not deter a cardiac surgeon from offering such a potentially beneficial intervention.

**Keywords:** Redo, CABG, Outcome.

## Hall I Session 2 Surgery - Vascular Surgery

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### Acute and Chronic Venous Disease

Rajai Khoury MD (USA)

The treatment of acute deep vein thrombosis is to the most part standard. Where confusion occurs is in the unusual situation of small vein deep vein thrombosis below the knee, superficial vein thrombosis and high proximal deep vein thrombosis. The logical approach to anticoagulation it's duration and stoppage. When to add an inferior vena cava filter and when to remove it. when to add Thrombolysis and how to do it.

Chronic deep vein thrombosis with post phlebitic syndrome treatment used to be centered on compression. Today we have options. Recanalization, Thrombolysis and stenting can be done with reasonable results.

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### The Role of Orbital Atherectomy in Critical Limb Ischemia (CLI) Patients, in the CONFIRM Trial

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**Objectives:** We aim to evaluate the clinical outcomes of treating PAD in Critical Limb Ischemia (CLI) patients with orbital atherectomy (OA), in addition to balloon angioplasty. CLI patients identified as patients with feet ulcers, Rutherford class IV-VI.

**Methods:** Three consecutive CONFIRM patient registries (the CONFIRM Series) were conducted prospectively under a naturalistic "real-world" procedure-focused registry (2009 to 2011). The only inclusion criteria were medically necessary treatments in accordance with the device's instructions for use. Thus, 3,135 patients suffering from PAD were enrolled on an "all-comers" basis. This resulted in registries that provided an analysis of the CLI data as it pertains to the correlation of plaque morphology/calcification to the outcomes within the CLI patient population after OA treatment.

**Results:** In the CONFIRM series, 42.7% of patients had CLI (Rutherford Categories IV-VI). Procedural complications in the entire CLI patient population (N=1,340) included dissection (flow limiting [FL], 1.2%; non-FL, 4.6%; unknown, 3.8%), perforation (0.8%), embolism (2.1%), and thrombus (1.4%). Severe to moderate calcium plaque burden was presented in 87.5% of the CLI patient population (N=1,149). After treatment with orbital atherectomy the occurrence of adverse events in this severe calcium CLI group was no event (88.5%), dissection (FL, 1.1%; non-FL, 4.4%; unknown, 3.6%), and perforation (0.9%).

**Conclusion:** The majority of the CLI patients in this study had lesions with moderate to severe calcification, yet the occurrences of

adverse events were low after treatment with orbital atherectomy. Orbital atherectomy is a safe tool for restoring blood flow in the lower extremities of CLI patients regardless of calcium burden.

**Keywords:** OA, Orbital Atherectomy, CLI, Critical Limb Ischemia.

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**Mesenteric Revascularization using Aortic Inflow for Chronic Mesenteric Ischaemia**

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**Objectives:** To present our experience with revascularization of mesenteric vessels using the abdominal aorta as inflow source

**Methods:** During the period June 2011 to June 2014, five patients who presented with signs and symptoms of chronic mesenteric ischemia underwent superior mesenteric and celiac artery surgical revascularization using the abdominal aorta as the inflow source. The supraceliac aorta was used in 4 patients while one patient with an occluded infrarenal aorta had aortobifemoral bypass and the aortic graft used as inflow source.

**Results:** No perioperative mortality occurred. One late mortality due to graft infection 3 years post revascularization. Mean hospital stay was 11.5 days (range 7.0 to 21.0 days). Graft patency was 100% at 1 month and 1 year. Resolution of mesenteric angina and weight gain was evident in all patients during the follow up period.

**Conclusion:** Surgical mesenteric revascularization is an effective procedure in treating chronic mesenteric ischemia especially when aortic inflow is used.

**Keywords:** Mesenteric, revascularization, aorta

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**Venous Stasis Ulcers: The Role of Vein Ablation**

*Rajai Khoury MD (USA)*

Dermato-lipo- sclerosis is the sentinel event before ulceration of venous stasis appear.

Compression is the standard of care in healing the ulcers. Vein ablation is the standard of care in decreasing the chance recurrence. This paper describes different methods of vein ablation and compression, Patient selection , intra operative pitfalls and potential complications.

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**Comparison of Orbital Atherectomy Plus Balloon Angioplasty vs. Balloon Angioplasty Alone in Patients with Critical Limb Ischemia: Results of the CALCIUM 360 Randomized Pilot Trial**

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**Objectives:** To evaluate the role of orbital atherectomy in calcified infrapopliteal arteries(BTK) in patients with critical limb ischemia compared to balloon angioplasty (BA) alone.

**Methods:** A randomized multicenter study was undertaken to evaluate short and 1-year outcomes in 50 patients (32 men; mean age 71 years, range 40–90) with confirmed calcified lesions using 11 randomization to the Diamondback 360° Orbital Atherectomy System followed by BA vs. BA alone. All patients had severe ( $\geq 50\%$  stenosis) peripheral artery disease (Rutherford classification 4–6) in the popliteal, tibial, and/or peroneal arteries. The primary endpoint was defined as restoration of a normal lumen (residual stenosis  $\leq 30\%$ ) with no bailout stenting or dissection types C through F. Scheduled follow-up visits were conducted according to a common protocol at 1, 6, and 12 months.

**Results:** Procedural success was 93.1% (27/29 lesions) for atherectomy + BA patients and 82.4% (28/34 lesions) for

BA alone ( $p=0.27$ ). Bailout stenting was needed in 2 (6.9%) of the 29 atherectomy + BA lesions and in 5 (14.3%) of the 35 BA-treated lesions ( $p=0.44$ ). At 1 year, there were no amputations in either group related to the index procedure. Estimates for freedom from target vessel revascularization and all-cause mortality were 93.3% and 100% in the atherectomy + BA group vs. 80.0% ( $p=0.14$ ) and 68.4% ( $p=0.01$ ) in the BA group, respectively. Proportional hazard models evaluating survival time vs. status of residual stenosis determined a hazard ratio for major adverse events of 5.6 for patients with an acute post-procedure residual stenosis  $>30\%$  ( $p=0.01$ ).

**Conclusion:** Debulking with orbital atherectomy appeared to increase the chance of reaching a desirable angioplasty result, with less acute need for bailout stenting and a higher procedure success. A negative association between procedure success and risk of serious adverse outcomes should encourage larger confirmatory studies.

**Keywords:** Orbital Atherectomy(OA), Critical limb ischemia(CLI).

### Hall I Session 3 Endovascular Therapy Symposium S09

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#### Abdominal Aortic Aneurysm in Patients with Kidney Transplant

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**Objectives:** To report the management of abdominal aortic aneurysm in patients with kidney transplant

**Methods:** Three patients with history of kidney transplant presented with abdominal aortic aneurysm, one patient had multiple penetrating ulcers of the thoracic aorta. Aneurysmal repair was performed after creation of axillo-femoral bypass in two patients. In the third patient,

aneurysmal repair was done using femoro-femoral bypass.. In the patient who had thoracic aortic ulcers, aneurysmal repair was done after endovascular treatment of the ulcers and stenting of the celiac trunk for intestinal ischemia.

**Results:** Two patients recovered well without deterioration of kidney function. The third patient who had endovascular repair of the thoracic aorta developed paraplegia, without deterioration of kidney function, but died later of chest infection.

**Conclusion:** Maintaining blood supply of the transplanted kidney during surgery using extracorporeal axillo-femoral bypass is essential to preserve the function of the transplanted kidney.

**Keywords:** Kidney Transplant, Abdominal Aortic Aneurysm, Axillo-Femoral Bypass

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#### Endovascular Management of Ruptured Aortic Aneurysm in Patients with Patent Sciatic Artery through the Sciatic Artery

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**Objectives:** We will report a rare case in the literatures of endovascular repair of ruptured abdominal aortic aneurysm in a patient with bilateral patent sciatic arteries.

**Methods:** A 52 year old female patient, was referred to King Hussein Hospital 3 days after a sudden onset of abdominal pain and hypotension. The patient was treated conservatively with blood transfusion without improvement. Abdominal and lower limbs CT angiography revealed ruptured infrarenal abdominal aortic aneurysm and bilateral patent sciatic arteries. The patient was treated with endovascular repair of the ruptured aortic aneurysm through the patent sciatic artery after exposure of the patent sciatic artery while patient was in prone position.

**Results:** The patient was stabilized, and 3 days after the surgery the patient developed sudden cardiac arrest leading to

the death of the patient.

**Conclusion:** The combination of ruptured abdominal aortic aneurysm and patent sciatic arteries is rarely reported. Endovascular repair through the patent sciatic artery in prone position is a suitable route.

**Keywords:** Patent sciatic artery, abdominal aneurysm, EVAR

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##### **Extension of Landing Zone for Short Neck Aortic Aneurysms**

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**Objectives:** To report our experience in dealing short neck aneurysm by various techniques that aim to extend landing zones.

**Methods:** During the period February 2012 to May 2014 , eight patients with aortic aneurysms ( 5 thoracic, 4 abdominal ) presented with difficult aneurysm neck less than 10 mm and prohibitive surgical risks for complete operative repair. Four patients had chimney procedure ( 2 single renal stents, 2 bilateral renal stents). Four patients had extra-anatomical surgical bypasses ( 3 carotid-carotid , one carotid-subclavian) to extend the landing zone.

**Results:** All procedures were completed successfully with no perioperative mortality. One patient had renal stent occlusion intraoperatively and unilateral renal infarction. One patient had perioperative transient ischemic attack with subsequent complete recovery. One patient had type two endoleak that was treated conservatively with no adverse effects. All patients were followed up for periods between 6 and 18 months.

**Conclusion:** A multitude of surgical and endovascular techniques are used to enable endovascular aneurysm repair of difficult aneurysm in unfit patients with acceptable success rates.

**Keywords:** Endovascular, Aneurysm, Short, Neck

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##### **Congenital Venous Anomalies Presenting with Extensive Lower Limb Deep Venous Thrombosis: A Report of Two Cases**

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**Objectives:** To report two cases of extensive lower limb deep venous thrombosis (DVT) in young patients who discovered to have congenital anomalies of the ilio caval segment.

**Methods:** A 27 year old female patient, who was 13 weeks pregnant, presented with extensive iliofemoral DVT. Trial of insertion of inferior vena cava filter via right internal jugular vein failed due to obstruction at the level of the hepatic veins. Computed tomographic venography (CTV) showed aplasia of the inferior vena cava. The second patient was a twenty year old male who underwent emergency laparotomy for perforated duodenal ulcer. Post operatively The patient developed extensive lower limb DVT, and CTV showed hypoplasia of iliac veins. Both patients were treated conservatively.

**Results:** Both patients were anticoagulated with low molecular weight heparin with marked clinical improvement.

**Conclusion:** Iliocaval anomalies are rare but should be suspected in patients who present with extensive DVT in the absence of other major risk factors. Lifelong anticoagulation is advisable.

**Keywords:** Venous Thrombosis, Agenesis, Inferior Vena Cava



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### **Perigraft Seroma in Arterial Graft Bypass Surgery**

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**Objectives:** To document the frequency of risk factor, and management of perigraft seroma, in patient underwent bypass surgery using prosthetic material.

**Methods:** Among 316 patient underwent femoropopliteal, unilateral axillofemoral or axillobifemoral bypass, using Dacron and PTFE grafts . 4 patient developed perigraft seroma . They presented with progressive swelling around the graft , one patient presented with rupture of axillary anastomosis. Two of our patients had renal impairment. Two patients had lower limb deep vein thrombosis at the same side of the graft . All patients were treated with graft excision and replacement with femoropopliteal vein bypass or femorofemoral vein bypass

**Results:** All patient had full recovery with patent vein graft.

**Conclusion:** Deep vein thromboses, and renal impairment may be risk factors for developing perigraft seroma. Perigraft seroma occurs in both Dacron and PTFE grafts. Replacement with vein graft seems to be adequate management.

**Keywords:** Perigraft Seroma, Swimming Graft, Axillofemoral Bypass

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### **Axillary-Basilic Prosthetic Vascular Access : A New Strategy to Prevent Steal Syndrome after Vascular Access Surgery for Hemodialysis**

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**Objectives:** Steal phenomenon after vascular access surgery is not uncommon. It occurs more frequently when the brachial artery is used for either autogenous or prosthetic vascular access. In patients requiring arm brachial-axillary prosthetic graft for vascular access we have adopted a new strategy to avoid the development of distal hypoperfusion hand ischemia, or steal syndrome.

**Methods:** 21 patients with chronic kidney disease were referred to our department for creation of vascular access for hemodialysis. In the absence of suitable vein for native vascular access construction, application of prosthetic graft material was planned. Instead of constructing a brachial-axillary graft vascular access, the graft was placed between the axillary artery and the basilic vein above the elbow level.

**Results:** All of our axillary-basilic vascular accesses were used smoothly for hemodialysis one month post-surgery. Steal phenomenon resulting in hand ischemia was observed in none of the cases. Upon follow-up in outpatient clinic, two patients had graft thrombosis. Both of them underwent graft thrombectomy with reconstruction of the venous end and then full restoration of graft function.

**Conclusion:** Axillary-basilic prosthetic vascular access is a good strategy to prevent steal syndrome. Another advantage is preservation and arterialization of the basilic vein for future basilic vein transposition procedure.

**Keywords:** Steal Syndrome, Vascular Access, Access Banding, Drill Procedure

## **Hall I Session 4 Urology, Neurosurgery & Community Medicine Free Papers**

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### **Positive Surgical Margin post Nephron-Sparing Surgery: Experience at Prince Hussein Urology Center**

*Awad Al-Kaabneh MD\*, Ali asmer MD, Firas Al-Hammouri MD, Adnan Abo Qamar MD, Nizar Sayeedeh MD, Ola Alwaqfy MD*  
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**Objectives:** Nephron- sparing surgery (NSS) now is considered the standard surgical treatment for renal cortical tumors  $\geq 4$  cm, Positive Surgical Margin (PSM) is the main surgical oncological concern; we report our experience and approach for management with this complication of NSS at Prince Hussein Urology Center (PHUC).

**Methods:** A retrospective study of medical records was done for 49 patients who had undergone open partial nephrectomy for suspected renal tumors from April 2004 to February 2014, average age 54.5year (33y-78y), male to female (1.72: 1), right to left (1.88:1), average tumour size 3.6 cm (2.2-4.3 cm). All cases underwent open NSS using flank incision. Intra-operative frozen section sent to pathology for margin safety, all returned on primary report were free surgical margins. Three weeks later patients returned to clinic with final histopathological report.

**Results:** The final Histopathology report came as the following : 30 renal cell carcinoma (RCC), 6 cases angiomyolipoma, 5 cases oncocytoma, 8 cases other pathologies. Three cases of RCC found to have positive surgical margin on final report. Two of them underwent completion nephrectomy with pathological report confirmed no residual tumours, we follow up the third patient using renal CT scan with no development of recurrence at site of surgery

**Conclusion:** Free surgical margin is the main oncological goal in NSS; however PSM after open NSS does not necessarily indicate residual tumours. Nevertheless, vigilance observation of those patients is mandatory.

**Keywords:** Nephron-Sparing Surgery, Positive Surgical Margin

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##### **Comparison between Ultrasonic and Pneumatic Lithotripsy in Percutaneous Nephrolithotomy**

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**Objectives:** Percutaneous nephrolithotomy (PCNL) is a procedure that now routinely used to treat large and complex renal calculi. Since first described by Frenstom and Johansson, many advances to this surgical technique were developed including advances of the lithotripters used to fragment and remove stones. In this study we compared the efficacy and safety of PCNL via pneumatic lithotripsy, and ultrasonic lithotripsy.

**Methods:** In this study we compared 2 groups of patients who underwent PCNL between July 2013 and June 2014. (Group A) 50 patients underwent PCNL using pneumatic lithoclast, and (Group B) 53 patients underwent PCNL using ultrasonic lithotripsy. The 2 groups were compared in terms of stone size, location, operative time, hospital stay, blood loss, and stone free rates.

**Results:** There were no significant differences in stone size, location, or stone free rates. But ultrasonic lithotripsy group (Group B) had significantly lower operative time, number of hospital days, and average blood loss.

**Conclusion:** PCNL is a safe procedure, but the use of ultrasonic lithotripsy significantly decreased operative time, hospital stay, and blood loss.

**Keywords:** Percutaneous nephrolithotomy (PCNL), renal calculi, pneumatic lithotripsy, ultrasonic lithotripsy.

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##### **Penile Implant as the Definite Treatment for Erectile Dysfunction: Our Experience at Prince Hussein Center for Urology and Organ Transplant**

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**Objectives:** Erectile Dysfunction ( ED ) is sexual dysfunction characterized by the inability to develop or maintain an erection of penis during sexual performance. The most common causes are drugs , cardiovascular



diseases ,Hypertension, Diabetes Mellitus, previous surgeries ( prostate surgery), neurogenic disorder and psychological causes. There are many options for treatment start with Oral Medications (phosphodiesterase type 5 inhibitor) or Tropical Medication (Alprostadil) , Injected Medication (papaverine and prostaglandin) and finally the surgery like Penile prosthesis. Regarding Penile Prosthesis its primary use is for men with erectile dysfunction from previously mentioned causes, congenital anomalies, iatrogenic and accidental penile or pelvic trauma, peyronie disease, or when less invasive medical treatments provide an unsatisfactory results or are contraindicated.

**Methods:** A study was carried out in Prince Hussein Bin Abdullah II centre from 2011 to 2014 on 7 patients who underwent penile implant. We used a questionnaire for erectile dysfunction on those patients and compare their situation before and after the operation.

**Results:** All patients and their partners were satisfied with the results which improve their life quality, exception was with one patient who had psychological rejection to implant which was removed after 2 weeks from operation.

**Conclusion:** It is simple invasive procedure with high rate of success (95%) and minimal complication and contraindications, so it is can be considered as definite treatment for erectile dysfunction in most causes. But psychological preparing is recommended in this procedure.

**Keywords:** Erectile Dysfunction, Penile Prosthesis

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#### **Weight-for-Age and Wasted Boys and Girls in Military Funded Schools**

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**Objectives:** To estimate the wasted boys and girls in military education schools.

**Methods:** A total of 2139 children, the mean and standard deviation were  $11.8 \pm 3.6$  years; 1222 boys and 917 girls, the age and weight obtained and compared with the reference World Health Organization child growth standard, the weight-for-age of less than five percentile considered wasted case.

**Results:** Results about 33% of boys and 7.1% of girls were wasted respectively.

**Conclusion:** About one third of boys were acutely malnourished and wasted children are more prominent in boys compared with girls.

**Keywords:** Keywords: Weight-for-age, Acute malnutrition, children, Military funded school.

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#### **Linear Growth for Students in Military Educational Schools**

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**Objectives:** To estimate the chronic malnutrition on the base of linear growth among boys and girls in military Educational Atatus schools.

**Methods:** A total of 1222 boys and 917 girls, their age ranged from 6-19 years were included in the study. Age and height were measured and comparison with the World Health Organization child growth standard, those of their height-for-age less than third percentile considered stunted.

**Results:** About 12% of boys and 14 % of girls were stunted respectively.

**Conclusion:** Conclusion: About tenth of the boys and girls were suffering from chronic malnutrition.

**Keywords:** Keywords: Military schools, linear growth, Stunted, chronic malnutrition

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### **Breast Feeding and Infant Infection Reduction**

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**Objectives:** To assess the relation between breast feeding and infant infection below 2 years of age.

**Methods:** A total of 284 mothers were interviewed and were asked about type of milk feeding for their infants , duration of breast feeding ,frequency of upper respiratory tract infections and gastroenteritis in babies.

**Results:** The mean age of mothers who were interviewed was 32.7 years ,42.6%were above high school level education , 86 were workers , 30.6 % were breast fed their babies exclusively for the first six months of age . The frequency of gastroenteritis was less among infants who were breast fed comparable to those who were formula fed with 6.8% vs comparable to (88.2%) ,also the frequency of upper respiratory tract infection is 12.6% among breast fed infants however it was 78.1% among formula fed infants.

**Conclusion:** Breast feeding is protective against infant infection below 2 years of age . Mothers should be advised by health specialists that exclusive breastfeeding helps reduction of infections in babies and lessens the frequency and severity of infectious episodes.

**Keywords:** Breast feeding ,gastroenteritis, upper respiratory tract infection, infants

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### **Gamma Knife Radiosurgery in Jordan**

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Amman Gamma Knife Center was established in 1996, and was the first in the middle east and Arabic countries. We

treated around (1300) cases since that time; benign brain tumors, skull base tumors, metastatic tumors, low grade gliomas , brain AVM, and intractable trigeminal neuralgia from the local people and the Arabic countries . The recommended follow up for all patient once yearly for at least three years and forever for the trigeminal neuralgia patients .We achieved (98%) of tumor control in patients with acoustic neuroma, and (92%) in patients for the meningiomas either by changing the growing tumors to a dormant mass or shrink . Also we achieved cure in(16) cases of glomus jugulare out of (18) patients over the postoperative three years period . We treated ( 110) cases of intractable Trigeminal Neuralgia with a success rate of (85%) of pain control after (6) months of the treatment, and maintained in 70% after (6) years . The registered complications of the radiosurgery were minimal specially after the modification of the dose plan and didn't exceed 5% in patients of meningiomas and AVMs (perilesional transient oedema).

Gamma Knife Radiosurgery is effective modality of neurosurgery with a minimal complication comparing to the microsurgical complications. The field of radiosurgery is becoming wider and effective in many types of the brain diseases especially with the new technology and dose plan advancements

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### **Pediatric Brain Tumors, Epidemiology and Management: King Hussein Medical Center Experience**

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**Objectives:** Pediatric brain tumors are a challenging diagnosis in neurosurgery, seventy five cases were managed over the last five years. In this study we will present the epidemiological data, surgical management, prognosis, adjuvant therapy,

and compare the results with the literature.

**Methods:** In the last five years we managed 75 cases of pediatric brain tumors. All cases were retrospectively reviewed. Epidemiological data reviewed and analyzed included; age, gender, site of lesion, pathology, operated cases, presence of hydrocephalus, multiplicity, presenting signs and symptoms, adjuvant therapy, surgery and outcome, morbidity, and mortality

**Results:** There was a higher overall incidence in boys (42/33 cases; ratio 1.3) and a prevalence for an infratentorial location (48/27 cases; ratio 1.7); the most common histological entities were astrocytoma (25.3%) and medulloblastoma (17.3%), followed by ependymoma (13.3%) and PNET (10.8%); 44% were high-grade tumors corresponding to WHO grades III and IV. Presenting signs and symptoms were raised intracranial pressure in (60%), Hydrocephalus (30%), fits (10%), visual disturbances (5%). Operation was performed on (80%),

**Conclusion:** Paediatric tumours remain a challenging diagnosis with a very wide range of presentation, prognosis, and outcome. Our epidemiological results and surgical outcome were comparable to the literature with mild variation regarding pathological prevalence.

**Keywords:** Brain tumors, pediatric, pathology

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### **Management Trigeminal Neuralgia MVD Vs. Radiosurgery**

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Trigeminal Neuralgia (TN) , also known as tic douloureux, is a pain syndrome recognisable by patient history alone . The condition is characterised by intermittent one-sided facial pain . The known causes of pain are; vascular compression at the roots level, tumors, or inflammation likes multiple sclerosis. Prior to considering the treatment, all trigeminal neuralgia should have a MRI, with close attention being

paid to the posterior fossa with special sequences. Once the medical treatment fails, we move toward the surgical treatments; peripheral nerve blocks or a ablation , gasserian ganglion and retrogasserian ablative ( needle) procedures , micro vascular decompression (MVD), and stereotactic Gamma Knife Radiosurgery . The most popular and effective procedures used world widely are the (MVD), and the Gamma Knife Radio surgery .

Between 1996-2014, a more then 114 Gamma Knife procedures for (TN) were performed at Amman Gamma Knife center , and 52 microvascular procedures for idiopathic (TN). We followed up most of the cases between 6 months to 15 years, and we compared the recurrences rates in both procedures. We found that both procedures were very effective, but there was a superiority of (MVD) over the Gamma Knife procedures specially in young patients.

## **Hall J Session 1 Pharmacy**

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### **Demonstrating Benefits From Clinical Pharmacy Services**

*Prof. Joseph Dipiro (USA)*

Clinical pharmacy practice is developing in many parts of the world where health care models are in a great state of transition. As opposed to traditional models of hospital based specialty care focused on treatment of disease, modern health care is more focused on primary care in the community with focus on chronic disease management and wellness approaches. Also, progressive care models require teams of health professionals to work together in a more effective manner. To demonstrate effectiveness clinical pharmacists must focus on quality and costs of care. There are many problems with medications that must be addressed such as access to medicines cost, efficacy, safety, and purity. Pharmacists should be able to demonstrate their benefit in terms of important health outcomes related to prevention of disease, disease control or eradication, economic

benefits, or quality of life. An excellent model for demonstrating the benefits of clinical pharmacy services is diabetes care. In the future, pharmacists may have a significant role in personalized medicine, such as with the application of pharmacogenomics. The long-term success of clinical pharmacy services will depend on how well the profession meets societal needs, demonstrates value and improves the quality of care.

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#### **Counterfeited Drugs and the Role of the Pharmacist**

*Prof Tawfiq Arafat (Jordan)*

It is most unfortunate that counterfeited drugs and faked medicaments are widely spread not only in Jordan but in so many countries all over the world.

World health Organization (WHO) is so much concern of this phenomena and they are organizing so many workshops in-order to stand against counterfeited medicaments. I strongly believe that the pharmacist is the key factor among the health care providers which he can stands strongly against this unacceptable phenomena, together with all health care providers and regulatory bodies in all ministries of health we have to raise a slogan:

**{ We do care about patients and we have to protect society from those whom they want to threaten people's life}.**

Ethical aspects is the key factor in dealing with this particular matter, all health care providers should work together in-order to control counterfeited drugs and faked medicaments.

Some media play a very dangerous and crucial role in promoting for the faked medicaments and should be stopped.

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#### **Antibiotics Use in a Military Hospital: Where is Clinical Pharmacy Interventions Mostly Needed?**

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*Major Dr. Ayesha Al Qasemi, Head of Pharmacy, Zayed Military Hospital, Abu Dhabi (UAE)*

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**Objectives:** We have previously shown that antibiotics are the group of medications most involved in clinical pharmacy recommendations at our hospital. In 2011, our recommendations in regards to this class were more likely to be accepted by physicians. In this study we aimed at confirming this finding through describing clinical pharmacy recommendations related to antibiotics in a military hospital in UAE and further exploring the role of our team.

