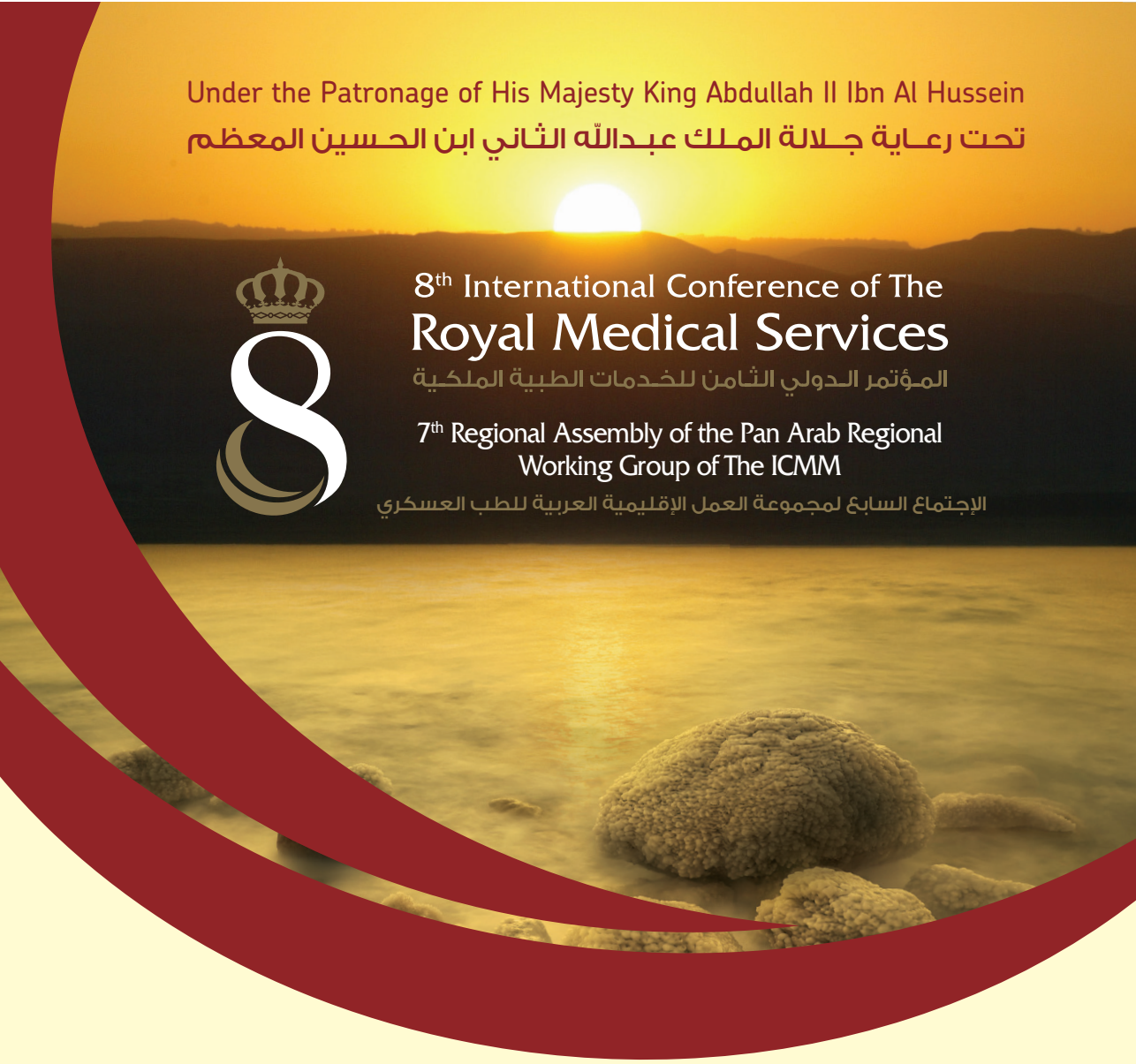
Under the Patronage of His Majesty King Abdullah II Ibn Al Hussein

تحت رعـاية جـلالة الملـك عبـدالله الثـاني ابن الحـسين المعظم



# 8th International Conference of The Royal Medical Services

المؤتمر الدولي الثامن للخدمات الطبية الملكية

## 7th Regional Assembly of the Pan Arab Regional Working Group of The ICMM

الإجتماع السابع لمجموعة العمل الإقليمية العربية للطب العسكري

"Innovation, Motivation, Integration"

"إبتكـــار، تحفيـــز، تكـــامل"

# الملخصات العلمية

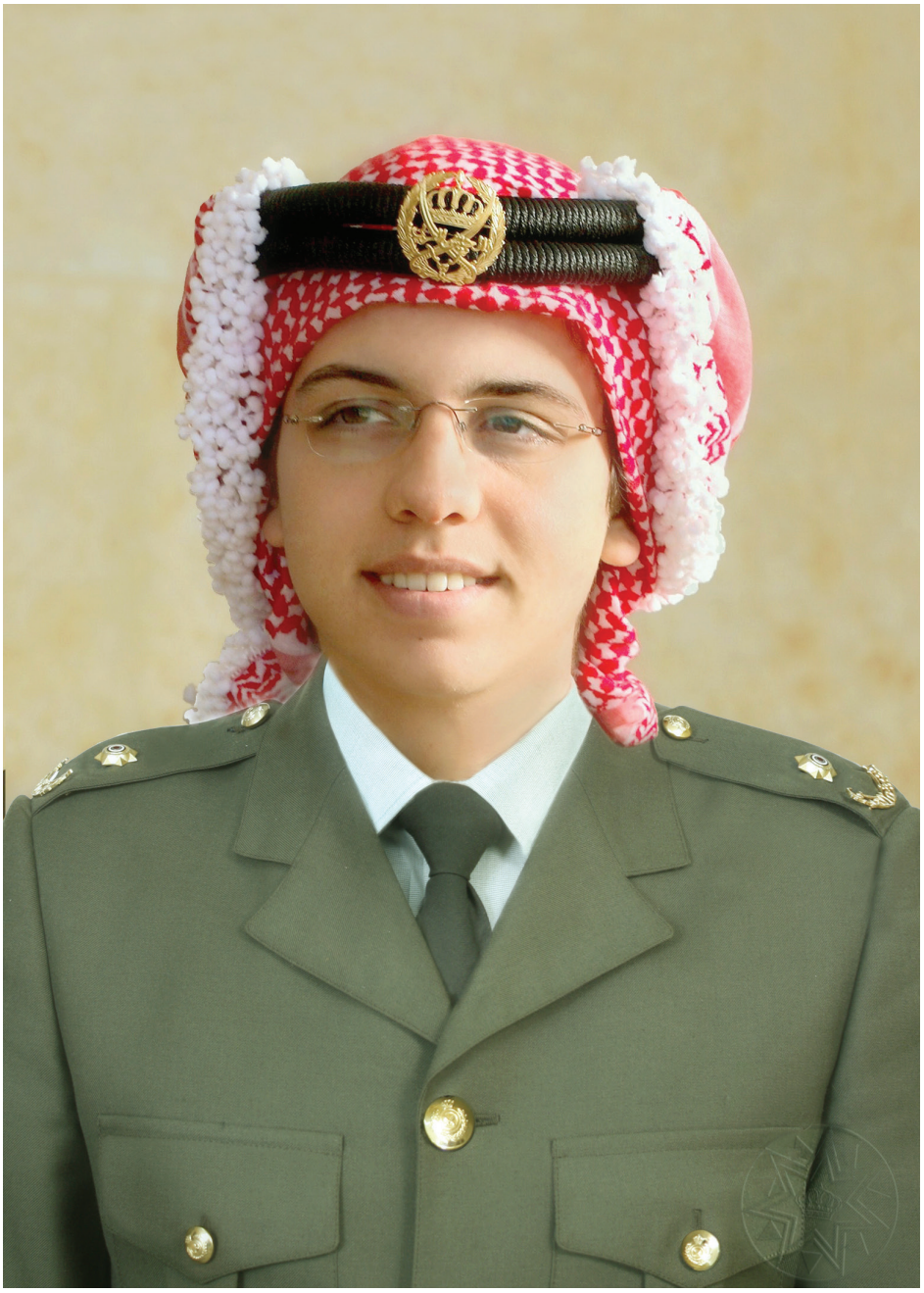
# ABSTRACT BOOK

لغاية ٢٤ ساعة معتمدة للتعليم الطبي المستمر
من مجلس الطبي الأردني

Upto 24 CME Hours
Accredited by Jordan Medical Council

**His Majesty**

# King Abdullah II Ibn Al Hussein



**His Royal Highness**

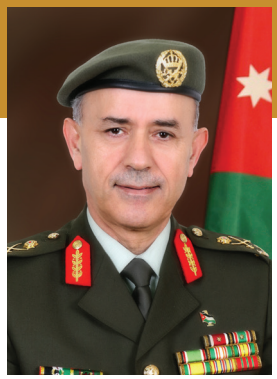
## Crown Prince Al Hussein Bin Abdullah II

# Contents

**Princess Haya Bint Al Hussein Military Hospital**
**Ajloun - Jerash**

**King Talal Military Hospital**
**Mafraq**

## Collaboration with International Organizations



# President's Welcome Note

**Dear Colleagues and Friends,**

It gives us great pleasure to invite you to the **8th International Conference of The Royal Medical Services** 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 15 -18 November 2016.**

During the conference, The Royal Medical Services of Jordan will host the 7th Regional Assembly of the Pan Arab Regional Working Group of the International Committee of Military Medicine with the participation of Pan Arab Regional Working Group Member States National Delegates to discuss updates in Military Medicine and coordinate ongoing and future cooperation projects.

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 has a specific focus on Military Medicine 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 Conference Theme Innovation, Motivation, Integration as well as conduct a myriad of workshops.

Previous RMS Conferences have had active participation from many International Organizations and Societies, such as the World Health Organization (WHO), International Committee of Military Medicine (ICMM), Pan-Arab Regional Group of Military Medicine (PARWG), The Royal College of Surgeons of England (RCS Eng), Royal College of Physicians (RCP Eng), World Federation of Hemophilia (WFH), AO Spine, AO CMF, International Committee of Red Cross (ICRC), The International Committee of Spinal Cord Injury (ISCOS), The National Arab American Medical Association (NAAMA), Center for Disease Control And Prevention (CDC), International Diabetes Federation (IDF),

U.S. Armed Forces Health Surveillance Center (US AFHSC), U.S. Military HIV Research Program, Walter Reed Army Institute of Research (WRAIR), Sidra Medical and Research Center, PONSETI INTERNATIONAL, and Thomas Jefferson University. We have similar prestigious partnerships for this upcoming conference.

Jordan Health Exhibition (JoHEX) will be held parallel with the conference as the place for presenting the latest advancements in health industry; equipment, machinery and medical supplies. I would like to thank our many Sponsors for contributing generously by taking part in the 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 many other wonders of Jordan. A visit to Petra will give you the opportunity 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**
**Chairman of the ICMM Pan Arab Regional Working Group for Military Medicine**
**Major General Muin S Al-Habashneh, MD**

# Scientific Program in Brief

## Symposia and Workshops

| | Time | Sea Floor | | | | | | Ground Floor | | First Floor | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A1 | A2 | B | C | D | E | F | G | J | L | M | N |
| | | Dead Sea 1 | Dead Sea 2 | Mount Nebo 1 | Mount Nebo 2 | Petra 1 | Petra 2 | Wadi Rum 1 | Wadi Rum 2 | Harraneh 1 | Harraneh 3 | Harraneh 5 | Harraneh 6 |
| **Tuesday 15 November 2016** | | | | | | | | | | | | | |
| 1 | 09:00-11:00 | | | | | | | Nursing W45 | Community Medicine W48 | Pharmacy W51 | Nursing W44 | Dentistry W42 | Nursing & Paramedics W47 |
| 2 | 11:30-13:30 | | | | | | | Nursing W46 | Community Medicine W49 | Pharmacy W52 | Surgery Colorectal W06 | Dentistry W42 | Nursing & Paramedics W47 |
| | 13:30-14:30 | Lunch | | | | | | Lunch | | Lunch | | | |
| | 17:00-18:00 | Opening Ceremony | | | | | | | | | | | |
| **Wednesday 16 November 2016** | | | | | | | | | | | | | |
| | 08:00 -17:00 | Registration | | | | | | | | | | | |
| 1 | 09:00-11:00 | Nursing Opening Ceremony | | Cardiac Surgery & Cardiology | Pediatric Oncology & ID | Orthopedics | Radiology | Military Medicine Field Medicine | Colorectal Surgery | Medicine Psychiatry | Neuro-Rehabilitation | | Lab Medicine |
| 2 | 11:30-13:30 | Nursing | | Cardiology & Cardiac Surgery | WFH S03 | Ortho Spine Surgery | Radiology | Military Medicine FM & ER | Breast Surgery | Medicine Dermatology | Neuro & Neuro-Rehabilitation | PARWG Regional Assembly Meeting | Lab Medicine |
| | 13:30-14:30 | Lunch | | | | | | | Breast Cancer Symposium S05 | Lunch | | | |
| 3 | 14:30-16:30 | Nursing | | Pulm Med & Chest Surgery | Pediatric GI & Metabolic | Ortho Sport & Upper Limb | Radiology | Military Medicine Innovation in Military Medicine | Bariatric Surgery | Dentistry FP | Medicine Rheumatology | | Lab Medicine |
| 4 | 17:00-18:40 | Nursing | | Immune Therapy NSCLC Symposium S04 | Pediatric Cardio & Pulm | Ortho FP | Surgery FP | Military Medicine CBRN | Plastic Surgery | Dentistry FP | PM & R | | VTE Prophylaxis Symposium S07 |
| **Thursday 17 November 2016** | | | | | | | | | | | | | |
| | 08:00-17:00 | Registration | | | | | | | | | | | |
| 1 | 09:00-11:00 | AHP | Dentistry | Medicine Endocrine | Medicine Nephrology | Obs & Gyn | Anesthesia | Hepatobiliary | Military Medicine IHL & MME | Pharmacy Opening Ceremony | ENT | | Ophthalmology |
| 2 | 11:30-13:30 | AHP | Dentistry | Urology | Pediatric Medicine Nephrology | Obs & Gyn | Anesthesia | RMS - RCP - RCS CPD Symposium S01 | Military Medicine Community Medicine | Pharmacy | ENT | | Ophthalmology |
| | 13:30-14:30 | Lunch | | | | | | Lunch | | Lunch | | | |
| 3 | 14:30-16:30 | AHP | Dentistry | Pediatric Surgery | Adult GI | Obs & Gyn | ICU | Leadership Strategy in Healthcare Symposium RMS-UK DMS-NHS-MOH-HCAC-JAEC S02 | Military Medicine Community Medicine | Pharmacy | ENT | | Ophthalmology |
| 4 | 17:00-18:30 | AHP | Dentistry | Pediatric Surgery FP | | Gyn Radiotherapy | | Health Tourism Symposium RMS - PHA - GHTC S06 | | | | | Ophthalmology |
| **Friday 18 November 2016** | | | | | | | | | | | | | |
| | 08:00-13:30 | Military Medical Exhibition & KHMC Tour | | | | | | | | | | | |

# Symposia

| No | Specialty | Title | Moderators | Date | Time | Hall | Venue |
|---|---|---|---|---|---|---|---|
| S01 | Medicine | **Joint RMS-RCP-RCS Symposium:**<br>*Continuous Professional Development CPD – Training*<br>*David Black MD (UK)*<br>*Derek Alderson MD (UK)*<br>*Hani Al-Kurdi MD (Jordan)*<br>*Mahmoud Alka'abneh MD (Jordan)*<br>*Abedalhameed Najadah MD (Jordan)*<br>*Khaldoun Haddadin MD (Jordan)* | *Prof. Ali Jawad MD*<br>*Fares Haddad MD*<br>*Imad Al-Ghazzawi MD* | 17.11.2016 | 11:30 - 13:30 | Wadi Rum 1 | KHBTCC |
| S02 | Strategic Leadership in Healthcare | **Joint RMS-UK DMS-NHS-MOH-HCAC- JAEC Symposium:**<br>*Health System and Leadership in Health Institutes and Industries*<br>*HE Khaled Toukan Eng. PhD (Jordan)*<br>*Nadeem Moghal MD (UK)*<br>*Brig Timothy Hodgetts MD (UK)*<br>*Brig. Gen. Yassin Al Tawarah PhD (Jordan)*<br>*Mrs. Salma Jaouni (Jordan)*<br>*Mansour Al-Maitah MD (Jordan)*<br>***By Invitation Only*** | *HE Prof. Rowaida Al-Maaitah*<br>*Maj. Gen. Ali Obeidat MD*<br>*Maj. Gen. Saleh Ajlouni MD* | 17.11.2016 | 14:30 - 17:00 | Wadi Rum 1 | KHBTCC |
| S03 | Hematology | **World Federation of Hemophilia (WFH) Symposium:**<br>*Manuel Carcao MD (Canada)*<br>*Bernadette Garvey MD (Canada)*<br>*Glenn Pierce MD (USA)*<br>*Assad Haffar MD (Canada)* | *Assad Haffar MD*<br>*Isam Haddadin MD*<br>*Rami Al-Majali MD* | 16.11.2016 | 11:30 - 13:30 | Mount Nebo 2 | KHBTCC |
| S04 | Medicine – Oncology | **Immune Therapy NSCLC Symposium:**<br>*David Carbone MD (USA)*<br>*(Sponsored By Merck Sharp and Dohme - MSD)* | *Khalifah Al Omari MD*<br>*Ahmad Telfah MD* | 16.11.2016 | 17:00 - 18:00 | Mount Nebo 1 | KHBTCC |
| S05 | Medicine – Oncology | **Breast Cancer Lunch Symposium:**<br>*Nuhad Ibrahim MD (USA)*<br>*(Sponsored By Roche)* | *Hikmat Abdelraziq MD*<br>*Ahmad Telfah MD* | 16.11.2016 | 13:30 - 14:30 | Wadi Rum 2 | KHBTCC |
| S06 | Health Tourism | **Joint RMS - PHA - GHTC Health Tourism Symposium:**<br>*Fawzi Al Hammouri MD (Jordan)*<br>*HE Abdullah Bashir MD (Jordan)*<br>*Ibrahim Al-Tarawneh BDS (Jordan)*<br>*Nael Al-Masalha MD (Jordan)*<br>*Mr. Refaat Al-Masri (Jordan)* | *Fawzi Al Hammouri MD*<br>*Hazem Habboub MD*<br>*Mahmoud Alka'abneh MD* | 17.11.2016 | 17:00 - 18:30 | Wadi Rum 1 | KHBTCC |
| S07 | Medicine - Surgery | **VTE Prophylaxis Symposium:**<br>*Abdallah Al Abbadi MD (Jordan)*<br>*(Sponsored By SANOFI)* | *Ali Obeidat MD* | 16.11.2016 | 17:00 - 18:00 | Harraneh 6 | KHBTCC |