**Methods:** Clinical Pharmacists documented their recommendations since June 2010 till June 2014 in a dedicated excel file. We performed univariate analyses to determine the significance of certain variables in predicting physician's acceptance of recommendations made from June 2013 till May 2014.

**Results:** Out of a total 2,021 recommendations documented in our database from June 2013 till May 2014, 339 (16.8%) were for antibiotics. Overall physician acceptance rate in this cohort was 71.6%. Recommendations for change in pharmacotherapy plans were more likely to be accepted with antibiotics than combined other classes of medications (79.4% vs. 70.1%,  $P = 0.0007$ ). Dosing (79.5% vs. 69%,  $P = 0.0161$ ) or monitoring (90.5% vs. 62.4%,  $P = 0.0004$ ) recommendations were more likely to be accepted with antibiotics than with other medications.

**Conclusion:** Antibiotics are more commonly associated with decisions that result in clinical pharmacy interventions. Role of clinical pharmacy in our hospital is especially important in dosing and monitoring antibiotic therapy.

**Keywords:** Antibiotics, Clinical Pharmacy Recommendations, Physicians Acceptance

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**How to Supply Medical Corps with Specific Medical Needs in Exceptional Circumstances: Experience of the Health services of Tunisian armed forces**

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**Objectives:** Natural disasters as well as threats of terrorist actions represent exceptional circumstances for which the health services of armed forces should be prepared. In these special situations specific drugs and medico-chirurgical equipment, essential for the practice of medicine in these circumstances, have to be provided. Specific products have to be stocked up and maintained pre-packed so that they can be easily transported and used on the spot.

**Methods:** In the first part of the study, the authors underline the characteristics of the supply of medical needs to medical corps in exceptional situations according to the nature of the disaster, to the characteristics of the field and environment as well as the characteristics of the transported products and to the method of operation. In fact some products like antidotes and syringes of atropine should be available as well as some products that are not produced in the private sector such as the tablets of potassium iodure that are used in case of nuclear attack.

**Results:** The health services of the Tunisian armed forces had to intervene on several occasions in Tunisia and abroad with the framework of missions for the united nations (Cambodge, Somalia, Rwanda, Burundi) and in humanitarian missions (earthquakes in Algeria and in Albania).

**Conclusion:** This study presents the Tunisian experience with its specific features and underlines the difficulties encountered with different deployments before suggesting some recommendations based on their experience.

**Keywords:** Supply of medical needs, exceptional circumstances, threats of terrorist actions, natural disaster, specific drugs

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**Building a Research Program in the Pharmacy Department: Experience of King Hussein Cancer Center**

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**Objectives:** To develop a program that would promote and facilitate pharmacist-initiated research within the pharmacy department at King Hussein Cancer Center (KHCC).

**Methods:** The program was launched in June 2010, with a team of 7 clinical pharmacists who expressed interest in conducting research. A senior clinical pharmacist led the initiative and was involved with training and mentoring the pharmacists. Group and individual research meetings were conducted. The program involved 4 phases: Phase 1: learning the practical concepts of literature evaluation and research; Phase 2: participating in a study that was led by the senior pharmacist to learn the concepts related to conducting research; Phase 3: develop and conduct a pharmacist-initiated study; Phase 4: present the findings of the study at a conference. The pharmacy administration approved research-protected time for pharmacists who were conducting pharmacist-initiated studies. After about 1 year, additional pharmacists were gradually enrolled into the program. The initial group of the pharmacists served as mentors to some of the pharmacists enrolled later.

**Results:** During the 4 years of the program, 15 pharmacists participated. To date, the pharmacists enrolled conducted 12 projects, presented 10 posters, and published 4 manuscripts. The pharmacists displayed strong commitment to the program and were satisfied with the program elements. In addition, the pharmacists expressed that their knowledge and skills in research improved significantly.



**Conclusion:** Developing a structured pharmacy research program is feasible but requires strong commitment from the pharmacists and administration. The pharmacy research program at KHCC increased the pharmacists' involvement with research.

**Keywords:** research, pharmacist, program

## Hall J Session 2 Pharmacy

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### Clinical Pharmacy Practice in 2014

*Prof. Joseph Dipiro (USA)*

Clinical pharmacy practice is gaining acceptance throughout the world as health systems in every country are looking for ways to improve quality of care and reduce costs. While health systems vary from country to country and pharmacy practice may differ, many of the problems with medications are similar. Clinical pharmacists may work at the individual patient or population level. There is much evidence that pharmacists can provide effective care for patients, particularly those with chronic diseases. The change in clinical pharmacy practice is partly being stimulated by a change in societal view of pharmacists. Clinical pharmacy services have consistently been shown to save about 5 times the expense for pharmacists. As the prevalence of chronic diseases increases in many countries there is a greater potential role for pharmacists to fill. To establish consistent clinical pharmacy practice requires development of practice models. Also, payment systems must be in place. While pharmacist' clinical roles have not expanded under fee-for-service models of care they have expanded in many managed care systems, such as national health systems. To become more consistent in health care, pharmacists should be trained to meet a standard and accepted set of competencies such as those developed by the FIP. Clinical practice in the future will depend on how well the profession can answer critical questions such as how pharmacists will work more closely with other health professionals, how these

services will be paid for, and how well clinical services can be implemented in the community.

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### New Trends in Pharmacy Education

*Dr. Nahla Nasser Khoury (USA)*

Throughout the years, pharmacy curricula have undergone significant evolution. In earlier years, basic science and laboratory-based coursework with a focus on compounding dominated the educational experience. In today's landscape, pharmacotherapy-oriented classroom work followed by one year of structured clinical clerkships comprise the standard framework. Additionally, many pharmacy graduates are now choosing to specialize in practice areas such as oncology and are eligible to take national board exams following residency training. Public and global health awareness and education is now a more explicit and important facet of pharmacy education, including certification for pharmacists to administer vaccinations. As health care becomes increasingly integrated, interdisciplinary educational experiences allowing medical, nursing, and pharmacy students to interact in both formal, structured simulated patient cases and in real time on medical wards has become essential.

500

### Impact of Intellectual Property Rights and Data Exclusivity of Pharmaceuticals in Jordan

*Prof Ibrahim Al-Abbadi (Jordan)*

Previously Jordan allowed Jordanian Pharmaceutical companies to "copy" molecules of Multinational Pharmaceutical companies and sell them under their own trade names. The arrival of the product patent and data exclusivity meant that Jordanian pharmaceutical companies could no longer do so. This has created lot of problems for the Jordanian Pharmaceutical companies as their Research & Development for new molecules is at a very nascent stage. Jordan dramatically strengthened the level of intellectual property protection



it provides for pharmaceutical products in consequence of joining the World Trade Organization (WTO) in 2000 and signing a Free Trade Agreement (FTA) with the United States in 2001. Multinational pharmaceutical companies and generic drug manufacturers have long been at odds over "data exclusivity" regulations. The latter requires a waiting period of at least five years before they can access valuable clinical trial data necessary to bring less expensive forms of innovative drugs to market. Jordan has implemented data exclusivity since joining the WTO and signing FTA with the United State. This lecture will present the basic fundamentals of intellectual property rights (IPRs) particularly for pharmaceuticals and the impact of higher levels of intellectual property protection and data exclusivity on access to medicines in Jordan as well as some Middle East & North African (MENA) countries.

Audience will be exposed to two studies conducted in this regard by quantifying the effects on the public as well as private retail pharmaceutical market of delayed market entry of generic products concluding that delayed market entry of generics due to enhanced IPR protection and data exclusivity were one of the main reasons behind the delay of the presence of the equivalent generic drug contributed to rising of the pharmaceutical expenditure in Jordan. Accordingly; Jordan should consider amending its current regulatory scheme on data protection and amending the Unfair Competition and Trade Secrets Law of 2000.

### 501

#### **Jordan Drug Information and Toxicology Center (JDITC) – Existing Trends of Inquiries during One Year of Operation**

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**Objectives:** The objective of this paper is to

analyze inquiries received during the first year of operation of JDITC. These inquiries are categorized and analyzed by utilizing descriptive statistics.

**Methods:** Descriptive statistics will be utilized to categorize and analyze received inquiries.

**Results:** During its first year of operation, JDITC received and responded to 449 inquiries. These inquiries were received from public as well as health care providers, formulary management, Pharmacy and Therapeutic Committee, drug monographs, clinical practice guidelines, and medication-use policies and procedures. Inquires were categorized as: patient centered (40.5%), administration/dosage (15%), drug adverse effect (8.7%), drug-drug interaction (8.7%), drug-food interaction (7.13%), breast feeding (1%), drug computability (1%), and renal disease medication (1%). JDITC prepared 21 brochures and 8 clinical practice guidelines, medication-use policies and procedures.

**Conclusion:** In conclusion, during one year of operation, JDITC received and responded to hundreds of inquiries, and published tens of brochures and clinical practice guidelines, medication-use policies and procedures. Success of JDITC is crucial to the medical community at large. Challenges encountered by JDITC include updating the sources of drug information such as literature, electronic databases, etc.

**Keywords:** drug information center, drug inquiries

### 502

#### **Knowledge, Attitudes, and Practices (KAP) of Community Pharmacies Towards Proper Handling and Disposal of Unused/Expired Medications in Amman, 2013**

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**Objectives:** This research was proposed to identify community pharmacies knowledge, attitude and practice towards handling and

disposal of the unused/expired medications through their pharmacies located in east and west of Amman. In addition the relation among respondents' knowledge, attitude and practice was assessed

**Methods:** A quantitative cross sectional study was conducted on 20% of the open-working community pharmacies located in east and west Amman/Jordan using a KAP questionnaire to study their proper handling and disposal of the unused/expired medications. The data were collected through a 5 minute interview to fill the questionnaire and further analyzed using SPSS (17.0). Chi-square test, T-test, F-test, Pearson correlation and scoring plan were applied to compute the p-value among research variables.

**Results:** The mean of respondents' age was around 37 years old with more than two third of the respondents' working experience in community pharmacies is more than 6 years. Up to half of which are part-time employees or owners. Respondents' OKT means score was only 1.974, where OAT and OPT mean scores were 8.993 and 8.462 respectively. Significant relations were ascertained among OKT, OAT and OPT

**Conclusion:** The significant relation among OKT, OAT and OPT assures the need to start working on the knowledge perceptive of community pharmacies about proper handling and disposal of the unused/expired medication. This could be done through founding and promoting well-established applicable medication disposal guidelines. In addition, the willingness of respondents to participate in a Take-Back program for medication disposal suggests the importance and urge of implementing such program.

**Keywords:** Medications disposal, Take-Back program, Community pharmacies, KAP study

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### **Implementation of Good Governance for Medicines in Jordanian Health Sector**

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**Objectives:** Implementation of Good Governance for Medicines in both public & private pharmaceutical sector is an innovative multi stakeholders mission. With vision originates from the perspectives & recommendations of his majesty king Abdulla the second in implementation of good governance, transparency & provide the best for Jordanians. It aims to establish the medicine security & affording safe ,effective, quality & suitable prices medicines & prevention of loss in pharmaceutical expenditure.

**Methods:** JFDA, in collaboration with the MOH and WHO, conducted this transparency study using a standard tool developed by WHO . The aim was to provide a comprehensive picture of the level of transparency and vulnerability to corruption in essential functions of the pharmaceutical system, by measuring a key performance indicators

**Results:** Study showed the vulnerable sectors for corruption, and through a national consultation process; this study followed by development of national framework for GGM for the implementation phase with Inter-institutional collaboration working through strategic & executive plan to increase transparency and accountability through the application of transparent and accountable administrative procedures and the promotion of ethical practices, build national capacity, promote implementation of legislations of anti-corruption & protection of whistle-blowers, considering the role of civil society & private sector organizations.

**Conclusion:** There is an essential need to Inter-institutional collaboration of concerned stakeholders to progress in working on implementation of good governance for medicines; we accomplished a good phase but we need to do more , for our citizens & our future

**Keywords:** Good Governance for Medicines (GGM), Transparency, Accountability, JFDA, MOH, WHO



## Hall J Session 3 Pharmacy

504

### **Update Review of Drug Delivery Systems**

*Dr. Nahla Nasser Khoury (USA)*

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### **Setting Regulations of Biosimilars at Jordan Food & Drug Administration**

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**Objectives:** While the launch of similar biological products (Biosimilar) would provide patients with potential access to affordable medicines, it is also prudent to ensure that the quality, safety & efficacy of such products are not compromised, It is therefore important to make sure that control measures are in place to guarantee the quality of the manufacturing process and of its products and to safeguard patients against possible adverse events

**Methods:** Drug Directorate at Jordan Food & Drug Administration(JFDA) is the only official body that is responsible for medicine control which extends throughout the full lifecycle from Active Pharmaceutical Ingredient until it is ready to be used by the patient as a Finished Product, This include (i) product registration; (ii) pricing; (iii) licensing of pharmaceutical manufacturers, importers, wholesalers and establishments; (iv) promoting, Rational Drug use (v) post marketing surveillance which encompasses Pharmacovigilance , investigation of reports of quality defects , including QC (program of sampling & analysis) and inspections. One of the JFDA strategies , is the continuous development & updating the legislations & guidance for medicine registration according to the scientific & international standards, so to insure safety ,efficacy and quality of biosimilars, It became necessary to develop regulations for the control of such products.

**Results:** As a regulatory authority , developing guidance for registration of biosimilars is very important to introduce

the concept of biosimilars , as the baseline scientific comparison with the Reference drug in regards to quality, safety and efficacy is required , clinical data will be needed to evaluate and approve the Biosimilar, also Quality assessment, with head-to-head comparison to the Reference drug with full characterization of quality parameters using state of the art techniques and analytical methods or procedures. And to focus on-marketing safety & efficacy studies in order to monitor any potential differences in safety and efficacy, including immunogenicity between the Biosimilar and Reference drug that become apparent once a Biosimilar enters the market also it's crucial to specify details to ensure traceability for biosimilars.

**Conclusion:** Jordan Food & Drug Administration issued and published Guidance for Biosimilars registration in order to control and monitor their safety ,efficacy and quality pre and post marketing, JFDA must work with stakeholders physicians, pharmacists, hospitals on capturing Substandard Pharmaceutical Events (SPEs) and particular attention for their therapeutic outcomes Biosimilar product (or similar biological medicinal product) : A biological medicinal product that is similar to the reference product in terms of quality, safety & efficacy through the comparability studies, having the same version of drug substance, and the same dosage form, strength and route of administration of the reference product & same manufacturing approach .

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### **Chemical Precursors and Narcotics**

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Precursors and Narcotics chemicals

precursors are chemical substances used for the illicit manufacture of narcotics and psychotropic substances ,which increase addiction problem in all countries , the precursors is controlled internationally according to the United Nations convention against illicit traffic in Drug and psychotropic substances of 1988, which include the list of the precursors (the substances frequently used in the illicit manufacture of Narcotic drugs and psychotropic substances table I (ephedrine, pseudo ephedrine ,ergotamine, piperidine, safrol....) and Table II (acetone, methylethylketon hydrochloric acid.... ). Jordan Food And Drugs Administration is the national authority in Jordan responsible for regulating enforcing control over precursors, in cooperation with other national authorities like ministry of health and law enforcement authorities like Antinarcotics department in public security in addition to Customs ,so that the precursors is controlled in the national level depending on Narcotics Law , the control system include the import / export , pre export notification systems, reporting in the national and international levels for UNODC, records , inspection and participation in the international projects and exchange the information which to detect the suspicious shipments. All that will result in decrease the availability of narcotics drugs for illicit use.

**507**

### **Pharmacy Practice and Medication Reconciliation**

*Dr Lama Al-Rashdan*

*Sacket, Rosenberg, Gray, Haynes, & Richardson, 2012.*

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**Objectives:** Evidence based treatment is an approach which tries to specify the way in which professionals or other decision-makers should make decisions by identifying such evidence that there may be for a practice, and rating it according to how scientifically sound it may be. Its goal

is to eliminate unsound or excessively risky practices in favor of those that have better outcomes.

**Methods:** The steps for implementing evidence based practice in the workplace include writing a clinical question, gathering and evaluating evidence. to communicate the evidence that has been found to others to integrate and apply it to actual practice. The types of questions that arise reflect the core clinical tasks of occupational therapy practice. Categories of clinical questions classified by proponents of evidence-based medicine include, but are not limited to, questions concerning diagnosis, treatment/ prevention, and prognosis.

**Results:** Pharmacists have developed new ways for communication with patients using various technologies , but in most situations limited to a few applications, such as medication refills. Patients have been shown to be partners of pharmacists by indicating incompleteness of medical records, and by communicating with pharmacists in order to have better clinical outcomes (e.g. blood pressure control).

**Conclusion:** Patients can be involved in developing new ways for pharmacists-patients interactions allowing them to be partners in pharmaceutical care. Pharmacists need to play a leading role in providing opportunities for sharing information with patients. Medication reconciliation is dependent upon pharmacists working collaboratively with health care professionals to optimize medication use in accordance with evidence-based guidelines.

**Keywords:** Evidence Based Practice, Decision Analysis, Medication Reconciliation

**508**

### **Do Insulin Cartridges Really Provide a Lower Risk of Potential Diabetes Complications than Traditional Vials?**

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**Objectives:** To find out if insulin cartridges really provide a lower risk of potential diabetes complications than traditional vials.

**Methods:** A questionnaire was used to ask two random samples of diabetic patients about the development of some diabetes complications. The first sample (n=41) consisted of patients using cartridges; the second sample (n=40) consisted of patients using vials. Patients were randomly selected from the endocrine clinic and the outpatient pharmacy in Al-Hussein Hospital in King Hussein Medical Center in Amman-Jordan.

**Results:** 44% of respondents in the first sample did not suffer from any complication; on the other hand, the percentage was only 15% of respondents in the second sample. All respondents (100%) in the first sample suffered from only 2 complications or less; however, 25% of the respondents in the second sample suffered from 3 or more complications. Nephropathy complications, were slightly higher in the first sample; 22% compared to 15% in the second sample. On the other hand, all complications reported in the second sample were higher; 30% for neuropathy, 65% for retinopathy complications and 42.5% for Extremities damage compared to only 9.7%, 7.3% and 26.8% respectively in the first sample.

**Conclusion:** In general, respondents who were using cartridges reported a lesser incidence of diabetes complications. Although many organizations suffered from an economical crisis, the cost-effectiveness aspect should be taken into consideration when purchasing medical alternatives. This will provide higher quality of life for patients and eventually lower hidden and future costs for the organizations.

**Keywords:** Insulin, vial, cartridge, diabetes, complications

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### **RMS Anticoagulation Clinic: An Overview of its Goals and Roles**

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**Objectives:** Anticoagulation clinics that are managed by a well trained clinical pharmacists have proved its efficacy and role in achieving better patients out comes all over the world. The Queen Alia Heart Institute (QAHI) Anticoagulation Clinic is designed to assist physicians in improving quality of care provided to their patients. Ultimately, our goal is to assure that these services improve patients' therapeutic outcomes, reduce complications of anticoagulation therapy, and reduce hospitalizations.

**Methods:** QAHI Anticoagulation Clinic is an outpatient clinic that provides comprehensive care to individuals receiving Anticoagulation drug. The Clinic assesses the effectiveness of Anticoagulation therapy. Patients are assessed by anticoagulation care providers comprised of clinical pharmacists and nutritionists.

**Results:** Patients will fall under the care of the clinic after a patient's physician completes an "Anticoagulation Clinic Referral form". In the first visit each patient will receive an educational session that includes information concerning dietary considerations, drug-drug and drug-disease interactions, self-monitoring parameters for symptoms of bleeding/bruising as well as thromboembolisms, via verbal instructions and RMS printed booklet At each scheduled appointment, the patient will be interviewed and assessed by the pharmacists. The pharmacist will perform an INR test. The result of the test will be compared to the therapeutic range that is prescribed for the patient. And according to the clinic protocol the changes in dosage are made.

**Conclusion:** QAHI Anticoagulation clinic

provided an outstanding care for patients and assessed physicians in improving quality of care and reducing hospitalization.

**Keywords:** Anticoagulation clinic, warfarin clinic, clinical pharmacist

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### **An Audit Evaluating Anticoagulation Clinic Managed by Clinical Pharmacists**

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**Objectives:** In 2013 the first anticoagulation clinic has been established in the Royal Medical Services at Queen Alia Heart Institute (QAH). The purpose of this study is to evaluate the impact of our clinic on patient's outcomes regarding (achieving target INR, controlling adverse events and preventing complications and hospitalization)

**Methods:** A Prospective observational study was carried out at QAH anticoagulation clinic In the period between September 2013 until June 2014, about 250 patients on warfarin were referred to the clinic. The main outcomes were: The time needed to achieve target INR for patients referred to the clinic with uncontrolled INR, the proportion of therapeutic INR for all patients whether coming to the clinic with controlled or uncontrolled INR during the above period and the reported main adverse events and hospitalizations.

**Results:** The most common indications for warfarin were aortic and mitral heart valves replacement, atrial fibrillation. 72% of the patients who referred to the clinic for the first time were not acheiving therapeutic INR (TINR). 43% of them achieved the TINR after one week, 28% after two weeks, 17% after three weeks and 4% after four weeks and 8% of them exceeded four weeks. The proportion of TINR for all patients during the whole period was 75%. 7% of patients during the whole period had INR <1.5 and 5% had INR >4.5. The main reported adverse events were bruising and epistaxis .

**Conclusion:** the clinic made an improvement on the quality of life for patients throuh manintaining their TINR most of the time.

**Keywords:** Anticoagulation clinic, Warfarin, INR

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### **Antibiogram of Multidrug Resistant AcinetobacterBaumannii Isolated from different Clinical Specimens at King Hussein Medical Center, Jordan. A Retrospective Analysis**

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**Objectives:** Acinetobacter Baumannii (AB) resistant to multiple antimicrobial agents was increasing over the last decades, it becomes one of the most troublesome health care associated multidrug resistant (MDR) pathogen, this study was conduct to determine the prevalence and the local antibiogram of MDR-AB isolates in Al-Hussein Hospital (AHH) at king Hussein Medical Center (KHMC).

**Methods:** A retrospective study, conducted in the Dept. of Microbiology, Princess Iman Center at KHMC, from Jan-Dec 2013. A total of 116 non-repetitive positive clinical samples (blood-24, sputum-28, urine-7, and pus-57) were retrieved from patients' laboratory records at AHH. Clinical and Laboratory Standards Institute recommendations (2012) were adopted for culturing, isolation, identification and antibiotic susceptibility testing using the VITEK 2 system using AST-N233 and AST-XN05 Cards. MDR-AB: defined as resistance to Imipenem plus ≥3 different antibiotic classes, while pandrug resistant (PDR-AB): defined as resistant to all tested antibiotic or just sensitive to Colistin.

**Results:** The total resistant of AB were found to be (100%) for Ceftriaxone, Cefotaxime, and Ticarcillin, followed by (98.3%) for (Ceftazidime, Cefepime, Piperacillin), (97.4%) Imipenem, (96.6%) Piperacillin/



Tazobactam, (94.8%) Quinolones, (89.7%) Ampicillin/Sulbactam, (87.9%) Gentamicin, (76.7%) Tobramycin and Tetracycline, (75.9%) Trimethoprim/Sulfamethoxazole (SXT), (26.7%) Minocycline, (1.7%) Colistin. The resistance pattern from various sources significantly differ from each other ( $p$ -value  $\geq 0.05$ ) for Quinolones, tetracyclines, Gentamicin, and SXT. MDR-AB and PDR-AB were (77.6%) and (8.6%) respectively.

**Conclusion:** *Acinetobacter b.* was found to be highly resistant to all antibiotics including tigecycline, except for Minocycline and Colistin which considered as the last resort treatment for MDR-AB.

**Keywords:** Pan drug resistant, Carbapenems, Colistin, Minocycline, Tigecycline.

## 512

### **The Role of Clinical Pharmacist in Resolving/ Preventing Drug Related Problems in ICU Patients who receive Anti-infective therapy**

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**Objectives:** To highlight the role of the clinical pharmacist in resolving/preventing drug related problems in patients who receive anti-infective therapy in the intensive care unit. Setting: General ICU ward of the King Hussein Medical Center, Royal Medical Services, Amman, Jordan.

**Methods:** Two groups of ICU patients were randomly selected, Intervention group,  $n=52$  and control group,  $n=50$ . The intervention group received complete Pharmaceutical Care services. Consult notes were written to identify drug related problems according to a pharmacy care plan in the intervention group. The recommendations in the intervention group were submitted to and discussed with physicians.

**Results:** A total of 251 consult notes were written for both groups. The acceptance rate of the submitted recommendations to physicians was very high (around 98%). Only 6 drug related problems in the control

group were identified and corrected by physicians on their own.

**Conclusion:** Clinical pharmacist plays a key role as member of multidisciplinary team as he is able to reduce drug related problems during ICU stay, can follow up and assess the patient medication treatment from every aspect.

**Keywords:** Clinical pharmacist, Drug related problem

## 513

### **Carvedilol in Children with Cardiomyopathy; Meta-Analysis Odds Ratio Study**

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**Objectives:** To evaluate the efficacy of carvedilol compared with placebo on a composite measure of clinical outcomes in children with symptomatic systemic systolic dysfunction and heart failure.

**Methods:** A meta-analysis odds ratio study obtained from four pubmed international researches. Of these the different composite measure of clinical chronic heart failure outcomes after about 8 months was designated "worsened and improved" between placebo and combined carvedilol therapy. The carvedilol was initiated  $14.3 \pm 23.3$  months after the diagnosis of cardiomyopathy and the mean initial and maximum doses were  $0.15 \pm 0.09$  and  $0.98 \pm 0.26$  mg/kg/day.

**Results:** The 55.5% rate of improvement seen in the combined carvedilol group was 1.3-fold significantly higher than placebo group (48%) (OR = 1.3, 95% CI; 0.8-2.2 and  $P$ -value = 0.0237). Whereas 19% of the combined carvedilol group worsened compared with 26.5% of those on placebo group (OR = 0.6, 95% CI; 0.5-0.9 and  $P$ -value = 0.7411).