# Workshops

| No | Specialty | Title | Moderators/ Liaison Officer | Date | Time | Hall | Venue |
|---|---|---|---|---|---|---|---|
| W1 * | Basic Surgical Training | **Basic Surgical Skills Course (BSS)**<br>**Royal College of Surgeons of England (UK)**<br>*Fawaz Khammash MD (Jordan)* | *Fawaz Khammash MD* | 13,14/11/2016 | 08:00 - 17:00 | BEI | KHMC |
| W2** | Cardiac Surgery | **Mitral Valve Repair and Atrial Fibrillation Ablation**<br>*Ragheb Hasan MD (UK)* | *Saed Jaber MD*<br>*Yousif Zureikat MD* | 13/11/2016 | 08:00 - 16:00 | QAHIOR | KHMC |
| W3 ** | Urology | **Ejaculation Preservation Laser Prostatectomy**<br>*Schahnaz Allousi MD (Germany)* | *Firas Al-Hammouri MD* | 14/11/2016 | 08:00 - 16:00 | PHCUOT | KHMC |
| W4 ** | Surgery - Hepatobiliary Surgery | **Laparoscopic Pancreatic, Biliary Liver Surgery**<br>*Mohammad Abu Hilal MD (UK)* | *Sameer Smadi MD* | 14/11/2016 | 08:00 - 16:00 | HHPH | KHMC |
| W5 | Plastic Surgery | **Cleft Lip and Palate Surgery**<br>*Brian Sommerlad MD (UK)* | *Khaldoun Haddadin MD* | 14/11/2016 | 08:00 - 16:00 | RRCOR | KHMC |
| W6 | Surgery - Colorectal Surgery | **Challenging Cases in Colorectal Surgery**<br>*Steven Wexner MD (U.S.A)* | *Ahmad Uraiqat MD* | 15/11/2016 | 11:30 - 13:30 | Harraneh 3 | KHBTCC |
| W7 ** | Pediatric Surgery | **Hepatobiliary Surgery**<br>*Albert Shun MD (Australia)* | *Ahmad AL-Raymoony MD* | 14/11/2016 | 08:00 - 16:00 | QRPHA | KHMC |
| W8 ** | Pediatric Surgery | **Portal Hypertension and Porto- Systemic Shunts in Children**<br>*Albert Shun MD (Australia)* | *Ahmad AL-Raymoony MD* | 15/11/2016 | 08:00 - 13:00 | QRPHA | KHMC |
| W9 | Neurology | **Electrodiagnostic Approach to Difficult Neuromuscular Cases**<br>*Thabit Sabbubeh MD (UK)* | *Majed Habahbeh MD* | 14/11/2016 | 08:00 - 12:30 | HHEMG/EEG Unit | KHMC |
| W10 | Neurology | **Repetitive Nerve Stimulation and Single-fibre EMG in Myasthenia Gravis**<br>*Thabit Sabbubeh MD (UK)* | *Majed Habahbeh MD* | 14/11/2016 | 13:00 - 16:00 | HHEMG/EEG Unit | KHMC |
| W11 | Cardiology | **Transcatheter Aortic Valve Implantation ( TAVI)**<br>*Giuseppe Bruschi MD (Italy)* | *Abdallah Omeish MD* | 15/11/2016 | 08:00 - 14:00 | QAHI Cath Lab | KHMC |
| W12 | Rheumatology | **Challenging Cases in Rheumatology**<br>*Nicholas Manolios MD (Australia)* | *Manal Al Mashaleh MD* | 14/11/2016 | 08: 00 - 14:00 | KHHL | KHMC |
| W13 | Psychiatry | **Psychological Aspects of Dementia and Management**<br>*Jed Magen MD (U.S.A)* | *Nabil Alhmoud MD*<br>*Amjad Jumaian MD* | 14/11/2016 | 08:00 - 14:00 | Psych Dept | PAMC |
| W14 | Dermatology | **Injections to Improve Facial Aesthetics**<br>*C. Reha Yavuzer MD (Turkey)* | *Hussain Odeibat MD* | 15/11/2016 | 08:00 - 12:00 | HHPH | KHMC |
| W15 | Pediatric Cardiology | **Venus Valve**<br>*Ziyad Hijazi MD (Qatar)* | *Abed Al-Fatah Abu Haweleh MD* | 15/11/2016 | 08:00 - 14:00 | QAHI Cath Lab | KHMC |
| W16 | Pediatric Clinical Nutrition | **Nutritional Assessment in Children**<br>*John Puntis MD (UK)* | *Hanadi Rimawi MD* | 14/11/2016 | 08:00 - 14:00 | QRPHHO | KHMC |
| W17 | Pediatric Oncology | **Optimisation of Protocols at Queen Rania Hospital**<br>*Quentin Campbell Hewson MD (UK)* | *Maher Khader MD*<br>*Mufeed Hamouri MD* | 14/11/2016<br>15/11/2016 | 08:00 - 15:00<br>08:00 - 13:00 | QRPHOW | KHMC |
| W18 | Pediatric Gastroenterology | **Intractable Cases of Gastroesophageal Reflux Disease (GERD) and H. Pylori Gastritis**<br>*Yvan Vandenplas MD (Belgium)* | *Abdullah Ghanma MD* | 15/11/2016 | 08:00 - 13:00 | HHEU | KHMC |
| W19 | Pediatric Nephrology | **Congenital Anomalies of the Kidney and Urinary Tract (CAKUT)**<br>*Pierre Cochat MD (France)* | *Issa Hazza MD*<br>*Riham Mardini MD* | 15/11/2016 | 08:00 - 11:00 | QRPHIDU | KHMC |
| W20 | Pediatric Nephrology | **Polyomavirus BK (BKV) Nephropathy in Kidney Transplantation**<br>*Pierre Cochat MD (France)* | *Issa Hazza MD*<br>*Ayham Haddad MD* | 15/11/2016 | 11:30 - 13:30 | QRPHIDU | KHMC |
| W21 | Obstetrics & Gynecology | **Laparoscopic and Hysteroscopic Surgery**<br>*Andrew Kent MD (UK)* | *Maher Maaita MD* | 14/11/2016 | 08:00 - 16:00 | HHC3 OR | KHMC |
| W22 | Obstetrics & Gynecology | **Urogynecology and Pelvic Floor Surgery**<br>*Alessandro D'Afiero MD (Italy)* | *Rami Shwyiat MD* | 15/11/2016 | 08:00 - 13:00 | HHC3 OR | KHMC |
| W23 | Obstetrics & Gynecology | **Fetal Echo Cardiography**<br>*Alfred Abuhamad MD (U.S.A)* | *Maher Maaita MD* | 15/11/2016 | 08:00 - 13:00 | HHGC | KHMC |
| W24 | Anesthesia & Intensive Care | **Difficult Airway Management**<br>*Peter Charters MD (UK)* | *Ghazi Aldehayat MD* | 14/11/2016 | 08:00 - 16:00 | HHOR | KHMC |

# Workshops

| No | Specialty | Title | Moderators/ Liaison Officer | Date | Time | Hall | Venue |
|---|---|---|---|---|---|---|---|
| W25 | Anesthesia & Intensive Care | **Ultrasound Guided Nerve Block**<br>*Amar Salti MD (UAE)* | *Jamal Izzat MD* | 15/11/2016 | 08:00 - 13:00 | HHOR | KHMC |
| W26 | Orthopedic Surgery | **Ponseti Method "Revolutionizing Clubfoot Treatment"**<br>*Jose Morcuende MD (U.S.A)* | *Firas Al-Ibrahim MD* | 5, 6, 7, 8 /11/2016 | 08:00 - 17:00 | QRPHA | KHMC |
| W27 | Orthopedics Spine Surgery | **Major Spinal Reconstructions**<br>*Stephen Lewis MD (Canada)* | *Raed Wagokh MD* | 14/11/2016<br>15/11/2016 | 08:00 - 16:00<br>08:00 - 14:00 | RRCOR | KHMC |
| W28 | Vascular - Interventional Radiology | **CO2 Angiography**<br>*Waleed Masoud MD (Jordan)* | *Hazem Habboub MD*<br>*Maher Khawaldeh MD* | 10/11/2016 | 08:00 - 14:00 | HHCath Lab | KHMC |
| W29 | Neuro - Interventional Radiology | **Carotid Stenting with Micromesh Stent**<br>*Rene Chapot MD (Germany)* | *Hazem Habboub MD*<br>*Sizif Haddad MD* | 10/11/2016 | 08:00 - 15:00 | HHCath Lab | KHMC |
| W30 | Neuro - Interventional Radiology | **Neuro Techniques in Endovascular Aneurysm Treatment**<br>*Saruhan Çekirge MD (Turkey)* | *Hazem Habboub MD*<br>*Maher Khawaldeh MD* | 13/11/2016 | 08: 00 - 15:00 | HHCath Lab | KHMC |
| W31 | Interventional Radiology | **New Horizons in the Treatment of Deep Venous Disease**<br>*Houman Jalaie MD (Germany)* | *Hazem Habboub MD*<br>*Sizif Haddad MD* | 13/11/2016 | 08:00 - 15:00 | HHCath Lab | KHMC |
| W32 | Vascular - Interventional Radiology | **Challenges in Treatment of Abdominal Aortic Aneurysm**<br>*Hazem Habboub MD (Jordan)* | *Izzeddin Gteish MD*<br>*Seizeph Haddad MD* | 14/11/2016 | 08:00 - 12:00 | HHCath Lab | KHMC |
| W33* | Radiology | **Musculoskeletal Ultrasound**<br>*Issam Mujahed MD (Palestine)* | *Adnan Zayadeen MD* | 14/11/2016 | 08:00 - 14:00 | HHRADIO Dept | KHMC |
| W34 ** | ENT | **Surgical Management of Chronic Middle Ear Diseases**<br>*Robert Kent Dyer MD (U.S.A)* | *Mohammad Hiary MD* | 13,14/11/2016 | 08:00 - 16:00 | RRCPHA | KHMC |
| W35 ** | ENT | **A new Prospective in Cochlear Implant**<br>*Matthias Tisch MD (Germany)* | *Mohammad Hiari MD* | 13/11/2016<br>14/11/2016<br>15/11/2016 | 08:00 - 16:00<br>08:00 - 16:00<br>08:00 - 13:00 | QRPHOR | KHMC |
| W36 ** | ENT | **Recent Advances in Endoscopic Sinus Surgery**<br>*Benedikt Folz MD (Germany)* | *Mohammad Hiari MD* | 14/11/2016<br>15/11/2016 | 08:00 - 16:00<br>08:00 - 13:00 | RRCPHA | KHMC |
| W37 | Ophthalmology | **Challenging Cases in Neuro-Ophthalmology**<br>*Gordon Terence Plant MD (UK)* | *Suha AL Ea'jailat MD* | 14/11/2016 | 08:00 - 13:00 | HH<br>Ophth Dept | KHMC |
| W38 ** | Ophthalmology | **Challenging Pediatric Corneal Cases**<br>*Samer Hamada MD (UK)* | *Wafa' Asfour MD* | 15/11/2016 | 08:00 - 13:00 | HH<br>Ophth Dept | KHMC |
| W39* | Dentistry | **OccIU.S.Al Analysis of the Dentition**<br>*Hugh Devlin BDS (UK)*<br>*Mohammad AL-Rabab'ah BDS (Jordan)* | *Ehab Rassas BDS* | 14/11/2016 | 08:00 - 12:00 | QRPHL | KHMC |
| W40 * | Dentistry | **Sedation for the Pediatric Dental Patient**<br>*Janice Townsend DDS (U.S.A)* | *Maan Al Far BDS* | 14/11/2016 | 12:00 - 16:00 | QRPHL | KHMC |
| W41* | Dentistry | **Guidelines of Orthognathic Surgery**<br>*Winfried Kretschmer DDS (Germany)* | *Omar Aljadeed BDS*<br>*Hytham Al-Rabadi BDS* | 15/11/2016 | 08:00 - 13:00 | QRPHL | KHMC |
| W42* | Dentistry | **Endodontic Surgery**<br>*Samuel Dorn DDS (U.S.A)* | *Omar Aljadeed BDS*<br>*Hytham Al-Rabadi BDS* | 15/11/2016 | 09:00 - 13:00 | Harraneh 5 | KHBTCC |
| W43 | Nursing | **Aseptic Non Touch Technique for Central Lines**<br>*Ms. Louise Ollett RN (UK)* | *Hala AL-Adwan RN MSc* | 14/11/2016 | 08:00 - 14:00 | QRPHCU | KHMC |
| W44 | Nursing | **Different Aspects Related to Onco-Hematological Health Problems**<br>*Ms. Louise Ollett RN (UK)* | *Hala AL-Adwan RN MSc*<br>*Maha Oliemat RN MSc* | 15/11/2016 | 09:00 - 11:00 | Harraneh 3 | KHBTCC |

# Workshops

| No | Specialty | Title | Moderators/ Liaison Officer | Date | Time | Hall | Venue |
|---|---|---|---|---|---|---|---|
| W45 | Nursing | **The Essence of Communication in Nursing: A Global Paradigm Shift**<br>*Rose Constantino RN PhD (U.S.A)* | *Hala Obeidat RN PhD* | 15/11/2016 | 09:00 - 11:00 | Wadi Rum 1 | KHBTCC |
| W46 | Nursing | **Fundamental Aspects of Education for People with Diabetes**<br>*Ms. Fadia Doumani RN, TET, MBA (Lebanon)* | *Raed Shudifat RN PhD* | 15/11/2016 | 11:30 - 13:30 | Wadi Rum 1 | KHBTCC |
| W47 | Nursing & Paramedics | **Basic Law Of Armed Conflict (LOAC) and Basic Military Medical Ethics (MME) for Nurses & Paramedics**<br>*Col (Ret.) Johan Crouse (SA)*<br>*Lt. Col. Elizabeth Bernthal RN PhD (UK)*<br>*Lt. Col. David Winkler MD (Swiss)* | *Col (Ret.) Johan Crouse ICMM*<br>*Maj. Hiam Esmeiran RN MSc* | 15/11/2016 | 09:00 - 13:00 | Harraneh 6 | KHBTCC |
| W48 | Community Medicine | **Emerging and Re-Emerging Diseases**<br>*Mohannad Al-Nsour MD ( Jordan)* | *Ali Mokdad MD* | 15/11/2016 | 09:00 - 11:00 | Wadi Rum 2 | KHBTCC |
| W49 | Community Medicine | **Measuring the Health of Everyone, Everywhere: How the Global Burden of Disease Study Combines Science and Policy to Save Lives and Improve Health**<br>*Ali Mokdad MD (U.S.A)* | *Mohannad Al-Nsour MD* | 15/11/2016 | 11:30 - 13:30 | Wadi Rum 2 | KHBTCC |
| W50 | Family & Emergency Medicine | **Basic Life Support**<br>*Afsin Kayipmaz MD (Turkey)* | *Ahmed Saleem MD*<br>*Samir AL-Ofeishat MD* | 15/11/2016 | 08:00 - 12:00 | NEMSEC | NEMSEC |
| W51 | Clinical Pharmacy | **Improving the Safety of Medication Use in Health Systems**<br>*Prof. James Stevenson Pharm.D. (U.S.A)* | *Wafa Nsour Pharm*<br>*Nadia Namour Pharm* | 15/11/2016 | 09:00 - 11:00 | Harraneh 1 | KHBTCC |
| W52 | Clinical Pharmacy | **Expanding Clinical Pharmacy Practice: Opportunities, Services, and Outcomes**<br>*Prof. Wafa Dahdal Pharm.D. (U.S.A)* | *Hussein Shawesh Pharm*<br>*Nadia Khasawneh Pharm* | 15/11/2016 | 11:30 - 13:30 | Harraneh 1 | KHBTCC |
| W53 | Physical Medicine & Rehabilitation | **Interventional Pain Management Approach to Chronic Low Back Pain**<br>*Ihsan Shanti MD (Jordan )* | *Ibrahim Amayreh MD* | 14/11/2016 | 08:00 - 13:00 | NCAR | KHMC |
| W54 | Physical Medicine & Rehabilitation | **Mesotherapy in Musculoskeletal Disease**<br>*Mohammad Kana'an MD (Jordan)* | *Hisham Sayegh MD* | 14/11/2016 | 13:00 - 16:00 | NCAR | KHMC |
| W55 | Radiography | **Mammography**<br>*Mohammad Rawashdeh MDS PhD (Jordan)* | *Nadia Alsajan RT*<br>*Eman Alqabai RT* | 12/11/2016 | 08:00 - 16:00 | HH<br>RADIO Dept | KHMC |
| W56 | Physiotherapy | **Evaluation and Treatment of the Cervical and Thoracic Spine**<br>*Ibrahim Altubasi PT PhD (Jordan)* | *Zaidan Khamaiseh SLP PhD*<br>*Ali Alzyood PT* | 13,14/11/2016 | 08:00 - 16:00 | HHPH | KHMC |
| W57 | Medical Laboratory Sciences | **Quality in the Haemostasis Laboratory**<br>*Steve Kitchen Clinical Scientist PhD (UK)* | *Adnan Abu Lubad MLS MSc*<br>*"Moh'd Wael" Abu Ghoush MLS MSc* | 15/11/2016 | 09:00 - 13:00 | Mou'ta | KHBTCC |

**Amman**

- **KHMC** (King Hussein Medical Center): **HH OR** (Hussein Hospital Operating Room), **HHPH** (Hussein Hospital Physiology Hall), **HHRADIO Dept** (Hussein Hospital Radiology Department), **HHCath Lab** (Hussein Hospital Catheterization Laboratory), **KHHL1** (King Hussein Hospital Library Lecture Hall), **KHHL2** (King Hussein Hospital Library Main Hall), **HHOphth Dept** (Hussein Hospital Ophthalmology Department), **HHGI Unit** (Hussein Hospital Gastroenterology Unit), **HHEU** (Hussein Hospital Endoscopy Unit), **HHDENT Dept** (Hussein Hospital Dentistry Department), **HHAUDIO Dept** (Hussein Hospital Audiology Department), **HHEMG/EEG Unit,** **HHGC** (Hussein Hospital Gynecology Clinic), **HHC3OR** (Hussein Hospital C3 Operating Room), **BEI** (Biomedical Engineering Institute), **RRCPHA** (Royal Rehabilitation Center - Prince Hamzah Auditorium), **RRC OR** (Royal Rehabilitation Center Operating Room), **NCAR** (National Center for Amputee Rehabilitation), **QAHI Cath Lab** (Queen Alia Heart Institute Catheterization Laboratory), **QRPHA** (Queen Rania Pediatric Hospital Auditorium), **QRPHL** (Queen Rania Pediatric Hospital Library), **QRPHHO** (Queen Rania Pediatric Hospital Hakeem Office), **QRPHOW** (Queen Rania Pediatric Hospital - Oncology Ward), **QRPHIDU** (Queen Rania Pediatric Hospital- Immunology Day Unit), **QRPHOR** (Queen Rania Pediatric Hospital Operating Room), **QRPHCU** (Queen Rania Pediatric Hospital Chemotherapy Unit), **PHCUOT** (Prince Hussein Center for Urology and Organ Transplant),
- **PAMC Psych Dept** (Princess Aisha Medical Complex - Psychiatry Department)
- **NEMSEC** (National Emergency Medical Services Educational Center)

**Dead Sea – Conference Venue**

- **KHBTCC** (King Hussein Bin Talal Convention Center)

* Separate Registration
** Live Surgery or Cases

# 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 I

### Pediatric Nursing Oncology

*Moderators: Ferdous Omari RN PhD, Ali AL-Zgoul RN, Reema Almajaly RN*

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|---|---|
| 09:30 - 09:55<br>1 | Initiating an Induction Programme for Newly Qualified Nurses in a Paediatric Oncology Ward<br>*Louise Ollett RN (UK)* |
| 09:55 - 10:15<br>2 | Establishing a Pediatric Palliative Care Program<br>*Anwar Al-Nassan MD (Jordan)* |
| 10:15 - 10:40<br>3 | Reducing Central Line Infections Through Education and Training<br>*Louise Ollett RN (UK)* |
| 10:40 - 11:00<br>4 | Military Mothers' Decision-Making During Times of Stress as a Lone Parent<br>*Elizabeth Bernthal RN PhD (UK)* |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II

### Essence of Communication within Nursing Disciplines

*Moderators: Fathieh Abu-Moghli RN PhD, Elham Shabsough RN, Atallah AL-Habahbeh RN PhD*

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|---|---|
| 11:30 - 12.00<br>5 | Interprofessional Collaboration and Effective Communication<br>*Rose Constantino RN PhD (U.S.A)* |
| 12:00 - 12:20<br>6 | The Code of Ethics in Nursing Practice<br>*Raeda Abu Al Rub RN PhD (Jordan)* |
| 12:20 - 12:50<br>7 | Four Quadrant Approach of Clinical Ethical Decision Making<br>*Elizabeth Bernthal RN PhD (UK)* |
| 12:50 - 13:05<br>8 | Communication is Caring<br>*Randa Habahbeh RN PhD (Jordan)* |
| 13:05 - 13:30<br>9 | Self-Management and Communication<br>*Rose Constantino RN PhD (U.S.A)* |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III