**Conclusion:** The uses of carvedilol therapy in heart failure among children reduce the morbidity and improve the survival.

**Keywords:** Carvedilol, Cardiomyopathy, Children, Improvement, Morbidity, Survival



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### **Effect of Statin Therapy on Vaspin Levels among Type 2 Diabetic Patients**

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**Objectives:** to investigate the effect of statins therapy on the levels of vaspin among patients with type 2 diabetes mellitus. vaspin found to improve glucose tolerance and insulin sensitivity in obese rodents and may also normalize altered expression of genes relevant to insulin resistance.

**Methods:** This was a randomized clinical study, Participants were considered eligible if they had type 2 diabetes and were 18 years of age or older. A total of 62 diabetes patients were recruited. Diabetic patients were randomly assigned to those who are receiving simvastatin 20 mg/day (study group, n=33) or those with no additional drug (control group, n=29). Blood samples were withdrawn from the participants after an overnight fast at the beginning of the study (baseline), and after 8 weeks at the end of the study. Data were analyzed using SPSS version 17. Frequencies, means, and standard deviations were used to describe data wherever appropriate. Chi-square test or T- test were used to test the difference between proportions.  $P < 0.05$  was considered statistically significant.

**Results:** The mean vaspin level was significantly increased in the study group after treatment with simvastatin (504.58 Pg/ml before treatment to 629.15 Pg/ml after treatment,  $P < 0.01$ ). The control group did not show a statistically significant change in the mean vaspin levels at the end of the study.

**Conclusion:** simvastatin treatment increases serum vaspin levels in type 2 diabetes patients. This may represent a possible

mechanism underlying the pleiotropic effects seen with statins.

**Keywords:** vaspin, statins, diabetes, adipokine.

Hall K Session 1

ICMM - Medical Aspects of Chemical and Biological Warfare

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### **Medical Aspects of Chemical Warfare**

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**Objectives:** The aim of this study was to review various agents used as chemical weapons and preventive and therapeutic methods used in the treatment

**Methods:** For gathering information, we have used the electronic databases including Scopus, Medline, ISI, Google scholar sites. According to this search strategy, all the published articles associated to chemical warfare agents; prevention and treatment were reviewed.

**Results:** Toxic chemicals, like phosgene, sulfur mustard and lewisite caused 100,000 deaths and 1.2 million casualties in World War I. Millions of innocent civilians were killed by the Nazis with hydrogen cyanide gas during World War II. Agent Orange – a defoliant – was used by the USA during the Vietnam War. The only major use of chemical war since WWI occurred during the Iran–Iraq War in the 1980s. The largest single attack killing around 5,000 people followed an Iraqi nerve agent attack on the Kurdish civilian population of Halabja. Sarin attacks by a Japanese cult in Matsumoto city (1994) and the Tokyo subway system



(1995), causing 5,500 injuries and 12 deaths. Other chemical war agents are Tabun, Soman, Vx and Botulinum toxin.

**Conclusion:** Chemical warfare is one of the most brutal weapons of mass destruction created by mankind in comparison with biological and nuclear warfare. Mass casualties can be prevented with the rapid medical response and efficient delivery methods.

**Keywords:** Chemical warfare, Medical response, Prevention and Therapeutic Methods

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**Field Management of Chemical/Biological Casualties: A Medical Planner's Perspective**  
*Col (Ret) James Pillow (USA)*

**Objective:** A chemical or biological attack in a military setting demands a rehearsed, equipped, and trained effort to respond appropriately and create the best chances for survival. Moreover, medical planners must be involved in the planning process to ensure all the medical resources are used appropriately within that collective effort. With the use of United States (U.S.) military doctrine, this presentation will explore the hot/warm/cold zones, the responsibilities within each zone, and challenges found in each zone.

**Methods:** The paper will review current United States military doctrine in the public domain from a technical and practical perspective.

**Results:** In the event of a chemical or biological attack, the U.S. military will provide a coordinated response to these types of events. This response includes chemical units, military police units, search & rescue, medical treatment & evacuation, communication, etc., with the skills and equipment to survive in the affected area while providing initial and follow-on treatment to those contaminated.

**Conclusions:** While it is important to understand the components of a coordinated military response, the role of medical units is critical to the overall success of the response. Inclusion of medical planners into the overall preparation for a military response is critical to the success

of the mission and the credibility of the medical force. And the use of rehearsals to validate the collective response in a peacetime environment will set the stage for a successful response if the situation actually occurs.

**Keywords:** Training, hot warm cold zones, contaminated casualties, medical response, evacuation.

517

**The Belgium Medical CBRN Defense Development Initiative**  
*Col Erwin Dhondt MD (Belgium)*

518

**Chemical/Biological Triage: Zone Offense or Defense**  
*Col (Ret) James Pillow (USA)*

**Objective:** As a newly assigned resident working in the Emergency Department (ED) one morning, a distress call comes in to the main desk reporting a chemical attack in the local metropolitan area. Your position is also designated as the primary Triage Officer for the hospital. While you feel confident in your abilities to triage patients in the ED, you have not received any additional training to deal with chemically contaminated casualties. What will you do first? How will you react? Do you have the necessary protective gear for you and your team? Does the hospital have appropriate security to manage the potential influx of casualties? Do you have a system to physically tag or label casualties based on their assigned triage category? Is there a place outside the ED to decontaminate and triage casualties? Do you have plenty of supplies and equipment to manage the influx of casualties?

**Methods:** The paper and presentation will explore the psychological impacts of chemical and biological attacks, current trends in triage, challenges to the Triage Officer, and possible solution sets in the public domain from a technical and practical perspective.

**Results:** In the event of a chemical or biological attack, chaos will rule the day. Depending on the volume and types of casualties involved and proximity to the

attack, triage officers will face significant challenges. Research suggests that chemical and biological casualties will have similar signs and symptoms initially, but exposure and the manifestation of those will vary and further complicate the triage and diagnosis process.

**Conclusions:** Medical practitioners assigned as Triage Officers face a myriad of challenges to include ethical dilemmas with regard to art of effective triage. In the spirit of preparedness, those assigned as a Triage Officer must receive periodic training and rehearse for the physical and psychological challenges of the job.

**Keywords:** Triage, psychological impact, Triage Officer, triage categories, chemical attack, biological attack, hot zone, warm zone, cold zone .

519

#### **CBRN Medicine--Clinical Challenges and Advances**

*Brig Gen Timothy Hodgetts MD (UK)*

UK has provided the leadership within NATO for the development of novel clinical concepts for care in the unconventional environment. This includes concepts for:

- Chemical and Biological **triage**
- Clinical **diagnosis**
- Casualty **decontamination**
- The **resuscitation** of the critically ill CBRN casualty

This lecture will discuss how these advances meet the challenges of providing excellent clinical care in an unconventional environment and identify where additional research and innovation is required.

520

#### **Hospital Preparedness: Contamination on the Run**

*Col (Ret) James Pillow (USA)*

**Objective:** History can be a painful teacher. The events of the past can shape how an organization or nation responds to future events, if due attention is paid. Too often, the signs are on the television news channels, the videos are on the internet, the articles are in the newspapers and magazines along with the results

of an event, but actions and posture of organizations and nations remain the same. Take the recent, unfortunate events in Syria with an apparent Sarin attack on innocent civilians. As videos on Youtube attested, friends and family members scooped up their injured loved ones and fled straight to the nearest hospital. It is reasonable to assume that the hospitals and treatment centers were not prepared for the events of the day. Consequently, hospital facilities and resources were contaminated during this event. Risk assessments and preparedness are keys to building an effective response.

**Methods:** The paper and presentation will review historical examples of chemical and biological attacks, current trends in preparedness, and possible solution sets in the public domain from a technical and practical perspective.

**Results:** In the event of a chemical or biological attack, chaos will rule the day. As much as we want processes to be organized and controlled, the reality is very different and unpredictable.

**Conclusions:** Preparedness is tough work and requires time, resources, and effort. A thorough risk assessment will determine potential risks and threats to hospitals, staffs, and resources. Leaders must review the results of the risk assessment and make decisions about how to mitigate the potential effects of the identified risks and threats. In the days of limited resources, to include money and human capital, organizations and nations can establish a baseline readiness posture that will greatly enhance an effective response to risks and threats.

**Keywords:** Chaos, hospital, Preparedness, worried well, risk assessment, mitigation, resources, human capital.



## Hall K Session 2 ICMM - Acute Trauma and Emergency Medicine

521

### **Combat Care, Battle Care and the Most Recent Development on Tactical Combat Casualty Care (TCCC)**

*Col Mark Mavity MD (USA)*

We must continue to embrace and explore emerging capabilities to deliver far-forward resuscitative care. Those capabilities that are both responsive and adaptive to the dynamic tactical landscape hold the greatest intrinsic value for our line commanders and their personnel. We must also ensure that our supporting functions to Organize, Train, and Equip have the agility to keep pace with these evolving standards of care. Some of our current capabilities include:

- The deployment and distribution of junctional tourniquets to control non-compressible hemorrhage in the pre-hospital environment.
- The expanded authorization of tranexamic acid (TXA) to include all deployed pre-hospital forces to control non-compressible hemorrhage in the pre-hospital environment.
- The authorization of ketamine as a pre-hospital pain management therapy in accordance with TCCC Guidelines with clear guideline indications to use low-dose ketamine as the battlefield analgesic of choice for casualties in severe pain/shock/respiratory distress, or at significant risk for these conditions.
- Creation and manning of the deployed Joint Theater Trauma System (JTTS) Pre-Hospital Division (Physician, Physician Assistant, and Senior Medic) with a JTTS Pre-Hospital Care Director in the Combined Joint Operational Area-Afghanistan filled by a hand-selected physician with knowledge and experience in point-of-injury pre-hospital combat trauma care.
- Several processes that have been im-

plemented include:

- Implementation of a pre-hospital Combat Medic Trauma Conference that is for medics, by medics, and hosted by the JTTS in the Combined Joint Operating Area (CJOA). This effort improves direct peer to peer communication about TCCC Guidelines, best practices and practical solutions.
- The JTS/JTTS implementation and deployment of the Pre-Hospital Trauma Registry along with implementation of the CJOA-A TCCC Casualty Card and TCCC-After Action Report (AAR) system to advance pre-hospital documentation and performance improvement.

The U.S. has achieved unprecedented survival rates, as high as 98%, for casualties arriving alive to the combat hospital. With up to 25% of deaths on the battlefield being potentially preventable, the pre-hospital environment is the new frontier for making significant further improvements in battlefield trauma care.

522

### **A Revolutionary Approach to Improving Compact Casualty Care**

*Brig Gen Timothy Hodgetts MD (UK)*

Military medicine has historically advanced in war and conflict. An analysis of contemporary advances identifies a genuine revolution in military medical affairs has taken place through changes to concepts, technology, organisation, clinical guidelines and the governance system underpinning continuous quality improvement. The result has been a proven improvement in clinical outcome. This lecture charts the revolutionary changes and shows where learning is transferable more widely into the civilian and international healthcare community.



**523**

**Acute Pain Management in Battlefield Trauma**

*Brig Gen Mustafa Beano MD (Jordan)*

Pain management in the battlefield was regarded as some sort of luxury service, compared to other life saving measures. Nowadays, unrelieved pain in acute setting is regarded as a culprit in increasing the incidence of chronic pain, phantom pain, and posttraumatic stress disorder.

The work of colonel Chester Buckenmaier and his colleagues during the invasion of Iraq showed clear superiority of continuous regional anesthesia over the long lasting morphine injections. It has a superior analgesic effect and leaves the patient aware and cooperative. Moreover, it does not cause nausea, vomiting or respiratory depression. However, it does necessitate the presence of trained staff for administration; even an anesthesiologist might be needed. An alternative modality is multimodal analgesia that does not require that level of expertise, were ketamine and paracetamol are simple and interesting addition to morphine.

In Jordan Armed Forces, anesthesiologists are expected to participate in medical support of operational units. Their proficiency can be exploited in better management of acute pain in the battlefield.

**524**

**Vector Born Disease During Combat Operations, Risk Factors and Preventive Measures**

*Maj Gen Saeed Al Asmary MD (KSA)*

**525**

**Acute Trauma and the US Special Operation Forces**

*Col Harlan Walker MD (USA)*

"The foundation of acute trauma care within US SOF Medicine is the single NCO SOF Medic operating in remote and austere combat environments. COL Walker's presentation will explain the differences between the various SOF Medics, their baseline and advanced

training programs, the medical skills they perform and medicines they administer without immediate physician supervision, and how they coordinate casevac/medevac options. Questions from the audience will be encouraged."

**526**

**Advances in Military Trauma Care: UK Current Military Medical Research**

*Brig Gen Timothy Hodgetts MD (UK)*

*Brigadier TJ Hodgetts CBE PhD MMed MBA Medical Director, UK Joint Medical Command*

Innovation and research is essential to sustain clinical excellence and ensure that standards are maintained and developed as Defence medicine adapts from supporting enduring campaigns to unplanned operations. The UK Defence Medical Services has an extensive and active research programme. A systematic approach is applied to each complex research strand in order to identify opportunities to close the gaps in knowledge that relate to prevention, detection and treatment of illness or injury. This lecture will describe the systematic approach, will highlight key academic collaborations and will give insight into those areas of research that are actively being pursued—a focus will be given to combat casualty care and simulation as examples.

**Hall K Session 3**

**ICMM - ICMM Related Lectures, Delegations Talks & Free Papers**

**527**

**Frontline Medical Support and the Way Belgium has Implemented the new NATO Medical Planning Timelines**

*Col Erwin Dhondt MD (Belgium)*





528

### **Health Care in Danger: Moving to Solutions**

*Bruce Eshaya-Chauvin MD, ICRC  
(Switzerland)*

In 2011, the Red Cross Red Crescent Movement launched the **Health Care in Danger project**; a global initiative led by the International Committee of the Red Cross (ICRC) to respond to a pressing humanitarian issue: violence against patients, health-care personnel and facilities. Supported by analysis of data gathered from the field (the last report released in April 2014 is based on 1,809 incidents collected from January 2012 to December 2013), the project has the objective to make health-care delivery safer, mobilizing experts to develop practical measures for decision-makers, military and health professionals. A series of International workshops, in partnership with different States and key organizations, have explored the various aspects of the provision of health-care services in times of armed conflict and other emergencies and identified solutions along some thematic areas, such as hospitals and pre-hospital services, national legislations, ethics.

Considering the essential role played by State armed forces and the impact that military operations may have on the safe access to or delivery of health-care, the ICRC engaged a consultation process with military personnel around the world. Bilateral confidential consultations were conducted with military personnel in 29 countries. A workshop co-organized by the ICRC and the Australian government was held in Sydney and brought together 27 senior officers from 20 countries.

The outcome of these consultations is represented by a number of tools, such as the already published guide for health-care workers, another one on ambulances and pre-hospital services, and a recently published report on "Promoting Military Operational Practice that ensures safe access to and delivery of health-care".

529

### **Principles from Military Medicine Translated into Civilian Emergency Care Practice**

*Col Erwin Dhondt MD (Belgium)*

530

### **Permanent Flying Disqualification of Saudi Military Pilots and Aircrews**

*Maj Gen Yahya Al Aql MD, Dr Abdullah Al Jalaud*

*Major General (AKA 2 Star General),  
Director of Armed Forces Aeromedical  
Center, Dhahran (KSA)  
ajalaud@gmail.com*

**Objectives:** The objective of this study is to identify and evaluate the medical causes of permanent flying disqualifications of Saudi military pilots and aircrews to demonstrate, prevent and management the most common causes of permanent flying disqualifications in future

**Methods:** Medical files on all permanent disqualification Saudi military pilots and aircrews were retrospectively reviewed. Out of 463 medical boards 123 cases were found to be permanent grounded. They were subsequently subdivided into age groups and diagnostic categories. Different disqualification rates were calculated

**Results:** The number of disqualifications decreased by age group. The most common medical condition resulting in permanent disqualification were musculoskeletal disease, airsickness, and Eustachian tube dysfunction

**Conclusion:** Our study shows that permanent disqualifications rate show higher rate in youngest group, mainly due to musculoskeletal, airsickness and Eustachian tube dysfunctional. An explanation for this may be that young pilot perceive the gap between work environment expectations and actual working conditions to be too wide, and that physical and psychosocial factors are particular important

**Keywords:** Aviation Medicine, Medical Disqualification, Military Pilot



531

### **Joint-Service Infectious Diseases Surveillance for US Military Deployed in Kuwait: Progresses and Challenges in 2014**

*Capt Xiaoxu Lin PhD\*, CPT Joshua J. Pete, MAJ Cheryl L. Magnuson, Marie J. Wippler, Kyle W. Adam, Misty N. Kennedy, Caleb E. Chiellini, Satria A Suprobo, LTC Stephen P. Hyland, MAJ Jered D. Little*

*\* Captain, Medical Service Corp, US Army Theater microbiologist and laboratory OIC US Army Medical Detachment (Preventive Medicine) (Kuwait)  
xiaoxu.lin.mil@mail.mil*

**Objectives:** To summarize the progresses in infectious diseases surveillance for US military deployed in Kuwait in 2014 and to discuss related current challenges in capacity and operation.

**Methods:** Integrating the combat support hospital, preventive medicine and public health capacities in US Army and Air Force units in Kuwait, joint-service collaboration was established for infectious diseases surveillance. Patient samples were collected from all US military bases in Kuwait. Classic microbial identification, rapid antigen tests, and molecular assays on ABI7500 and Film Array platforms were used to conduct routine surveillance for respiratory and gastrointestinal infections.

**Results:** Lab testing capacity was established for most common respiratory pathogens and 10 different bacterial, viral and parasitic pathogens for gastrointestinal (GI) infections. Total 105 nasal wash samples were analyzed during 2014 Influenza season peak period. Total 71 stool samples were tested in 6 months periods. All testing results were reported to Armed Force Health Surveillance Center (AFHSC). Small salmonella and Norovirus outbreaks were identified during this GI surveillance. In response to the outbreak of Middle East Respiratory Syndrome-Coronavirus (MERS-CoV) cases, surveillance-level laboratory testing capacity and an overall contingency plan were developed for US military members deployed in Kuwait.

**Conclusion:** Combining the strength of different medical assets deployed in Kuwait is essential to a successful infectious

diseases surveillance operation. Significant challenges still reside in sample collection, laboratory capacity improvement, public education and coordination with local units, as well as support to other bases outside Kuwait.

**Keywords:** Surveillance, respiratory, MERS-CoV, Influenza, gastrointestinal

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### **The Saudi Experience in Controlling Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Infection**

*Lt Col Ali Alkinani, Pharm (KSA)*

*By, Lt Col. Ali A Alkinani (Msc)\*; Lt Col Ahmed H Alamri (MD)\*; Col Mansor Alhamedi\*; Dr.Yaser A Turkistani (PHD)\*; Col Dr.Saeed M Alqahtani (PHD)\**

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Coronaviruses are a large family of viruses that can cause infectious range syndromes' from common cold to Sever Acute Respiratory Syndrome (SARS). Middle East respiratory syndrome coronavirus (MERS-CoV) is a strain of coronavirus that was first identified in Saudi Arabia in 2012; in addition, this strain caused outbreaks of a SARS-like illness in the Middle East called Novel Coronavirus 2012 or Simply Novel Coronavirus.

According to the Saudi Ministry of Health (MOH), 749 cases were identified with (MERS-CoV) infection in 2012.About, (42%) 317 cases died as a result of that infection.

Because (MERS-CoV) was first identified in Saudi Arabia, health authorities; particularly, Saudi MOH exerted great efforts to control the outbreak of the infection. Other health authorities such as Medical Services of Armed Forces, Health Services of National Guard, Ministry of Interior; as well as private hospitals were also involved in limitation of the outbreak of that infection. Moreover, Saudi health authorities worked with international health such as World Health Organization (WHO). Local and international clinical and research experts were also involved; furthermore, daily co-ordination with the WHO to was performed to ensure that the

most recent findings and best practices are being shared among the countries as a global effort to control the outbreak. The work of the task teams were formed to control the situation and isolation of infected people and to speed up the screening of suspected cases. Furthermore, necessary precautions have been taken before the seasons of Hajj and Umrah, which increases the congestion of pilgrims from different part of the world at specific place and time. In addition, the control of the foci of infection of that might be caused by animals have been made., However, The Saudi government exceeded the risk of an outbreak of the disease since the month of August 2014 which confirmed the Kingdom clear from (MERS-CoV) perfectly with taking all the necessary precautions if that situation recurrence.

### 533

#### **Mental Stress Among Deployed Military Personnel**

*Saeed Kadasah MD\*, Fahad Al Sabaan, Saeed M Al Asmary, Ghaleb Bin Huraib, Sulaiman A. Al Rashed, Zabih Ullah*  
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**Objectives:** To review the prevalence of deployment related stress among military personnel deployed in war zones.

**Methods:** An extensive search has been undertaken to identify the psychological stress related disorders experienced by troops due to deployment in Arab gulf region. After collection of the relevant studies the data were analyzed for the prevalence of deployment related stress among deployed military personnel.

**Results:** Psychological problems send more men in the military to the hospital than any other cause and second highest reason for hospitalization of women military personnel behind conditions related to pregnancy.

Negative effects of deployment on the mental health of Gulf War personnel have been identified in many studies. Systematic reviews of cross-sectional studies presented good evidence of an increased frequency of self-reported symptoms of post-traumatic stress disorder (PTSD) and other common mental disorders. Nearly a third of army personnel deployed in Iraq and Afghanistan between 2001 and 2005 were diagnosed with mental or psychosocial problems. Post-traumatic stress disorder was the most common disorder, accounting for more than half (52%) of mental health diagnoses, followed by anxiety disorder (24%), adjustment disorder (24%), depression (20%) and substance abuse disorder (20%).

**Conclusion:** Of all the veterans who have served in gulf war, around 35% suffered from psychological illnesses including PTSD, depression or traumatic brain injuries. Early intervention has shown significant reversal of these conditions.

**Keywords:** Prevalence, Mental stress, Deployment, Intervention

### 534

#### **Mobilization of Medical Education Program by Field Hospital Command to Zayed Military City Community**

*Lt Col Ahmed Mubarak Humaid MD\*, Maj Dr Saeed Al Hafeeti, MBBS, M. Sc (PN), Psychiatry and Neurology Specialist, Deputy CO Mobile Field Hospital 2. Mr. Hashim Eltayeb, B. Sc (PEH), MBA (HA), Public Health Inspector, Public Health Division In Charge at Mobile Field Hospital*

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**Objectives:** 1.To explore the extent commitment of Field Hospital in implementing and mobilizing the military community outreach education program. 2. To assess the response and interaction of the attendees concerning the program. 3. To assess the improvement in the quality of program.

**Methods:** This is a descriptive; cross-sectional study conducted in 28 military units in

Zayed Military City. Included units were distributed into 16 places and were given 4 lectures annually. All data were collected and manually calculated the average and the variance between variables. In order to determine the relationship between the number of the conducted lectures and the number of actual attendees, the Pearson correlation coefficient was calculated by the IBM SPSS ver.20.0 software.

**Results:** 1. The performance ratio in 2014 decreased by almost a 1/4 compared to 2013. 2. The attendance ratio in 2014 increased by almost 1/4 compared to 2013. 3. The number of medical topics given in 2014 was increased by more than one time compared to 2013. 4. Analysis of the relationship between the number of lectures conducted and number of actual attendees showed a positive, high and significant relationship between them ( $R^2 = 1$ ).

**Conclusion:** The performance ratio decreased in 2014 can be due to lectures cancellation by targeted units because of their further work duties and missions. The interim large number of attendees in 2014 partially contributed to the extent of response and the interaction of the community to the program. The results of our questionnaires are not yet ready to boost our assumption.

**Keywords:** Medical Mobilization, Military Education, Outreach Program, and Medical Prevention

535

#### **Epidemiological and Clinical Study on Scorpion Stings in Saudi Arabia**

*Abdulrahman Al Asmari MD\*, Abdulgader Al Rawi\*\*, Faisal Al Bannah\*\*\*, Abbas Manthiri\**

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**Objectives:** The armed forces are exposed to poisonous animals during deployment and training. The objective of this study was to explore the epidemiology, distribution and clinical presentation of scorpion stings in Saudi Arabia.

**Methods:** In this retrospective study 57, 588 cases of scorpion stings were collected from health centers of the various regions of Saudi Arabia. Data on type of scorpion, age and gender of patients, time lag in receiving medical care and dose of antivenom used was collected.

**Results:** Black and yellow scorpions were responsible for 24,982 (43.38%) and 27,137 (47.12%) cases of stings respectively and the type of scorpion was unknown in 5469 (9.50%) cases. The male to female ratio of the stung patients was 1.6:1. The adolescents were the most vulnerable to scorpion stings followed by children < 10 years of age. 26325 patients reached medical facility within half an hour of the sting, whereas 16056 and 8240 patients reached within one and two hours respectively. Less than 5ml antivenom was administered to 43.35% of the patients while 53.27% patients received 5ml antivenom and >5ml antivenom was administered to only 3.38% patients. Burning sensation, severe pain, anxiety and local symptoms were the most prevalent.

**Conclusion:** Larger numbers of patients were stung by yellow scorpions than black scorpions. Young male adults were the most vulnerable to scorpion stings and most of the victims received medical attention within an hour. Mostly local symptoms including pain, burning, redness, numbness, tingling, swelling were noticed.

**Keywords:** Scorpion stings, Epidemiology, Clinical presentation, Management.

#### **Hall L Session 1 ENT - Neuro-Otology**

536

#### **Cochlear Implant Infections**

*Michael McGhee MD (USA)*

Cochlear implants, once relatively rare, are becoming a more common place surgical



procedure. Associated with this increased surgical rate are more complications in the post operative period. Hence more post op infections are occurring and will continue to occur. This paper addresses the hope of prevention and obtaining the best outcomes once infections are discovered with the desire of salvaging the implant.

**537**

### **The Unusual Cochlear Implant**

*Michael McGhee MD (USA)*

Successful cochlear implantation is the norm with most surgeries. With the advent and progression of cochlear implant surgery, more defects and anomalies are also being discovered. These unusual cases can be a challenge in the best of hands. This paper addresses these unusual findings and approaches that hopefully will lead to better outcomes.

**538**

### **Cochlear Implantation: Ten Years Experience in the Royal Medical Services**

*Nemer Al-Khtoum MD (Jordan)*

Cochlear implantation is a safe and reliable procedure for adults and children with severe to profound hearing loss, who did not get benefit from conventional hearing aids. In the past decades, there was significant progress in the field of cochlear implantation, from a research stage to clinical application. The Royal Medical Services started the cochlear implantation program in 2004. Between 2004 and 2014, 500 cases were operated on with different types of devices. Our experience with cochlear implantation in terms of selection criteria of patients, pre- and postoperative evaluations, problems encountered during and after surgery, surgical techniques, clinical and audiological outcome of patients and complications were discussed.

**539**

### **Non Acoustic Tumors of the CPA**

*Michael McGhee MD (USA)*

Lesions other than schwannomas have always been present! With the increase

in cerebellopontine angle surgery, more unusually findings are being discovered and treated. This paper addresses the unusual angle lesions and their treatment.

**540**

### **Facial Nerve Neuroma**

*Michael McGhee MD (USA)*

Facial Nerve Neuromas are difficult to manage. Some have uncharacteristic findings that allow these to be identified prior to surgery and others only at the time of surgery. This paper addresses these findings and problems associated with their treatment.

## **Hall L Session 2 ENT - Rhinoplasty & Rhinology**

**541**

### **Rhinoplasty & Profileplasty**

*Gilbert Nolst MD (Netherland)*

In this lecture I will discuss:

- Analysis of the over projected nose
- Aesthetic guide lines
- Modern techniques: Hump resection, Micro-osteotomies, Interrupted strip technique, Adjunctive procedures

These subjects will be illustrated with case reports and video clips.

**542**

### **What I learned From My Mistakes**

*Gilbert Nolst MD (Netherland)*

During this lecture I will give an overview of what I learned in 30 years concerning:

- Tip suturing and cephalic resection
- The crowded upper lip
- Alar battens
- Camouflage grafts
- The use of PDS foil
- The use of composite grafts
- Clift lip rhinoplasty
- Patient communication
- Ethnic rhinoplasty

These subjects will be illustrated with case reports and video clips.



543

### **Revision Rhinoplasty & Challenging Cases** *Gilbert Nolst MD (Netherland)*

In this lecture the focus is on revision rhinoplasty, prevention and surgical solutions.

Further more "messages to take home" to lower your revision rate in:

- Re-deviation of the nasal septum
- Hump resection
- Insufficient osteotomies
- The thick skin patient

These subjects will be illustrated with case reports and video clips.

544

### **Reconstructive Rhinoplasty** *Khaldoun Haddadin MD (Jordan)*

Reconstructive Rhinoplasty is a difficult and unpredictable procedure. It requires precise assessment of the deformity, an understanding of nasal support mechanisms and soft tissue skin envelope. In the following discussion we will summarize the main indications for such a procedure such as congenital craniofacial anomalies, post-traumatic, post-oncological resection and finally in the crippled post-rhinoplasty cases. We discuss various operative approaches and the utilizing of autologous grafts.

545

### **Surgical Management of Septal Perforation** *Daifallah Al-Raggad MD (Jordan)*

**Introduction:** Nasal septum perforation is a common problem with myriad causes and treatments. While most of the patients are asymptomatic, the remainder may suffer bothersome nasal symptoms such as crusting, epistaxis, pain, obstruction, discharge and whistling. Closure of these perforations remains a surgical challenge for otolaryngologists.

**Methods:** A prospective study done at King Hussein Medical Center in Amman, Jordan between September 2002- December 2013, where 76 patients underwent closure of their septal perforations, 63 had their perforations closed surgically using

a bipedicle advancement flaps enforced by a temporalis fascia graft while septal buttons were offered to the other 13 patients. Patients were followed up for minimum of 9 months and up to 5 years.

**Results:** Initial closure was achieved in all patients of both groups. In the button group 8 patients (62%) achieved a permanent closure with relieve of symptoms while the buttons were removed in 5 patients (38%) because of intolerability or infection in the button group. In the surgical group 48 patients (76 %) achieved a permanent closure, 11 patients were lost to follow up and 4 patients had a reoperation.

**Conclusion:** The majority of nasal septal perforations are asymptomatic. Treatment options for symptomatic patients vary from conservative to surgical repair. Proper patient selection and timing are mandatory in order to achieve good results and relieve of symptoms.

## **Hall L Session 3** **ICMM - Free Papers**

546

### **The Impact of the 2009 Jazan War on Saudi Children: A Community Retrospective Cohort Study**

*Mohamed Khaled Mohamed ElhatwMD\*, El Taher Aly, El Hamedy Ahmed, Alturkait A Fawziah*

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**Objectives:** The study aims at nutritional, psychological, behavioral, family adjustment and psychiatric assessment of Saudi children exposed to the 2009-2010 war in Jazan.

**Methods:** The study was conducted in July 2010. 186 displaced children exposed to the war were assessed in Jazan and 157 unexposed children were assessed in King Khaled Military City, Hafr El Batin.



Both groups were studied for clinical and laboratory evidence of malnutrition, for psychological problems using the Child Behavior Inventory, for behavioral problems using the Rutter Scale A2, for family adjustment using the McMaster Family adjustment device and for psychiatric disorders. In the exposed group the effect of different socioeconomic variables on the psychological outcome was also studied.

**Results:** The exposed children were well nourished. The exposed children had significantly more anxiety, better adaption, less aggression, less antisocial behavior, better family adjustment and less deviant behavior. In the exposed children, females had more anxiety and males had more antisocial behavior. Older children had less deviant behavior, better adaption and better planful behavior. Children of elder mothers had better planful behavior. Children from bigger families were less aggressive had less antisocial behavior. The exposed children group had more PTSD, generalized anxiety, nightmares and grief reaction.

**Conclusion:** The nutritional support prevented malnutrition of children exposed to Jazan war. Their anxiety is stress induced. Their higher adaption and lower antisocial behavior and better family adjustment reflect effective adaptive mechanisms, possibly social. The socioeconomic status affects the psychological outcome. Exposed children need education, psychological screening and studies for their adaptive mechanisms.

**Keywords:** Jazan war, Psychological Problems, Family Adjustment

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#### **Two Cases of Cerebral Arterial Gas Embolism (CAGE) during Hypobaric Hypoxia Training at the Armed Forces Aeromedical Centre (AFAMC), Dhahran, Saudi Arabia**

*M G Koshy MD\*, Maj Gen Dr Yahya Al Aql, Director, Armed Forces Aeromedical Centre*

*\* Aviation Medicine Specialist, BAE Systems, Dhahran, Saudi Arabia. Dr Koshy works at the Armed Forces Aeromedical Centre, Dhahran, Saudi Arabia  
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**Objectives:** We report two cases of CAGE in aircrew following hypobaric exposure during routine physiological training.

**Methods:** Case Report 1: This 25 yr-old AWACS airman was undergoing hypobaric hypoxia training. During rapid decompression to 25000 feet over 30 seconds, he collapsed and developed typical tonic clonic seizures followed by severe headache and loss of vision. A diagnosis of CAGE was made and he was treated with US Navy Table 6A. Further investigation revealed that he had a cystic lesion in the apex of the lower lobe of the left lung.

**Results:** Case Report 2: Shortly after rapid decompression to 25000 feet, a 32 yr-old airman became disorientated before commencing hypoxia training. The chamber was returned to ground level where his symptoms progressed to include right sided hemiparesis. CAGE was diagnosed and he was treated with US Navy Table 6A and discharged the following day. His symptoms recurred after discharge and he required further treatment before achieving full recovery.

**Conclusion:** Discussion: CAGE is a recognized complication of hypobaric exposure and in this environment is related to sudden expansion of trapped gas which then reaches the left side of the heart via the pulmonary venous system. The rapid onset of symptoms helps to distinguish this entity from evolved gas disease which takes longer to manifest. The above cases prompted a change in the training profile for transport crew at the AFAMC.

**Keywords:** Hypobaric Hypoxia, Cerebral Arterial Gas Embolism, Hyperbaric.

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**Gravity Induced Loss of Consciousness: Retrospective Survey in Royal Saudi Air Force**

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**Objectives:** of the study are to identify the experience of G(gravity) induced loss of consciousness(LOC) in Royal Saudi Air Force (RSAF) aircrew and to compare this with experiences of other air forces. To our knowledge such a comparison has not been attempted before in the Middle East.

**Methods:** This is a questionnaire survey to be carried out over a five year period beginning in September 2013. This questionnaire is based on a UK royal Air Force study to allow ease of comparison. So far 80 questionnaires has been completed.

**Results:** Our focus of analysis will be on the following: 1.Prevalance of G-LOC in RSAF 2.Association of G LOC with flying hours. 3, At what Gz level G-LOC was reported most frequently and with what kind of maneuvers. 4. To find out the value of flying currency, use of Anti G-suit, and physical fitness.

**Conclusion:** This will be a preliminary result due to early stage of study but would still provide useful information regarding G induced loss of consciousness in RSAF pilots

**Keywords:** G-induced loss of consciousness. RSAF(Royal Saudi Air Force)

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**Long Waiting Times in Hamad Medical Corporation (HMC) Out Patient Department (OPD) Clinics: The Causes and Solution using Six Sigma Approach before the Implementation of Fixed Time Appointment System (FATS)**

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**Objectives:** Is to identify the causes of the long waiting times in the OPD clinic and found the solutions using the Six sigma approaches.

**Methods:** Analyze the flow of patients, objective waiting, focus group discussion with the clinic's stakeholders including patients, doctors, nurses, clerks and administration to identify the causes of the long waiting times using six sigma to found the solution for this problems.

**Results:** There were 108 OPD patients who attending the clinic over two weeks' period in additional to nurses and chest physicians in the chest clinic. The average wait time for the patient to see the physicians for the morning and afternoon clinic was 80 minutes +/- 42.2 (STD= Standard deviation) and 97 minutes +/- 42.4 STD respectively. Sixty six of the morning clinic Attendances arrived in the first hour and half of the appointment hours compared to 85% of PM clinics attendances that were there before the appointed clinic time.

**Conclusion:** The OPD clinic was operating at one sigma above the best practice upper limit and Six sigma approaches identify four main causes of long waiting times; attendance of patients in big batch in the first hour of appointment, tardiness of the physicians, increased demand with low capacity of the HMC OPD clinics and inappropriate appointments.

**Keywords:** Waiting, Times, Clinic, Causes, solutions, HMC, OPD and six sigma.

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**Laser Eye Injuries in the Military Setup**

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**Objectives:** To report on possible eye injuries due to exposure to laser in a military set up and to highlight on the preventive measures

**Methods:** Three young individuals presented to the eye clinic at different time with loss of vision in one of their eyes. All had history of exposure to class 3 laser pointers for over 10 minutes, following football game victory. A detailed slit lamp examination, fundus evaluation, optical coherence tomography and fundus fluorescein angiography was performed on all to eval extent of damage

**Results:** Two of these patients had Visual acuity of 1/60 and 3/60 in their left eye respectively and were found to have sub hyaloid hemorrhage involving the macular area. The third patient had visual acuity of less than 1/60 and was found to have a full thickness macular hole explaining the poor vision., and was confirmed by Optical Coherence Tomography and fundus fluorescein

**Conclusion:** Ocular morbidity following advertent or inadvertent exposure to lasers is not uncommon. Continued improvement of training for laser operators, improvement in labeling around laser output apertures, improvement in engineering laser devices as well as creating good laser protocol for the laser operators, can aid in the prevention of ocular damage due to unintentional exposure. However, intentional injuries are likely to become a greater problem in the future as is seen in our case series.

**Keywords:** Laser eye injury, class 3 laser, FFA

## 551

### **Expanded Sexually Transmitted Infection Surveillance Efforts in the United States Military: A Time for Action**

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**Objectives:** To enhance the ability of the US military and partner militaries to make informed decisions about sexually transmitted infections (STI) beyond HIV, the Armed Forces Health Surveillance Center (AFHSC) is supporting a broad-based portfolio of initiatives amongst active duty military as well as host country high-risk populations.

**Methods:** Review of STI initiatives supported by the AFHSC from October 2010 to September 2013, to include pathogen-specific research and surveillance projects, targeted STI screening efforts as well as support of ongoing behavioral risk assessments and surveys among high-risk military and civilian populations.

**Results:** A comprehensive network of collaborators has been established with the collaboration of a dozen partners in ten countries resulting in expansion of STI surveillance, research and education initiatives in both the United States and overseas. Key initiatives have taken place in four areas: 1) surveillance for emergence of antimicrobial-resistant *Neisseria gonorrhea* (NG); 2) screening for and assessment of the impact of STI infections among recruits; 3) seroepidemiologic studies of non-HIV viral STIs, such as herpes simplex virus (HSV) and human papillomavirus (HPV); and, 4) conduct of clinically-relevant educational efforts for US military healthcare providers.

**Conclusion:** AFHSC-supported initiatives in STI research, surveillance, screening and behavioral/risk assessment have been significantly enhanced in the past four years. These efforts have strengthened the capability and readiness of US Forces and partner countries to identify and characterize STI pathogens, assess their morbidity, and develop effective interventions for their control.

**Keywords:** STI, military, surveillance, United States, AFHSC



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### **Prisoners of War: Back to the Islamic Ethics**

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**Objectives:** In our paper, we wanted to examine the original Islamic Ethics in regard to the treatment of Prisoners of War (POWs) and how the classical teachings reflected of the reputation of Islam and its positive image. We also want to change the current impression about Islam & POWs especially after all the damage resulted in the recent conflicts during the last few years.

**Methods:** We reviewed Quran, Hadith (Prophet Mohammed PBUH Saying), known muslim clerks interpretation of those and we reviewed the Muslim history for examples of how these teaching were followed & implemented. Then we reined the current believes about Islam & POWS and developed a suggested model on how to improve it.

**Results:** The current practices by certain groups does not reflect the true teachings of Islam and should be rejected and corrected. the use of Islam as an umbrella to to execute hidden agendas has damaged the image of Islam and Muslims.

**Conclusion:** The religion of peace advocates that prisoners of war, as a bare minimum, be kept from harm, that they be fed, that they get treated when sick and to show lenience with them during their captivity . History has never known warriors so kind to their captives as the early Muslims who followed the teachings of their religion, particularly during the Crusades when they treated invaders different from what they did to them on their home soil. We highlight seven key steps to change this image.

**Keywords:** Ethics, POWs, Islam

553

### **Incidence of Non-Battle Injuries (NBI) Sustained During Operational Training in SOCOM Units in Jordan**

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**Objectives:** To describes the incidence of non-battle injuries sustained during operational training in SOCOM units in the Jordanian army. This includes studying the magnitude of injuries and their relationship to several risk factors such as the level of physical fitness prior to entry, the course itself, advanced age and concurrent illnesses, and the outcome of the training course.

**Methods:** Participants included in this study were 420 male soldiers involved in operational training for the special forces, who visited SOCOM clinics for a documented cause during their training, during February- June, 2014. A questionnaire was distributed to SOCOM clinics. This questionnaire included: a. Personal information: name, age, rank b. Medical history including current and past medical conditions and treatments. c. Physical fitness level. d. Causes of visit to the clinic and outcome of the visit.

**Results:** Most common cause for soldiers to seek medical care was non-traumatic (54%), mostly of infectious causes. Of the studied group 22% came for traumatic causes, and 23% of the studied group suffered from complaints due to muscle spasm in different areas of their bodies. 16% of complaints due to muscular spasm were seen in previously fit individuals in comparison to 42% seen in previously unfit individuals. While 15% of participants were suspended from their training due to serious medical injuries, 80% of those were due to serious traumatic injuries and 11% were due to severe complaints related to muscular spasm.

**Conclusion:** Prevention of serious injuries during operational training in SOCOM facilities is essential for the health and wellbeing of SOCOM personnel.



**Keywords:** Non-Battle Injuries, Soldiers, Muscle Spasm

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### **Establishing and Deploying a Medical Platoon in United Nation Mission in Haiti 2006**

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**Objectives:** To give a highlight on establishing and deploying a medical platoon with a united nation peacekeeping battalion and to show the capabilities of the platoon during a united nation mission in Haiti 2006.

**Methods:** To give a highlight on establishing and deploying a medical platoon with a united nation peacekeeping battalion and to show the capabilities of the platoon during a united nation mission in Haiti 2006.

**Results:** Medical platoon was serving inside the Jordanian battalion working in united nation mission in Haiti 2006 and treated a large number of patients from the Jordanian and haitian parts. The number of Jorbat2 was 750 troops and haitians were 1683. There were 368 injuries from the Jordanian battalion 6 of which required repatriations, there was also a case of tuberculosis which was also repatriated.

**Conclusion:** Deploying a medical platoon with united mission battalion served well the mission by giving medical care for the troops and treating haitian people. Medical platoon can cope well with treatment of both military and civilian patients.

**Keywords:** Medical Platoon, Deployment, Medical Care.

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### **Combat Related Hearing Loss: Risk Factors, Management and Preventive Measures**

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**Objectives:** Hearing loss is one of the most frequent occupational health hazards among military personnel. In this study we reviewed the incidence, characteristics and intensity of noise induced hearing loss (NIHL) and preventive measures.

**Methods:** An extensive literature search was undertaken to identify incidence, characteristics and intensity of noise leading to hearing loss among military personnel. The noise levels of military equipment, weapons, and types of explosives were documented and the preventive measures to control NIHL were reviewed.

**Results:** NIHL depends on frequency, intensity and duration of noise and may result from noise exposure of more than 85 decibels (dB) for a period of 8 hours. However, a continued high noise for 15 hours may lead to permanent hearing loss. The equipment which generates more than 85 dB includes helicopters, tanks, machine guns, grenades, rifles etc. A study conducted on 221 Kuwait Air force pilots revealed 14.48 % cases of mild to moderate hearing loss. Preventive measures including rotation of employee through noise areas, modifying existing machinery, placing noise limits specifications, interruption of noise path and the use of hearing protective devices is in common practice. The most frequent treatment is amplification of sound through the hearing aids.

**Conclusion:** NIHL is one of the most prevalent occupational health hazards among military personnel leading to reduced military performance, safety, and quality of life. A continuous monitoring and surveillance plan should be implemented to address NIHL in military surroundings.

**Keywords:** Hearing loss, Combat, Risk factors, Noise

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**Depression and Paranoid Ideation as Correlates of Substance Abuse among Nigerian Military Personnel Deployed for United Nations Peace Support Operation**  
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**Objectives:** Substance use disorders have been given increase recognition recently in community and clinical studies. The study investigated relationship between depression, paranoid ideation and substance abuse among Nigerian military personnel deployed for peace support operation.

**Methods:** A total of twenty two thousand and four hundred (n=22400) Nigerian Army personnel earmarked for United Nations peace support operation in Sudan and Liberia participated in the cross sectional study, using a 244-item structured self-report questionnaire and Multi-drug one step Multi-Line Screen Test Device (Urine). The mean age of the participants was 32.4years (SD±5.1).

**Results:** A positive relationship of depression ( $r=.71$ ,  $df =22399$ ,  $P<.05$ ) and paranoid ideation ( $r=.65$ ,  $df =22399$ ,  $P<.05$ ) with substance abuse was observed. 18.5% of Nigerian Army personnel abuse one of alcohol, cannabis and tobacco, and 8.5% abuse at least two of alcohol, cannabis and tobacco. 12.3% of troop deployed for peace support operation had depressive symptoms while 13.2% had paranoid ideation symptoms.

**Conclusion:** This establishes a relationship between depression, paranoid ideation and substance abuse. Policies and actions should be directed towards holistic approach on management of dual disorders in the Nigerian Military.

**Keywords:** Substance Use Disorders, Depression, Paranoid Ideation, Substance Abuse, Nigerian Military personnel, Alcohol, Cannabis and Tobacco.

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**Rubella in Young Adults, Need to Immunise to Minimize Loss of Training Manhours : Outbreak in a Military Training Institute**

*Col VK Bhatti MD\*, Maj Gen Velu Nair AVSM VSM\*\*, Air Cmde Ajoy Mahen, Col P Roy, Surg Lt Cdr Kaushik Chatterjee, Maj Kapil Pandaya*

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**Objectives:** Exanthematous fever is a cluster of diverse illnesses with varied etiologies. Their spread is generally airborne or direct contact and is highly contagious. This study describes an outbreak of exanthematous fever among the cadets in a military training institute, investigated to confirm the etiology and institute control measures.

**Methods:** Exanthematous fever cases among hospitalized cadets were investigated for epidemiological factors. Detailed history was elicited, case sheets and lab reports of cases were reviewed. Clinical features were classically of German measles (Fever, pinkish rash with post auricular lymphadenopathy). Lab investigations included serology for presence of Ig M for Rubella and Measles. Serum samples were also collected from sixty asymptomatic individuals as well as antenatal cases residing in the campus.

**Results:** One hundred and seventeen cases of exanthematous fever were recorded in the training institute with an overall attack rate of 5.96 % and subclinical infection rate of 12.5 %. Rubella was confirmed by Ig M serum assay in 36 out of the initial 64 samples. No rubella cases were detected amongst the antenatal cases residing on campus and amongst those who attended antenatal clinic. There was an estimated total loss of 61,776 man-hours of training due to the outbreak.

**Conclusion:** Any outbreak in a training institute/ Military unit setting leads to loss of precious training man hours, potentially adversely affects the training and operations. The need for administration of vaccination, setting up of a robust surveillance system and methods for





internalization of health awareness in such population needs a review.

**Keywords:** Outbreak, Rubella

## Hall L Session 4 ENT - Free Papers

558

### Endoscopic Techniques in the Management of Pediatric Airway Disorders: Our Experience at Queen Rania Al-Abdullah Hospital for Children

*Eyad Safadi MD*

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**Objectives:** To evaluate the effectiveness of the endoscopic approach in assessing and treating the laryngeal and tracheal pathology in infants and children.

**Methods:** A total number of 60 cases (38 males and 22 females) aged between 52 days-7 years) were included in our study. The indications for endoscopy were: stridor, respiratory distress, follow-up endoscopy and tracheostoma evaluation. Office flexible nasolaryngoscopy was performed in all patients. In our endoscopies we used the 4 mm zero degree telescope with spontaneous respiration and intermittent endotracheal intubation.

**Results:** The endoscopic findings were Subglottic stenosis (18 cases), Recurrent respiratory papillomatosis (12 cases), Tracheomalacia (6 cases), Anterior glottic web (6 cases), Laryngomalacia (5 cases), Tracheostomy stoma granulation tissue (5 cases), Type 1 laryngeal cleft (2 cases), type 3 laryngeal cleft (one case), posterior glottic web (one case), Tracheal stenosis (one case), vallecular mucocoele (one case), supraglottic cyst (one case) and subglottic haemangioma (one case). The endoscopic procedures were diagnostic and therapeutic in all cases except the type 3 laryngeal cleft, the tracheomalacia patients and the subglottic haemangioma. All patients had rapid recoveries with one day postoperative hospitalization at the ward except the laryngomalacia infants

and laryngeal cleft children they required 1-2 days postoperative hospitalization in the ICU and 1-2 days in the ward.

**Conclusion:** Endoscopic techniques without endotracheal intubation allow a direct and excellent visualization of the surgical field in children with airway problems and provide excellent therapeutic options for treating different pediatric airway pathologies with decreased postoperative morbidity, shorter hospitalizations, and rapid recoveries.

**Keywords:** Endoscopy, Paediatric airway.

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### Microbiological Findings in Children with Chronic Adenoiditis and Adenoid Hypertrophy

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**Objectives:** To carry out a microbiological analysis of the adenoid tissue in children who underwent adenoidectomy or adenotonsillectomy for symptomatic adenoids.

**Methods:** A total number of 80 patients who underwent adenoidectomy or adenotonsillectomy for recurrent adenotonsillitis or adenoid hypertrophy were included in this study. Age ranged between three to thirteen years with a mean age of  $5 \pm 2.3$  years. Patients were divided into two groups: Group I: patients who underwent adenoidectomy or adenotonsillectomy because of recurrent adenotonsillitis Group II: patients who underwent adenoidectomy or adenotonsillectomy because of obstructive symptoms due to adenoid hypertrophy but did not have signs and symptoms of infection. After performing Adenoidectomy, we obtained a bacterial culture from both the surface of adenoid and the core of adenoid tissue for aerobic and anaerobic organisms.

**Results:** Out of the 80 patients, 47 were males and 33 were females. There were 67 patients in group I and 13 patients in group II. Bacteria from the core tissue of adenoid were considered for the study because the surface swab culture revealed mainly

commensals. Growth of aerobic organisms was reported in 91% and anaerobic bacteria in 65% of the specimens, whereas no growth was reported in 9% of the specimens.

**Conclusion:** There was no significant difference in the growth pattern of organisms from the core of adenoids in children with chronic adenoiditis and those with adenoid hypertrophy, chronic inflammation of adenoid is mostly the cause for adenoid hypertrophy.

**Keywords:** adenoids, aerobic, anaerobic

## 560

### The Role of Nasal Polyps in the Development of Ear Diseases

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**Objectives:** To find out the frequency of ear diseases in patients with nasal polyposis.

**Methods:** A total number of 60 patients with bilateral nasal polyps who attended the Otolaryngology clinic at King Hussein Medical Center were included in this study. All patients underwent complete history and ENT examination in addition to nasal endoscopy to assess the nasal cavities for the presence of nasal pathology and to assess the severity of nasal polyposis. All patients had otoscope and tympanometry to look for signs of ear diseases.

**Results:** Out of the 60 patients, 21 were males and 39 were females. The age ranged between 25 to 54 years with a mean age of  $35 \pm 3.4$  years. All patients found to have bilateral nasal polyps. On otoscope and tympanometry we found that 24 (40%) patients had retracted tympanic membrane and 3 (5%) patients had otitis media with effusion. None of our patients found to have cholesteatoma or chronic suppurative otitis media.

**Conclusion:** patients with nasal polyps are at high risk to develop ear disease, and patients with ear diseases should be searched for underlying nasal pathologies. Treatment should be directed first toward eliminating the nasal pathology in order to

improve the middle ear ventilation.

**Keywords:** Nasal Polyps, otitis media, middle ear

## 561

### Endoscopic Orbital Decompression: Expect the Unusual

*Qais Aljfout MD\*, Dr Thabet Odat, MD JB(Oph) FRCS, Dr Omar Nawasreh, MD JB(ORL).*

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**Objectives:** Abstract In this paper we present two cases for patients who underwent endoscopic decompression of the orbit for different pathologies with unusual courses and finding.