### Horizons of Nursing Diabetes Care

*Moderators: Ja'fer Al-Asad RN PhD, Rawda Shawareb RN, Hala Obeidat RN PhD*

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|---|---|
| 14:30 - 14:45<br>10 | Diabetes in the Arab World<br>*Fares Haddad MD (Jordan)* |
| 14:45 - 15:10<br>11 | Quality Education Services in Diabetes Care<br>*Fadia Doumani RN, TET, MBA (Lebanon)* |
| 15:10 - 15:25<br>12 | Effect of Diabetes Mellitus as Chronic Illness on Quality of Life<br>*Nawal Abu Aboud RN PhD (C) (Jordan)* |
| 15:25 - 15:45<br>13 | Innovative Learner-Centered Approaches for People with Diabetes<br>*Fadia Doumani RN, TET, MBA (Lebanon)* |
| 15:45 - 16:00<br>14 | Nursing Management of Insulin Initiation Therapy<br>*Reem Qadah RN MSc (Jordan)* |
| 16:00 - 16:10<br>15 | Parenting Stress among Jordanian Parents with Type 1 Diabetes Mellitus Children in Jordan<br>*Ola Hassouneh RN MSc (Jordan)* |
| 16:10 - 16:20<br>16 | Family Needs of Critically Ill Child<br>*Salah Alzwaherh RN MSc (Jordan)* |
| 16:20 - 16:30<br>17 | The Risk of Ischemic Stroke in Atrial Fibrillation Patients<br>*Ahmad Al-Omari RN (Jordan)* |
| 16:30 - 17:00 | Coffee Break |

17:00 - 18:40 - Session IV

### Evidence Based Nursing Practice & Quality of Care

*Moderators: Ahmad AL-Sagarat RN PhD, Ellen AL-Shaini RN, Hazem AL-Ajarmeh RN PhD*

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|---|---|
| 17:00 - 17:20<br>18 | Clinical Governance: Improving the Safety and Quality of Patient Care by Recognizing and Improving the Systems in which we Work<br>*Rabab Diab RN MSN (Jordan)* |
| 17:20 - 17:30<br>19 | The Effectiveness of an Educational Program on Anxiety Reduction in Patients Undergoing Elective Cardiac Catheterization<br>*Nibras Haddad RN MSN (Jordan)* |
| 17:30 - 17:40<br>20 | Rehabilitation Post Sepsis<br>*Carmel Gordon-Dark RN (UK)* |
| 17:40 - 17:50<br>21 | Patient Satisfaction Evaluation on Hospitals: Comparison Study between Accredited and Non Accredited Hospitals in Jordan<br>*Balqees Ajarmah RN CNS MSc (Jordan)* |
| 17:50 - 18:00<br>22 | The Impact of Training Program on Nurses' Attitudes toward Workplace Violence in a Military Hospital<br>*Tahany Al-Niarat RN CNS MSc (Jordan)* |
| 18:00 - 18:10<br>23 | The Relationship between Control over Nursing Practice (CONP) and Both of Pediatric Nurses' Satisfaction, and Quality of Child Care as Perceived by Pediatric Nurses at Queen Rania Al-Abdullah Hospital for Pediatrics<br>*Neeveen Al-Zerieny RN MSc (Jordan)* |
| 18:10 - 18:20<br>24 | Nurses' and Other Hospital Workers' Uniforms as a Source of Infection in Intensive Care Units<br>*Maha Abu Radwan RN MSc (Jordan)* |
| 18:20 - 18:30<br>25 | Stress Level and Coping Strategies among Mothers and Fathers of Children Diagnosed with Leukemia<br>*Eshraf Al-Momani RN CNS (Jordan)* |
| 18:30 - 18:40<br>26 | Nurses Attitudes and Perception toward Drug Abuse Clients<br>*Osama Obaid RN CNS MSc (Jordan)* |

# Hall B

Mount Nebo Hall 1

09:00 -11:00 - Session I

### Cardiac Surgery & Cardiology I

*Moderators: Mahmoud Abu-Abeeleh MD, Ayman Odeh MD, Bahi Hiyasat MD*

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|---|---|
| 09:00 - 09:15<br>27 | Recent and Current Advanced Techniques in Mitral Valve Repair; Should we Repair Asymptomatic Mitral Valve Regurgitation? When to Repair Functional Tricuspid Valve Regurgitation?<br>*Zeid Makahleh MD (Jordan)* |
| 09:15 - 09:45<br>28 | Trans-Catheter Valve Replacement and the Cardiac Surgeon<br>*Ragheb Hasan MD (UK)* |
| 09:45 - 10:15<br>29 | Alternative Approaches for Transcatheter Self-Expanding Aortic Bioprosthetic Valves Implantation: Single Centre Experience<br>*Giuseppe Bruschi MD (Italy)* |
| 10:15 - 10:30<br>30 | Multiple Arterial Grafts in Coronary Artery Bypass Surgery<br>*Salah Eldien Altarabsheh MD (Jordan)* |
| 10:30 - 11:00<br>31 | Dual Anti-Platelet Therapy (DAPT) in Interventional Cardiology Positioning Statement 2016<br>*Mohamed Sobhy MD (Egypt)* |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II

### Cardiology & Cardiac Surgery II

*Moderators: Azeez Alsaket MD, Ali Abu Rumman MD, Yahia Albadaineh MD*

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|---|---|
| 11:30 - 11:55<br>32 | Corevalve Single Center Seven Year Experience<br>*Giuseppe Bruschi MD (Italy)* |
| 11:55 - 12:20<br>33 | Computerized Tomography (CT) and the Cardiac Surgeon<br>*Ragheb Hasan MD (UK)* |
| 12:20 - 12:45<br>34 | Controversies in ST Elevation Myocardial Infarction (STEMI)2016<br>*Mohamed Sobhy MD (Egypt)* |
| 12:45 - 13:10<br>35 | Cardiac Myxomas: Clinical Characteristics and Outcome Following Surgical Treatment<br>*Mahmoud Abu-Abeeleh MD (Jordan)* |
| 13:10 - 13:30<br>36 | Percutaneous Coronary Intervention in Coronary Chronic Total Occlusions<br>*Abdallah Omeish MD (Jordan)* |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III

### Pulmonology & Chest Surgery

*Moderators: Basheer Khasawneh MD, Abdel Monem Sharara MD, Fawaz Khammash MD*

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|---|---|
| 14:30 - 14:50<br>37 | How to track CPAP Adherence and Improve Compliance (Recent Updates)<br>*Ahmed Bahammam MD (KSA)* |
| 14:50 - 15:10<br>38 | Noninvasive Ventilation in Acute Respiratory Failure<br>*Basheer Khasawneh MD (Jordan)* |
| 15:10 - 15:30<br>39 | Gender Differences in Patients with Obesity Hypoventilation Syndrome (OHS): Is OHS a disease of Women?<br>*Ahmed Bahammam MD (KSA)* |
| 15:30 - 15:45<br>40 | Superior Vena Cava Obstruction: Clinical Features and Etiology at King Hussein Medical Center<br>*Adnan Al Suleihat MD (Jordan)* |
| 15:45 - 16:00<br>41 | Lung Transplantation: What Do We Need to Start?<br>*Hani Al Hadidi MD (Jordan)* |
| 16:00 - 16:20<br>42 | Hypersomnia: Pharmacological Therapeutic Options<br>*Ahmed Bahammam MD (KSA)* |
| 16:20-16:30<br>43 | Clinicopathological Characteristics of Primary Lung Cancer Patients at King Hussein Medical Center<br>*Mohammed Obeidat MD (Jordan)* |
| 16:30 - 17:00 | Coffee Break |

17:00 - 18:00 - Session IV

### Immune Therapy NSCLC Symposium S04:

*(Sponsored By Merck Sharp and Dohme - MSD)*

*Moderators: Khalifah Al Omari MD, Ahmad Telfah MD*

MSD Be well

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|---|---|
| 17:00 - 18:00<br>44 | Immune Therapy the New Era of Cancer Treatment in Non-Small Cell Lung Carcinoma (NSCLC)<br>*David Carbone MD (U.S.A)* |

# Hall C
Mount Nebo Hall 2

09:30 - 11:00 - Session I
## Pediatric Oncology and Infectious Diseases
*Moderators: Ahmad Abu-Zeid MD, Ghadah Bqaueen MD, Abdullah Al Shurman MD*

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|---|---|
| 09:00 - 09:20<br>45 | Difficult Cases, Difficult Bugs, and Difficult Choices<br>*Wail Hayajneh MD (Jordan)* |
| 09:20 - 09:50<br>46 | Multidisciplinary Management of Childhood Sarcomas<br>*Quentin Camphell-Hewson MD (UK)* |
| 09:50 -10:10<br>47 | Recent Advances in the Treatment of Candidiasis<br>*Najwa Khuri-Bulos MD (Jordan)* |
| 10:10 -10:40<br>48 | Current Multi-Modal Therapy for Neuroblastoma<br>*Quentin Camphell-Hewson MD (UK)* |
| 10:40 -10:50<br>49 | Helicobacter Pylori Gastritis in Jordanian Children: A Tertiary Center Experience<br>*Fareed Khdair MD (Jordan)* |
| 10:50-11:00 | Discussion |
| 11:00 -11:30 | Coffee Break |

11:30 - 13:30 - Session II
## World Federation of Hemophilia (WFH) Symposium S03: Thrombosis and Hemostasis
*Moderators: Assad Haffar MD, Isam Haddadin MD, Rami Al-Majali MD*

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|---|---|
| 11:30 - 11:50<br>50 | Approach to Thromboembolic Attacks in Pediatrics, Different Congenital and Acquired Risk Factors<br>*Manuel Carcao MD (Canada)* |
| 11:50 - 12:15<br>51 | Challenges in the Diagnosis of Thromboembolic Disease in Adults and Diagnostic Parameters<br>*Bernadette Garvey MD (Canada)* |
| 12:15 - 12:35<br>52 | Extended Half-life Clotting Factors: Similarities and Differences with Conventional Factor VIII and Factor IX<br>*Glenn Pierce MD (U.S.A)* |
| 12:30 - 13:00<br>53 | Different Prophylaxis Regimens in Hemophilia and the Use of Extended Half-Life Products in Prophylaxis<br>*Manuel Carcao MD (Canada)* |
| 13:00 - 13:20<br>54 | WFH Online Reporting System on Utilization of Donated Products<br>*Assad Haffar MD (Canada)* |
| 13:20 - 13:30 | Discussion |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III
## Pediatric Gastroenterology and Clinical Nutrition
*Moderators: Basem Al Zu'bi MD, Mjalli Ahmad MD, Mahmoud Alawneh MD*

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|---|---|
| 14:30 - 14:55<br>55 | Infant Regurgitation and Pediatric Gastroesophageal Reflux Disease<br>*Yvan Vandenplas MD (Belgium)* |
| 14:55 - 15:20<br>56 | Short Bowel Syndrome in Children<br>*John Puntis MD (UK)* |
| 15:20 - 15:45<br>57 | Probiotics in Functional Gastro-intestinal Disorders<br>*Yvan Vandenplas MD (Belgium)* |
| 15:45-16:10<br>58 | Delivering Safe and Effective Parenteral Nutrition to Children<br>*John Puntis MD (UK)* |
| 16:10 - 16:20<br>59 | Biotinidase Deficiency: A survey of 18 Cases of Metabolic Unit from Queen Rania Al-Abdullah Hospital for Children- Jordan<br>*Kefah Alqa'qa' MD (Jordan)* |
| 16:20 - 16:30<br>60 | Amino Acid Disorders in Jordan; A 10 Years' Experience at Queen Rania Al-Abdullah Hospital for Children<br>*Wajdi Amayreh MD (Jordan)* |
| 16:30 - 17:00 | Coffee Break |

17:00 - 18:40 - Session IV
## Pediatric Cardiology and Pulmonology
*Moderators: EmanBadran MD, Fakhri Al Hakeem MD, Khaled Al Ekour MD*

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|---|---|
| 17:00 - 17:30<br>61 | Percutaneous Pulmonary Valve Replacement: State of The Art<br>*Ziyad Hijazi MD (Qatar)* |
| 17:30 - 17:50<br>62 | Queen Alia Heart Institute Experience in Transcatheter-based Closure of Secundum Atrial Septal Defect (ASD)<br>*Abed Al-Fatah Abu Haweleh MD (Jordan)* |
| 17:50 - 18:20<br>63 | Paravalvar Leaks: Incidence, Presentation & Catheter Therapy<br>*Ziyad Hijazi MD (Qatar)* |
| 18:20 - 18:40<br>64 | Recurrent Pneumonia in Children<br>*Abedalhameed Najadah MD (Jordan)* |

# Hall D
Petra Hall 1

09:00 - 11:00 - Session I
## Orthopedic Surgery
*Moderators: Kamil Afifi MD, Mahmoud Odat MD, Mohammad Alduwari MD*

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|---|---|
| 09:00 - 09:20<br>65 | Sacroilliac Screw (SI) Fixation in Posterior Pelvic Ring Fracture, Review of Surgical Technique<br>*Firas Al-Ibrahim MD (Jordan)* |
| 09:20 - 09:50<br>66 | Surgical Approaches in Tibial Plateau Fractures<br>*Rodrigo Fernand Hoyos MD (Colombia)* |
| 09:50 - 10:10<br>67 | Early Results of Femoral Reconstruction with Taper Cementless Modular Stem<br>*Jihad Ajlouni MD (Jordan)* |
| 10:10 - 10:30<br>68 | Total Hip Replacement in Skeletally Mature Patients with Developmental Dysplasia of the Hip<br>*Jamal Shawabkeh MD (Jordan)* |
| 10:30 - 11:00<br>69 | Surgical Approaches in Pilon Fractures<br>*Rodrigo Fernand Hoyos MD (Colombia)* |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II
## Spine and Reconstruction Surgery
*Moderators: Munther Saudi MD, Raed Wagookh MD*

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|---|---|
| 11:30 - 12:00<br>70 | Objectives and Goals in Major Spinal Reconstructions<br>*Stephen Lewis MD (Canada)* |
| 12:00 - 12:20<br>71 | Complications Following Unilateral Fasciotomy for Compartment Syndrome of the Lower Leg<br>*Arnold Suda MD (Germany)* |
| 12:20 - 12:50<br>72 | Approach to the Treatment of Coronal Plane Spinal Deformities<br>*Stephen Lewis MD (Canada)* |
| 12:50 - 13:00<br>73 | Novel Techniques in Jordan<br>*Ghaith Abou-Nouar MD (Jordan)* |
| 13:00 - 13:10<br>74 | Percutaneous Fixation Of Thoracolumber Spinal Fractures, An Overview of the Indications, Surgical Technique and Possible Complications??<br>*Asem Almajali MD (Jordan)* |
| 13:10 - 13:20<br>75 | Ponseti Method for Treating Congenital Club Foot (Royal Medical Services Experience)<br>*Ahmed Almarzouq MD (Jordan)* |
| 13:20 - 13:30<br>76 | Bone Tumor Resections and Endoprosthetic Reconstructions: King Hussein Medical Center Experience<br>*Ghaith Abou-Nouar MD (Jordan)* |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III
## Sport and Upper Limb Update
*Moderators: Jihad Ajlouni MD, Issam Dahabreh MD, Malek Ghnaimat MD*

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|---|---|
| 14:30 - 15:00<br>77 | Terrible Triad of the Elbow<br>*Rodrigo Fernand Hoyos MD (Colombia)* |
| 15:00 - 15:20<br>78 | Avascular Necrosis (AVN) of Femur Head, Jordan Hospital Experience in Core Decompression and Bone Graft<br>*Kamil Afifi MD (Jodran)* |
| 15:20 - 15:50<br>79 | Augmentation in Intertrochanteric Fractures<br>*Rodrigo Fernand Hoyos MD (Colombia)* |
| 15:50 - 16:10<br>80 | Current Concepts in Patellar Instability<br>*Issa Sawaqed MD (Jordan)* |
| 16:10 - 16:30<br>81 | Modified Latarjet Procedure for Recurrent Anterior Shoulder Dislocation: Our Experience at the Jordanian Royal Medical Services<br>*Malek Ghnaimat MD (Jordan)* |
| 16:30 - 17:00 | Coffee Break |

17:00 - 18:40 - Session IV
## Orthopedics Free Papers
*Moderators: Issa Sawaqed MD, Jamal Shawabkeh MD, Firas Al-Ibrahim MD*

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|---|---|
| 17:00 - 17:20<br>82 | Single Operation Management for Neglected Dislocation of the Hip by Open Reduction, Pelvic Osteotomy and Femoral Shortening with Derotation after the Age of 24 Months<br>*Razi Altarawneh MD (Jordan)* |
| 17:20 - 17:30<br>83 | The Challenge of the Treatment of Methicillin-Resistant Staphylococcus Aureus Osteomyelitis in Pediatric Age Group Royal Medical Services Experience<br>*Mohammad Al-Alwan MD (Jordan)* |
| 17:30 - 17:40<br>84 | 8 Plate for Correcting Knee Angular Deformity (Royal Medical Service Experience)<br>*Haider Soudi MD (Jordan)* |
| 17:40 - 17:50<br>85 | Management of Adolescent Residual Hip Dysplasia by Triple Pelvic Osteotomy, Royal Medical Service Experience and Short Term Follow-Up<br>*Fadi AlRousan MD (Jordan)* |
| 17:50 - 18:00<br>86 | Ipsilateral Supracondylar Humerus, Monteggia Fracture Dislocation and Distal Radius Fracture: A case Report<br>*Moayad Abu Qa'oud MD (Jordan)* |
| 18:00 - 18:10 | Discussion |

# Hall E

Petra Hall 2

09:00 - 11:00 - Session I

## Radiology Update: New Evolution, Emergency Tools, Malignancy & MRI

*Moderators: Asem Mansour MD, Mohammad Hiari MD, Mohammed Ghatasheh MD*

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|---|---|
| 09:00 - 09:20<br>87 | Emergency Radiology, New Evolution<br>*Hazem Habboub MD (Jordan)* |
| 09:20 - 09:50<br>88 | Hepatobiliary MRI 2016<br>*Russell Low MD (U.S.A)* |
| 09:50 - 10:20<br>89 | Neuroimaging in Hematological Malignancies<br>*Asem Mansour MD (Jordan)* |
| 10:20 - 10:50<br>90 | Diffusion and Perfusion – New Tools for Abdominal MRI<br>*Russell Low MD (U.S.A)* |
| 10:50 - 11:00 | Discussion |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II

## Radiology Update: Interventional Radiology, Malignancy & Brain Pathology

*Moderators: Mamoon Omari MD, Nart Abida MD, Izzeddin Qtaish MD*

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|---|---|
| 11:30 - 12:00<br>91 | MRI of Peritoneal Malignancy<br>*Russell Low MD (U.S.A)* |
| 12:00 - 12:30<br>92 | A New Aneurysm Occlusion Classification after the Impact of Flow Modification<br>*Saruhan Çekirge MD (Turkey)* |
| 12:30 - 12:50<br>93 | Radiological Approach to Adult White Matter Disorders<br>*Nosaiba Al Ryalat MD (Jordan)* |
| 12:50 - 13:20<br>94 | Endovascular Treatment of Brain Arteriovenous Malformations with Prolonged Intranidal Onyx Injection Technique<br>*Saruhan Çekirge MD (Turkey)* |
| 13:20 - 13:30<br>95 | Prognostic Value of Histopathologic Vascular Invasion in Differentiated Thyroid Carcinoma; A Single Center Experience<br>*Hamzeh Aladwan MD (Jordan)* |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III

## Radiology Update: Musculoskeletal, Endocrine, Acute Abdomen, Bone & Pediatrics

*Moderators: Nosaiba Al-Ryalat MD, Sameeh Khulaifat MD, Ola Imam MD*

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|---|---|
| 14:30 - 15:00<br>96 | MRI of the Acute Abdomen<br>*Russell Low MD (U.S.A)* |
| 15:00 - 15:20<br>97 | Importance of Ultrasound in Diagnosis and Management of Musculoskeletal Disease<br>*Issam Mujahed MD (Palestine)* |
| 15:20 - 15:40<br>98 | Diffusion Weighted Imaging in Evaluation of Various Musculoskeletal Disorders<br>*Jameel Shawaqfeh MD (Jordan)* |
| 15:40 - 15:55<br>99 | Evaluation of Ultrasound Features of Thyroid Nodules to Assess Malignancy Risk: A step Towards TIRADS (Thyroid Imaging Reporting and Data System)<br>*Adnan Zayadeen MD (Jordan)* |
| 15:55 - 16:10<br>100 | Imaging the Child with Acute Abdomen ''It's not Always What You Think''<br>*Zeid Alaween MD (Jordan)* |
| 16:10 - 16:20<br>101 | May Bone-Targeted Radionuclide Therapy Overcome PRRT-Refractory Osseous Disease in NET? A pilot Report on 188Re-HEDP Treatment in Progressive Bone Metastases after 177Lu-octreotate<br>*Abdullah Al Zreiqat MD (Jordan)* |
| 16:20 -16:30<br>102 | Diagnostic Value of Bone Scan in Children with Back Pain<br>*Amany Jaafreh MD (Jordan)* |
| 16:30 - 17:00 | Coffee Break |

17:00 - 18:30 - Session IV

## Surgery : Data From Jordan

*Moderators: Omer Zoubi MD, Nidal Khasawneh MD, Salah Eldien Altarabsheh MD*

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|---|---|
| 17:00 - 17:10<br>103 | The Role of Neuroendoscopy in the Management of Tectal Plate Gliomas<br>*Nidal Khasawneh MD (Jordan)* |
| 17:10 - 17:20<br>104 | Neuroendoscopy Treatment of Colloid Cysts, King Hussein Medical Centre Experience<br>*Nidal Khasawneh MD (Jordan)* |
| 17:20 - 17:30<br>105 | Management of Complications of Endovascular Aortic Repair ( EVAR and TEVAR) Our Experience at King Hussein Medical Center<br>*Tareq ALsamarneh MD (Jordan)* |
| 17:30 - 17:40<br>106 | In situ Arterial Bypass Surgery for Lower Limb Salvage. Experience at King Hussein Medical Center<br>*Mohammed Al-Rawashdeh MD (Jordan)* |
| 17:40 - 17:50<br>107 | Outcome of Surgical Treatment for Popliteal Artery Aneurysms Repair in King Hussein Medical Center (KHMC)<br>*Muhannad Jalookh MD (Jordan)* |
| 17:50 - 18:00<br>108 | Redo CABG In Elderly Off-Pump Versus on Pump<br>*Razi Abuanzeh MD (Jordan)* |
| 18:00 - 18:10<br>109 | Retrograde Cardioplegia in Open Heart Surgeries; Is it a necessity or a luxury?<br>*(Moh'd Yanal) Al-Naser MD (Jordan)* |
| 18:10 - 18:20<br>110 | Uncontrolled Diabetes; Is It Really A Killer in Cardiac Surgery?<br>*(Moh'd Yanal) Al-Naser MD (Jordan)* |
| 18:20 - 18:30 | Discussion |

# Hall F

Wadi Rum Hall 1

09:00 -11:00 - Session I

## Military Medicine - Field Medicine

*Moderators: Brig. Gen. (Ret) Nawaf Khazallah MD, Brig. Gen.(Ret) Ali Rafai MD, Brig. Gen. Hashem Abdallat MD*

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|---|---|
| 09:00 - 09:15<br>111 | Role of Level I Hospital when Establishing and Deploying United Nation Mission, Haiti 2005 JORBAT2<br>*Col. Samir Al-Ofieshat MD (Jordan)* |
| 09:15 - 09:35<br>112 | StratAirMedEvac in German Transcontinental Military Missions<br>*Maj. Bergmann Harald MD (Germany)* |
| 09:35 - 09:50<br>113 | Field Medicine in Royal Jordanian Medical Services Role in Humanitarian Missions: Past and Present<br>*Brig. Gen.(Ret) Ali Rafai MD (Jordan)* |
| 09:50 - 10:05<br>114 | Prehospital Trauma Care in Jordan<br>*Col. Hazem Ajarmeh RN PhD (Jordan)* |
| 10:05 - 10:30<br>115 | Key Success Factors for a Field Hospital<br>*Brig. Timothy Hodgetts MD (UK)* |
| 10:30 - 10:50<br>116 | Combat Medical Support in Mountain Environments<br>*Col. Pharm. Ali Alkinani (KSA)* |
| 10:50 - 11:00<br>117 | Occupational Noise Exposure and Hearing Loss in Military Personnel in Saudi Arabia<br>*Lt. Col. Fahad Al-Saab MD (KSA)* |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II

## Family & Emergency Medicine

*Moderators: Lt. Col. Andrea Kolodziejski MD, Maj. Gen. (Ret) Suleiman Abbadi MD, Brig. Gen. Ahmed Saleem MD*

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|---|---|
| 11:30 - 11:50<br>118 | Family Practice: Concept, Practice and Scale up<br>*Oraib Alsmadi MD (Jordan)* |
| 11:50 - 12:20<br>119 | Updates on Cardiopulmonary Resuscitation (CPR) Guidelines<br>*Afsin Kayıpmaz MD ( Turkey)* |
| 12:20 - 12:45<br>120 | Myocardial Infarction in Transcontinental Military Missions<br>*Lt. Col. Andrea Kolodziejski MD (Germany)* |
| 12:45 -13:15<br>121 | Antidote for Toxicological Emergencies<br>*Afsin Kayıpmaz MD (Turkey)* |
| 13:15 - 13:30<br>122 | Pediatric Trauma Management and New Perspectives<br>*Lt. Col. Samer Karadsheh MD (Jordan)* |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III

## Innovation in Military Medicine

*Moderators: Maj. Gen. (Ret) Mohammad AL-Abbadi MD, Brig. Timothy Hodgetts MD, Brig. Gen. Hashem Abdallat MD*

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|---|---|
| 14:30 - 14:40 | Welcome Speech<br>*Maj. Gen. Muin Al Habashneh MD (Jordan)*<br>*Director General of The Royal Medical Services - President of the Conference*<br>*Chairman of Pan Arab Regional Working Group of the ICMM* |
| 14:40 - 14:50 | Keynote Speech<br>*Maj. Gen. Terawan Agus Putranto MD (Indonesia)*<br>*Chairman of World International Committee of Military Medicine ICMM* |
| 14:50 - 15:10<br>123 | Military Support to Civic Organization in Humanitarian Assistance and Disaster Relief<br>*Brig. Gen. Eng. Mohammad Al-Mawajdeh JAF-Arab Army (Jordan)* |
| 15:10 - 15:40<br>124 | Understanding Innovation in Defence Medicine-Models for Innovation Adoption and Innovation Translation<br>*Brig. Timothy Hodgetts MD, Defence Medical Services (UK)* |
| 15:40 - 16:00<br>125 | Islamic Perspective of Patient Care<br>*Maj. Gen. Yahya Albtoush, Grand Mufti, JAF-Arab Army (Jordan)* |
| 16:00 - 16:20<br>126 | An integrated Approach to Military Medical Simulation<br>*Brig. Timothy Hodgetts MD, Defence Medical Services (UK)* |
| 16:20 - 16:30 | Discussion |
| 16:30 - 17:00 | Coffee Break |

17:00 - 18:40 - Session IV

## Chemical Biologic Radiologic and Nuclear (CBRN) Warfare

*Moderators: Emad Abu Yaqeen MD, Brig. Gen. Eng. Mohammad Al-Mawajdeh, Col. Samir Al-Ofieshat MD*

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|---|---|
| 17:00 - 17:20<br>127 | Building A National CBRN Program for Health Care in Jordan<br>*Emad Abu Yaqeen MD (Jordan)* |
| 17:20 - 17:40<br>128 | Protection Procedures Against Weapons of Mass Destruction<br>*Lt. Col. Eng. Mohammad Jukhan JAF-Arab Army (Jordan)* |
| 17:40 - 18:00<br>129 | Mass Destruction Weapons Chemical Agents Review<br>*Capt. Samer Hamadneh MD (Jordan)* |
| 18:00 - 18:20<br>130 | Workplace Hazard Assessment<br>*Madi Jaghbir MD (Jordan)* |
| 18:20 - 18:40<br>131 | Fostering Bio-Security Capacity in Jordan, Assets and Challenges<br>*Lt. Col. Rami Khasawnah MD (Jordan)* |

# Hall G
Wadi Rum Hall 2

09:00 -11:00 - Session I
**Colo-Rectal Surgery**
*Moderators: Tareq Aljabery MD Amer Ameereh MD, Ahmad Uraiqat MD*

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|---|---|
| 09:00 - 09:20<br>132 | Surgeon Influenced Variables<br>*Steven Wexner MD (U.S.A)* |
| 09:20 - 09:40<br>133 | Optimal Staging of Rectal Cancer<br>*Mariana Berho MD (U.S.A)* |
| 09:40 - 10:00<br>134 | Establish Centers of Excellence for Rectal Cancer Surgery<br>*Steven Wexner MD (U.S.A)* |
| 10:00 - 10:20<br>135 | Colorectal Cancer in Ulcerative Colitis Patients: A Surgical Perspective<br>*Tareq Al-Jaberi MD (Jordan)* |
| 10:20 - 10:40<br>136 | How Anastomoses Heal and Why They Don't Heal<br>*Mariana Berho MD (U.S.A)* |
| 10:40 - 11:00<br>137 | Controversies in J-pouch Surgery<br>*Steven Wexner MD (U.S.A)* |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II
**Breast Surgery**
*Moderators: Mahmmoud Almasri MD, Tahseen Muhajer MD, Ali Abuseini MD*

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|---|---|
| 11:30 - 12:00<br>138 | The Role of Oncoplastic Surgery in The Treatment of Breast Cancer<br>*Malcolm Reed MD (UK)* |
| 12:00 - 12:20<br>139 | Management of the Primary Breast Tumor in Metastatic Setting<br>*Mahmmoud Almasri MD (Jordan)* |
| 12:20 - 12:50<br>140 | The Role of Sentinel Node Biopsy (SNB) in the Management of Breast Cancer<br>*Malcolm Reed MD (UK)* |
| 12:50 - 13:10<br>141 | Familial Breast Cancer in Jordan<br>*Hikmat Abdelraziq MD (Jordan)* |
| 13:10 - 13:30<br>142 | Oncologic Safety of Nipple Sparing Mastectomy (NSM) in Comparison to Skin Sparing Mastectomy (SSM) & Modified Radical Mastectomy (MRM)<br>*Ali Abuseini MD (Jordan)* |

13:30 - 14:30 - Lunch Time
**Breast Cancer Symposium S05:**
*(Sponsored By )*
Roche
*Moderators: Hikmat Abdelraziq MD, Ahmad Telfah MD*

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|---|---|
| 13:30 - 14:30<br>143 | *Updates on Treatment Standards of HER2 +ve Metastatic Breast Cancer*<br>*Nuhad Ibrahim MD (USA)* |

14:30-16:30 - Session III
**Bariatric Surgery**
*Moderators: Salam Daradkah MD, Hanan Raihani MD, Wa'el Al Na'ssan MD*

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|---|---|
| 14:30 - 15:00<br>144 | Best Practices in Development of a Successful Bariatric Surgery Practice (Managing High Volume Center): A Single Centre Study on 10000 Patients<br>*Bruno Dillemans MD (Belgium)* |
| 15:00 - 15:30<br>145 | Revisional Bariatric Surgery: A Management Algorithm for Patients after Failed Gastric Bypass<br>*Bruno Dillemans MD (Belgium)* |
| 15:30 - 15:50<br>146 | King Hussein Medical Center (KHMC) 10 Years Experience in Bariatric Surgery<br>*Wa'el Al Na'ssan MD (Jordan)* |
| 15:50 - 16:20<br>147 | Single-stage versus Two-stage Conversion of Gastric Banding to Laparoscopic Roux-en-Y Gastric Bypass: A single-center Experience of 885 Consecutive Patients<br>*Bruno Dillemans MD (Belgium)* |
| 16:20 - 16:30<br>148 | Laparoscopic Sleeve Gastrectomy .Is There a Need to Reinforce The Staple-line?<br>*Omar Al-Shawabkeh MD (Jordan)* |
| 16:30 - 17:00 | Coffee Break |

17:00 - 18:40 - Session IV
**Plastic Surgery**
*Moderators: Mahmoud Wreikat MD, Khaldoun Haddadin MD, Mohammad Abu Alsamen MD*

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|---|---|
| 17:00 - 17:20<br>149 | Outcomes after Cleft Surgery – Does There Have to be A compromise Between Speech and Maxillary Growth?<br>*Brian Sommerlad MD (UK)* |
| 17:20 - 17:30<br>150 | Otoplasty for Prominent Ears Two years Review of our Practice at the Royal Jordanian Rehabilitation Center<br>*Mohammed AL-Bdour MD (Jordan)* |
| 17:30 - 17:50<br>151 | The Management of Velopharyngeal Incompetence<br>*Brian Sommerlad MD (UK)* |
| 17:50 - 18:00<br>152 | The Evolution of Our Technique to the Use of Two Cross Facial Sural Nerve Grafts in Facial Reanimation, A single Center Study<br>*Saif Aouf Ramman Azzawi MD (UK)* |
| 18:00 - 18:20<br>153 | Towards a more Functional Palate Repair<br>*Brian Sommerlad MD (UK)* |
| 18:20 - 18:30<br>154 | Keystone Flaps and their Use in Lower Limb Wounds and Trunk Reconstruction: Advantages, Modifications and Review of the Literature<br>*Saif Aouf Ramman Azzawi MD (UK)* |
| 18:30 - 18:40<br>155 | An Algorithmic Approach to Predicting the Volumes of Muscle Flaps for Facial Reanimation Procedures<br>*Saif Aouf Ramman Azzawi MD (UK)* |

# Hall J
Harraneh Hall 1

09:00 - 11:00 - Session I
**Psychiatry Today & Updates**
*Moderators: MoU.S.A Aldoughmi MD, Nasser Aldien Shuriquie MD, Amjad Jumaian MD*

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|---|---|
| 09:00 - 09:20<br>156 | Stress and Stress Management Biological Perspectives<br>*Nabil Alhmoud MD (Jordan)* |
| 09:20 - 09:50<br>157 | Substance Abuse: Naltrexone and Neurotransmitters<br>*Jed Magen MD (U.S.A)* |
| 09:50 - 10:20<br>158 | Schizophrenia Treatment and Its' Complications: Update<br>*Nasser Aldien Shuriquie MD (Jordan)* |
| 10:20 - 10:50<br>159 | Closed Head Injury and Post-Traumatic Stress Disorder: Overlapping Syndromes<br>*Jed Magen MD (U.S.A)* |
| 10:50 - 11:00 | Discussion |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II
**Dermatology in Practice: Aesthetic and Medical**
*Moderators: Loay Khalifeh MD, Nidal Obaidat MD, Hussain Odaibat MD*

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|---|---|
| 11:30 - 12:00<br>160 | Injections to Improve Facial Aesthetics Dermal Fillers<br>*C. Reha Yavuzer MD (Turkey)* |
| 12:00 - 12:30<br>161 | The Spectrum of Cutaneous Lymphoproliferative Diseases: A clinicopathological Perspective<br>*Nidal Obaidat MD (Jordan)* |
| 12:30 - 13:00<br>162 | Injections to Improve Facial Aesthetics Botulinum Toxin<br>*C. Reha Yavuzer MD (Turkey)* |
| 13:00 - 13:20<br>163 | Cutaneous Adverse Drug Reactions<br>*Ayman Al Qa'qaa' MD (Jordan)* |
| 13:20 - 13:30 | Discussion |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III
**Pediatric Dentistry, Restorative Dentistry, Endodontics, Periodontics**
*Moderators: Riyad Al Habahbeh BDS, Daameh Daameh BDS, Maan Al Far BDS*

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|---|---|
| 14:30 - 14:40<br>164 | Reasons For Primary Teeth Extractions Among Children Attending a Pediatric Dental Clinic in Jordan<br>*Basma Alsakarna BDS (Jordan)* |
| 14:40 - 14:50<br>165 | Durability of Dentine Bonding Adhesives: A comparison between One Step Self-Etch and Etch-and-Rinse Dentine Bonding Adhesives<br>*Nader Masarwa BDS (Jordan)* |
| 14:50 - 15:00<br>166 | Abscesses of the Periodontium<br>*Hazem Khraisat BDS (Jordan)* |
| 15:00 - 15:10<br>167 | Effectiveness of 5% EMLA Cream Versus 20% Benzocaine Gel as a Topical Anesthetics in Palatal Injection<br>*Moeen Al Weshah BDS (Jordan)* |
| 15:10 - 15:20<br>168 | Improvement Of Oral- Health-Related Quality Of Life Of Children Receiving Comprehensive Dental Treatment Under General Anaesthesia And Their Parent Satisfaction At Prince Rashid Military Hospital<br>*Eman Hammouri DDS (Jordan)* |
| 15:20 - 15:30<br>169 | Prevalence of Occupational Hazards: Chronic Illnesses and Psychological Disorders Among Jordanian Dentists<br>*Waddah El-Naji BDS (Jordan)* |
| 15:30 - 15:40<br>170 | Prematurity and Dental Caries, Coincidence or Risk Factor?<br>*Enas Othman BDS (Jordan)* |
| 15:40 - 15:50<br>171 | Molar Incisor Hypomineralization : Prevalence, Etiology and Treatment Approaches<br>*Hind Nsour BDS (Jordan)* |
| 15:50 - 16:00<br>172 | Hypochlorite Accident<br>*Ali Rimawi BDS (Jordan)* |
| 16:00 - 16:10<br>173 | Silorane Composite Based Material (FP 262)<br>*Murad Al-Ghazawi DDS (Jordan)* |
| 16:10 - 16:20<br>174 | Macroesthetics in Smile Design Discipline<br>*Tamara Alzoubi BDS (Jordan)* |
| 16:20 - 16:30<br>175 | Evaluation of PRF Addition on Periodontal Regeneration<br>*Alaa Maghaireh DDS (Jordan)* |
| 16:30 - 17:00 | Coffee Break |

17:00 - 18:40 - Session IV
**Orthodontics, Oral and Maxillofacial Surgery**
*Moderators: Zuhair Mhaidat BDS, Ahmad Tarawneh DDS*

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|---|---|
| 17:00 - 17:10<br>176 | The Challenge in Treating the Complicated Orthodontic Cases<br>*Mohammad Al-Ma'ani BDS (Jordan)* |
| 17:10 - 17:20<br>177 | Diagnosis and Management of Extracranial Head and Neck Schwannomas<br>*Mohammad Jarrah BDS (Jordan)* |

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|---|---|
| 17:20 - 17:30<br>178 | Barotrauma in Orofacial Region<br>*Manal Abu Al-Ghanam BDS (Jordan)* |
| 17:30 - 17:40<br>179 | Sjogren's Syndrome: Our Clinical Experience at King Hussein Medical Center (KHMC)<br>*Hytham Al-Rabadi BDS (Jordan)* |
| 17:40 - 17:50<br>180 | Odontogenic Keratocystic Tumor; A Clinical Review<br>*Ahmad Al-Tarawneh BDS (Jordan)* |
| 17:50 - 18:00<br>181 | Does Mouth Breathing Habit Cause Malocclusion?<br>*Bashar Elmomani BDS (Jordan)* |
| 18:00 - 18:10<br>182 | Temporomandibular Joint Ankylosis<br>*Ahmad Aladwan BDS (Jordan)* |
| 18:10 - 18:20<br>183 | Bisphosphanate Osteonecrosis of the Jaws Be Cautious!<br>*Mirvet Hawwa DDS (Jordan)* |
| 18:20 - 18:30<br>184 | Extracapsular Dissection as Current Treatment Modality of Parotid Benign Tumors in Prince Rashid Military Hospital<br>*Hamza Hilal Alkofahi DDS (Jordan)* |
| 18:30 - 18:40 | Discussion |

# Hall L

Harraneh Hall 3

09:00 - 11:00 - Session I

## Neuro-Rehabilitation

*Moderators: Ihsan Shanti MD, Ali Otom MD, Ali Al-Hadeed MD*

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|---|---|
| 09:00 - 09:20<br>185 | Sarcopenia with Special Insight into Spinal Cord Injury<br>*Ali Otom MD (Jordan)* |
| 09:20 - 09:45<br>186 | Recent Advances in Spinal Cord Injury Management<br>*Harvinder Chhabra MD (India)* |
| 09:45 - 10:10<br>187 | Interventional Pain Management for Chronic Spinal Pain<br>*Ihsan Shanti MD (Jordan)* |
| 10:10 - 10:35<br>188 | Stem Cell Transplantation for Spinal Cord Injuries – Current Status<br>*Harvinder Chhabra MD (India)* |
| 10:35 - 11:00<br>189 | Traumatic Brain Injury<br>*Amir Salim Al-Din MD (UK)* |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II