**Methods:** Case one A 29 year old female patient, known to have Graves' disease with orbital complication. Underwent endoscopic decompression of both orbits, which was uneventful in the 1st 36 hours. 48 hours later patient started complaining of decreased vision in her right eye. We will present our differential diagnosis, management and outcome of this case.' Case two A 32 year old gentleman who is known to be hypertensive on triple therapy. Patient was referred for endoscopic decompression of right orbit and optic nerve due to medial rectus mass. Surgery was performed with uneventful course. We will discuss the histopathological report which changed the whole picture of the case.

**Results:** Discussion of clinical course and outcome for both cases

**Conclusion:** to expect the unusual in cases with orbital decompression

**Keywords:** endoscopic, orbital, decompression

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### **The Efficacy of using Fat Plug in Pediatric Myringoplasty**

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**Objectives:** to evaluate repair of tympanic membrane perforation in children using fat pug from ear lobule in terms of closure of the perforation and improvement of hearing

**Methods:** 28 children aged (6-13) years who presented with dry tympanic membrane perforation underwent myringoplasty using plug of fat. All patients were followed for six months.

**Results:** 12 patients were females, 16 patients were males. In 25 patients (89%) out of 28 closure of tympanic membrane was achieved. 3 patients failed to close, Improvement of hearing was found in 22 patients(78.5%)

**Conclusion:** using fat plug in myringoplasty is an effective, short and safe procedure for closure of tympanic membrane perforation in pediatric age group.

**Keywords:** fat plug, myringoplasty, pediatric.

## **Hall M Session 1**

### **Orthopedic Surgery - Cerebral Palsy Management**

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### **Cerebral Palsy: An Update on Etiology and Management**

*Saleh Al-Ajlouni MD (Jordan)*

Cerebral palsy is a static neurologic condition resulting from brain injury that occurs before cerebral development is complete. Seventy to 80 percent of cerebral palsy cases are acquired prenatally and from largely unknown causes. Birth complications, including asphyxia, are currently estimated to account for about 10 percent of patients with cerebral palsy. There are four basic types of cerebral palsy: Spastic, Dyskinetic or athetoid, Ataxic

and Mixed. Comprehensive treatment of cerebral palsy requires a team of doctors which include a neurologist, an orthopedist, other specialists, as well as physical, speech and occupational therapist. Oral medications, chemodenervation, rhizotomy, intrathecal baclofen, and orthopedic surgery may all play a role in treatment of the properly selected child. Physical and occupational therapy are central to any treatment plan.

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### **Rehabilitation of Cerebral Palsy, the Experience of Rehabilitation Team at National Center for Amputee Rehabilitation (NCAR)**

*Abdel-Fattah Al-Worikat MD (Jordan)*

Cerebral Palsy: Is a static neurologic condition resulting from brain injury that occurs before cerebral development is complete, during the prenatal, perinatal or postnatal periods.

It is characterized by motor impairment and can present with global physical and mental dysfunction.

It is the most common childhood physical disability and affects 2-2.5 children per 1000 born in USA.

The main kinds of motor disorders C.P. are spastic, dyskinetic and ataxic paresis.

70-80% of C.P. have spastic clinical features, 10-20 % have a thetoid or dyskinetic features and 5-10% have ataxic features with impaired balance & co-ordination.

The goal of management is to increase functionality, improve capabilities and sustain locomotion, cognitive development, social interaction and independence.

The best clinical outcomes result from early intensive management by multi disciplinary team approach. The rehabilitation department in the RMS established a C.P. clinic with rehabilitation team approach at the National Center for Amputee Rehabilitation (NCAR) since 2007. The team consists of rehabilitation doctor, PT, OT, Psycho-social and orthotist, aiming to help children reaching independence and or to ease children family life. I will shidlight over the rehabilitation team experience in the C.P. rehabilitation clinic at NCAR.

**565**

**Surgical Management of Crouch Gait in CP Patients**

*Thomas Wirth MD (Germany)*

**566**

**Rotational Osteotomy with Submuscular Plating in Skeletally Immature Patients with Cerebral Palsy**

*Chang-Wug OH MD(Korea)*

In patients with cerebral palsy, rotational deformity of lower extremities is not uncommon due to spasticity. Among the causes of the rotational deformities, persistent femoral anteversion is manifested as in-toeing, which causes increased tripping and falling, as well as a cosmetically poor gait pattern. These problems warrant surgical intervention, especially in patients with cerebral palsy who have a lesser chance of spontaneous remodeling.

Correction of rotational mal-alignment of the lower extremities has been best achieved through derotational osteotomies. Although numerous methods of osteotomies and fixation for correction of excessive femoral anteversion have been used, the mainstay of recent treatment has progressed toward more secure fixation and less use of postoperative immobilization. Considering the low areal bone mineral density of patients with cerebral palsy, firm fixation is desired. Open osteotomy with plate fixation has been used traditionally. However, this invasive technique may disrupt the normal biology of bone healing by extensile exposure and periosteal stripping. Based on this, a minimally invasive method is needed to overcome the complications of present methods. Some literature reported successful results of intramedullary (IM) nailing. However, there are still concerns about complications of IM nailing in skeletally immature patients. The narrow diameter of the marrow of the femur might be an obstacle for IM nailing in pediatric patients.

To overcome these concerns, submuscular plating with percutaneous osteotomy is attempted. This technique has several advantages. Compared with open plating

technique, this technique may have the small amount of blood loss and the low infection rate, while having the excellent bone healing. It is also free from concerns about osteonecrosis of the femoral head, growth disturbance of the proximal femur, or the small diameter of femoral canal when using IM nail. As the locking plate is used in this technique, it may have an enough stiffness to have early rehabilitation, without any additional immobilization.

In conclusion, percutaneous osteotomy and submuscular plating may be a good alternative for correction of femoral anteversion in cerebral palsy, reducing the complications of other techniques.

**567**

**Hip Disorders in Children with Cerebral Palsy**

*Mahmoud Odat MD (Jordan)*

Hip disorders in children with cerebral palsy are common and varied from simple subluxation to frank dislocation.

The combination of the muscle imbalance (spasticity and contracture) and the bony deformity leads to this hip pathology. Most of the hips subluxate or dislocate posterosuperiorly due to the spastic adductor and iliopsoas muscles.

A simple pelvis xray can diagnose the pathology.

The epidemiology, natural history, anatomy, pathophysiology and the update in treatment options (surgical and nonsurgical) will be discussed in this presentation.

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**The Psychological Impact of Cerebral Palsy on Children and their Families**

*Amjad Jumai'an MD MRCPsych, DCPsych (Jordan)*

Cerebral palsy (CP), is one of the most common youth neurological disorders affecting 2-3/1000 and often have associated physical and psychological symptoms. Mental health problems affecting children and their families have recently gained attentiveness.

Studies found a high prevalence of wide



range of psychological problems which include problems with peers, hyperactivity, conduct disorders and emotional problems. Added to that, psychological stress associated with (CP) is known to be one of the most depressing conditions of families. Therefore, establishing mental health services for children with CP as part of the regular follow-up program; and regular screening children with CP for mental health problems in the pediatric clinics is mandatory. Moreover, there is need to educate the public on the causes of CP and treatment options available to families.

## Hall M Session 2 Orthopedic Surgery - Arthroplasty and Reconstruction

569

### Indications and Management of Residual Dysplasia of the Hip in Adolescents

*Thomas Wirth MD (Germany)*

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### Infected Total Knee Replacement

*Mohammed Duwairi MD (Jordan)*

Deep infection following knee arthroplasty represents a significant treatment challenge, with possibly devastating consequences. There is a risk of significant morbidity, the cost of treatment can be high, and the loss of some function is common despite successful resolution of infection. Eradicating infection can be particularly difficult in immune compromised patients, and prevention of infection remains the highest priority. Identification of significant risk factors is useful to appropriately counsel certain patients regarding their level of risk and to assure adequately informed consent. Use of antibiotic impregnated polymethyl methacrylate on an empiric basis has gained popularity as an alternative approach for additional prophylaxis. In the event of infection, treatment alternatives are selected based on specific criteria. The responsible pathogen, the patients' immunologic status, the chronicity of infection, and the stability of the implant must all be carefully considered. Retention of the original components by irrigation

and debridement, followed by appropriate antibiotic coverage, is an attractive option in selected cases. For established deep infection of more than 3 weeks duration, most surgeons prefer a staged approach to operative management. The reconstructive options include amputation, arthrodesis, resection arthroplasty, and revision arthroplasty.

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### How to Overcome a Segmental Bone Defect ? A new Technique of Bone Transport

*Chang-Wug OH MD (Korea)*

Nonunion of the long bone with an associated segmental bone defect may be treated in several ways, including the use of autogenous iliac bone graft. However, the amount of graft available may be insufficient for large bone defects and the time taken to incorporate the graft may be lengthy. On the other hand, vascularised fibular grafts are technically demanding and associated with stress fractures and nonunion.

Bone transport using an external fixator has become a standard method for providing large-diameter bone with less morbidity at the donor site. Although bone transport can be bifocal or trifocal, depending on the size of the defect, the duration of external fixation required to enable consolidation of distraction callus is a disadvantage and is frequently associated with complications, such as pin tract infection, joint stiffness, discomfort and re-fracture.

A recent technique, bone transport over an IM nail, reduces external fixation times because the fixator can be removed before the distraction callus has consolidated. However, it requires union of the docking site before the fixator is removed, regardless of the addition of bone graft or the use of compression osteosynthesis. It also has the weakness that the proximity of the pin to the pre-inserted nail may introduce the risk of deep infection and failure of fixation. Bone transport with a locking plate (BTLP) is a new advance to treat segmental bone defects of the tibia, which has several advantages over the previous techniques. This technique reduces the time required

for union at the docking site as well as the consolidation time of distraction callus, as the screw fixation at the transported segment adds stability. Also, the pins of external fixator are inserted sufficiently remotely from the plate or screws, deep infection or recurrence of osteomyelitis may be decreased in this technique. Fixing the locking plate, it primarily corrects angular deformity and helps prevent sagittal deformity of the proximal tibia, comparing to sue the nail. The locking plate is also helpful when nailing is difficult in juxta-articular bone defects with a short remaining segment. This technique can be used in upper extremity segmental defect, which may not possible to use BTON technique.

In summary, the method of bone transport with a locking plate is both safe and effective and offers the advantage of early removal of the external fixator and a low complication rate.

## 572

### **Flaps for Closure of Soft Tissue Defects in Infected Revision Knee Arthroplasty**

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**Objectives:** Total knee arthroplasty revision has wound healing deficits of up to 20%. Defects in the knee region of multimorbid patients are hard to treat as complete explantation and revision arthroplasty is often too burdensome for them. In this study, we present our results with flaps for the treatment of defects after knee replacement, arthrodesis or osteosynthesis.

**Methods:** Twenty-five patients (26 knees) with defects in the knee region were treated with flaps. Mean follow-up was 37 months (13 - 61) and the patients had a mean age of 72 years (49 - 85). A total of 39 flaps were performed (27 muscle flaps, seven fascio-cutaneous flaps and five free flaps).

**Results:** Patients with more than three

comorbidities showed higher risk of complications after surgery. Fifteen patients showed no infection at last follow up. Five patients received an arthrodesis of the knee, two showed persistent infection of the implant with fistula, and three were amputated above the knee.

**Conclusion:** Amputation could be avoided in 22 cases (85%). The gastrocnemius muscle flap showed good results in the treatment of defects after arthroplasty or arthrodesis of the knee in multimorbid patients. This procedure can be used if further revision surgery is not indicated.

**Keywords:** Revision knee arthroplasty, soft tissue defect, flap

## 573

### **Percutaneous Iliosacral Screw is a Safe, Reliable and Definitive Procedure**

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**Objectives:** The purpose of this study is to encourage the use of closed percutaneous Iliosacral screw fixation for pelvic ring injury by interested orthopedic surgeon, when good image intensifier is available.

**Methods:** Patients in this study admitted to our center between January 2009 and January 2014. Clinical and Radiographic examination (AP, inlet & outlet views and CT scan) used to diagnose the type of pelvic ring injury. We used Tile classification system to diagnose the pelvic injury type. We had 22 unstable pelvic ring injuries (B&C). Our series include 18 patients treated by percutaneous iliosacral canulated screw, the remaining 4 cases treated by other modalities.

**Results:** From the 22 patients. According to Tile classification, there were 16 patients with type B and 8 patients with type C. Percutaneous iliosacral canulated screw was used in 18 patients (12 augmented by anterior symphyseal plating, 2 with external fixator and 4 without anterior augmentation), two patients treated by external fixator alone, one by open reduction and sacroiliac plating and one



refused surgery and treated nonoperatively. In 3 cases a misplaced guide wire produced transient L5 neurapraxia. There was no screw misplacement requiring revision surgery, there was no fixation failure.

**Conclusion:** Percutaneous iliosacral screw fixation is a safe and reliable treatment for unstable pelvic ring injury with minimal complications. It doesn't need highly sophisticated technology; the presence of a radiolucent table and a good quality image intensifier is sufficient.

**Keywords:** Tile classification for pelvic injuries A ,B and C

574

**Clinical Outcome of Mobile vs. Fixed Bearing Total Knee Replacement in the Same Obese Patient: Short-Term Results**

*Fayeq Darwish MD (Jordan)*

This prospective, patient-matched study, aimed to answer the question, in obese patient which prosthesis will do better? a mobile-bearing insert or a fixed- bearing insert. To provide a meaningful comparison a consecutive group of patients, fifty seven patients, homogenous in age, sex, height, weight, body mass index (BMI), preoperative Knee Society Score (KSS) and having end stage osteoarthritis were selected for bilateral total knee replacement. One knee is replaced with mobile bearing design, three months later the other knee was replaced with a fixed bearing design. One surgeon operated all patients on. Joint specific KSS was used to measure the clinical outcome. The mean weight of patients was 91.5 kg and the mean height 1.59 meter. The mean (BMI) was 35.86. The follow up was for three years. The mean preoperative KSS for both groups was 38.26. The mean postoperative KSS in the mobile bearing group was 84.6 and it was 75.11 in the fixed bearing group. It was concluded that in obese patients the mobile bearing inserts could do the same as the fixed bearing inserts if not better.

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**Modified Dunn Procedure in Treating Patient with Slipped Capital Femoral Epiphysis: King Hussein Medical Center Experience**

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**Objectives:** To present a new surgical technique in treating cases with moderate to severe slipped capital femoral epiphysis.

**Methods:** We retrospectively evaluated 7 patients who underwent modified Dunn procedure between 2010\_2014, single patient develop re\_slippage, the other six show good functional recovery regarding range of motion and absence of pain.

**Results:** Traditional treatment of slipped femoral epiphysis using pinning in situ, neglecting the associated deformity and this lead to early hip osteoarthritis. By this procedure, direct correction of hip deformity associated with best recovery of hip biomechanics minimizing the risk of future hip osteoarthritis.

**Conclusion:** This technique of surgical dislocation and anatomical reduction is safe and reliable in treating patient with severe slipped capital femoral epiphysis.

**Keywords:** Dunn procedre, SCFE

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**Total Joint Arthroplasty for Basilar Thumb Arthritis**

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**Objectives:** Osteoarthritis of the thumb basal joint is a disabling condition that frequently affects middle-aged women. Many different surgical techniques have been proposed for extensive degenerative arthritis of the first carpometacarpal (CMC) joint. Total Joint replacement has been an effective treatment of this condition. The purpose of this study is to assess the results of Total Trapeziometacarpal Arthroplasty for Basilar Thumb Arthritis.

**Methods:** 5 patients who had undergone Total Joint Arthroplasty for Basilar Thumb Arthritis, using a Modular prosthesis, at King Hussein Medical Center from 2011 through 2013. Previously all had had trials of non-steroidal antiinflammatory drugs, splinting with the thumb in abduction, injections of steroids into the basal joint of the thumb, or a combination of these.

**Results:** Total Trapeziometacarpal Arthroplasty for Basilar Thumb Arthritis provided complete relief of pain at the base of thumb with good range of movements after 3 weeks course of physiotherapy. Return to work after this procedure was between 6 to 8 weeks. There were no major complications. One patient had paresthesia at the distribution of superficial radial nerve, which resolved 6 weeks.

**Conclusion:** Total joint arthroplasty of the thumb CMC joint has proven to be efficacious with improved motion, strength, and pain relief.

**Keywords:** Total Trapeziometacarpal Arthroplasty, Basilar Thumb Arthritis, surgical outcome

### Hall M Session 3 Orthopedic Surgery - Sport and Trauma

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#### **Shoulder Joint Remodeling after Triangular Tilt Surgery in Patients with Obstetrical Brachial Plexus Palsy**

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**Objectives:** to study the changes on the shoulder joint by computerized tomography in patients with Obstetrical Brachial plexus palsy who underwent triangular tilt surgery

**Methods:** retrospective study between 2010 and 2013, on 50 patients with Obstetrical Brachial plexus palsy who underwent triangular tilt surgery, with a

follow-up between 1-4 years. Axial CT scan done to all patients before and after surgery to study the changes in the glenoid and the humeral head.

**Results:** all patients underwent surgery had limitation of external rotation of the shoulder and positive trumpet sign and the CT scan shows posterior shoulder dislocation, post operative CT scan shows reduced shoulder joints with clinical improvements concerning external rotation, but 30% where unable to reach their abdomen

**Conclusion:** triangular tilt surgery reduce the dislocated shoulder joint, remodeling improve the glenoid dysplasia. Shoulder external rotation increase in all patients. Less than 30% of the patients may need internal rotation humeral osteotomy

**Keywords:** Obstetrical Brachial plexus palsy. Triangular tilt surgery

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#### **Subtrochanteric Fractures: How to Avoid Complications with Nailing?**

*Chang-Wug OH MD (Korea)*

Anatomical reconstruction after closed IM nailing is an ideal goal for the treatment of subtrochanteric fractures, as is the case for other diaphyseal fractures of lower extremities. However, mal-union and non-union are common complications after IM nailing of a subtrochanteric fracture, due to a fixed flexion, abduction and external rotation deformity of a short proximal fragment. When the fracture extends to the nail entry, IM nailing is not recommended because of the risk of secondary malreduction on nail passage. In addition, when a fracture is of the long oblique or spiral variety, IM nailing may result in little bone-to-bone contact area, malalignment, and disturb or prolong bone healing.

Under such conditions, extra-medullary fixed angle devices may be a safe option. Minimally invasive plating with locking plates has shown anatomical reconstruction with excellent fracture healing. Three are several indications for MIPO plating in subtrochanteric fractures. Russell-Taylor classification type II fracture is indicated

because the extended fracture may be displaced when using IM nail. It is also useful in patients with polytrauma or chest injuries, because reaming procedure when nailing may provoke additional damage. Another partial factor is a narrow femoral canal such as Asian people.

However, limited mechanical performance is a main issue when using plate fixation. Therefore, closed IM nailing is the choice of priority in most subtrochanteric fractures. To overcome the difficulties in nailing procedures, several tips are known to have a good reduction, especially in complex subtrochanteric fractures. Clamps through a small lateral incision may reduce fractures anatomically while nailing, but re-displacement often occurs after clamp release. Circumferential wires have been used for a long time for reduction as well as maintenance, but open wiring and the extensive surgical dissection required may devitalize bone fragments, which may be followed by non-union and/or implant failure. To avoid these difficulties, a percutaneous cerclage passer may be used to reduce and maintain the main fragments of subtrochanteric fractures before and during the nailing procedure. This technique may facilitate satisfactory reconstruction after IM nailing in patients with a complex subtrochanteric fracture. Also, this technique may preserve perforator vessels and their anastomoses, and this seemed to aid undisturbed fracture healing.

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#### **Endoscopic Carpal Tunnel Release Experience at King Hussein Medical Center**

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**Objectives:** To describe the results of the endoscopic carpal tunnel release using the MicroAire Carpal Tunnel Release System.

**Methods:** This descriptive study was conducted from June 2007 to May 2012 on

186 patients (192 hands) who underwent endoscopic carpal tunnel release for severe carpal tunnel syndrome in the Royal Jordanian Rehabilitation Center at King Hussein Medical Center. The procedure was performed using the MicroAire Carpal Tunnel Release System by an experienced hand orthopedic surgeon. This is a new procedure performed for the first time in Jordan at King Hussein Medical Center. The operating time was between 10-25 minutes.

**Results:** Endoscopic carpal tunnel release provided complete relief of paresthesia on the first day and relief of wound pain during the first three days. Return to work after this procedure was between 5 to 26 days with a mean return time of 10 days. Three patients were converted to open technique because the flexor retinaculum and the median nerve could not be visualized. One patient had alkaptonuria and the other two had blood inside the carpal tunnel due to failure of Bier's block and release of the tourniquet. They were excluded from the sample and the study was conducted upon 189 hands.

**Conclusion:** This procedure is an effective, safe and convenient procedure for the treatment of carpal tunnel syndrome in the hand, associated with less palmar pain, less scar tenderness, a high return to work rate and an extremely low complication rate. It is a quick procedure with good results in short-term postoperative rehabilitation.

**Keywords:** Carpal tunnel syndrome, Endoscopic release, Surgical outcome

**580**

#### **Femoral Neck Fractures in Childhood**

*Thomas Wirth MD (Germany)*

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**Surgery of Acute Rupture of Achilles Tendon for Marathon Men: Results of the Plasty by Plantaris Tendon (About 31 Patients)**

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**Objectives:** The number of the covered Achille's tendon injuries are increasing and there is non consensus of the treatment of acute ruptures of the Achille's tendon specially during military activities

**Methods:** We have chosen this study to analyse possibilities of functional recovery and complications in 31 marathon men (mean age 37 years – range 28 to 51) after surgical treatment of the tendon using plantaris tendon plasty.

**Results:** At a mean follow up of 4 year and 7 months using functional and anatomic criteria we note that 93.5% of patients returned to previous activity levels (29 patients) and 80.6% returned to their usual sport activity – marathon at a mean delay of 8 months. We did not record any postoperative complication and the limitation of the range of motion was negligible with regard to needs of patient.

**Conclusion:** In view of the above, we regard the technique with use of the plantaris tendon for the reconstruction of the ruptured Achille tendon as reliable and worthy of recommendation. We insist on the respect of infallible rigour during surgery to reduce skin complications , risks and the necessity of an early and progressive rehabilitation in post operating time.

**Keywords:** Achille's tendon - surgery

582

**Complications after Elective Aseptic Orthopaedic Implant Removal - A Study of 1545 Patients**

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**Objectives:** The necessity of orthopedic implant removal is in intense discussion. Even it is an elective surgical procedure, the risk of complications is present. Aim of this study was to find out parameters like time or duration of the procedure, location of the implant or even the surgeon responsible for an increased risk for complications after elective aseptic orthopedic implant removal.

**Methods:** 1494 patients were included in this study (564 women and 932 men).The patient's demographic data, time and duration of operation, patient's comorbidities and presence of complications or infection in the first four weeks after implant removal was evaluated. Patients with signs of infection at time of the surgical procedure were excluded of this study.

**Results:** 46 patients (3.2%) operated during daytime and five patients (9.8%) who were operated at nighttime got complications. Nighttime procedures showed significant higher complication rates ( $p < 0.0001$ ). Mean age at implant removal was 40 years and mean duration of the surgical procedure was 42 minutes. Complications occurred most after metal removal from proximal humerus (5%), tibial shaft (6.4%), lower leg (5.2%), ankle joint (4.3%) and calcaneus (13.6%), most of them hematoma and wound healing problems. 10 revision surgeries were performed.

**Conclusion:** Elective aseptic orthopaedic implant removal shows an increased risk of complications compared to other elective aseptic standard procedures. Nighttime procedures had much higher complication rates and metal removal of tibial shaft and calcaneus showed highest complication rates. Implants in this region should not be removed if not necessary. This procedures should not be performed during nighttime.

**Keywords:** elective orthopaedic implant removal, complications, metal removal

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### **Cementless Threaded Cups in Total Hip Arthroplasty**

*Mahmoud Ababneh MD (Jordan)*

*Dr. Mahmoud Ababneh, Dr. Fares Al-Halasa*

**Aim:** We report the results of cementless acetabular implants by using hemispherical threaded titanium cups.

**Material and Methods:** One hundred-twenty-five total hip arthroplasties (118 patients) using threaded cups were performed between 1996 and 2007 at the Jordan University Hospital. The mean age was 47 years (range 19 to 72 yrs.) with 67 females and 51 males. At time of evaluation complete clinical and radiological data of 90 patients (94 cups) were available for follow-up from 3 to 13.9 years (mean 7.6 years). The indications for total hip arthroplasty involved osteoarthritis in 47 (40%) patients, failed partial or total hip replacement in 30 (25.5%), inflammatory arthritis in 18 (15.5%), developmental dysplasia in 13 (11%) and avascular necrosis in 10 (8%). The Merle d'Aubigne scales for functional grading of the hip and radiographic evaluation were used to determine the outcome. The acetabular component is composed of a titanium alloy shell (TiAl5Fe2.5 Brehm/Germany) and a polyethylene inlay (UHMWPE). The cup is hemispheric in shape with self-tapping threads and with surface roughness of 40 to 60 micro-meters.

**Results:** According to the Merle d'Aubigne scale the results were very good in 77.5% of the patients, good in 14% fair in 5.3% and poor in 3.2%. Three cups (3.2%) had to be revised, two due to aseptic loosening and one due to late deep infection. There were two superficial infections and one dislocation. Deep vein thrombosis was observed in 3 patients one of whom developed pulmonary embolism which was treated successfully. Radiolucent lines of less than 3 mm were seen in 7 (7.5%) cups.

**Conclusion:** Cementless threaded cups were used both for primary and revision hip arthroplasty with good results in relatively young patients.

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### **The Surgical Treatment of Thoracic Kyphosis Deformity**

*Stephen Eisenstein MD (UK)*

#### **Surgery for Thoracic Kyphosis**

##### **A story of personal failure**

The author presents a personal series of patients treated surgically over the last 30 years for thoracic kyphosis deformity resulting from every class of musculoskeletal disorder. This series is characterised by technical and clinical failure for most patients, and illustrates the immense power of the deforming forces in kyphosis. The author re-introduces the concept of idiopathic kyphosis originally described by Stagnara, 1984.