## Neurology & Neuro-Rehabilitation

*Moderators: Mohammed Shehab MD, Ammar Mubeideen MD, Muneer Dhyat MD*

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|---|---|
| 11:30 - 11:55<br>190 | Deep Brain Stimulation for Parkinson's Disease and other Movement Disorders (Our Experience at the QMC, Nottingham)<br>*Thabit Sabbubeh MD (UK)* |
| 11:55 - 12:20<br>191 | Neurorehabilitation of Common Neurologic Disorders<br>*Amir Salim Al-Din MD (UK)* |
| 12:20 - 12:40<br>192 | Unusual and Difficult Stroke Cases at King Hussein Medical Center (KHMC)<br>*Majed Hababheh MD (Jordan)* |
| 12:40 - 13:10<br>193 | Is it Subclinical Status Epilepticus?<br>*Thabit Sabbubeh MD (UK)* |
| 13:10 - 13:30<br>194 | Approach to Nystagmus<br>*Ammar Mubaiden MD (Jordan)* |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III

## Adult Rheumatology: Updates and Emerging Trends

*Moderators: Nicholas Manolios MD, Khader Mustafa MD, Manal Mashaleh MD*

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|---|---|
| 14:30 - 14:55<br>195 | Rheumatoid Arthritis: A Clinician's Overview<br>*Nicholas Manolios MD (Australia)* |
| 14:55 - 15:20<br>196 | BEHÇET S Disease: An Update<br>*Ali Jawad MD (UK)* |
| 15:20 - 15:45<br>197 | Emerging Trends in Rheumatology<br>*Nicholas Manolios MD (Australia)* |
| 15:45 - 16:10<br>198 | Management Of Osteoporosis<br>*Ali Jawad MD (UK)* |
| 16:10 - 16:30<br>199 | Balneo-Climatological Factors and Resources at the Dead Sea area for treatment of Psoriasis and Psoriatic Arthritis<br>*Khalil Alabbadi MD (Jordan)* |
| 16:30 - 17:00 | Coffee Break |

17:00 -18:30 - Session IV

## Musculoskeletal Rehabilitation

*Moderators: Ziad Hawamdeh MD, Wael Thunaibat MD, Hisham Al-Sayegh MD*

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|---|---|
| 17:00 - 17:20<br>200 | Introduction to Mesthotherapy<br>*Mohammad Kana'an MD (Jordan)* |
| 17:20 - 17:40<br>201 | Rehabilitation Concerns in Myopathies<br>*Ziad Hawamdeh MD (Jordan)* |
| 17:40 - 18:00<br>202 | Rehabilitation of Shoulder Pain<br>*Hisham Al-Sayegh MD (Jordan)* |
| 18:00 - 18:20<br>203 | Evolution of Viscosupplementation In Knee Osteoarthritis<br>*Ibrahim Amayreh MD (Jordan)* |
| 18:10 - 18:20<br>204 | Screening Calcaneal Bone Mineral Density Among Jordanian Women<br>*(Moh'd Rami) Al-Ahmar MD (Jordan)* |
| 18:20 - 18:30<br>205 | Gastrointestinal Upset in Oral Versus Intramuscular Methotrexate Injection in Rheumatoid Arthritis Patients Experience at Royal Rehabilitation Centre<br>*Awni Alhadid MD (Jordan)* |
| 18:30 - 18:40 | Discussion |

# Hall M

Harraneh Hall 5

## ICMM – Pan Arab Regional Working Group Assembly Meeting

11:30 - 13:30 - Session II

**ICMM PARWG Delegates Only**

13:30 - 13:45 - PARWG Delegates Group Picture

# Hall N

Harraneh Hall 6

09:00 -11:00 - Session I

## Laboratory Medicine - Hematopathology & Special Pathology Techniques

*Moderators: Hassan Ennab MD, Salah Aljitawi MD, Nabih Kaisi MD*

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|---|---|
| 09:00 - 09:20<br>206 | Combined Hepatocellular Carcinoma-Cholangiocarcinoma<br>*Luma Fayyad MD (Jordan)* |
| 09:20 - 09:50<br>207 | Lung Cancer Targeted Therapy: Molecular Pathology in Lung Cancer Treatment<br>*David Zhang MD (U.S.A)* |
| 09:50 - 10:10<br>208 | Diagnosis and Classification of B-cell Non-Hodgkin Lymphomas<br>*Nidal Almasri MD (Jordan)* |
| 10:10 - 10:40<br>209 | Immunohistochemistry in Cytopathology Applications<br>*David Zhang MD (U.S.A)* |
| 10:40 - 11:00<br>210 | The New WHO Classification of Myelodysplastic Syndromes<br>*Raeda Oudat MD (Jordan)* |
| 11:00 - 11:30 | Coffee Break |

11:30 -13:30 - Session II

## Pathology of Rectal Cancer & Microbiology

*Moderators: Maher Sughayer MD, Fayez Hajiri MD, Nazmi Kamal MD*

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|---|---|
| 11:30 - 12:00<br>211 | Examination of Rectal Cancer Specimens and Evaluation of Rectal Cancer Specimens after Neoadjuvant Chemotherapy<br>*Mariana Berho MD (U.S.A)* |
| 12:00 - 12:20<br>212 | Hand Hygiene the Single Most Important Task in Health Care Associated Infection<br>*Ziad El-Nasser MD (Jordan)* |
| 12:20-12:50<br>213 | Molecular Markers in Colorectal Cancer<br>*Mariana Berho MD (U.S.A)* |
| 12:50 - 13:10<br>214 | Diagnosis and Classification of T-cell and NK-cell lymphomas<br>*Nidal Almasri MD (Jordan)* |
| 13:10 - 13:30<br>215 | A Large Electronic Health Records Data Show that Prevalence of Pseudomonas in Urinary Tract Infections in Jordan is Similar to International Norms<br>*Zeid Abu Ghosh MD ( Jordan)* |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III

## Molecular & Clinical Pathology Updates

*Moderators: Ismail Matalka MD, Nasrat Babouk MD, William Haddadin MD*

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|---|---|
| 14:30 - 15:00<br>216 | Clinical Applications of Next Generation Sequencing<br>*David Zhang MD (U.S.A)* |
| 15:00 -15:20<br>217 | Updates and Molecular of Myeloproliferative Neoplasms<br>*Rame Khasawneh MD (Jordan)* |
| 15:20 - 15:30<br>218 | Ultra-Structural Rat Mitochondrial Changes in Hypertension and its Pharmacological Correction (Experimental Research)<br>*Lyashchenko Olga I. MD (Russia)* |
| 15:30 - 15:40<br>219 | Settlement of Plasma Fractionation Facilities for Military Medicine Practices: Kingdom of Saudi Arabia as Study Case<br>*Saeed Albaraki MD (KSA)* |
| 15:40 - 15:50<br>220 | Normal Ranges of Platelet Delta Granules in the Pediatric Age Group: An Ultrastructural Study of Platelet Whole Mount Preparations from Healthy Volunteers<br>*Sura Al Rawabdeh MD (Jordan)* |
| 15:50 - 16:00<br>221 | Histopathological and Clinical Characteristics of Testicular Germ Cell Tumors- An Experience at Prince Hussein Urology and Transplant Center, Jordan<br>*Lina Al Nahar MD (Jordan)* |

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|---|---|
| 16:00 - 16:20 222 | Laboratory Bio-risk Management: Biosafety & Biosecurity<br>*Awatef Ka'abneh MD (Jordan)* |
| 16:20 - 16:30 | Discussion |
| 16:30 - 17:00 | Coffee break |

17:00 - 18:00 - Session IV

**VTE prophylaxis Symposium S07:**

*(Sponsored By SANOFI)*

*Moderators: Ali Obeidat MD*

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|---|---|
| 17:00 - 18:00 223 | Venous Thromboembolism and Prophylaxis in Medical Settings<br>*Abdallah Al Abbadi MD (Jordan)* |

# Hall A1

Dead Sea Hall 1

09:00 - 11:00 - Session I

**Allied Health Professions - Medical Laboratory Sciences**

*Moderators: Yousef Belto MLS PhD, Suhair Eid MLS MSc, Adnan Abu Lubad MLS MSc*

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|---|---|
| 09:00 - 09:20 224 | Prenatal Diagnosis for Thalassemia (PND) and Hemoglobinopathies<br>*"Mohammed Wael" Abu Ghoush MLS MSc (Jordan)* |
| 09:20 - 09:50 225 | Direct Oral Anticoagulants - Issues for the Laboratory<br>*Stephen Kitchen FIBMS PhD (UK)* |
| 09:50 - 10:00 226 | JAK2 Mutation Status and Methylenetetrahydrofolate Reductase in Myeloproliferative Neoplasms<br>*Tofaha Al-Twaissi MLS BSc (Jordan)* |
| 10:00 -10:10 227 | Effects of Cigarette Smoking on Serum Lipid Profile among Middle Age Jordanian Smokers<br>*Saad Al-Fawaeir MLS PhD (Jordan)* |
| 10:10 - 10:20 228 | The Sensitivity of Pseudomonas Aeruginosa against Ceftazidime as Bactericidal Agent<br>*Linda Al-Qa'oud MLS BSc (Jordan)* |
| 10:20 - 10:50 229 | Extended Half Life Products for Haemophilia Treatment: Laboratory Monitoring Issues<br>*Stephen Kitchen FIBMS PhD (UK)* |
| 10:50 - 11:00 230 | Evaluation of Platelets Surface Antigens and Activation Markers in Myeloproliferative Neoplasms Using Multicolor Flowcytometry<br>*Manal Alabbadi MLS Msc (Jordan)* |

11:30 -13:30 - Session II

**Radiology, Medical Physics**

*Moderators: Haitham Ouidat RT PhD, Omer Alhrahesheh RT MSc, Nadia Alsajan RT BSc*

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|---|---|
| 11:30 - 12:10 231 | Mammography: Radiologist and Image Characteristics That Determine the Accuracy of Breast Cancer Diagnosis<br>*Mohammad Rawashdeh MDS PhD (Jordan)* |
| 12:10 - 12:20 232 | The Diagnostic Value CT Cervico-Cerebral Angiography after the Contrast Media Reduction Technique (in King Hussein Medical Center)<br>*Areej Bassam RT (Jordan)* |
| 12:20 - 12:40 233 | Medical Cyclotrons Technology<br>*Ibrahim El-habashneh MP MSc (Jordan)* |
| 12:40 - 13:20 234 | The Effect of Viewing Conditions on Reader Performance in Radiographic Images<br>*Mohammad Rawashdeh MDS PhD (Jordan)* |
| 13:20 - 13:30 | Discussion |
| 13:30 - 14:30 | Lunch Break |

14:30 -16:30 - Session III

**Nutrition, Speech Pathology, Audiology**

*Moderators: Reema Tayem CN PhD, Abed Alrahim Ateyah SLP PhD, Mohammed Khamash CN MSc*

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|---|---|
| 14:30 - 15:00 235 | Fuzzy Identification and Modeling of Common Caffeine-Containing Beverages Consumption on Blood Pressure<br>*Mahmoud Abu Ghoush CN PhD (Jordan)* |
| 15:00 - 15:10 236 | Dietary Misconception in Jordanian Diabetic Patients at AL Hussein Hospital - Royal Medical Services<br>*Feras Bani Salameh CN MSC (Jordan)* |
| 15:10 - 15:20 237 | Dietary Management of Hereditary Tyrosinemia Type1 Patients at Queen Rania Children Hospital who are on Nitisinone Therapy<br>*Reem Al Qudah CN BSc (Jordan)* |
| 15:20 - 15:50 238 | Teachers' Perceptions of Voice Handicap Compared with Their Acoustic Analysis<br>*Yaser Natour SLP PhD (Jordan)* |
| 15:50 - 16:10 239 | Neonatal Seizure and Hearing Threshold Levels Estimation in Patients Undertaking Luminal Drugs<br>*Hussain Alqassim AUD PhD (Jordan)* |
| 16:10 - 16:20 240 | Our Experience in Managing Keratoconus Using Contact Lenses at King Hussain Medical Center<br>*Nisreen Abu-Zeid OpT (Jordan)* |
| 16:20 - 16:30 | Discussion |
| 16:30 - 17:00 | Coffee Break |

17:00 -18:30 - Session IV

**Occupational Therapy, Physiotherapy**

*Moderators: Mekhled Almaayah PT PhD, Abdeen Almahasneh PT BSc, Ali Alzyood PT BSc*

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|---|---|
| 17:00 - 17:30 241 | Is Quadriceps Muscle Strength a Determinant of the Physical Function of the Elderly?<br>*Ibrahim Altubasi PT PhD (Jordan)* |
| 17:30 - 17:50 242 | The Effect of Physical Activity on Life Quality of the Hyperactive Child, ADHD<br>*Elie Sakr PT PhD (Lebanon)* |
| 17:50 - 18:10 243 | Lower Limb Prosthesis: What's New?<br>*Waleed Al-Daemeh OT (Jordan)* |
| 18:10 - 18:20 244 | The Effectiveness of Using Dynamic Radial Splint in the Treatment of Radial Nerve Injury<br>*Marwan Abu Rumman OT BSc (Jordan)* |
| 18:20 - 18:30 | Discussion |

# Hall A2

Dead Sea Hall 2

09:00 - 11:00 - Session I

**Dental Implantology, Endodontics, Oral & Maxillofacial Surgery**

*Moderators: Winfried Kretschmer MD DDS, Safwan Khasawneh BDS, Omar Aljadeed BDS*

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|---|---|
| 09:00 - 09:30 245 | Short Implants versus Sinus Augmentation<br>*Sami Jebreen DDS (Jordan)* |
| 09:30 - 10:20 246 | Quick Diagnosis and Treatment of Endodontic Emergencies<br>*Samuel Dorn DDS (U.S.A)* |
| 10:20 - 10:50 247 | Facial Asymmetry<br>*Winfried Kretschmer MD DDS (Germany)* |
| 10:50 - 11:00 | Discussion |
| 11:00 - 11:30 | Coffee Break |

11:30 -13:30 Session II

**Restorative Dentistry, Pediatric Dentistry, Dental Implantology**

*Moderators: Lt. Col. Michael Lüpke MD DDS, Talat Mneizel BDS, Ehab Rassas BDS*

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|---|---|
| 11:30 - 12:10 248 | Dental Cone-Beam CT; Entering the 3rd Dimension<br>*Hugh Devlin BDS (UK)* |
| 12:10 - 12:30 249 | Comprehensive Understanding of Immediate Implants<br>*Rola Alhabashneh BDS (Jordan)* |
| 12:30 - 13:10 250 | Best Practices in Pediatric Pain Management<br>*Janice Townsend DDS (U.S.A)* |
| 13:10 -13:30 251 | Implant-Supported Prostheses: Current Practice in the German Armed Forces<br>*Lt. Col. Michael Lüpke MD BDS (Germany)* |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III

**Endodontics, Restorative Dentistry, Orthodontics, Periodontics**

*Moderators: Rola Alhabashneh BDS, Riyad Al-Battikhi DDS, Mohammad Al-Ma'ani BDS*

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|---|---|
| 14:30 - 15:15 252 | What The Physician And Dentist Should Know About Emergency Treatment Of Traumatic Injuries To Teeth<br>*Samuel Dorn DDS (U.S.A)* |
| 15:15 - 16:00 253 | The Treatment of Toothwear<br>*Hugh Devlin BDS (UK)* |
| 16:00 - 16:20 254 | Clear Aligners: The Facts<br>*Ahmad Hamdan BDS (Jordan)* |
| 16:20 - 16:30 | Discussion |
| 16:30 - 17:00 | Coffee Break |

17:00 - 18:30 - Session IV

**Oral & Maxillofacial Surgery, Pediatric Dentistry**

*Moderators: Suhad Aljundi DDS, Aref Al Momani DDS, Bassam Bany-yaseen BDS*

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|---|---|
| 17:00 - 17:30 255 | Segmental Osteotomies of the Upper and Lower Jaw<br>*Winfried Kretschmer MD DDS (Germany)* |
| 17:30 - 17:50 256 | Social Judgment in Relation to Visible Incisor Trauma<br>*Suhad Aljundi DDS (Jordan)* |
| 17:50 - 18:30 257 | Local Anesthesia for the Pediatric Patient<br>*Janice Townsend DDS (U.S.A)* |

# Hall B
Mount Nebo Hall 1

09:00 - 11:00 - Session I
**Endocrine and Diabetes**
*Moderators: Paul Jennings MD, Jihad Haddad MD, Omar Malkawi MD*

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|---|---|
| 09:00 - 09:30<br>258 | Polycystic Ovarian Syndrome PCOS, Diagnosis, Clinical Implications and Treatment Updates<br>*Paul Jennings MD (UK)* |
| 09:30 - 09:50<br>259 | Update on the Management of Dyslipidemia<br>*Jihad Haddad MD (Jordan)* |
| 09:50 - 10:20<br>260 | Updated Therapeutics of Diabetes<br>*Paul Jennings MD (UK)* |
| 10:20 - 10:40<br>261 | Cardiovascular Safety of Newer Diabetic Agents<br>*Fares Haddad MD (Jordan)* |
| 10:40 - 10:50<br>262 | Views of Erbil Interns on the Adequacy of Undergraduate Clinical Skills Training<br>*Maaroof Hassan MD (Iraq)* |
| 10:50 - 11:00 | Discussion |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II
**Urology**
*Moderators: Rami Al-Azab MD, Saeed Ajlouni MD, Firas Alhammouri MD*

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|---|---|
| 11:30 - 12:00<br>263 | Efficacy of A new Injection Regime for Onabotulinumtoxin A in Idiopathic and Neurogenic Detrusor Overactivity: Are 10 Locations Enough?<br>*Schahnaz Allousi MD (Germany)* |
| 12:00 - 12:20<br>264 | Upper Urinary Tract Urothelial Carcinoma … From Diagnosis Dilemma to Treatment Controversies<br>*Rami Al-Azab MD (Jordan)* |
| 12:20 - 12:50<br>265 | The physiology of Ejaculation – Breaking the Dogma<br>*Schahnaz Allousi MD (Germany)* |
| 12:50 - 13:10<br>266 | Management of Metastatic Testicular Cancer<br>*Adnan Abu Qamar MD (Jordan)* |
| 13:10 - 13:20<br>267 | Accessory Testes, Report of Two Cases<br>*Awad Al-kaabneh MD (Jordan)* |
| 13:20 - 13:30<br>268 | Liposarcoma of the Spermatic Cord Mimicking A left Inguinal Hernia: A case Report and Literature Review in King Hussein Medical Center<br>*Mohannad Al-Naser MD (Jordan)* |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III
**Pediatric Surgery**
*Moderators: Albert Shun MD, Hashem Al-Momani MD, Emad Habaebeh MD*

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|---|---|
| 14:30 - 14:50<br>269 | Roux-en-Y Choledocho-jejunostomy or Hepatico-duodenostomy after Choledochal Cystectomy-which is the better option?<br>*Albert Shun MD (Australia)* |
| 14:50 - 15:10<br>270 | Minimal Invasive Surgery in Children, Where Do We Stand?<br>*Najeh Al Omari MD (Jordan)* |
| 15:10 - 15:30<br>271 | Paediatric Liver Transplantation-Lessons Learnt From 30 Years of Personal Experience<br>*Albert Shun MD (Australia)* |
| 15:30 - 15:50<br>272 | Postnatal Management of Antenatally Detected Hydronephrosis<br>*Hashem Al-Momani MD (Jordan)* |
| 15:50 - 16:10<br>273 | Surgical Management of Children with Short Gut and Intestinal Failure From Pseudo-obstruction<br>*Albert Shun MD (Australia)* |
| 16:10 - 16:30<br>274 | Video-Assisted Thoracoscopic Surgery in the Diagnosis and Treatment of Intrathoracic Diseases in Children<br>*Ahmad AL-Raymoony MD (Jordan)* |
| 16:30 - 17:00 | Coffee Break |

17:00 - 18:30 - Session IV
**Pediatric Surgery: Data From Jordan**
*Moderators: Majed Sarayreh MD, Mohannad Al-Naser MD, Firas khouri MD*