#### **Hall M Session 4 Orthopedic Surgery**

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### **Advances and Controversies in Anterior Cruciate Ligament Reconstruction**

*Issa Sawaqed MD (Jordan)*

Rupture of the anterior cruciate ligament (ACL) is one of the most frequent forms of knee injury.

Treatment of anterior cruciate deficient knee has progressed significantly over the last three decades. Anterior cruciate ligament reconstruction is widely used as a surgical treatment for ruptured ligament with 90% success rate. However, there are several controversies related to indications, graft type, technique (single- or double-bundle), fixation and rehabilitation. A great amount of literature and research has been devoted to the study and treatment of this ligament. In this lecture the main issues surrounding ACL reconstruction will be reviewed with the aim of reaching the best guidelines for performing this common procedure.

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### **Palmaris Longus Tendon Absence in an Egyptian Population**

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**Objectives:** To explore the frequency of Palmaris longus absence among Egyptian population and to compare it with other populations.

**Methods:** a prospective study conducted at Jordanian Field Hospital in Ein Shams, Cairo, Egypt between November 2013 and July 2014. All subjects who attended to Jordanian Field Hospital -orthopedic clinic were included in this study. Patients with scars or injuries or other abnormality of the upper extremity that would affect examination for the presence of the Palmaris Longus tendon were excluded from the study. Patients were examined regarding the presence of palmaris longus tendon by using the standard test.

**Results:** 700 subjects, aged between 8-84 years (median is 43 years), 202 were males (ratio 1:2.5). Overall prevalence of absence of Palmaris longus was 34.3%. Bilateral absence of Palmaris longus was present in 15.2% , while in 19.1% of subjects was unilateral which was more common on the right side (54%) but without statistical significance (P value=0.6) . There was also no statistically significant difference regarding gender despite the frequency was more common among females.

**Conclusion:** Our results in this prospective study showed that the frequency of Palmaris longus absence in the Egyptian population was found to be 34.3% with no statistical significance regarding gender, body side and hand dominance.

**Keywords:** Egyptian Population, Palmaris Longus tendon, agenesis, Frequency

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### **A Staged Technique of Bone-Grafting for Segmental Bone Loss**

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**Objectives:** To evaluate the results of Masquelette technique in the treatment of nonunion and bone loss in long bone fractures

**Methods:** In our series we explained to all patients that this technique is a staged procedure that require the patient be anesthetized 2 times. age group was between 20 and 40 years old. At the first stage all dicised segment of bones removed and copious irrigation with Saline solution performed, after that a well model cement coated with antibiotics inserted at the site of gab. 6 weeks later removal of the spacer, bone graft performed at the site of bone loss under the induced membrane which is already formed. very good hemostasis is performed and closure of the membrane over the graft in order to keep it in direct contact with the graft. we do not use suction drain at this time to prevent the suction of small cancellous chips.

**Results:** 2 cases done before 6 months and have a very good callus and returned back to their normal lifestyle. The other 4 cases done in 4 months interval and showed fair callus and followup in 2 months is needed

**Conclusion:** This technique is a very good option with less complications

**Keywords:** Masquelette, Bone loss, nonunion



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**Vitamin D deficiency in Saudi Arabia: Between 2009-2013 a Meta-Analysis Study**  
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**Objectives:** Studies have observed relationships between low vitamin D levels and multiple disease states. Our aim was to determine the frequency of vitamin D deficiency in Kingdom of Saudi Arabia (KSA) in different areas done by many researches.

**Methods:** By systematic review with meta-analysis we collected the researches performed in different areas of KSA during the period of the last five years 2009-2013. This included the published papers (peer reviewed) or papers presented at a documented scientific conferences-

**Results:** Results: fourteen papers were found, thirteen were peer reviewed published and one was presented in a conference. This covered 5 main areas in KSA with pooling number of healthies 6478 and 4694 (72%) were with deficiency levels < 20ng/ml and 5355 (82.7%) were with low levels < 30+ < 20 ng/ml. Central region, in Riyadh and Qassim cities with 6 articles represented the most investigated by 2755 participants; followed by the western region, at Jeddah and Mecca cities with 2239 participants. Eastern region (2 articles in Damam and Khober cities) with 339 participants shows the lower frequency of vitamin D deficiency by 29.2%, followed by the central region 74%.

**Conclusion:** Despite some participants had adequate exposure to sunlight and reported an adequate intake of dairy products 25OHD appear to be a major health problem in Saudi community. There are some geographic areas in the country that may be at high risk. Control strategies should take these differences into account.

**Keywords:** Key words- Vitamin D deficiency, KSA, metanalysis

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**Surgical Management of Supracondylar Humeral Fractures: Results with Pediatric Orthopedic Surgeons versus General Orthopedic Surgeons**

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**Objectives:** To compare the results of surgical management of supracondylar humeral fractures in pediatric age groups between a pediatric orthopedic surgeon and a general orthopedic surgeon.

**Methods:** This is a retrospective study between Jan 2010 -Dec 2013 on patients with gartland classification grade II, III and underwent surgical management of supracondylar humeral fractures, data collection of the most common complications using Patient file Records and PACS system archives for pre, post operative and follow up X-rays.

**Results:** 156 of 197 children had sufficient data to be included in this study, Age ranging between 1.5 to 11 years, 2.25:1 male to female ratio. Right dominance patients 87.2% (68.4 left fractures, 31.6% right fractures). Left dominance patients 12.8% (60% right Fractures, 40% left fractures).Regarding the Grade of the fracture 41.6% grade II and 58.3% grade III (96.7% were extension type and 3.3% flexion type). Pediatric orthopedic surgeons did 29.49% of the whole cases, while 70.51% of the cases done by general orthopedic surgeons. .pin tract infection was 8.6% with pediatric orthopedic surgeon compared to 6.7% with the general orthopedic surgeons. Cubitus Varus develop in 6.5% cases done by Pediatric orthopedic surgeons compared with 7.3% of the cases done by the general orthopedic surgeons. Cubitus Valgus and post operative Ulnar nerve injury was seen in 2.1%, 2.1% respectively of the cases done by pediatric orthopedic surgeons,

compared to 2.7%, 2.7% respectively with general orthopedic surgeons.

**Conclusion:** We conclude that there is not a significant difference between a Pediatric orthopedic surgeon and a General orthopedic surgeon in the surgical management of supracondylar humeral fractures Grade II and III.

**Keywords:** Supracondylar humerus fractures

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#### **Open Reduction though Medial Approach for Developmental Dysplasia of the Hip**

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**Objectives:** To evaluate the outcome and the complications after using medial approach for open reduction of the hip in infants with Developmental Dysplasia of the Hip.

**Methods:** This is a retrospective study over 36 months from June/2010 to June/2013, on infants operated in Queen Rania Pediatric Hospital and Royal Jordanian Rehabilitation Center under the age of two years with Developmental Dysplasia of the Hip. Describing the procedure and the post operative protocol, results concerning the type of reduction, acetabular index, and complications

**Results:** Fifty children, 42 girls and 8 boys. Their mean age at operation was 13.2 months (8 to 24) and the mean follow-up was 24 months (3 to 36). In 60 (75%) of 80 hips the reduction was concentric and the acetabular Index improved to be normal for the age with no complications. The younger age group the rapid remodeling process of the acetabulum to back to normal, the less the need for a secondary procedures later, with a low rate of complications. In cases of bilateral hip dislocation a bilateral medial open reduction has the advantage of avoiding multiple surgeries, prolonged immobilization and rehabilitation.

**Conclusion:** Open reduction using medial approach is a good and safe method of

treatment for Developmental Dysplasia of the Hip below the age of 2 years, when the hip cannot be reduced or maintained in acceptable position by gentle manipulation. Follow-up clinical and radiographic evaluations until skeletal maturity are mandatory to accurately evaluate the treatment outcome

**Keywords:** Developmental Dysplasia of the Hip, Medial Approach, Acetabular Index

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#### **Mini-Open Surgery for the Treatment of Chronic Refractory Lateral Epicondylitis (Tennis Elbow)**

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**Objectives:** The purpose of this study was to further assess the safety, efficacy, and results of the clinical and subjective functional results of Mini-open surgical treatment in patients with chronic refractory lateral epicondylitis, using mini approach, which was first done in Jordan at King Hussein Medical Center.

**Methods:** From January 2007, to January 2014, 79 patients (86 elbows) underwent mini approach release for chronic lateral epicondylitis. The operation was performed for patients suffered from chronic refractory Lateral epicondylitis from 1-12 years. There were 60 women and 19 men. The mean age of the patients was 46 years (32 to 65). The mean duration of follow-up was 22 weeks. Indication for treatment with mini approach was refractory chronic pain not responding to conservative treatment and methylprednisolone, which alters the patient quality of life. All the patients had received conservative treatment for at least a year without favorable response.

**Results:** The results were excellent or good

in 81 elbows (94.2%) experience complete pain relief and return to full strength. Acceptable results in five elbows (5.8%) experience significant pain relief and return of strength but not total normalcy. The mean time to return to work was 4-6 weeks. Virtually no scarring were faced. no infection, no hematoma formation, no stiffness, no flare reaction nor RSD (Reflex sympathetic dystrophy) that may occur from traditional surgical methods used to treat Lateral epicondylitis

**Conclusion:** Mini –open surgical procedure using mini approach including identification of the symptom-producing tendon pathology, resection of the pathological tissue, protection of normal tissue and their attachment, (the goal is to lift the ECRL off the ECRB without harming the ECRB origin), firm repair of the extensor carpi radialis longus (ECRL) to the extensor digitorum communis aponeurosis (EDC), yields favorable results in the treatment of patients with chronic refractory lateral Epicondylitis. It is well tolerated by patients and should be the treatment of choice for the chronic Lateral epicondylitis in the elbow, not responding to conservative treatment.

**Keywords:** tennis elbow, mini invasive release,

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#### **Functional Outcome of Mechanical Axis Correction using Annular Frames**

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**Objectives:** Gradual correction of complex lower limb deformities with the annular frames was used in a pediatric age group of diverse causes. The aim of this study is to evaluate functional outcome of annular frames in correction of lower limb deformities.

**Methods:** Ilizarov frame was used in 48 deformed lower limb segments and TSF frame was used in the correction of 3 deformed lower limb segments (33 tibial

and 18 femoral) in 31 patients. 21 were males. Clinical, functional and radiographic evaluation of deformity components, level, magnitude and plane was performed pre and postoperatively.

**Results:** Mean age at operation was 11.4±4.4 years. The etiology was congenital in 35 segments (69%). 25 segments had previous operations average 2.6±1.3 operations. Mean preoperative number of the elements of deformity were 1.9 (range 1-4). 4 limbs had translation component mean 21.2±17.4 mm, 19 limbs had rotational component mean 27.5°±7.3°, 35 limbs had shortening component mean 6.9±4.5 cm. 46 limbs had angulation component mean 33.9°±18.7°. Average follow up was 49±29 months. The average fixation time was 7.1±4.2 (1.5 to 26) months. Average residual angulation 3.8°, Average residual translation 0, Average residual shortening 0.39 cm, and average residual rotation 0.3°. Functionally: full distance walkers' increased from 37% to reach 76% (p=0.00), the ability to cope with other children in play ground increased from 37% to 65% (p=0.03), the ability to stand on one leg (affected) increased from 47% to 78% (p=0.00) the ability to hop on the affected limb increased from 27% to 37% (p=0.00).

**Conclusion:** Ilizarov fixator and TSF are effective tools for correction of deformed lower limb mechanical axis deformity, a significant increase in the aesthetic and functional outcome can be anticipated.

**Keywords:** Ilizarov, annular frame, TSF, mechanical axis, lower limb deformities.

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#### **Can MRI of the Knee be our Eye to Arthroscopy**

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**Objectives:** To investigate the accuracy of knee MRI in detecting meniscal and cruciate ligaments injuries in comparison

with arthroscopic findings.

**Methods:** This retrospective study was done in the period of May 2013 and Mart 2014. Patients were randomly selected from the sport medicine clinic with inclusion criteria's including knee trauma with the pathology in the menisci or cruciate ligaments ,the radiologists being a member of the radiology department in the RMS and the surgeon was the author of this study. The accuracy of MRI reports investigated by the arthroscopic findings. All the patients were gathered in group 1 and the results calculated. group 2 in which the MRI reported by a musculoskeletal radiologist, only 8 patients found and correlation with arthroscopic finding were calculated.

**Results:** 60 patients were male and 4 were female with age's between 17 and 50 years old. Overall accuracy of MRI was 46%.Medial meniscus pathologies accurately identified in 51% while lateral meniscal pathologies was 69% and ACL lesions in 28%. The accuracy of identifying ligaments and menisci lesions reached to 100% in group 2.

**Conclusion:** -MRI is highly accurate in diagnosing meniscal and ACL pathologies and is the most appropriate screening tool for therapeutic arthroscopy. -MRI once reported by an expertise and a specialized musculoskeletal radiologist will be really our eye to arthroscopy.

**Keywords:** MRI, Knee, Arthroscopy

594

#### **Methods of Stabilization Post Medial Approach in Developmental Dysplasia of the Hip: Does it Make a Difference?**

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**Objectives:** to investigate if the fixation method post medial approach for Developmental dysplasia of Hip(DDH) make any difference in gaining stability of the hip and maturity of the acetabulum after the treatment is finished.

**Methods:** This is retrospective study

done over 36 months from June/2010 to June/2013, on infants operated in Queen Rania Pediatric Hospital and Royal Jordanian Rehabilitation Center under the age of two years with Developmental Dysplasia of the Hip. 45 infants included in the study ,20(44%)(group A)infant treated post operation by spica for 3 months then followed by broomstick for another 3 months, the remaining (56%)(group B) were treated by spica for 3 months followed by abduction splint for 3 months and night splint for 2 months.

**Results:** 45 child were included in this study, age was(6\_24)months average 17 monthes.39 were female(87%),right hip 23,left hip 20,and 2 bilateral hip, group A had 3 dislocations required revisions(15%),2 had subluxed hip (10%) planned for secondary procedures .group B had one hip dislocation required revision(4%),2 subluxed hips planned for secondary procedure(8%)

**Conclusion:** we conclude the post operative protocol for medial approach for DDH dose affect the result ,and we recommend for for spica and abduction splint protocol as it give superior results.

**Keywords:** DDH ,medial approach, hip spica ,broomstick

### **Hall N Session 1 Allied Health Professions - Laboratory Sciences**

595

#### **Microbiological and Parasitological Investigation among Food Handlers in Hotels in the Dead Sea Area, Jordan.**

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**Objectives:** Intestinal parasitic and bacterial infections constitute a major health issue in developing countries. The present study investigates and assesses infection rates among food handlers with intestinal parasites and microbial agents in luxurious hotels in the Dead Sea area of Jordan.

**Methods:** A total of 901 stool samples were collected from food handlers employed in four main hotels in the Dead Sea area. Fecal samples were examined microscopically for intestinal parasites. Standard culture and biochemical techniques were used for the isolation and identification of *Salmonella* and *Shigella* spp in stool samples.

**Results:** Five species of protozoans (*Blastocystis hominis*, *Giardia intestinalis*, *Entamoeba coli*, *Entamoeba histolytica* and *Endolimax nana*) and one helminth (*Hymenolepis nana*) and one cylindrical worm (*Enterobius vermicularis*) were recovered with an overall infection rate of 3.7%. *Giardia intestinalis* was the most prevalent parasitic infection with infection rate of 2.44%. All samples were negative for both *Salmonella* and *Shigella*.

**Conclusion:** Our findings point out the important role of food handlers in the transmission of intestinal parasites to high class clients accommodated in luxury hotels, and stress the urgent need for regular health and parasitological examination of food handlers.

**Keywords:** Intestinal Parasites, *Giardia Intestinalis*, *Entamoeba Histolytica*, Food Handlers, Jordan.

596

#### The Levels of Serum Ferritin Among Normal People, Diabetics, Hepatitis C, and those Diabetic Patients Concomitant with Hepatitis C

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**Objectives:** To compare the level of serum ferritin between normal control subjects, diabetic patients, patients with viral hepatitis C, and diabetic patients concomitant with hepatitis C, respectively.

**Methods:** In a cross-sectional study measured the serum ferritin for 34 subjects

attended Prince Rashed Military Hospital, 15 of them males, and 19 females, their age ranged from 48 to 68 years; including 13 normal (control group), 10 cases of diabetes, 7 cases with hepatitis C, and 4 cases had hepatitis C with diabetes. We used ANOVA and compare the means, the results consider significant when P-value less than 0.05.

**Results:** Serum ferritin showed no statistical significant difference between males [ $48.3 \pm 26.0$  mg/ml] and females [ $46.2 \pm 33.4$  mg/ml]. The level of serum ferritin was steadily increasing between control group [ $22.4 \pm 6.4$  mg/ml], diabetes [ $54.1 \pm 18.6$  mg/ml], hepatitis C [ $57.9 \pm 21.3$  mg/ml], and diabetes group with hepatitis [ $91.5 \pm 45.2$  mg/ml], respectively.

**Conclusion:** Serum ferritin separately in each cases of diabetes and hepatitis C, was twice what it is in control group, While it becomes four times when diabetes is associated with viral hepatitis C.

**Keywords:** Keywords; Serum ferritin; Diabetes, Hepatitis C

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#### Comparison between Quality Evaluation and Cost of Copper Sulfate Method and Automated Hematology Analyzer among Blood Donors at the Blood Bank of King Hussein Medical Center

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**Objectives:** To donate blood the hemoglobin level it must be at least 13.5 g/dL or hematocrit of 40%. about 6-10% are deferred from donating because of their hematocrit level. This deferral may be the first time donors discover that they have anemia or are considered borderline anemic. Screening tests for blood donors require quicker, easier, and more cost-effective testing methods. The copper

sulfate( CuSO<sub>4</sub>) method, used for primary screening. This is a qualitative test and show that the hemoglobin is equal to, below, or above acceptable limits based on specific gravity.

**Methods:** This study was conducted on 1000 random blood donors at King Hussein Medical center, princess Iman center for Laboratory Science & Researches over a period of 6 months. Two ml of venous blood sample in EDTA were drawn from apparently healthy donors after getting their consent. This study was scheduled to compare the quality and the cost effective between two screening methods( CuSO<sub>4</sub> method and the Automated hematology analyzer) .

**Results:** Deferral rate of donation was 4% and there is no significant discrepancy between the two techniques used to measure hemoglobin. and there was a wide difference in the financial cost between two methods.

**Conclusion:** Some of Hb screening methods can save time and expenditure. CuSO<sub>4</sub> method gives accurate results, if strict quality control is applied. educate deferred blood donors on the need for a healthy lifestyle, including a balanced iron-rich diet, and vitamins or supplements if needed, and try to donate again

**Keywords:** CuSO<sub>4</sub> , Automated hematology analyzer, EDTA

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#### **The Frequency of Acute Myeloid Leukemia (AML-M2) Expressing Lymphoid Antigen CD19 in Association with t(8;21) (Experience at Princess Iman Research and Laboratory Sciences Center)**

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**Objectives:** To determine the frequency of Acute myeloid Leukemia (AML-M2)

expressing lymphoid antigen (CD19) in association with t(8;21) (q22;q22) cytogenetics abnormalities .

**Methods:** This is retrospective review of 70 flow cytometry and cytogenetics reports (40 males,30 females with M:F ratio 1.3:1, age ranged from 2.5year to 75years) with the diagnosis of de novo acute myeloid leukemia (AML-M2), during the period between January 2009 and May 2014, at Princess Iman Research and Laboratory Sciences Center, using multi color flow cytometry and cytogenetic analysis using fluorescence in situ hybridization (FISH) technique .

**Results:** 73% of cases express CD34 and were diagnosed as acute myeloid leukemia (AML-M2), On the other hand all cases were expressing immature markers; Anti-HLADR (70/70),CD117 (70/70) and Anti-MPO (70/70). Lymphoid antigen (CD19) expression was found on leukemic cells in 12 (17.1%) cases ; 9.6% of them were associated with t(8;21)(q22;q22).

**Conclusion:** This study demonstrates lymphoid antigen (CD19) expression on leukemic myeloblasts in 17.1% of acute myeloid leukemia (AML-M2) and its association with t(8;21) (q22;q22) cytogenetics abnormalities . Further studies are needed to correlate the association of lymphoid antigen and t(8;21) with prognosis and treatment.

**Keywords:** Acute myeloid leukemia, Flow-Cytometry, cytogenetic ,CD19

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#### **Molecular Diagnosis of HbC Disease in Jordanian Populations, Seven Years Experience at Princess Iman Research and Laboratory Sciences Center**

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**Objectives:** The aim of this study is to determine the incidence and the molecular genotype HbC disease.

**Methods:** (17380) EDTA whole blood samples were received over seven years, the



CBC data were analyzed on the Sysmex (XE-2100) followed by blood film .The hemoglobin analyzed by Variant II based on High Performance Liquid Chromatography method. Positive samples for HbC followed by DNA extraction and analyzing using PCR-reverse hybridization method to detect the genotype of HbC.

**Results:** Out of (17380) samples were studied for hemoglobinopathies diagnosis, only( 87) were positive for HbC The genotypes of Hemoglobin was heterozygous with predominance of HbA and HbC was(>40%) levels of hemoglobin's percentage .The percentage of HbC disease was Homozygous included higher levels of HbC was in between from(>60%-<90%). In rare cases the HbC trait compound with other hemoglobinopathie .(45%) of analyzed samples were positive thalassemias mutations ,and 52% were normal for hemoglobin pattern.

**Conclusion:** HbC represents the exact same substitution point as HbS but with different amino acid. The genotypes of Hemoglobin was heterozygous (HbA/C ) or (?2?2(6glu?lys) /?2?2) The genotypes of HbC anemia mutations were successfully determined. In homozygosity of HbC disease (Hb C/ C) or (?2?2 ( 6glu?lys) ?2?2 (6glu?lys)) there are a case of hemolytic anemia and the MCV show's a noticed decreasing in compare with other hemoglobin's variant.

**Keywords:** Hemoglobin C disease, Homozygous, Heterozygous.

## 600

### Serum Lipid Profile in Helicobacter Pylori Infected Patients.

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**Objectives:** The aim of this study to investigate any possible association between H.pylori infection and serum lipid levels.

**Methods:** Design and methods: the study population consisted of 350 subjects. H.pylori infection status was determined by assaying serum anti-H.Pylori immunoglobulin G antibody (IgG). Triglyceride, total cholesterol and HDL-cholesterol were measured for each subject; the data were compared among H.pylori infected subjects and healthy group.

**Results:** Results: A total of 77% of the subjects were positive for H.pylori IgG antibodies and 23% were antibody-negative. The serum cholesterol concentrations were significantly higher in patients group when compared with healthy group (189.32±45.15 vs. 179.41±36.37 mg/dL, p <0.05), serum triglyceride and total cholesterol/HDL-cholesterol concentrations also were significantly higher in patients group (169.46±68.53 vs. 135.67±94.35 mg/dL, (p <0.05) and 3.93±1.23 vs. 3.51±1.62, (p <0.05) respectively).

**Conclusion:** Collective results support the hypothesis that H .pylori infection may modify lipid modulation which will increase the risk of atherosclerosis.

**Keywords:** Helicobacter Pylori, Lipid Profile, Atherosclerosis, Immunoglobulin G Antibody.

## 601

### The Effectiveness of Otoacoustic Emission Testing in Detection of Hearing Loss in Neonates

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**Objectives:** To investigate the effectiveness and reliability of distortion product otoacoustic emission testing in detection of hearing loss in neonates

**Methods:** All neonates included in the present study underwent otoacoustic emission recording prior to discharging from the maternity unit and after one week from discharging using portable screening

otoacoustic emission, all otoacoustic emission recording were carried out by qualified audiologist.

**Results:** Otoacoustic emission recording prior to discharge showed 25 % of failure otoacoustic emission recording compared to that after one week.

**Conclusion:** Interpretation of otoacoustic emission prior to discharging should not definitely meaning that there is a hearing loss , therefore, not to rely on the prior recording of otoacoustic emission.

**Keywords:** No keywords

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**The Relationship between Leukocytosis, Lipids Profile, and Coronary Cardiac Diseases: Experience at Prince Rashed Bin Al-Hassan Military Hospital**

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**Objectives:** To determine the relationship between leukocytes count and some elements of lipids profile among metabolic syndrome associated with coronary cardiac disease.

**Methods:** In a cross-sectional study included 19 men and 17 women among attendants of Prince Rashed Bin Al-Hassan Military Hospital/North of Jordan, their age ranged from 32 to 61 years; we measured leukocytes, triglycerides, low density lipoprotein and high density lipoprotein cholesterol. These data were transferred to statistical package of social science computer system program; we used Bivariate correlation between leukocytes and lipids profile.

**Results:** Leukocytosis in men and in women associated with increased triglycerides [in men;  $r = 0.614$   $p = 0.005$ , in women;  $r = 0.686$ ,  $p = 0.002$ ] and increased low density lipoprotein cholesterol [in men;  $r = 0.0.553$ ,  $p = 0.014$ , in women;  $r = 0.863$ ,  $p < 0.0001$ ], respectively, on other hand decreasing of high density lipoprotein

cholesterol [in men;  $r = -0.521$ ,  $p = 0.022$ , in women;  $r = 0.598$ ,  $p = 0.011$ ], respectively.

**Conclusion:** Conclusion: Leukocytosis predicts the occurrence of metabolic syndrome and increase the likelihood of coronary cardiac diseases.

**Keywords:** Keywords: Leukocyte count, Triglyceride, Low and high density lipoprotein cholesterol.

**Hall N Session 2  
Allied Health Professions -  
Physiotherapy & Nutrition**

603

**The Awareness of Hypertensive Patients for the Side Effect of Instant Soup Consumption.**

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**Objectives:** To assess the awareness of hypertensive patients about salt content in instant soups at Amman region.

**Methods:** Data were collected using a self reported questionnaire distributed among (n= 200) patients ( 110 -female 55% , 90 - male 45%) with a mean age of 45 years for women and 50 years for men ,at Amman region during the period of January 2013 to January 2014 ,the questionnaire was three Parts. ,personal part , knowledge and skills part, and education that introduce through nutritional therapy part , the data was statistically analyzed ..