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| 17:00 - 17:10<br>275 | Laparoscopy for the Management of Impalpable Testis<br>*Mohammad Al-Daaja MD (Jordan)* |
| 17:10 - 17:20<br>276 | Non Operative Management of Pediatric Blunt Abdominal Solid Organ Injuries (Our Experience at Queen Rania Al-Abdullah Hospital for Children)<br>*Waseem Al Mefih MD (Jordan)* |
| 17:20 - 17:30<br>277 | Airway Foreign Body Extraction Using Rigid Bronchoscope; Our Experience in Queen Rania Al Abdullah Hospital For Children<br>*Amer Alibrahim MD (Jordan)* |
| 17:30 - 17:40<br>278 | Comparing Between Varicocele Surgery and Embolization, Our Experience in King Hussein Medical Center<br>*Ghaith Gsous MD (Jordan)* |
| 17:40 - 18:30 | Discussion |

# Hall C
Mount Nebo Hall 2

09:00 - 11:00 - Session I
**Adult Nephrology**
*Moderators: Hani Affara MD, Ibrahim Alsmadi MD, Munther Hijazat MD*

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|---|---|
| 09:00 - 09:20<br>279 | Renal Transplantation: Concerns to Internists<br>*Ayham Haddad MD (Jordan)* |
| 09:20 - 09:40<br>280 | Obesity and Kidney Disease<br>*Bisher Kawar MD (UK)* |
| 09:40 - 10:10<br>281 | Diabetic Nephropathy Update 2016<br>*Hani Affara MD (Jordan)* |
| 10:10 - 10:40<br>282 | Pulmonary Hypertension<br>*Bisher Kawar MD (UK)* |
| 10:40 - 10:50<br>283 | Bacteriuria in Kidney Transplant Recipient<br>*Katibh AL-Rabadi MD (Jordan)* |
| 10:50 - 11:00 | Discussion |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II
**Pediatric Nephrology, Neonatology and Genetics**
*Moderators: Rula Al Saq'an MD, Matruk Al Own MD, Yaser Al Tal MD*

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|---|---|
| 11:30 - 11:55<br>284 | Neonatal Ovarian Cysts: Diagnosis and Management<br>*Hashem Aqrabawi MD (Jordan)* |
| 11:55 - 12:25<br>285 | Primary Disease Recurrence after Renal Transplantation<br>*Pierre Cochat MD (France)* |
| 12:25 - 12:50<br>286 | Utilizing Next Generation Sequencing (NGS) in Rare Diseases; Donohue and Hyalinosis Fibromatosis Syndromes<br>*Mohammed Al-Raqad MD (Jordan)* |
| 12:50 - 13:20<br>287 | Primary Hyperoxaluria Type 1<br>*Pierre Cochat MD (France)* |
| 13:20 - 13:30 | Discussion |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III
**Adult Gastroenterology**
*Moderators: Mohammed Rashid MD, Kassab Al-Harfoushi MD, Yousef Ajlouni MD*

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|---|---|
| 14:30 - 15:10<br>288 | Iron Deficiency Anaemia<br>*Andrew Goddard MD (UK)* |
| 15:10 - 15:50<br>289 | Non Alcoholic Fatty Liver Disease- Identifying and Treating those that are at Risk of Advanced Liver Disease<br>*Mark Wright MD (UK)* |
| 15:50 - 16:20<br>290 | Updates in Hepatitis C Treatment, The New Era of Direct Acting Antiviral<br>*Mohammed Rashid MD (Jordan)* |
| 16:20 - 16:30 | Discussion |
| 16:30 - 17:00 | Coffee Break |

# Hall D
Petra Hall 1

09:00 - 11:00 - Session I
**Gynecology & Obstetrics - Surgical & Feto-Maternal Update**
*Moderators: Kameel Afram MD, Ghalib Al-Taieb MD, Mohamad Qudah MD*

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|---|---|
| 09:00 - 09:20<br>291 | Preventing Maternal Death A Dozen Diamonds<br>*Zuhair Ghosheh MD (Jordan)* |
| 09:20 - 09:50<br>292 | Laparoscopic Hysterectomy and Enhanced Recovery<br>*Andrew Kent MD (UK)* |
| 09:50 - 10:20<br>293 | The Pelvic Floor Surgical Techniques<br>*Alessandro D'Afiero MD (Italy)* |
| 10:20 - 10:50<br>294 | Fetal Growth Restriction: Diagnosis and Management<br>*Alfred Abuhamad MD (U.S.A)* |
| 10:50 - 11:00 | Discussion |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II
**Laparoscopic Surgery - Maternal Morbidity & Mortality Update**
*Moderators: Zuhair Gousheh MD, Nadir Murad MD, Mahmoud Dabbas MD*

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|---|---|
| 11:30 - 12:00<br>295 | Laparoscopic Surgery for Severe Rectovaginal Endometriosis<br>*Andrew Kent MD (UK)* |
| 12:00 - 12:30<br>296 | Sacrospinous / Uterosacral Ligament for Apical Support Outcomes Evaluation<br>*Alessandro D'Afiero MD (Italy)* |
| 12:30 -13:00<br>297 | The Morbidly Adherent Placenta: Ultrasound Diagnosis and Management<br>*Alfred Abuhamad MD (U.S.A)* |
| 13:00 - 13:20<br>298 | Operative Hysteroscopy<br>*Mohamad Qudah MD (Jordan)* |
| 13:20 - 13:30 | Discussion |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III

### Infertility, Prenatal Screening & Safety Update

*Moderators: Mazen Zibdeh MD, Abdel Rahman Al Bashir MD, Mohammed Hyasat MD*

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|---|---|
| 14:30 - 14:55<br>299 | Milestones of Infertility Management<br>*Faheem Zayed MD (Jordan)* |
| 14:55 - 15:20<br>300 | Use of Medications in Pregnancy<br>*Naser Husban MD (Jordan)* |
| 15:20 - 15:40<br>301 | Fetal Echocardiography, Four Chambers View Axsis<br>*Abdel-Nabi Al-Bdour MD (Jordan)* |
| 15:40 - 16:00<br>302 | None-invasive Prenatal Diagnosis (NIPND)<br>*Maher Maaita MD (Jordan)* |
| 16:00 -16:20<br>303 | Recurrent Miscarriages: The Dilemma!<br>*Amer Gharaibeh MD (Jordan)* |
| 16:20 - 16:30<br>304 | Maternal Mortality Ratio at King Hussein Medical Center (KHMC), A follow Up Study Hospital- Based Data<br>*Rami Al-Shwyiat MD (Jordan)* |
| 16:30 - 17:00 | Coffee Break |

17:00 - 18:30 - Session IV

### Gynecological Malignancies

*Moderators: Imad Jaradat MD, Amal Shammas MD, Abdel-Nabi Al-Bdour MD*

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|---|---|
| 17:00 - 17:30<br>305 | Advanced Technique in Radiotherapy for Gynaecological Cancer<br>*Imad Jaradat MD (Jordan)* |
| 17:30 - 18:00<br>306 | Brachytherapy in Cervical Cancer Treatment<br>*Bilal El-Hawwari MD (Jordan)* |
| 18:00 - 18:20<br>307 | Acute Side Effects of Brachytherapy for Gyn. Malignancies Using Intra-vaginal Cylinder Technique in the Royal Medical Services<br>*Hana Mahasneh MD (Jordan)* |
| 18:20 - 18:30 | Discussion |

# Hall E

Petra Hall 2

09:00 - 11:00 - Session I

### Anesthesia I

*Moderators: Wail Khraise MD, Walid Tarawneh MD, Ali Obeidat MD*

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|---|---|
| 09:00 - 09:30<br>308 | Secondary Transfer of Critically Ill Patient<br>*Wail Khraise MD (Jordan)* |
| 09:30 - 10:00<br>309 | Planning for Anticipated Difficult Intubation (The ADAM Method)<br>*Peter Charters MD (UK)* |
| 10:00 - 10:30<br>310 | Postoperative Pain Management<br>*Amar Salti MD (UAE)* |
| 10:30 - 11:00<br>311 | Current Standing of Fibreoptic Intubation in a Changing Anaesthesia Environment<br>*Peter Charters MD (UK)* |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II

### Anesthesia II

*Moderators: Abdelaziz Amre MD, Taiseer Alkhateeb MD, Hayel Gharaibeh MD*

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|---|---|
| 11:30 - 12:00<br>312 | Regional Anesthesia Advantages Over General Anesthesia<br>*Mohammad Kelani MD (Jordan)* |
| 12:00 - 12:30<br>313 | Safety in Operating Room<br>*Amar Salti MD (UAE)* |
| 12:30 - 12:50<br>314 | Anesthesia Consideration for Morbid Obesity<br>*Hayel Gharaibeh MD (Jordan)* |
| 12:50 - 13:10<br>315 | Awareness in Patients Undergoing Cardiac Surgery<br>*Yaser Alghoul MD (Jordan)* |
| 13:10 - 13:20<br>316 | Comparative Analysis of the Effect of the Alkalinization of Xylocaine on Pain During Propofol Injection<br>*Luai AL-Daklalah MD (Jordan)* |
| 13:20 - 13:30<br>317 | Anaesthesiologist-Patients Communication on Preoperative Period Really Affect the Patients Anxiety?<br>*Qasim Khamaiseh MD (Jordan)* |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III

### Intensive Care Unit (ICU): Updates on Emerging Issues

*Moderators: Awwad Addasi MD, Imad Swaiss MD, Hussein Shalan MD*

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|---|---|
| 14:30 - 15:00<br>318 | Pulmonary Embolism<br>*Hassan Alnuaimat MD (U.S.A)* |
| 15:00 - 15:30<br>319 | Post Intensive Care Unit Syndrome<br>*Awad Addasi MD (Jordan)* |
| 15:30 - 16:00<br>320 | Severe Pneumonia<br>*Hassan Alnuaimat MD (U.S.A)* |
| 16:00 - 16:30<br>321 | Antithrombotic Therapy for Venous Thromboembolism (VTE) Disease, 2016 Guidelines<br>*Hussein Shalan MD (Jordan)* |
| 16:30 - 17:00 | Coffee Break |

# Hall F

Wadi Rum Hall 1

09:00 - 11:00 - Session I

### Surgery - Hepatobiliary

*Moderators: Muhammed Abu Hilal MD, Abdulaziz Ziadat MD, Sameer Smadi MD*

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|---|---|
| 09:00 - 09:15<br>322 | Management of Biliary Injuries at King Hussein Medical Center<br>*Sameer Smadi MD (Jordan)* |
| 09:15 - 09:40<br>323 | The Non-Surgical Management of Hepatobiliary Cancers<br>*Mark Wright MD (UK)* |
| 09:40 - 10:00<br>324 | Laparoscopic Left Pancreatectomy for Cancer<br>*Mohammad Abu Hilal MD (UK)* |
| 10:00 - 10:15<br>325 | Optimizing Treatment of Metastatic Colorectal Cancer<br>*Ahmad Telfah MD (Jordan)* |
| 10:15 - 10:40<br>326 | Laparoscopic Liver Surgery for Colorectal Liver Metastasis<br>*Mohammad Abu Hilal MD (UK)* |
| 10:40 - 11:00<br>327 | The Management of Oesophageal Cancer: Evidence from Recent Clinical Trials<br>*Derek Alderson MD (UK)* |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II

### Joint RMS-RCP-RCS Symposium S01: Continuous Professional Development CPD – Training

*RMS - Royal Medical Services*
*RCP - Royal College Physicians*
*RCS - Royal College of Surgeons*
*JMC - Jordan Medical Council*

*Moderators: Ali Jawad MD, Fares Haddad MD, Imad Al-Ghazzawi MD*

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|---|---|
| 11:30 - 11:40<br>328 | Jordan Medical Council<br>*Hani Al-Kurdi MD JMC (Jordan)* |
| 11:40 - 10:50<br>329 | Particularities of Royal Medical Services (RMS) Training Program<br>*Mahmoud Alka'abneh MD RMS (Jordan)* |
| 10:50 - 12:10<br>330 | What is a Competency Based Core Medical Training Curriculum?<br>*David Black MD RCP (UK)* |
| 12:10 - 12:30<br>331 | Input from RCS on CPD<br>*Derek Alderson MD RCS (UK)* |
| 12:30 - 12:40<br>332 | What Does Jordan Need?<br>*Abedalhameed Najadah MD RMS (Jordan)* |
| 12:40 - 13:00<br>333 | Trainee in Difficulty<br>*David Black MD RCP (UK)* |
| 13:00 - 13:10<br>334 | Difficulties of Implementing CPD for Surgeons<br>*Khaldoun Haddadin MD RMS (Jordan)* |
| 13:10 - 13:30 | Discussion |
| 13:30 - 14:30 | Lunch Break |

14:30 - 17:00 - Session III

### Strategic Leadership in Healthcare Joint RMS-UK DMS-NHS-MOH-HCAC-JAEC Symposium S02: Health System and Leadership in Health Institutes and Industries

*Moderators: HE Prof. Rowaida Al-Maaitah, Maj. Gen. Saleh Ajlouni MD, Maj. Gen. Ali Obeidat MD*

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| 14:30 - 14:50<br>335 | The NHS - The Public Value & Challenges of a publically Funded Health Service Providing Universal Coverage<br>*Nadeem Moghal MD, National Health Services (NHS) (UK)* |
| 14:50 - 15:10<br>336 | Leadership is a Bridge to Success: Jordan's Nuclear Energy Program is a Promising Model<br>*HE Khaled Toukan Eng. PhD, Chairman of The Jordan Atomic Energy Commission (Jordan)* |
| 15:10 - 15:30<br>337 | Military Clinical Leadership Lessons for Civilian Healthcare Practice<br>*Brig. Timothy Hodgetts MD, Defence Medical Services (UK)* |
| 15:30 - 15:50<br>338 | Managing Complexity in Healthcare - The Case of the Royal Medical Services<br>*Brig. Gen. Yassin Al Tawarah PhD, Royal Medical Services (Jordan)* |
| 15:50 - 16:10<br>339 | What Makes A Hospital Successful?<br>*Nadeem Moghal MD, National Health Services (NHS) (UK)* |
| 16:10 - 16:30<br>340 | Leadership in Establishing National Quality Systems<br>*Mrs. Salma Jaouni, CEO, Health Care Accreditation Council (Jordan)* |
| 16:30 - 16:50<br>341 | Medical Liability in the Jordanian Legislation<br>*Mansour Al-Maitah MD, Chief of Forensic Medicine, MOH (Jordan)* |
| 16:50 - 17:00 | Discussion & Coffee Break |

17:00 – 18:00 - Session IV

### Joint RMS - PHA - GHTC Health Tourism Symposium S06:

*Moderators: Fawzi Al Hammouri MD, Mahmoud Alka'abneh MD, Hazem Habboub MD*

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|---|---|
| 17:00 - 17:15<br>342 | Jordan Health Tourism Success Story, Economy and Investment<br>*Fawzi Al Hammouri MD (Jordan)* |
| 17:15 - 17:30<br>343 | Medical Profession Development Role in Health Tourism<br>*HE Abdullah Bashir MD (Jordan)* |
| 17:30 - 17:45<br>344 | Dental Treatment in Health Tourism<br>*Ibrahim Al-Tarawneh BDS (Jordan)* |

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|---|---|
| 17:45 - 18:00<br>345 | Health Tourism Cost Effectiveness and Competitiveness<br>*Nael Al-Masalha MD (Jordan)* |
| 18:00 - 18:15<br>346 | Psychiatry and Addiction Care in Health Tourism<br>*Mr. Refaat Al-Masri (Jordan)* |
| 18:15 - 18:30 | Discussion |

# Hall G
Wadi Rum Hall 2

09:00 - 11:00 - Session I
**Military Medicine - Nurses & Paramedics**
**International Humanitarian Law (IHL) and Military Medical Ethics (MME)**
*Moderators: Col (Ret.) Johan Crouse ICMM, Lt. Col. Elizabeth Bernthal RN PhD, Maj. Hiam Esmeiran RN MSc*

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|---|---|
| 09:00 - 09:15<br>347 | Syrian Refugee Crisis in Jordan<br>*Brig. Gen. Hashim Abdallat MD (Jordan)* |
| 09:15 - 09:35<br>348 | Dealing with Humanitarian Crisis: The Syrian Refugee Crisis in Greece<br>*Capt. Maria Remi RN MSc (Greece)* |
| 09:35 - 09:55<br>349 | Present Ethical and Legal Challenges for Military Health Care Practitioners<br>*Col. (Ret) Johan Crouse ICMM (South Africa)* |
| 09:55 - 10:15<br>350 | Military Medical Ethical Dilemma in Recent Conflicts<br>*Lt. Col. Elizabeth Bernthal RN PhD (UK)* |
| 10:15 - 10:35<br>351 | Refugees in Armed Conflict<br>*Col (Ret) Johan Crouse ICMM (South Africa)* |
| 10:35 - 10:50<br>352 | Military Medical Ethics – Operational and Tactical Needs<br>*Lt. Col. David Winkler MD ICMM (Switzerland)* |
| 10:50 - 11:00 | Discussion |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II
**Community Medicine**
*Moderators: Bassam Hajjawi MD, Maj. Gen. (Ret) Malek AL Dabbas MD, Brig. Gen. Mahmoud Abdallat MD*

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|---|---|
| 11:30 - 11:50<br>353 | Winterization Emergency Vaccination for Syrian Refugees in Hadalat and Ruqban, North Eastern-Border<br>*Brig. Gen. Mahmoud Abdallat MD (Jordan)* |
| 11:50 - 12:20<br>354 | Burden of Disease, Injuries, and Risk Factors in Jordan, 1990–2013<br>*Ali Mokdad MD (U.S.A)* |
| 12:20 - 12:40<br>355 | Severe Outbreak amongst Soldiers caused by Salmonella<br>*Maj. Julia Riehm DVM (Germany)* |
| 12:40 - 13:00<br>356 | Syrian Crisis<br>*Mohannad Al Nsour MD (Jordan)* |
| 13:00 - 13:10<br>357 | Communicable Diseases After Man-made Disasters: The Case of Conflicts<br>*Brig. Gen. Saud Alshehri MD (KSA)* |
| 13:10 - 13:30<br>358 | Health in Times of Uncertainty: Burden of Diseases, Injuries, and Risk Factors in the Eastern Mediterranean Region, 1990-2013<br>*Ali Mokdad MD (U.S.A)* |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III
**Community Medicine**
*Moderators: Ali Mokdad MD, Maj. Gen (Ret) Mohammed Tarawneh MD, Maj. Gen. (Ret) Attallah Al Issa MD*

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|---|---|
| 14:30 -14:50<br>359 | Preventive Care in Family Medicine in Jordan Reality and Aspiration<br>*Mai Alhadidi MD (Jordan)* |
| 14:50 -15:20<br>360 | Young People's Health from 1990 to 2013: Global Burden of Diseases, Injuries, and Risk Factors<br>*Ali Mokdad MD (U.S.A)* |
| 15:20 - 15:40<br>361 | Royal Medical Services: Healthcare Quality and Patient Safety Projects<br>*Maj. Gen. (Ret) Attallah Al Issa MD (Jordan)* |
| 15:40 - 16:00<br>362 | Integration of Mental Health in Primary Health Care<br>*Maj. Gen (Ret) Mohammed Tarawneh MD (Jordan)* |
| 16:00 - 16:10<br>363 | Insulin on a Pilot, Why Not?<br>*Lt. Col. Dewi Gathmyr MD (Indonesia)* |
| 16:10 - 16:30<br>364 | Knowledge Attitude and Practice of Breast Self-Examination among Graduating Female Students in Princess Aisha Bint Al-Hussein Faculty of Nursing<br>*Lt. Col. Amal Khreisat MD (Jordan)* |
| 16:30 - 17:00 | Coffee Break |

# Hall J
Harraneh Hall 1

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

09:30 - 11:00 - Session I
**Pharmacy Practice & Education**
*Moderators: Prof. Pharm. Abla Bssol, Pharm. Khalel Maali, Pharm. Emad Nsour*