**Results:** A total of ( n=200 ) patients 110- female,90- male who included in the study , aged range from 30-50 years ,70% of patients had salary less than 500 jd and (70% serve it daily ,20% 2-3 time

per week and 10% never use ), RDA of sodium 1,500 milligrams per day due to The American heart Association - 72% from patient receive more than 85% salt from instant soup which 87% from RDA ,50% of patient think that instant soups cheap ,65% serve instant soups as main dish , 80% of patients have no idea about amount of salt in instant soups ,55% prepared instant soups without reading the instruction on the label , 55% of patient visit the die ion regularly ,20% from patient have Brochure that attention to salt content in instant soups , 95% of patient think that no wearing statement about salt content .

**Conclusion:** Based on our results we can conclude that patient use the instant soups daily without any attention about the severity on health , because the highest level of salt content , So must encourage salt reduction strategy working with industry to reduce salt level in prepared instant soups through reformulation of industrially processed soups , Use the warning labels to highlight the salt content of soups and use symbols , logos , and text to identify low salt soups and Identify the upper limit can consumed instant soups safety ,Educate patients to reduce their personal sodium intake , through changing the serving size ,Ensuring that professional have the knowledge and skills and Brochures or nationals salt days , booklets lead the patient to healthier behavior .

**Keywords:** The Recommended Daily Intake Allowance (RDA)

604

#### **Reliability and Validity of the Arabic-Dynamic Gait Index in People Post Stroke.**

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**Objectives:** The Dynamic Gait Index (DGI) is a valid and reliable measure of gait, balance and fall risk. The purpose of this study was to translate the DGI into the Arabic language and evaluate the reliability and validity of the Arabic version of the DGI (A-DGI) in patients with stroke.

**Methods:** The DGI was first translated

into Arabic according to the World Health Organization forward/backward translation protocol for translating assessment tools. Subsequently, the A-DGI was administered to a convenience sample of patients with stroke. The inter- and intra-rater reliability as well as convergent and discriminant validity of the A-DGI were examined.

**Results:** A sample of 51 patients with stroke (mean age 64 years, SD 12), (33 Male) was enrolled in this study. The A-DGI score reflected high agreement for both inter-rater (ICC3,1 =.98, CI=.97-.99) and intra-rater reliability (ICC1,1 =.97, CI=.95-.98), correlated moderately but significantly with Glasgow Coma Scale ( $\rho=.39$ ,  $P=.01$ ), Beck Depression Inventory ( $\rho=-.50$ ,  $P<.01$ ), and Stroke Impact Scale-16 version 3.0 domains. Moreover, the A-DGI discriminated between subjects who were at risk of fall and who were not ( $U=.00$ ,  $P<0.01$ ), younger and older adults ( $U=195$ ,  $P=.03$ ), side of hemiplegia ( $U=218$ ,  $P=.04$ ), mild and moderate ( $U=105.5$ ,  $P=0.02$ ) as well as mild and severe stroke severity ( $U=30$ ,  $P<0.01$ ).

**Conclusion:** The A-DGI was developed and reflected high reliability and validity in stroke population. The availability of a reliable and valid A-DGI facilitates its use among therapists from Arabic origins; consequently this will enrich the rehabilitation process in their clinical practice.

**Keywords:** Arabic, depression, gait, fall risk, stroke

605

#### **Dietary Patterns Effect on Iron Deficiency Anemia among Pregnant Women.**

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**Objectives:**The aim of this study is to evaluate the Dietary patterns Effect on iron deficiency anemia among pregnant women visiting the Jordanian association for family planning and protection in East

Capital Amman – Sahab.

**Methods:** A study was conducted on 600 pregnant women. Study population was divided in to 3 groups according to the trimesters (126 first trimesters 234 second trimester, 240 third trimesters). Aged (18 - 41) years during January and April 2014. The questionnaire used as a tool for personal interviews for data and measured weight , height and BMI calculation and collection of the blood sample , has been put questions to gather information and questionnaire included the following themes :Demographic data , Health data Behavioral data and food, Food awareness and beliefs practiced by pregnant woman,

**Results:** Results of this study indicated that 35.6 % of pregnant women had IDA. Also 41.5 % of the study population had good overall knowledge of definition, signs and symptoms, dietary factors, risk factors, iron supplementation and implication of iron deficiency anemia on mother and fetus. The overall knowledge of IDA was significantly associated with age education and family monthly income On the other hand, overall knowledge of IDA was not significantly associated with gestational age by trimester.

**Conclusion:** The study recommends that the educational and counseling role of the health center needs to be evaluated and there is a great need for further educational promotional program in this respect.

**Keywords:** Dietary Patterns ,Iron Deficiency Anemia, Pregnant Women

606

#### **Effectiveness of Stabilization Exercises on Patient with Chronic Low Back Pain: A Systematic Review**

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**Objectives:** This systematic review aimed to investigate the effectiveness of stabilization exercise on patient with chronic low back pain and disability.

**Methods:** Methods an online research through the electronic databases such as Ovid, Medline, Cinhal Google Scholar,

Cochrane library, Pedro database and Pubmed will be conducted. Citation searches within studies as well as online tracking of references will also conducted in this review. mean of analysis the pedro scale will be used to assess the quality of the included randomized controlled trials where studies which scored equal to or more than 5/10 were considered as a high quality studies. In addition a simple qualitative analysis will be performed to analyze data and give accurate results.

**Results:** 20 studies have met the inclusion criteria, 17 studies are randomized controlled study, one study case series, one cohort study; and one comparative study. The most outcome measures among the studies pain (Numerical pain rating scale, Visual analogue scale and Short-form McGill pain scale) and disability (Ronald & Morris disability questionnaire and Oswestry disability questionnaire). The result shows significant change among the studies in term of pain and disability. However, there is a moderate evidence about effectiveness of the stabilization exercises for long term (>6 months).

**Conclusion:** Using of stabilization exercises on patients with chronic low back pain is helpful to reduce pain and disability, however, no preference for this intervention over other physiotherapy interventions.

**Keywords:** Lumbar stabilization, Core stability, Low Back

607

#### **Assessment of Eating Disorder among Varied Body Mass Indexes**

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**Objectives:** The aim of this study is to evaluate the relationship between behavioral eating disorder and different rang of body mass indexes

**Methods:** a random sample n=81 who has hypertension and varied body mass

indexes; 67% of them females, the body mass index was calculated and they were classified into groups according to standard protocol of BMI divisions, those patients were asked to answer the eating disorder examination questionnaire (EDE-Q 6.0) which asked about how many times you having a behavioral eating refers to the past four weeks (28 days) only. Finally those behaviors were compared among those groups.

**Results:** About 27% of patient were obese with frequency of counting days or times mean they engaged in opposite behavioral eating disorders which influencing reduction in their weight or overeating such as limit the amount of food, induce vomiting, episode of over eating, compulsive exercise and eat in secret shows statistical significant increasing compared with those who have normal BMI ( $p < 0.05$ ), ( $r = 0.76$ ) and of the obese and underweight patients reveals markedly increasing concerns and dissatisfaction about their shape and weight compared with those who have normal BMI ( $p < 0.05$ ).

**Conclusion:** When it is found that the higher BMI the high opportunity to engage behavioral eating disorders, in addition the obese and underweight patients have greater concern about their body image. Greater multidisciplinary effort should be done such as dietary counseling, behavioral therapy and psychological support to help those patients to restore normal behavioral eating patterns and.

**Keywords:** Body Mass Indexes, Hypertension, Eating Disorder

608

#### **Feeding by Commercially Prepared Cereals for Infants less than Six Months as a Breast Milk Substitution among Mothers at Prince Rashid Bin Al-Hassan Hospital**

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**Objectives:** The purpose of this study is to show the effect of feeding by the commercially prepared cereals for infants less than six months. And to highlight the importance of breast feeding.

**Methods:** Descriptive cross sectional study for 167 mothers, during the period October 2013 to January 2014, self-reported questionnaires to measure mothers daily breast milk feeding frequency, number of meals from commercially prepared cereals, number of meals from infant formula, family income, mother age and work. The data was collected and analyzed descriptively.

**Results:** The mean for the mothers ages was  $31 \pm 11$  years, breast milk frequency mean  $6 \pm 3$  times, mothers that use commercially prepared cereals once a day 15% (25mum) where 9% (15mum) use it twice a day, 8% (13mum) depend only on breast feeding, the mean for infant formula use was  $5 \pm 3$  meals, 65% of the family income less than 500JD, 29% of the mothers are working.

**Conclusion:** The results of this study demonstrate that there is a about 24% of mothers are using commercially prepared foods as breast milk substitution for infants less than six months of age. Targeted education programs are therefore needed to promote awareness to ensure Providing your infants with meals that Saves money, fresh and nutritious, free of additives and fillers based on breast milk, and to avoid commercially prepared cereals for infants less than six months of age because it is not a breast milk substitution.

**Keywords:** Breast Milk, Breast Milk Substitution, Commercially Prepared Cereals, infants.

609

#### **Effectiveness of Dynamic Hand Splint and Electrical Stimulation in Treating Incomplete Radial Nerve Injury**

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**Objectives:** The purpose of this study was to compare between using dynamic hand splint or electrical stimulation in treating incomplete radial nerve injury patients or using both methods together.

**Methods:** 21 patients with incomplete radial nerve injury from both gender participated in this study who are seen as an out patient in PT department in Prince Ali Ibn Alhussein (Alkarak).

The patients was divided in to three groups seven in each group first group used dynamic hand splint, the second group used electrical stimulation, and the third group used both methods. - Data collection methods: muscle power was measured by using manual muscle test, and the sensation was measured by using two point discrimination test. - Data analysis: the data are described and presented as MEAN for each group for both muscle power and sensation.

**Results:** The result revealed improvement in muscle power and sensation in the first group and the second group almost equally, but the biggest improvement was in the third group.

**Conclusion:** It can be concluded that both dynamic hand splint and electrical stimulation are effective in treating incomplete radial nerve injury, but we recommend using both methods because it is more effective.

**Keywords:** Dynamic hand splint, Electrical stimulation, manual muscle test, two point discrimination test.

at royal rehabilitation centre in the time between January 1st to 30th of April , they were diagnosed with acute to chronic supra spinatus tendonitis. The diagnosis was done by the doctor and confirmed by the physical therapy evaluation. Physical therapy evaluation methods include visual analogue scale and range of motion for shoulder joint. The treatment duration between (7-10) sessions according to the severity and duration of complaint. Kinesiotape applied by special technique on shoulder area, up to four days. Then a re evaluation is done at the end of each session during the treatment time.

**Results:** Twelve patients completed our intervention protocol and they got improvement with their shoulder range of motion, which reflected on the shoulder functional activity, and eventually less pain according to visual analogue scale (2/10), which lead to full ADL activity. Five patients were improved according to the visual analogue scale (5/10) with moderate improvement in ADL. Three patients were improved at the beginning then deteriorated, according to visual analogue scale which remained the same with restricted ADL.

**Conclusion:** The variety of the result affected by the severity of injury and the associated injuries, the chance of the injury to come back or the deterioration of the patient's shoulder is dependent on the patient's commitment to home instructions.

**Keywords:** Supra Spinatus, Kinesiotape

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### **The Effect of Kinesiotape on Shoulder with Acute or Chronic Supraspinatus Tendonitis**

Zaid Hayajneh PT\*, Ali Zyoud PT, Ahlam Kraishan PT, Esra'a Karaiyem PT, Noor Al-jaloodi PT

\* Chairman Of Physiotherapy Department,  
Royal Medical Services (Jordan)  
hayajnehzaid@yahoo.co.uk

**Objectives:** To determine the effect of kinesiotape on shoulder ,with acute or chronic supra spinatus tendonitis.

**Methods:** We conducted a research including 20 patients referred from out patient clinics to physiotherapy department



## Hall N Session 3 Allied Health Professions - Biomedical Technology

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### Maintenance of Medical Devices using a Fiberglass-Reinforced Polymer Compound with Epoxy Putty

Abdallah N. Al-Smahdh BMT\*, Ibrahim S. Al-Thwabeyeh (BMT), Nedat H. Al-Hmaedh (BMT), Rashd H. Al-Ajarmh (BMT), Munther E. Al-Hmaedh (BMT), Saleh A. Al-Saidat (BMT), Wessam A. Al-Msari (BMT)

\* Officer Cadet , Bio-Medical Technician , prince Ali Bin Al-Hussein Military Hospital (Jordan)

saleh\_saidat@yahoo.com

**Objectives:** One of the malfunctions happened in the medical equipments is a break in its part, so this part must be replaced with new one, therefore the implementation of several maintenance requests will increase the cost of maintenance due to the high prices of new spare parts and the stop of working in the malfunctioned medical equipments for long periods of time. Objective: The objective of this experiment is the use of polymeric compounds and epoxy putty to fix the broken parts of medical devices and its durability and resilience during use.

**Methods:** This experiment was done on four infant incubators (Manufacturer: Ardo, Model: Amile Star) in the Queen Rania Hospital for Children since January 2014, there are fracture in many hinges of the hood, and serial numbers of these incubators was recorded and monitored during four months, fiberglass-reinforced polymer compound with epoxy putty was mixed and then the broken hinges of the hood was filled by the mixture.

**Results:** Those four incubators found working properly in all conditions such as heat, humidity, and durability with using sterilizing materials.

**Conclusion:** Conclusion and recommendations: Using effective materials to maintain broken parts of medical equipments will reduce the cost of maintenance, at the same time the equipments can operating safely.

**Keywords:** Infant Incubator, Fiberglass-Re-

inforced Polymer Compound, Epoxy Putty

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### Algorithm for Automatic Angles Measurement and Screening for Developmental Dysplasia of the Hip (DDH)

Areen Al-Bashir PhD\*, Mohammad Al-Abed, Fayez M. Abu Sharkh, Mohamed N. Kordeya, and Fadi M. Rousan

\* Assistant professor at the BME Department, Jordan University of Science and Technology (Jordan)  
akbashir@just.edu.jo

**Objectives:** Developmental Dysplasia of the Hip (DDH) is a medical term used to describe instability or a looseness of the hip joint in children. The examination for this condition, in the Royal Medical Services (RMS), can be done by ultrasound for children under 3 months old and by X-ray for children over 3 months old. Physician's assessment is based on certain angles (i.e. Acetabular angle and Center edge angle) taken from those images. In this work, a fully automatic algorithm for measuring the diagnostic angles of hip dysplasia is presented.

**Methods:** The method consists of the automatic segmentation of X-ray images and detection of anatomical landmarks on the femur and acetabulum. The standard angles used in the diagnosis of hip dysplasia are subsequently automatically calculated. The study included X-ray images for 16 patients who were diagnosed with DDH. Images were collected at King Hussain Medical Center, RMS, Amman, Jordan.

**Results:** The automatic assessment were compared to a physician manual assessment, there was an agreement between the two methods to an acceptable degree. The mean accuracy of the automatic assessment was 81% for the left acetabular angle, 63% for the right acetabular angle, 80% for the left center edge angle and 81% for the right center edge angle.

**Conclusion:** This method can be used in clinical practice as a screening tool to complement the current manual measurements performed by radiologists, it is extremely beneficial for the medical



field as it saves a lot of time and effort from the physician side.

**Keywords:** DDH, X-Ray

**Keywords:** PACs, Picture Archiving and Communications system, offline images, online images, retrieval time.

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#### **Offline Images Retrieval in PACs**

*Mohammadnour Al-Zaareer BMT\*, Ahmad Salem Al-Khlailah BMT, Areej Metib Al-Zaben BME, Amer Khraisat BME, Ghassan Jeries Hijazeen BME*

*\* Bio-Medical Engineer, Royal Medical Services (Jordan)*

*mohammadnour\_1979@yahoo.com*

**Objectives:** The aim of this abstract is to get offline images in PACs as fast as possible as in regular online images.

**Methods:** When a patient comes to the radiology department and asks for an image taken in the past; sometimes it take the administrator long time to retrieve it. In fact, there is no difficult problems in the system, but because of limited slots in main library tapes, the PACs engineer have to remove one of the online images and replace it with the offline one to search for the requested image.

The aim of this study is to get offline images in PACs as fast as possible as in regular online images.

**Results:** The PACs Storage is usually classified functionally as either online, nearline, or offline. In addition, the most common types of storages used for PACs are the DAS but with scalability limitation problem, SAN where the storage is independent of the server, and the NAS and its accessibility is controlled by the server. Moreover, we have found that if we connect a new tapes library with free slots to be used for the offline tapes then we can retrieve any image rapidly specially in emergency cases. In addition, we have found that SAN storage is more recommended for near line PACs deployment than any other storage types, this because that SAN storage is dedicated for one application and not for multiple applications as in NAS storage.

**Conclusion:** In conclusion, it is better to implement the SAN storage for online and nearline PACS system, however, it is more recommended to use NAS storage for offline images.



# WORKSHOPS



## W01

**Basic Surgical Training**  
**Basic Surgical Skills Course (BSS)**  
**Royal College of Surgeons of England (UK)**



### Guests:

*Fawaz Khammash MD (Jordan)*  
*Ahmad Uraiqat MD (Jordan)*

### Liaison Officer:

*Fawaz Khammash MD*  
*Ahmad Uraiqat MD*

**Date:** 1-2/11/2014  
**Time:** 08:30 - 16:00  
**Hall:** Biomedical Engineering Institute (BEI)  
**Venue:** King Hussein Medical Center

This Basic Surgical Skill two day course has been designed to introduce surgical trainees to safe surgical practice within a controlled workshop environment and it aims to 'teach, assess and certify' the ability of trainees to use safe and sound surgical techniques that are common to all forms of surgery. Basic Surgical Skills (BSS) course is strongly recommended for all surgical trainees who take up their first surgical appointment and is open to foundation doctors intending a surgical career or surgically related career.

The course has been agreed on an intercollegiate basis and trainees who complete the course will be issued with certification that will be reciprocally recognized by all four Royal Surgical Colleges. It will be delivered at the King Hussein Medical Center by the trainers from both the Royal College of Surgeons of England and Royal Medical Services.

## W02

**General Surgery**  
**Video Assisted Ano Fistula Treatment (VAAFT)**  
*(Live Surgery with Video Transmission)*  
*(Sponsored by Jordan Medicare Corp.)*



المؤسسة الأردنية للرعاية الطبية  
**JORDAN MEDICARE CORP.**

### Guests:

*Piercarlo Meinero MD (Italy)*

### Moderators:

*Amer Amireh MD*

**Date:** 2/11/2014  
**Time:** 08:30 - 12:00  
**Hall:** KHHOR (King Hussein Hospital Operating Room) to PH (Physiology Hall)  
**Venue:** KHMC (King Hussein Medical Center)

In this Workshop, Video Assisted Ano Fistula Treatment (VAAFT) Surgeries will be performed with live transmission and open discussion between audience and surgeons.

## W03

**General Surgery**  
**Liver Resection Surgery**  
*(Live Surgery with Video Transmission)*

### Guests:

*Jan Schmidt MD (Switzerland)*

### Liaison Officer:

*Khaled Ajarma MD*

**Date:** 3/11/2014  
**Time:** 08:30 - 16:00  
**Hall:** KHHOR (King Hussein Hospital Operating Room) to PH (Physiology Hall)  
**Venue:** KHMC (King Hussein Medical Center)

This is a whole day workshop of liver resection procedures with live transmission and open discussion between audience and surgeons.



## W04 Urology Urethral Stricture Surgery

### Guests:

*Abdel-Wahab El-Kassaby MD (Egypt)*  
*Mohamed Kotb MD (Egypt)*

### Liaison Officer:

*Adnan Abu-Qamar MD*

**Date:** 3/11/2014  
**Time:** 08:30 - 16:00  
**Hall:** PHCUOT (Prince Hussein Center for Urology and Organ Transplant)  
**Venue:** KHMC (King Hussein Medical Center)

This is a whole day workshop of live surgery for complicated cases of urethral stricture with live transmission and open discussion between audience and surgeons.

## W05 Pediatric Surgery Lower Urogenital and Intersex Reconstruction

### Guests:

*Alaa El-Ghoneimi MD (France)*

### Liaison Officer:

*Najeh Omari MD*

**Date:** 2-3/11/2014  
**Time:** 08:30 - 16:00  
**Hall:** QRPHA (Queen Rania Pediatric Hospital Auditorium)  
**Venue:** KHMC (King Hussein Medical Center)

This is a 2-day workshop of live surgery for complicated cases of Lower Urogenital and Intersex using both open and laparoscopic techniques with live transmission and open discussion between audience and surgeons.

## W06 Orthopedic Surgery Ponseti Method of Clubfoot Management (Ponseti International) (Models and live cases)



### Guests:

*Jose Morcuandi MD (USA)*  
*Yasser Ali Elbatrawy (Egypt)*

### Liaison Officer:

*Firas Al-Ibrahim MD*

**Date & Time:** 2/11/2014 - 08:30 - 16:00  
3/11/2014 - 08:30 - 16:00  
4/11/2014 - 08:30 - 12:00  
**Hall:** NCAR (National Center for Amputee Rehabilitation),  
**Venue:** KHMC (King Hussein Medical Center)

lectures and Hands on training on clubfoot plastic models and on kid with congenital clubfoot deformity. How to do manipulations and casting techniques. Removal and application of cast. discussion of difficult cases and relapses after surgery.

### Sunday 2 /11/2014

TIME	DETAILS
08:30 - 08:45	Welcome and Introductions by Organizer
08:45 - 09:30	Historical Perspective of the Ponseti Method
09:00 - 09:30	Scientific Basis of Clubfoot Treatment
09:30 - 10:00	Manipulation and Casting Technique: Tips and Pitfalls
10:00 - 10:30	Tenotomy: Indications and Technique
10:30 - 11:00	Coffee Break
11:00-11:30	Complex Clubfeet: Recognition & Management
11:30-12:00	Bracing: Practicalities and Problems
12:00 - 14:00	Lunch Break
14:00 - 17:00	<ul style="list-style-type: none"> <li>• Technique Practice with Models &amp; Instructors</li> <li>• Kinematics of subtalar joint</li> <li>• Manipulation</li> <li>• Casting and molding</li> <li>• Casting correction</li> </ul>
17:00 - 17:30	Questions & Group Discussion
17:30	Adjourn



## Monday 3 /11/2014

TIME	DETAILS
08:30 - 09:30	Relapses: Recognition and Management
09:30 - 10:00	Management of other pathologies: Older children, MMC, Arthrogryposis, relapses after PMR
10:00 - 10:30	Coffee Break
10:30 - 11:00	Clinical Practice Set Up/ Parents Educational Needs
11:00 - 12:00	International Clubfoot Registry
12:00 - 14:00	Lunch Break
14:00 - 17:00	Case Discussion / Live Practice on patients
17:00	Adjourn

## Tuesday 4 /11/2014

TIME	DETAILS
08:30 - 09:30	Effective National Ponseti Clubfoot Programs
09:30-10:30	Presentations by participants / Case Discussion
10:30-11:00	Coffee Break
11:00-12:00	Questions and Group Discussion
12:00 - 13:00	Lunch
13:00	Adjourn

### W07

### ENT

### Neuro-Otology

#### Guests:

*Michael McGee MD (USA)*

#### Liaison Officer:

*Mefleh Al-Jader MD*

**Date:** 1-2/11/2014

**Time:** 08:30 - 16:00

**Hall:** KHHL (King Hussein Hospital Library Lecture Hall)

**Venue:** KHMC (King Hussein Medical Center)

A live transmission of surgery involving various procedures of otology, neuro-otology and skull-base surgery. Cases are variable including: Tempo-

ral bone apex lesions, Glomus tumor, ossiculoplasty and complicated mastoidectomy.

### W08

### ENT

### Rhinoplasty

#### Guests:

*Gilbert Nolst MD (Netherland)*

#### Liaison Officer:

*Salman Al-Assaf MD*

**Date:** 3/11/2014 - 08:30 - 16:00

4/11/2014 - 08:30 - 12:00

**Hall:** KHHL (King Hussein Hospital Library Lecture Hall)

**Venue:** KHMC (King Hussein Medical Center)

A live transmission of surgery involving various procedures of reconstructive rhinoplasty using different techniques. Each surgery will be followed by discussion between surgeons and audience.

### W09

### Ophthalmology

### Trauma and VR Surgery

#### Guests:

*Cesare Forlini MD (Italy)*

#### Liaison Officer:

*Mohannad Al-Bdour MD*

**Date:** 1/11/2014

**Time:** 08:30 - 16:00

**Hall:** Ophth Dep (Ophthalmology Department)

**Venue:** KHMC (King Hussein Medical Center)

This workshop of live surgery with operations on eyes with history of trauma from anterior segment including cornea, lens to retina with iris problems and open discussion will be between surgeons and audience.





**W10**  
**Ophthalmology**  
**Glaucoma**

**Guests:**  
*Karanjit Kooner MD (USA)*

**Liaison Officer:**  
*Mohannad Al-Bdour MD*

**Date:** 2/11/2014  
**Time:** 08:30 - 16:00  
**Hall:** Ophth Dep (Ophthalmology Department)  
**Venue:** KHMC (King Hussein Medical Center)

This workshop of live surgery with update in glaucoma surgery including Ahmad Valve, express shunt and phaco-trabeculectomy with open discussion between surgeons and audience.

**W11**  
**Ophthalmology**  
**Refractive Surgery**

**Guests:**  
*Dominique Pietrini MD (France)*

**Liaison Officer:**  
*Issam Bataineh MD*

**Date:** 4/11/2014  
**Time:** 08:00 - 12:00  
**Hall:** LASIK (Lasik Center)  
**Venue:** KHMC (King Hussein Medical Center)

This workshop includes updates in LASIK and refractive surgery with topo-guided refractive surgery including intra-corneal rings and cross-linking with open discussion.

**W12**  
**Ophthalmology**  
**Oculoplastic and Orbit Surgery**

**Guests:**  
*Saj Ataullah MD (UK)*

**Liaison Officer:**  
*Mohannad Al-Bdour MD*

**Date:** 3/11/2014  
**Time:** 08:30 - 16:00

**Hall:** Ophth Dep (Ophthalmology Department)  
**Venue:** KHMC (King Hussein Medical Center)

This workshop of live surgery for common oculoplastic procedures including: anterior and posterior approaches, ptosis surgery, ectropion, entropion and blepharoplasty with open discussion between surgeons and audience.