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|---|---|
| 09:30 - 10:00<br>365 | Optimizing Antimicrobial Stewardship Initiatives in Health System<br>*Prof. James Stevenson Pharm.D. (U.S.A)* |
| 10:00 - 10:30<br>366 | Clinical Pharmacy Education and Practice: Global Trends and Opportunities<br>*Prof. Wafa Dahdal Pharm.D. (U.S.A)* |
| 10:30 - 10:50<br>367 | Clinical Pharmacy: Teamwork in Military Hospitals<br>*Col. Jens Müller Pharm. (Germany)* |
| 10:50 - 11:00<br>368 | Jordan Pharmacovigilance Database Analysis 2010-2014<br>*Adel Batarseh Clin. Pharm. MSc. (Jordan)* |
| 11:00 - 11:30 | Coffee Break |

11:30 - 13:30 - Session II
**Medication Safety & Quality**
*Moderators: Prof. Pharm. Rula Darweesh, Pharm. Fawaz AL-Fawaz, Pharm. Omar Khalil*

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| 11:30 - 12:00<br>369 | Safe and Effective Integration of Biosimilars into the Health System<br>*Prof. James Stevenson Pharm.D. (U.S.A)* |
| 12:00 - 12:20<br>370 | Research Expenditure and Advances in Drug Therapy in the Organization of Islamic Cooperation (OIC)<br>*Prof. Tawfiq Arafat Pharm.D. (Jordan)* |
| 12:20 - 12:50<br>371 | Maintaining Quality: Standards of Practice for Clinical Pharmacists<br>*Prof. Wafa Dahdal Pharm.D. (U.S.A)* |
| 12:50 - 13:10<br>372 | What Makes Biologics Different?<br>*Prof. Rana Abu-Dahab Pharm.D. (Jordan)* |
| 13:10 - 13:30<br>373 | Scope of Clinical Pharmacy Practice Within Intensive Care Unit<br>*Mohammed Nour Bani-younes MSc. Clin. Pharm. (Jordan)* |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III
**Clinical Pharmacy & Pharmacoecnomics**
*Moderators: Pharm. Karem Al- Zoby PhD, Pharm. Reem Mahadeen, Pharm. Reem Al-Kotob*

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| 14:30 - 14:50<br>374 | The Clinical Pharmacist in Community Setting: Shooting for the Moon!<br>*Prof. Mayyada Wazaify Pharm.D. (Jordan)* |
| 14:50 - 15:10<br>375 | Guidelines for Effective Leadership Management Performance<br>*Tagreed Habashneh Pharm. MSc. (Jordan)* |
| 15:10 - 15:25<br>376 | Creating A search Strategy Pattern for A Successful Results<br>*Hadeel Al-Zayyat Clin. Pharm. MSc. (Jordan)* |
| 15:25 - 15:40<br>377 | Pharmacoeconomics, Economic Evaluation and Resources Scarcity in Publicly Funded Healthcare Organizations in Jordan: Theories and Applications<br>*Mohammed Al-Sharayri Pharmacoeconomics MSc. (Jordan)* |
| 15:40 - 15:50<br>378 | Costs of Hospital Services in Jordan<br>*Eman Hammad Clin. Pharm. PhD. (Jordan)* |
| 15:50 - 16:00<br>379 | Rational Use of Antibiotics in the Management of Urinary Tract Infections in Governmental Healthcare Centers<br>*Hanan Sartawi Pharm. MSc. (Jordan)* |
| 16:00 - 16:10<br>380 | Assessment of Microvascular Environment in Breast Cancer Patients<br>*Nehad Ayoub Pharm. PhD. (Jordan)* |
| 16:10 - 16:20<br>381 | Evaluation of Venous Thromboembolism Prophylaxis in Al-Basheer Hospital<br>*Lubna Gharaibeh Clin. Pharm. MSc.(Jordan)* |
| 16:20 - 16:30<br>382 | Angiotensin II Receptors and Stroke Outcome: the Yin and Yang of Brain<br>*Ahmed Alhusban Pharm. PhD. (Jordan)* |
| 16:30 - 17:00 | Coffee Break |

# Hall L
Harraneh Hall 3

09:00-11:00 - Session I
**ENT - Rhinology I**
*Moderators: Mohannad Al-Qudah MD,Sami Jmaian MD, Hassan Al Husban MD*

| | |
|---|---|
| 09:00 - 09:15<br>383 | A Different Prospective for Treating Chronic Suppurative Otitis Media (CSOM)<br>*Suleiman Alsoudi MD (Jordan)* |
| 09:15 - 09:45<br>384 | Combined Endoscopic and Microscopic Surgery of the Nasal Sinuses<br>*Benedikt Folz MD (Germany)* |
| 09:45 - 10:15<br>385 | Hereditary Haemorrhagic Telangiectasia (HHT, M. Osler), Update 2016<br>*Benedikt Folz MD (Germany)* |

| | |
|---|---|
| 10:15 - 10:30<br>386 | Endoscopic Sphenoidotomy: Bulla Down Technique<br>*Mohannad Al-Qudah MD (Jordan)* |
| 10:30 - 11:00<br>387 | Narrow Band Imaging Endoscopy for Diseases of the Head and Heck<br>*Benedikt Folz MD (Germany)* |
| 11:00 - 11:30 | Coffee Break |

11:30 -13:30 - Session II

**Rhinology II**

*Moderators:Col. Roland Jacob MD, Daifallah Al Raqqad MD, Shawkat Al Tamimi MD*

| | |
|---|---|
| 11:30 - 12:00<br>388 | How to Avoid Complications in Sinus Surgery<br>*Mohannad Al-Qudah MD (Jordan)* |
| 12:00 - 12:20<br>389 | Fungal Rhinosinusitis, Increased Awareness<br>*Qais Aljfout MD (Jordan)* |
| 12:20 - 12:45<br>390 | Extra Middle Turbinate Lamellas: A New Classification<br>*Mohannad Al-Qudah MD (Jordan)* |
| 12:45 - 13:10<br>391 | Hearing Readiness of Soldiers in Multinational Missions<br>*Col. Roland Jacob MD (Germany)* |
| 13:10 - 13:20<br>392 | Tricks in Trans-Sphenoidal Surgery for Pituitary Tumors at King Hussein Medical Center (KHMC)<br>*Hussam Abu-Nowar MD (Jordan)* |
| 13:20 - 13:30 | Discussion |
| 13:30 - 14:30 | Lunch Break |

14:30-16:30 - Session III

**Otology**

*Moderators: Col. Matthias TischMD, MohdTawalbeh MD, Mefleh Al Sarhan MD*

| | |
|---|---|
| 14:30 - 15:00<br>393 | Tips on Optimizing Success in Tympanoplasty and Ossicular Reconstruction<br>*Robert Dyer MD (U.S.A)* |
| 15:00 - 15:30<br>394 | Maximizing Facial Nerve Outcomes in Cerebellopontine Angle Surgery<br>*Robert Dyer MD (U.S.A)* |
| 15:30 - 16:00<br>395 | Cochlear Implant in Single-Sided Deafness (SSD) and Tinnitus<br>*Col. MatthiasTisch MD (Germany)* |
| 16:00 -16:30<br>396 | Hybrid Cochlear Implant Surgery<br>*Robert Dyer MD (U.S.A)* |
| 16:30 -17:00 | Coffee Break |

# Hall N

Harraneh Hall 6

09:00 - 11:00 - Session I

**Ophthalmology – Cornea**

*Moderators: Samer Hamada MD, Sameer Al Mulqi MD, Wafa Asfour MD*

| | |
|---|---|
| 09:00 - 09:20<br>397 | Challenging Cases of Fungal Keratitis<br>*Wafa Asfour MD (Jordan)* |
| 09:20 - 09:45<br>398 | Blepharokeratoconjunctivitis (BKC) in Children<br>*Samer Hamada MD (UK)* |
| 09:45- 10:10<br>399 | Optimising Outcomes of Paediatric Keratoplasty<br>*Samer Hamada MD (UK)* |
| 10:10 - 10:20<br>400 | One Cornea, Two Recipients. Latest Innovations in Corneal Transplantation (DSAEK and ALTK)<br>*Nancy Al Raqqad MD (Jordan)* |
| 10:20 - 10:30<br>401 | Descemt Stripping Automated Endothelial Keratoplasty: Experience at King Hussein Medical Center (KHMC)<br>*Amal Al Thawabi MD (Jordan)* |
| 10:30 - 10: 50<br>402 | Keratoconus in Children<br>*Samer Hamada MD (UK)* |
| 10:50 - 11:00 | Discussion |
| 11:00 - 11:30 | Coffee Break |

11:30 -13:30 - Session II

**Neurophthalmology**

*Moderators: Gordon Plant MD, Reham Shaaban MD, Suha AL Ea'jailat MD*

| | |
|---|---|
| 11:30 - 11:50<br>403 | Photopsia: Positive Visual Symptoms in Eye and Brain Disorders<br>*Gordon Plant MD (UK)* |
| 11:50 - 12:10<br>404 | Congenital Anomalies of the Optic Disc<br>*Suha AL Ea'jailat MD (Jordan)* |
| 12:10 - 12:30<br>405 | Involuntary Eye Movement Disorders<br>*Gordon Plant MD (UK)* |
| 12:30 - 12:50<br>406 | How to Restore Lost Vision in Ophthalmological and Neurological Disease using Brain Plasticit<br>*Bernhard Sabel MD (Germany)* |
| 12:50 - 13:00<br>407 | The Role of Optical Coherence Tomography (OCT) and Humphrey Automated Perimetry in the Assessment of Optic Nerve Damage in Primary Open Angle Glaucoma<br>*Mohannad Albdour MD (Jordan)* |
| 13:00 - 13:10<br>408 | Visual Evoked Potential in Functional Visual Loss<br>*Mousa Al-Madani MD (Jordan)* |
| 13:10 - 13:30<br>409 | Diplopia<br>*Gordon Plant MD (UK)* |
| 13:30 - 14:30 | Lunch Break |

14:30 - 16:30 - Session III

**Retina / Retinopathy of Prematurity ROP**

*Moderators: Mustafa Mehyar MD, Janet Hina MD, Bassam Nawaiseh MD*

| | |
|---|---|
| 14:30 - 14:50<br>410 | Introduction to Retinopathy of Prematurity (ROP)<br>*Janet Hina MD (Jordan)* |
| 14:50 - 15:10<br>411 | Retinopathy of Prematurity Management Outcomes<br>*Mustafa Mehyar MD (Jordan)* |
| 15:10 - 15:30<br>412 | Long Term Follow-Up of Visual Functions in Premature Infants<br>*Samir Mulki MD (Jordan)* |
| 15:30 - 15:45<br>413 | Role of Anti-Vascular Endothelial Growth Factor Injections in Retinopathy of Prematurity Management<br>*Basel Ba'arah MD (Jordan)* |
| 15:45 - 16:00<br>414 | Surgical Management of Retinopathy of Prematurity (ROP)<br>*Bassam Nawayseh MD (Jordan)* |
| 16:00 - 16:10<br>415 | Efficacy of Treatment of Uveitis Among Jordanian Patients with Behcet's Disease<br>*Ahmed Khatatbeh MD (Jordan)* |
| 16:10 - 16:20<br>416 | Changes in HbA1c Following Consultation with Diabetes Specialist Nurse in Medical Retina Clinics<br>*Shehab Al-Abed MD (Jordan)* |
| 16:20 -16:30 | Discussion |
| 16:30 - 17:00 | Coffee Break |

17:00 - 18:30 - Session IV

**Oculoplasty & Ophthalmology Free Papers**

*Moderators: Khalil Rawashdeh MD, Issam Bataineh MD, Wael Abu Laban MD*

| | |
|---|---|
| 17:00 - 17:10<br>417 | Comparison of Transcutaneous and Transconjunctival Lower Blepharoplasty at King Hussein Medical Center<br>*Thabit Odat MD (Jordan)* |
| 17:10 - 17:20<br>418 | Challenges in Phaco Surgery. Tips for a Successful Outcome<br>*Nancy Al Raqqad MD (Jordan)* |
| 17:20 - 17:30<br>419 | Restrictive Fibrous Bands Originating From the Oculomotor Nerve (CN3) in Familial Duane Retraction Syndrome (DRS)<br>*Hiba Khraisat MD (Jordan)* |
| 17:30 - 17:40<br>420 | Etiology of Neovascular Glaucoma<br>*Ahmed Husban MD (Jordan)* |
| 17:40 - 17:50<br>421 | Exposure Keratopathy after Ptosis Surgery<br>*Mohammad Alshami MD (Jordan)* |
| 17:50 - 18:00<br>422 | The Effect of using Tetracaine, Ketorolac 0.5% or Nothing on Post-Strabismus Surgery Vomiting and Pain in Children<br>*Shadi Al Hrafsheh MD (Jordan)* |
| 18:00 – 18:10<br>423 | Traumatic Anterior Globe Avulsion<br>*Husam Al-Deen Abo Rbayea' MD (Jordan)* |
| 18:10 – 18:30 | Discussion |

# International Guest Speakers

| Guest Speaker | Specialty | Country |
|---|---|---|
| **Surgery & Subspecialties** | | |
| Prof. Dr. Ragheb Hasan | Cardiothoracic Surgery | UK |
| Prof. Dr. Steven D. Wexner | Colorectal Surgery | U.S.A |
| Dr. Moh'd Abu Hilal | General Surgery - Hepato-biliary Surgery | UK |
| Prof. Dr. Malcolm Reed | Breast Oncology - Breast Surgery | UK |
| Dr. Bruno Dillemans | Bariatric Surgery | Belgium |
| Dr. Brian Sommerlad | Plastic Surgery | UK |
| Prof. Dr. Albert Shun | Pediatric General Surgery- Hepatobiliary Surgery | Australia |
| Prof. Dr. Schahnaz Allousi | Urology | Germany |
| **Medicine & Subspecialties** | | |
| Dr. Thabit Sabbubeh | Neurology - Clinical Neurophysiology | UK |
| Prof. Dr. Ahmed Bahammam | Pulmonology | KSA |
| Prof. Dr. Mohamed Sobhy | Cardiology - Interventional Cardiology | Egypt |
| Dr. Giuseppe Bruschi | Cardiology - Adult Cardiac Surgery | Italy |
| Dr. Mark Wright | Gastroenterology | UK |
| Dr. Bisher Kawar | Nephrology | UK |
| Prof. Dr. Nicholas Manolios | Rheumatology | Australia |
| Dr. Paul Jennings | Endocrinology | UK |
| Prof. Dr. Jed Gary Magen | Clinical Child - Adolescent Psychiatry | U.S.A |
| Dr. C. Reha Yavuzer | Dermatology | Turkey |
| Prof. Dr. Nuhad Ibrahim | Oncology | U.S.A |
| Prof. Dr. David Carbone | Oncology | U.S.A |
| Lt. Col. Dr. Andrea Kolodziejski | Cardiology | Germany |
| **Pediatrics & Subspecialties** | | |
| Prof. Dr. Ziyad M. Hijazi | Pediatric Cardiology | Qatar |
| Prof. Dr. Yvan Vandenplas | Pediatric Gastroenterology | Belgium |
| Prof. Dr. Pierre Cochat | Pediatric Nephrology | France |
| Dr. John Puntis | Children Medicine - Clinical Nutrition | UK |
| Dr. Quentin Campbell Hewson | Pediatric Oncology | UK |
| **Gynecology & Obstetrics** | | |
| Prof. Dr. Alfred Z. Abuhamad | Maternal - Fetal Medicine | U.S.A |
| Dr. Andrew Kent | Gynecology & Minimal Access Surgeon | UK |
| Dr. Alessandro D'Afiero | Pelvic Surgery & Urogynaecology | Italy |
| **Anesthesia & Intensive Care** | | |
| Prof. Dr. Peter Charters | Head & Neck Surgery Anesthesia | UK |
| Prof. Dr. Hassan Alnuaimat | Critical Care Medicine | U.S.A |
| Dr. Amar Salti | Anesthesia & Pain Medicine | UAE |
| Maj. Dr. Harald Bergmann | Critical Care Medicine | Germany |
| **Orthopedic Surgery** | | |
| Prof. Dr. Jose Morcuende | Orthopedic Pediatric Surgery | U.S.A |

# International Guest Speakers

| Guest Speaker | Specialty | Country |
|---|---|---|
| Prof. Dr. Rodrigo Fernand Hoyos | Orthopedic Reconstruction Surgery | Colombia |
| Prof. Dr. Stephen Lewis | Orthopedic Spine Surgery | Canada |
| **Radiology** | | |
| Prof. Dr. Russell Low | Diagnostic Neuroradiology | U.S.A |
| Prof. Dr. Saruhan Çekirge | Interventional Neuroradiology | Turkey |
| Dr. Issam Mujahed | Diagnostic Neuroradiology | Palestine |
| Dr. Houman Jalaie | Interventional Radiology | Germany |
| Dr. Rene Chapot | Interventional Radiology | Germany |
| **Physical Medicine & Rehabilitation** | | |
| Prof. Dr. Amir Salim Al-Din | Neurology | UK |
| Dr. Harvinder Singh Chhabra | Orthopedics - Spine Surgery | India |
| **E.N.T** | | |
| Col. Prof. Dr. Matthias Tisch | Otolaryngology | Germany |
| Prof. Dr. Benedikt Folz | Otorhinolaryngology, H&N Surgery | Germany |
| Col. Dr. Roland Jacob | Otolaryngology | Germany |
| Dr. Robert Kent Dyer | Otolaryngology | U.S.A |
| **Ophthalmology** | | |
| Dr. Gordon Terence Plant | Neuro-ophthalmology | UK |
| Dr. Samer Hamada | Ophthalmic Surgery | UK |
| Prof. Dr. Bernhard Sabel | Medical Psychology – Vision Restoration | Germany |
| **Laboratory Medicine** | | |
| Prof. Dr. David Zhang | Molecular Genetic Pathology | U.S.A |
| Dr. Mariana Berho | Clinical Pathology | U.S.A |
| **Dentistry & Subspecialties** | | |
| Prof. Dr. Hugh Devlin | Restorative Dentistry | UK |
| Prof. Dr. Winfried Kretschmer | Plastic Oral & Maxillofacial Surgery | Germany |
| Prof. Dr. Samuel O. Dorn | Endodontics | U.S.A |
| Dr. Janice Alisa Townsend | Pediatric Dentistry | U.S.A |
| Lt. Col. Dr Michael Lüpke | Periodontology | Germany |
| **Nursing** | | |
| Prof. Dr. Rose Constantino RN | Mental Health Nursing | U.S.A |
| Lt. Col. Dr. Elizabeth Bernthal RN | Military Nursing - Research | UK |
| Ms. Fadia Doumani RN,TET, MBA | Diabetes Education Consultant | Lebanon |
| Louise Ollett RN | Pediatric Oncology Nursing | UK |
| Capt. Maria Remi RN MSc | Military Nursing | Greece |
| **Allied Health Professions** | | |
| Dr. Stephen Kitchen | Clinical Scientist | UK |

# International Guest Speakers

| Guest Speaker | Specialty | Country |
|---|---|---|
| **Military Medicine** | | |
| Brig. Gen. Dr. Timothy Hodgetts | Emergency Medicine | UK |
| Col. (Ret.) Johan Crouse | ICMM Medico- Legal Advisor | South Africa |
| Lt. Col. Dr. David Winkler | ICMM Centre of Reference for Education on IHL & Ethics | Switzerland |
| Lt. Col. Dr. DewiGathmyr | Chief of Health Education & Training Command of The Air Force | Indonesia |
| **Family & Emergency Medicine** | | |
| Dr. Afsin Emre Kayipmaz | Emergency Medicine - Toxicology | Turkey |
| **Pharmacy & Medical Logistics** | | |
| Prof. Dr. James Stevenson | Clinical Pharmacy | U.S.A |
| Prof. Dr. Wafa Y. Dahdal | Clinical Pharmacy | U.S.A |
| Col. Pharm Jens Müller | Clinical Pharmacy | Germany |
| Col. Pharm. Ali Alkinani | Pharmacology | KSA |
| **Preventive Medicine** | | |
| Prof. Dr. Ali Mokdad | Public Health | U.S.A |
| Maj. Dr. Julia Riehm | Infectious Disease | Germany |
| **National Health Service** | | |
| Dr. Nadeem Moghal | | UK |
| **Royal College of Physicians** | | |
| Prof. Dr. Ali Jawad | International Medical Director | UK |
| Prof. Dr. David Black | Medical Director | UK |
| Dr. Andrew Goddard | Registrar | UK |
| **Royal College of Surgeons** | | |
| Prof. Dr. Derek Alderson | Vice President-RCS Academic and Research Board Chairman | UK |
| Mr. Martyn Coomer | Head of the Research Department | UK |
| **World Federation of Hemophilia** | | |
| Prof. Dr. Manuel Carcao | | Canada |
| Prof. Dr. Marie Garvey | | Canada |
| Dr. Glenn Pierce | | U.S.A |
| Dr. Assad Haffar | | Canada |
| Ms. Rana Saifi | | Canada |
| **International Committee of Military Medicine - ICMM** | | |
| Maj. Gen. Dr. Pierre Neirinckx | Deputy Secretary-General | Belgium |
| Mr. Paul Zabouri | Director of Communication & Marketing | France |