**W13**  
**Ophthalmology**  
**Complicated Phaco Surgery and Triple Surgery**

**Guests:**  
*Brad Feldman MD (USA)*

**Liaison Officer:**  
*Mohannad Al-Bdour MD*

**Date:** 4/11/2014  
**Time:** 08:30 - 12:00  
**Hall:** Ophth Dep (Ophthalmology Department)  
**Venue:** KHMC (King Hussein Medical Center)

This workshop of live surgery for how to manage different cases in phaco-surgery and triple procedure to visually disabled patients with open discussion between surgeons and audience.

**W14**  
**Gastroenterology**  
**Submucosal Resection (SMR) and Submucosal Diathermy (SMD) in GI Endoscopy**  
(Live Cases)

**Guest:**  
*Pradeep Bhandari MD (UK)*

**Liaison Officer:**  
*Emad Ghzawi MD*

**Date:** 3/11/2014  
**Time:** 08:00 - 12:00  
**Hall:** GI Unit (Gastroenterology Unit),  
**Venue:** KHMC (King Hussein Medical Center)

This workshop of live cases for how to manage different pathologies of upper GI system with endoscopic treatment by using Submucosal Resection



(SMR) and Submucosal Diathermy (SMD) with open discussion between surgeons and audience.

### W15

#### Dermatology

#### Botulinum Toxin Injection

(Live Cases)

#### Guest:

*Abdullah Aleisa MD (KSA)*

#### Liaison Officer:

*Hussein Oudibat MD*

**Date:** 4/11/2014

**Time:** 08:30 - 12:00

**Hall:** KHHL2 (King Hussein Hospital Library Main Hall)

**Venue:** KHMC (King Hussein Medical Center)

The field of dermatosurgery and cosmetic dermatology is expanding rapidly nowadays.

In this workshop there will be live demonstration of botulinum toxin injection on patients.

During the injection, there will be explanation and discussion about the different techniques, some pitfalls to avoid and how to achieve the maximum desired effect.

Safety procedure together with the satisfaction of the patient should be the target.

### W16

#### Radiology

#### MRI

#### Guest:

*Mamdouh Mahfouz MD (Egypt)*

#### Liaison Officer:

*Imad Athamneh MD*

**Date:** 7/11/2014 - 08:30 - 16:00

8/11/2014 - 08:30 - 12:00

**Hall:** PHA (Prince Hamzah Auditorium)

**Venue:** KHMC (King Hussein Medical Center)

The post-congress two days aim to provide an in-depth knowledge base in radiology and understanding of the principles of reporting for all resident of radiology in different sectors

Resident will communicate effectively, use critical

thinking skills, demonstrate professional behavior, and will recognize the need for coming future

The lecturer is as one of the top-class experts in continuous teaching who can give an insight into the basic knowledge in the field of radiology

### Friday 7/11/2014

TIME	DETAILS
09:00 - 10:00	Shoulder MRI
10:00 - 11:00	Knee MRI
11:00 - 13:00	Prayer & Lunch Break
13:00 - 14:00	Ankle MRI
14:00 - 15:00	Wrist MRI
15:00 - 16:00	An approach for bone tumor diagnosis by different modalities

### Saturday 8/11/2014

TIME	DETAILS
09:00 - 10:00	Film Reading Session
10:00 - 11:00	Film Reading Session
11:00 - 11:30	Coffee Break
11:30 - 12:30	Film Reading Session

*The resident should be registered through the Jordanian Society of Radiology to attend the pre-congress day.*

### W17

#### Pediatrics

#### Antimicrobial Stewardship : A Successful Story

#### Guest:

*Valid Abuhammour MD (UAE)*

#### Liaison Officer:

*Ahmad Abuzeid MD*

**Date:** 4/11/2014

**Time:** 08:00 - 12:00

**Hall:** QRPDA (Queen Rania Pediatric Hospital Auditorium)

**Venue:** KHMC (King Hussein Medical Center)

This workshop will discuss the role of antibiotics in patients attending emergency room with upper respiratory tract infections and the choices of first

and second type of antibiotics for whom to be given with open discussion between the guest and audience.

### W18

#### Pediatrics

#### Diagnostic Considerations in Unsolved Cases Suspected with Metabolic Disease

##### Guest:

*Kefah Alqa'qa' MD (Jordan)*

*Wajdi Amayreh MD (Jordan)*

##### Liaison Officer:

*Kefah Alqa'qa' MD*

**Date:** 4/11/2014

**Time:** 08:00 - 12:00

**Hall:** QRPHL (Queen Rania Pediatric Hospital Library)

**Venue:** KHMC (King Hussein Medical Center)

This workshop will discuss the approach of management of difficult cases of metabolic disease regarding presentation and workup with open discussion between the guest and audience.

### W19

#### Pediatrics

#### Primary Immunodeficiency Disorders

*(Live Cases)*

##### Guest:

*Tayfun Güngör MD (Switzerland)*

##### Liaison Officer:

*Adel Wahadneh MD*

*Raed Alzyoud MD*

**Date:** 3/11/2014

**Time:** 09:00 - 13:30

**Hall:** QRPHL (Queen Rania Pediatric Hospital Library)

**Venue:** KHMC (King Hussein Medical Center)

Seventy cases of Hematopoietic stem cell transplantation (HSCT) for Primary immunodeficiency were done between 2006-2014 at bone marrow transplantation unit at Queen Rania Children hospital –King Hussein medical center by immunology team with overall success rate of 85%. Professor Tayfun will review 6 difficult cases of HSCT on hands-on bedside format. At the conclusion an

action plan will be established for each patient throughout follow up period.

### W20

#### Pediatric Cardiology

#### Melody Valve Workshop

*(Sponsored by Palm Medical Supplies, Medtronic)*



##### Guest:

*Tarek Momenah (KSA)*

##### Liaison Officer:

*Abed Al-Fattah Abu Haweleh MD*

**Date:** 1/11/2014

**Time:** 08:30 - 16:00

**Hall:** QAHl (Queen Alia Heart Institute)

**Venue:** KHMC (King Hussein Medical Center)

In this workshop, 3 difficult cases of pulmonary valve replacement will be done using MELODY Valve.

### W21

#### Anesthesia

#### Ultrasound Guided Regional Anesthesia

*(Live Cases)*

##### Guest:

*Humam Akbik MD (USA)*

##### Liaison Officer:

*Ghazi Aldehayat MD*

*Mohammad Kilani MD*

**Date:** 3/11/2014

**Time:** 09:00 - 16:00

**Hall:** KHHOR (King Hussein Hospital Operating Room)

**Venue:** KHMC (King Hussein Medical Center)

The workshop will include hands on practice on ultrasound-guided insertion of needles for regional anesthetic administration of several kinds of



blocks, mainly brachial plexus blocks.

Utilizing ultrasound for nerve blocks enhance efficacy and safety, also it is increasingly used worldwide, however, learning and experience are needed for better successes.

## W22

### Physical Medicine & Rehabilitation

### Better Spinal Cord Injury Management for Better Society



#### Guest:

*Aheed Osman MD (UK)*

*Ali Otom MD (Jordan)*

*Stanley Ducharme PhD (USA)*

*Lisa Harvey PhD (Australia)*

*Jean Jacques Wyndaele MD (Belgium)*

*Ronald Reeves MD (USA)*

*Fiona Stephenson RN (UK)*

*Stephen Eisenstein MD (UK)*

*Stephen Muldoon RN (Ireland)*

*Elma Burger OT (South Africa)*

*Moh'd Rami Al-Ahmar MD (Jordan)*

*Moh'd Al-Shorman RN (Jordan)*

*Ala'a Rawabdeh PT (Jordan)*

*Marwan Abu Rumman OT (Jordan)*

#### Moderators:

*Ali Otom MD*

*Aheed Osman MD*

#### Liaison Officer:

*Moh'd Rami Al-Ahmar MD*

**Date:** 3/11/2014 - 08:00 - 16:00

4/11/2014 - 08:00 - 12:00

**Hall:** PHA (Prince Hamzah Auditorium)

**Venue:** KHMC (King Hussein Medical Center)

## First Day: 3 November 2014

TIME	DETAILS
07:30 - 08:30	<i>Registration</i> Opening of the Workshop
08:30 - 08:40	<b>Welcome Note</b> <i>Dr Ali Otom, MD</i> <i>Director of the Royal Rehabilitation Center, Royal Medical Services (Jordan)</i>
08:40 - 08:50	<b>ISCoS Welcome Note</b> <i>Prof. JJ Wyndaele, ISCoS President (Belgium)</i>
08:50 - 09:10	<b>Overview of comprehensive Spinal Cord Injury (SCI) Management</b> <i>Dr Ali Otom, MD</i> <i>Director of the Royal Rehabilitation Center, Royal Medical Services (Jordan)</i>
09:10 - 09:30	<b>The Place of Spinal Surgery in Patients with SCI</b> <i>Prof. Stephen Eisenstein (UK)</i>
09:30 - 09:50	<b>Urological Management</b> <i>Prof. JJ Wyndaele, ISCoS President (Belgium)</i>
09:50 - 10:10	<b>Overview: Teaching the International Standards for Neurological Classification of SCI</b> <i>A. Prof Ronald Reeves MD, Mayo Clinic (USA)</i>
10:10 - 10:30	<b>Importance of Psychological Support in SCI Management</b> <i>Prof. Dr Stanley Ducharme, Clinical Psychology, New York (USA)</i>
10:30 - 11:00	<i>Coffee Break</i> <b>Different Systems for the Management of SCI:</b>
11:00 - 11:40	<b>Experience of Spinal Unit at KHMC-Jordan</b> <i>Dr Rami AlAhmar MD (Jordan)</i> <i>Moh'd Al Shorman RN (Jordan)</i> <i>Ala'a Rawabdeh PT (Jordan)</i> <i>Marwan Abu Rumman OT (Jordan)</i>
11:40 - 12:00	<b>UK Experience</b> <i>Mr Aheed Osman MD (UK)</i>
12:00 - 12:20	<b>American Experience</b> <i>Dr Ronald Reeves MD (USA)</i>
12:20 - 12:40	<b>South African Experience</b> <i>Elma Burger OT (South Africa)</i>
12:40 - 13:00	<b>ISCoS Initiatives: <a href="http://www.elearnSCI.org">www.elearnSCI.org</a>; IPSCI; Textbook; SCI datasets, Workshops and WHO Collaboration</b> <i>Stephen Muldoon (Ireland)</i>
13:00 - 14:30	<i>Lunch</i>

## Afternoon Parallel Sessions (Doctors, Nurses and Therapists)

TIME	DETAILS
14:30 - 18:30	<b>Physiotherapy Aspects: Assessment, Setting Goals, Mobility Assessment, Contracture Management, Respiratory Management, Strength Training, Fitness Training, Skill Training, Evidence Based Practice.</b> <i>A. Prof Lisa Harvey (Australia)</i>
14:30 - 18:30	<b>Nursing Aspect, Pressure Ulcer (PU) Prevention: Repositioning the Patient with SCI, Maintain Spinal Alignment, Bladder &amp; Bowel Management.</b> <i>Fiona Stephenson RN (UK)</i>
18:30 - 14:30	<b>Occupational Therapy Point of View in SCI</b> <i>Elma Burger, Occupational Therapy, (South Africa)</i>

## Second Day: 4 November 2014 Parallel Sessions

TIME	DETAILS
08:00 - 12:00	<b>ASIA Classification Training Session (Hands On) 2-3 Cases (30 Participants)</b> Introduction and History of the SCI Examination (15 minutes) SCI examination lecture (30 minutes) SCI classification lecture (30 minutes) SCI classification case review including difficult cases (30 minutes) Web calculators for SCI classification (15 minutes) Hands on examination practice and discussion (60 minutes) <i>A. Prof Ronald Reeves MD, Mayo Clinic (USA)</i>
08:00 - 12:00	<ul style="list-style-type: none"> <li><b>Psychosocial Issues for Individuals with SCI and their Families</b></li> <li><b>Principles of Counseling for Individuals with SCI</b></li> </ul> <i>Prof. Dr Stanley Ducharme, Clinical Psychology, New York (USA)</i>
08:00 - 12:00	<b>Continue Physiotherapy (PT) session</b> <i>A. Prof Lisa Harvey (Australia)</i>
08:00 - 12:00	<b>SCI Nursing Workshop</b> <i>Fiona Stephenson RN (UK)</i>

## W23 Community Medicine Global Health Security and Infectious Diseases



**Guest:**  
*Kashef Ijaz MD (USA)*

**Liaison Officer:**  
*Anwar Batieha MD*  
*Malek Dabbas MD*  
*Mahmoud Abdallat MD*

**Date:** 4/11/2014  
**Time:** 11:30 - 13:30  
**Hall:** Hall N (Harranah Hall 6)  
**Venue:** KHBTC (King Hussein Bin Talal Convention Center - Dead Sea)

- Objectives:**
- To learn about Global Health Security Agenda and how it can assist with capacity building for prevention, detection and response to infectious diseases
  - To emphasize the importance of well-trained public health workforce for control of infectious diseases
  - To provide overview and examples of recent emerging and re-emerging infectious diseases like Ebola and Middle-East Respiratory Syndrome (MERS-CoV)

## Global Health Security Agenda – Towards a World Safe and Secure from Infectious Disease Threats

Kashef Ijaz MD, MPH, US CDC, Atlanta, GA, USA  
With increased global travel and trade, the disease threats can spread faster than ever and everyone remains vulnerable. All 194 World Health Organization member states adopted the revised 2005 International Health Regulations (IHR). In the past years, several countries have made considerable progress in building capacities related to IHR. However, 80% of countries were not able to meet the IHR capacity required to prevent, detect and respond rapidly to infectious disease threats. Despite improved technologies, significant gaps remain

in the areas of public health workforce, training, surveillance capabilities, laboratory capacity and coordination, all of which are critical for protecting against the spread of infectious diseases, whether naturally occurring, accidental or deliberate. Global health security is a shared responsibility that cannot be achieved by a single sector of government, its success will depend upon collaboration among the health, security and agriculture sectors and require close coordination with WHO and other UN organizations to accelerate progress toward achieving the goals of IHR and facilitating the GHS measures.

### **Training Disease Detectives for building public health workforce capacity**

Kashef Ijaz MD, MPH, US CDC, Atlanta, GA, USA  
In a globalized world, infectious diseases and other health threats can spread rapidly across international borders. In order to prevent, detect, and respond to outbreaks and health threats, every country needs to build workforce capacity, including highly trained epidemiologists, laboratory experts, and first line public health responders. The Field Epidemiology Training Program (FETP) has played a significant role in assisting countries with their public health workforce needs and meeting IHR (2005) core capacity requirements. The FETP is typically two year applied epidemiology in-service training program, modelled after the US Epidemic Intelligence Service and is usually based within the health ministry. The program emphasizes practical experience. The FETP residents spend majority of the time actively investigating outbreaks, epidemics and other disease threats under the guidance of an experienced mentor. Thus, FETP training also leads to solutions of critical health problems and appropriate interventions. There are around 59 FETPs around the globe which have trained approximately 6950 graduates from 85 countries. The FETP has trained disease detectives that are "boots on the ground" in the ongoing battle against infectious diseases, environmental threats, and chronic diseases such as diabetes, heart disease, and cancer.

### **Global emerging and re-emerging infectious disease threats**

Kashef Ijaz MD, MPH, US CDC, Atlanta, GA, USA  
Following Severe Acute Respiratory Syndrome (SARS) and the recent emergence and re-emergence of infectious diseases like Middle-East Respiratory Syndrome Coronavirus (MERS-CoV)

and Ebola Virus Disease (EVD) respectively with subsequent spread to other countries highlights the importance of building public health capacity to prevent, detect and rapidly respond to such events under the context of Global Health Security Agenda (GHS). It also emphasizes the need for assisting countries with building core capacities for IHR (2005). A brief overview and update of recent outbreaks of MERS-CoV and EVD will be presented and discussed and how working together on GHS and implementing IHR can result in prevention and control of infectious disease threats.

### **W24**

### **Vascular - Interventional Radiology Update of Emergency EVAR**

*(Sponsored by Micromed, Medtronic)*



**Medtronic**



### **Guest:**

*Hazem Habboub MD (Jordan)*

### **Liaison Officer:**

*Hazem Habboub MD*

**Date:** 3/11/2014

**Time:** 09:00 - 12:00

**Hall:** Cath Lab (Catheterization Laboratory)

**Venue:** KHMC (King Hussein Medical Center)

This workshop will deal with Live Cases of Endovascular Aortic Stent Grafts for Aortic Dissection and Transection due to trauma and those ruptured or pending-rupture aneurysms.





## W25

### Neuro Intervention Radiology Percutaneous Embolectomy in stroke + New Trends in Treatment SAH

*Sponsored by Al-Waed Medical Supplies,  
Micro Vention Terumo USA)*



#### Guest:

*Jacques Moret MD (France)*

#### Liaison Officer:

*Amer Al-Shurbaji MD*

*Munir Al-Dahiyat MD*

**Date:** 4/11/2014

**Time:** 09:00 - 12:00

**Hall:** Cath Lab (Catheterization Laboratory)

**Venue:** KHMC (King Hussein Medical Center)

This workshop will deal with Live Cases of retrieval of clots in major intracranial arteries in acute phases of stroke and SAH using mechanical embolectomy.

## W26

### Vascular - Interventional Radiology Interventional Radiology Simulator Hands- On Workshop

*(Sponsored by Micromed, Medtronic)*



**Medtronic**



#### Guest:

*Mr Hussein Hammoud (Lebanon)*

*Mr Mustapha Fattouh (Lebanon)*

#### Liaison Officer:

*Hazem Habboub MD*

**Date:** 5/11/2014 - 09:00 - 17:00

6/11/2014 - 09:00 - 17:00

**Hall:** Medtronic Exhibition Hall

**Venue:** KHBTC (King Hussein Bin Talal  
Convention Center - Dead Sea)

This workshop is a simulator hands-on training on varying degree of difficulties in treating thoracic and abdominal aortic aneurysms using endovascular technique (EVAR).

## W27

### Neuro Intervention Radiology Hands- On Training: Basic Concepts in Neu- ral Cath

*(Sponsored by Al-Waed Medical Supplies,  
Bolton Medical USA)*



#### Guest:

*Mohammad Hamady MD (UK)*

#### Liaison Officer:

*Hazem Habboub MD*

**Date:** 3/11/2014

**Time:** 09:00 - 15:00

**Hall:** Cath Lab (Catheterization Laboratory)

**Venue:** KHMC (King Hussein Medical Center)

This workshop is a hands-on live cases workshop that deals with basic concepts of safety measures and preparation of tools and obtaining proper imaging strategies for neuro-interventional radiology.



## W28

### Neuro Intervention Radiology Endovascular Abdominal Aortic Aneurysm (AAA) Hands-On Simulation

(Sponsored by Al-Waheed Medical Supplies,  
Bolton Medical USA)



Bolton Medical

#### Guest:

Mohammad Hamady MD (UK)

#### Liaison Officer:

Hazem Habboub MD

**Date:** 5/11/2014 - 09:00 - 17:00

6/11/2014 - 09:00 - 17:00

**Hall:** Jerash Hall

**Venue:** KHBTC (King Hussein Bin Talal  
Convention Center - Dead Sea)

This workshop is a simulator based hands-on training on treatment of Abdominal Aortic Aneurysm (AAA) using new devices.

## W29

### Dentistry The Use of Direct Composite Restoration in Modern Dentistry

#### Guest:

Edward Lynch PhD (UK)

#### Liaison Officer:

Nader Masarwa DDS

**Date:** 2/11/2014

**Time:** 09:00 - 17:00

**Hall:** DENT (Dentistry Department)

**Venue:** KHMC (King Hussein Medical Center)

To learn the best way to manage deep carious lesions

To learn the best ways to place posterior composites

To learn latest techniques for minimal invasive dentistry

To learn uses of Ozone and other pharmaceutical agents in dentistry

To learn the best possible management of pulpal exposures

## W30

### Dentistry Implant-Argon System

(Sponsored by Hijazi Medical Supplies)



Hijazi Medical Supplies

#### Guest:

Frank-Michael Maier MSc (Germany)

#### Liaison Officer:

Ghadeer Moqattash DDS

**Date:** 3/11/2014

**Time:** 08:00 - 12:00

**Hall:** Biomedical Engineering Institute (BEI)

**Venue:** KHMC (King Hussein Medical Center)

The workshop will be about Argon implant system that will deal with implant shape, placement, abutments and implant-abutment relationship. In addition, bone allograft for dental implant will also be discussed.

## W31

### Dentistry Treatment Planning Workshop Seminar for Dental Implants

#### Guest:

Faleh Tamimi PhD (Canada)

#### Liaison Officer:

Ayesh Dwairi DDS

**Date:** 3/11/2014

**Time:** 13:00 - 16:00

**Hall:** Biomedical Engineering Institute (BEI)

**Venue:** KHMC (King Hussein Medical Center)



This is one of the courses Dr Tamimi teaches regularly in the Dental Implant curriculum at McGill University in Montreal, Canada. Participants are instructed on the factors that determine the success of implant treatments in order to develop adequate treatment plans. Moreover, in a hands on session, the participants are trained on how to develop a complete treatment plan for dental implant patients.

### **W32**

#### **Dentistry**

#### **Principles of Bone Graft Placement in Oral and Maxillofacial Region**

##### **Guest:**

*Gilbert Tripplet PhD (USA)*

##### **Liaison Officer:**

*Zohair Mhaidat DDS*

**Date:** 4/11/2014

**Time:** 08:00 - 12:00

**Hall:** Biomedical Engineering Institute (BEI)

**Venue:** KHMC (King Hussein Medical Center)

This workshop will be about bone grafting in the oral and maxillofacial region which is a major step in the reconstruction of defects resulting from trauma and tumor resection. It is used extensively in implant surgery. The different techniques, bone grafts and bone substitutes used in maxillofacial and implant surgery will be demonstrated and open discussion will be between guest and audience.

### **W33**

#### **Clinical Pharmacy**

#### **Anti-Microbial Stewardship**

##### **Guest:**

*Joseph Dipiro PhD (USA)*

##### **Liaison Officer:**

*Abeer Rababa'h PhD*

*Wafa'a Nsour MSc*

*Nadia kasawneh MSc*

*Emad Nsour MSc*

**Date:** 4/11/2014

**Time:** 09:00 - 11:00

**Hall:** Hall J (Harranah Hall 1)

**Venue:** KHBTC (King Hussein Bin Talal Convention Center - Dead Sea)

With the worldwide crisis in antimicrobial resistance the role of the clinical pharmacist in antibiotic stewardship is expanding. Pharmacists can play important roles as advisors, educators, infectious disease team member (with physicians, microbiologist, epidemiologist, and nurses), policy writer and formulary manager. Published guidelines for antibiotic stewardship programs have specific designated roles for pharmacists. Methods for antimicrobial stewardship include approaches to the appropriate selection of antimicrobials, proper timing of administration, dosing, and use of the best route and duration of administration. Some core strategies for antimicrobial stewardship include use of a restricted formulary, prospective antimicrobial use audits, educational approaches, dose optimization, use of oral antimicrobials when possible, de-escalation techniques, use of protocol order forms, and use of clinical guidelines.

### **W34**

#### **Pharmacoeconomics**

#### **Pharmacoeconomics from Theory to Practice**

##### **Guest:**

*Ibrahim Al-Abbadi PhD (Jordan)*

##### **Liaison Officer:**

*Adnan Masa'adeh PhD*

*Ahmed Hawadi MSc*

*Omar Khalil MSc*

**Date:** 4/11/2014

**Time:** 11:30 - 13:30

**Hall:** Hall J (Harranah Hall 1)

**Venue:** KHBTC (King Hussein Bin Talal Convention Center - Dead Sea)

Many changes have recently taken place in health care, for example the continued introduction of new expensive drugs leading for continuous escalation of expenditures at a time of scarce financial resources. The latter, increases the need to provide information that helps determine which drugs provide the most clinical benefit for the dollars spent and how these best allocated. Many pharmacy and therapeutics committees are responsible



for evaluating these new drugs and determining their potential value to health care institutions, so continue to be challenged with managing costs of pharmacotherapy. Pharmacoeconomics (PEs) is the area of health care research that evaluates and compares the costs and outcomes associated with drug therapy. Health care professionals including pharmacists should have a basic understanding of pharmacoeconomical concepts and the research methods employed to most effectively use the information gained from this rapidly growing field. This training workshop will review the basic principles of PEs and introduce their actual applications. Audience will be exposed to the evolution and use of PEs particularly the emerging hub of PEs in the region in which Jordan is a leader. Also **STEPS:** Safe, Therapeutic, Economic, Pharmaceutical Selection model will be presented as a real life example

**W35**  
**Nursing**  
**Leadership in Nursing**

**Guest:**  
*Caroline Alexander PhD (UK)*

**Liaison Officer:**  
*Haifa Abu Jassar RN*  
*Imad Al-Jarrah PhD*

**Date:** 4/11/2014  
**Time:** 09:00 - 11:00  
**Hall:** Hall M (Harranah Hall 5)  
**Venue:** KHBTC (King Hussein Bin Talal Convention Center - Dead Sea)

This leadership workshop will be an opportunity for participants to hear about current leadership theory and practice and how it applies to nursing. Participants will have the opportunity to work through scenarios that they may face in their work that will help to strengthen their leadership skills on return to their work environment. The link between staff experience and patient experience will be explored and the important role leaders play in achieving excellent care through good staff leadership and engagement. Leadership for compassionate care - the workshop facilitator will share her experiences of leading on action area 4 – 'building and strengthening

leadership' of the National Compassion in Practice strategy for England so that delegates can learn from the UK experience and make connections with international colleagues. The participants will leave with a number of questions to explore about their own leadership behaviour and their impact on others.

**W36**  
**Nursing**  
**Interprofessional Communication**

**Guest:**  
*Kay Riley PhD (UK)*

**Liaison Officer:**  
*Raed Shudifat PhD*  
*Rima Al-Majali RN*

**Date:** 4/11/2014  
**Time:** 11:30 - 13:30  
**Hall:** Hall M (Harranah Hall 5)  
**Venue:** KHBTC (King Hussein Bin Talal Convention Center - Dead Sea)

**W37**  
**Audiology**  
**Problem in using Narrow Band Noise for Measuring Hearing Threshold**

**Guest:**  
*Daniel Rowan PhD (UK)*

**Liaison Officer:**  
*Hussein Qasem PhD*

**Date:** 3/11/2014  
**Time:** 08:00 - 12:00  
**Hall:** AUDIO (Audiology Department)  
**Venue:** KHMC (King Hussein Medical Center)



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