# National Guest Speakers

| Guest Speaker | Specialty | Institution |
|---|---|---|
| **Surgery & Subspecialties** | | |
| Dr. Mahmmoud Almasri | Surgical Oncology | KHCC |
| Prof. Dr. Mahmoud Abu-Abeeleh | Cardiac Surgery | JUH |
| Dr. Rami Al-Azab | Urology | KAUH |
| Dr. Ali Abuseini | Breast Surgery | RMS |
| Dr. Wa'el Al Na'ssan | Bariatric Surgery | RMS |
| Dr. Sameer Smadi | Hepatobiliary | RMS |
| Dr. Adnan Abu Qamar | Urology | RMS |
| Dr. Salah Eldien Altarabsheh | Cardiac Surgery | RMS |
| Dr. Zeid M Makahleh | Cardiac Surgery | RMS |
| Dr. Hani Al Hadidi | Thoracic Surgery | RMS |
| **Medicine & Subspecialties** | | |
| Prof. Dr. Abdallah Al Abbadi | Hematology & Oncology | UJ |
| Dr. Hikmat Abdelraziq | Hematology | KHCC |
| Dr. Anwar Al-Nassan | Pediatric Onco-Hematology | KHCC |
| Dr. Basheer Khasawneh | Pulmonology | JUST |
| Dr. Mohammed Rashid | Gastroenterology | JUH |
| Dr. Jihad Haddad | Endocrinology | Private |
| Dr. Hani Affara | Nephrology | Private |
| Dr. Ammar Mubaiden | Neurology | Private |
| Dr. Nasser Aldien Shuriquie | Psychiatry | Private |
| Dr. Nidal Obaidat | Dermatology | Private |
| Dr. Ahmad Telfah | Hematology | RMS |
| Dr. Fares Haddad | Endocrinology | RMS |
| Dr. Abdallah Omeish | Cardiology | RMS |
| Dr. Nabil Alhmoud | Psychiatry | RMS |
| Dr. Majed Habahbeh | Neurology | RMS |
| Dr. Ayham Haddad | Nephrology | RMS |
| Dr. Adnan Al Suleihat | Pulmonology | RMS |
| Dr. Ayman Al Qa'qaa' | Dermatology | RMS |
| **Pediatrics & Subspecialties** | | |
| Prof. Dr. Najwa Khuri-Bulos | Infectious Diseases | JUH |
| Dr. Hashem Al-Momani | Surgery | JUH |
| Dr. Najeh Al Omari | Surgery | Private |
| Dr. Abedalhameed Najadah | Pulmonology | RMS |
| Dr. Abed Al-Fatah Abu Haweleh | Pediatric Cardiology | RMS |
| Dr. Hashem Aqrabawi | Neonatology | RMS |
| Dr. Ahmad AL-Raymoony | Surgery | RMS |
| Dr. Mohammed Al-Raqad | Clinical Genetics | RMS |

# National Guest Speakers

| Guest Speaker | Specialty | Institution |
|---|---|---|
| **Obstetrics & Gynecology** | | |
| Prof. Dr. Faheem Zayed | Reproductive Medicine & IVF Treatment | JUST |
| Dr. Zuhair Ghosheh | Infertility & IVF Treatment | Private |
| Dr. Naser Husban | Minimally Invasive Surgery | Private |
| Dr. Mohamad Qudah | Hysteroscopy & Laparoscopy Surgery | RMS |
| Dr. Abdel-Nabi Al-Bdour | Feto-Maternal Medicine | RMS |
| Dr. Maher Maaita | Feto-Maternal Medicine | RMS |
| Dr. Amer Gharaibeh | Maternal Medicine | RMS |
| **Anesthesia & Intensive Care** | | |
| Dr. Awad Addasi | Intensive Care Medicine | KHCC |
| Dr. Wail Khraise | Anesthesia and Recovery Medicine | JUST |
| Dr. Hayel Gharaibeh | Intensive Care & Pain Medicine | RMS |
| Dr. Mohammad Kelani | Anesthesia | RMS |
| Dr. Yaser Alghoul | Cardiothoracic Anesthesia | RMS |
| Dr. Hussein Shalan | Intensive Care Medicine | RMS |
| **Orthopedic Surgery** | | |
| Dr. Jihad Ajlouni | Orthopedic & Trauma | JUH |
| Dr. Kamel Afifi | Orthopedic & Hand Surgery | Private |
| Dr. Issa Sawaqed | Trauma & Sports Medicine | Private |
| Dr. Malek Ghnaimat | Orthopedic Surgery Sport injuries & Arthroscopy | RMS |
| Dr. Jamal Shawabkeh | Reconstruction & Joint Replacement Surgery | RMS |
| Dr. Firas Al-Ibrahim | Pediatric Orthopedics | RMS |
| **Radiology** | | |
| Dr. Asem Mansour | Neuroradiology | KHCC |
| Dr. Imad Jaradat | Radiation Oncology | KHCC |
| Dr. Nosaiba Al Ryalat | Neuroradiology | JUH |
| Dr. Belal Elhawwari | Radiation Oncology | Private |
| Dr. Waleed Masoud | Interventional Radiology | Private |
| Dr. Hazem Habboub | Interventional Radiology | RMS |
| Dr. Zeid Alaween | Pediatric Radiology | RMS |
| Dr. Jameel Shawaqfeh | Musculoskeletal Imaging | RMS |
| Dr. Adnan Zayadeen | Ultrasound Imaging | RMS |
| Dr. Hana Al-Mahasneh | Radiation Oncology | RMS |
| **Physical Medicine & Rehabilitation** | | |
| Prof. Dr. Ziad Hawamdeh | Neuro-Rehabilitation | JUH |
| Dr. Ihsan Shanti | Anesthesiology & Pain Management | Private |
| Dr. Khalil Alabbadi | Neuro-Rehabilitation & Pain Management | Private |
| Dr. Mohammad Kana'an | Resort Medicine & Rehabilitation | Private |
| Dr. Ali Otom | Spinal Injuries & Rehabilitation | Private |
| Dr. Hisham Al-Sayegh | Musculoskeletal Physiatrist | RMS |
| Dr. Ibrahim Amayreh | Rheumatology | RMS |
| **E.N.T** | | |
| Dr. Mohannad Al-Qudah | Otorhinolaryngology - Skull Base Surgery | JUST |
| Dr. Qais Aljfout | Otorhinolaryngology - H&N Surgery | RMS |
| Dr. Suleiman Alsoudi | Otology | RMS |

# National Guest Speakers

| Guest Speaker | Specialty | Institution |
|---|---|---|
| **Ophthalmology** | | |
| Dr. Samir El-Mulki | Pediatric Ophthalmology & Strabismus | Private |
| Dr. Janet Hina | Pediatric Ophthalmology & Strabismus | Private |
| Dr. Mustafa Mehyar | Pediatric Ophthalmology & Strabismus | Private |
| Dr. Wafa Asfour | Cornea / Refractive Surgery | RMS |
| Dr. Basel Ba'arah | Ophthalmic & Vitreoretinal Surgery | RMS |
| Dr. Suha AL Ea'jailat | Neuro-ophthalmology | RMS |
| Dr. Bassam Nawaiseh | Ophthalmic & Vitreoretinal Surgery | RMS |
| **Laboratory Medicine** | | |
| Dr. Nidal Almasri | Pathology | KHCC |
| Dr. Ziad El-Nasser | Clinical Microbiology | YU |
| Dr. Luma Fayyad | Pathology | RMS |
| Dr. Raeda Oudat | Hematopathology | RMS |
| Dr. Rame Khasawneh | Clinical Molecular Genetics | RMS |
| Dr. Awatef Ka'abneh | Clinical Microbiology | RMS |
| **Dentistry & Subspecialties** | | |
| Prof. Dr. Ahmad Hamdan | Orthodontics | UJ |
| Prof. Dr. Rola Alhabashneh | Periodontology | JUST |
| Prof. Dr. Suhad Al-Jundi | Pediatric Dentistry | JUST |
| Dr. Sami Jebreen | Prosthodontics | RMS |
| **Nursing** | | |
| Prof. Dr. Raeda Abu Al Rub | | JUST |
| Ms. Rabab Diab RN | | HCAC |
| Randa Al-Habahbeh RN PhD | | RMS |
| Hazem Ajarmeh RN PhD | | RMS |
| Nawal Abu Abboud RN © PhD | | RMS |
| Reem Al-Qaddah RN MSc | | RMS |
| **Allied Health Professions** | | |
| Prof. Dr. Mahmoud Abu Ghoush | Food Science and Nutrition | HU |
| Dr. Ibrahim Altubasi | Physical Therapy | UJ |
| Dr. Yaser Natour | Communication Sciences & Disorders | UJ |
| Dr. Mohammed Rawashdeh | Medical Radiation Science | JUST |
| Dr. Hussain Alqassim | Audiology | RMS |
| "Mohammed Wael" Abu Ghoush | Medical Laboratory Science | RMS |
| Ibrahim El-habashneh | Medical Physics | RMS |
| Waleed Al-Daemeh | Orthotics & Prosthetics | RMS |
| **Military Medicine** | | |
| Maj. Gen. Yahya Albtoush | Hadith Sciences – Grand Mufti | JAF-Arab Army |
| Brig. Gen. Mohammad Mawajdeh | Chemical Engineering | JAF-Arab Army |
| Lt. Col. Mohammad Jukhan | Electrical Engineering | JAF-Arab Army |
| Dr. Attallah Al Issa | Family & Emergency Medicine | Private |
| Dr. Ali Refai | Family & Aviation Medicine | Private |
| Dr. Emad Abu Yaqeen | Accident & Emergency Medicine | MOH |
| Dr. Hashem Al Abdallat | Family Medicine | RMS |
| Dr. Samir Al-Ofieshat | Emergency Medicine | RMS |

# National Guest Speakers

| Guest Speaker | Specialty | Institution |
|---|---|---|
| Dr. Samer Karadsheh | Pediatric Surgery | RMS |
| Dr. Samer Hemadneh | Internal Medicine – CBRN | RMS |
| **Family & Emergency Medicine** | | |
| Dr. Mohammed Tarawneh | Family Medicine | WONCA EMR |
| Dr. Mai Hadidi | Family Medicine | MOH |
| Dr. Oraib Al Smadi | Family Medicine | MOH |
| **Pharmacy & Medical Logistics** | | |
| Prof. Dr. Mayyada Wazaify | Clinical pharmacology | UJ |
| Prof. Dr. Rana Abu Dahab | Bio-Pharmacy | UJ |
| Prof. Dr. Tawfiq Arafat | Pharmaceutical Medicinal Chemistry | PU |
| Pharm. Tagreed Habashneh | Quality & Supply Chain Management | RMS |
| Pharm. Mohammed Al-Sharayri | Health Economics | RMS |
| Pharm. Hadeel Zayyat | Clinical Pharmacy | RMS |
| Pharm. "Moh'd Nour" Bani Younes | Clinical Pharmacology | RMS |
| **Community Medicine** | | |
| Prof. Dr. Wail Hayajneh | Pediatric Infectious Diseases | JUST |
| Prof. Dr. Madi Al-Jaghabir | Family Health & Community Medicine | UJ |
| Dr. Mohannad Al-Nsour | Public Health - Epidemiology | EMPHNET |
| Dr. Mahmud Abdallat | Public Health - Epidemiology | RMS |
| Dr. Amal Khreisat | Public Health | RMS |
| **Joint RMS-RCP-RCS Symposium:** Continuous Professional Development CPD – Training | | |
| Dr. Ali Jawad | International Medical Director | RCP |
| Dr. David Black | Medical Director - Royal College of Physicians | RCP |
| Dr. Derek Alderson | Vice President-Academic and Research Board Chairman | RCS |
| Dr. Hani Al-Kurdi | General Secretary - Jordan Medical Council | JMC |
| Dr. Mahmoud Alka'abneh | Director General Assistant for Medical Affairs | RMS |
| Dr. Khaldoun Haddadin | Head of Surgery Department | RMS |
| Dr. Abedalhameed Najadah | Head of Professional Training & Rehabilitation Department | RMS |
| **Leadership Strategy in Healthcare Joint RMS-UK DMS-NHS-MOH-HCAC- JAEC Symposium: Health System and Leadership in Health Institutes and Industries** | | |
| HE Khaled Toukan Eng. PhD | Chairman of The Jordan Atomic Energy Commission | JAEC |
| Dr. Nadeem Moghal | National Health Services | NHS |
| Brig Timothy Hodgetts | Medical Director | DMS-UK |
| Mrs. Salma Jaouni | CEO | HCAC |
| Dr. Yassin Al Tawarah | Director of Plans & Studies Department | RMS |
| Dr. Mansour Al-Maitah | Chief of Forensic Medicine | MOH |

# National Guest Speakers

| Guest Speaker | Specialty | Institution |
|---|---|---|
| **Joint RMS – PHA – GHTC Health Tourism Symposium:** | | |
| Dr. Fawzi Al-Hammouri | President of Global Healthcare Travel Council | PHA-GHTC |
| HE Dr. Abdullah Bashir | Chairman & General Director Jordan Hospital | PHA |
| Dr. Ibrahim Al-Tarawneh | Head of Jordanian Dental Association | PHA |
| Dr. Nael Al-Masalha | Chairman & General Manager Al-Essra Hospital | PHA |
| Mr. Refaat Al-Masri | General Manager Al-Rashid Hospital Center | PHA |
| **Institutions** | | |
| RMS | Royal Medical Services | |
| RCP | Royal College of Physicians - London | |
| RCS | Royal College of Surgeons - England | |
| DMS-UK | Defence Medical Services - UK | |
| NHS | National Health Services | |
| KHCC | King Hussein Cancer Center | |
| MOH | Ministry of Health | |
| JAEC | Jordan Atomic Energy Commission | |
| HCAC | Health Care Accreditation Council | |
| JU | Jordan University | |
| JUST | Jordan University of Science and Technology | |
| JUH | Jordan University Hospital | |
| KAUH | King Abdullah University Hospital | |
| HU | Hashemite University | |
| PU | Petra University | |
| YU | Yarmouk University | |
| PHA - GHTC | Private Hospital Association – Global Healthcare Travel Council | |

**1**

## Initiating an Induction Programme for Newly Qualified Nurses in a Paediatric Oncology Ward

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Newly qualified nurses describe the clinical environment as hectic and demanding on their transition from student to graduated novices (Bjork 1999). Structured preceptorships and induction program have proven to be beneficial. The content and scope for such program varies from organization (Wangensteen 2007).
Previous induction program in the paediatric and teenage oncology principal treatment centre involved new staff clinically working alongside an experienced preceptor for a period of time. Educational content included training accessing central venous devices, performing clinical observations and holistic assessment of the patient.
These induction programs were not evaluated and areas for development were not discussed or implemented.

**Aim:** To review latest induction program and explore a more structured program to incorporate Royal College of Nursing Practice Framework (2000).

**Methods:** Latest induction program was evaluated through audit and structured interviews. Discussions were conducted with previous newly qualified staff to seek information regarding 'gaps' in the program. Emphasis was placed on identifying the key aspects of education and clinical skills newly qualified nurses wished to gain in their first six months of qualifying in a paediatric and teenage oncology setting.

**Results:** Induction program consisting of two weeks educational and clinical format. Program included in depth practice with members of the multi-disciplinary team. Educational sessions focused on principles such as sepsis, febrile and neutropenia, management of chemotherapy regimen. Clinical competencies where developed using RCN Practice framework (2000).

**2**

## Establishing a Pediatric Palliative Care Program

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Pediatric Palliative Care (PPC) is an interdisciplinary collaboration that seeks to improve the quality of life of all children with life-threatening conditions, as well as their families. It focuses on prevention and relief of suffering, regardless of the stage of disease, comprehensively addresses the physical, psychosocial and spiritual needs of the child and family.
The aims of a successful program should include the following: 1- Improve the quality of life of terminally ill children and their families; 2 - Help to create comprehensive cancer care where palliative care, along with anticancer therapy, is involved in patient care from diagnosis onward; 3 - Support the role of medical specialists in providing quality end-of-life/palliative care through the promotion of education; 4 - Encourage the interdisciplinary palliative care approach to patients and their families.
Stages of program development are best described as: Stage I -No institutional awareness of need; Stage II -Institutional recognition of the need for PPC, but question importance and fear moving forward; Stage II - Institutional recognition of need and importance of PC, but under-resourced; Stage IV -Recognition of need and importance of PC, AND fully embraced, staffed, and resourced
Among the most important elements to consider when designing a Clinical Model are locations of care, on-call coverage, clinical lead role (MD or DO/RN/APN) and identifying champions for the model.

**3**

## Reducing Central Line Infections Through Education and Training

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Central Venous Devices (CVD) are commonly used in paediatric oncology care. They provide the necessary route for common practices like haemodynamicmonitoring, intravenous fluids,

blood products, antibiotics, chemotherapy and total parenteral nutrition (TPN). Infections of CVDs is a major complication of these devices, associated risks are increased mortality, increased hospital stay, prolonged ICU admissions and interruptions in treatment schedule. (Chesshyre 2015) Clinical areas have a responsibility to ensure staffs are suitable trained and are competent in both inserting and accessing these devices. National EPIC guidelines give a standard approach which should be endorsed within the clinical environment.

One of the key aspects of reducing CVD infections is the delivery of Aseptic Non Touch Technique (ANTT). Education regarding ANTT involves theory sessions and clinical stimulation in order to assess competency. Regular audits and observing clinical practice are performed to ensure high standards. Peer reviews are also used within the unit to ensure effective practice. Many staff is trained as ANTT cascade trainers which deliver teaching sessions and monitor practice within a team of 92 nursing staff.Education and training packages are also used to ensure effective care of CVDs within the community setting. Assessment takes place within the acute setting pre discharge of a patient. Parents are taught to recognize signs and symptoms of a CVDs infection and how to care/ manage the CVD in the home environment. The role of the clinical educator is to ensure effective educational delivery of management of CVDs within the Paediatric Oncology setting.

**4**

## Military Mothers' Decision-Making During Times of Stress as a Lone Parent

*Elizabeth Bernthal RN PhD (UK)*
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While there is considerable evidence concerning the complex factors influencing a mother's decision to seek professional help when her child is unwell, little empirical work has addressed the stresses faced by lone parents during enforced separation and the consequential effect on decision-making.

A sequential three phase qualitative study with 31 parents from an Army garrison using focus groups and interviews.

As lone parents, military mothers faced a combination of stressors that altered their help seeking behavior. Mothers developed problem or emotion-focused coping strategies. Fear for the partner's safety when absent, reduced mothers' rational thinking and altered their interpretation of the child's symptoms from 'minor' to 'life threatening'. Consequently, they contacted health care services as a last resort when their partner was available, to a first resort in his absence. Becoming a temporary lone parent during a time of stress alters an Army mother's help seeking behavior (regardless of whether or not serving herself). The anxiety and fear of enforced separation challenged mothers' fundamental sense of belonging. Lone mothers may require psychological, emotional and logistical support alongside treatment for their sick child. Health professionals should enquire whether the parent is from a military family undergoing separation at an early stage of the consultation.

Key areas of research to be developed

For National Health Service

- To increase understanding- Development of information packages for NHS clinicians to inform them of the reality of military life, in particular the impact of military enforced separation.
- The impact of being a lone parent on attendance rates.
- A greater awareness of which patients are a military family/ veteran.

For Military

- The impact of being a lone parent for reservists/ regular serving personnel who may be living in private accommodation so not part of a military community with a formalized network of psychological support.
- How much help-seeking behavior is influenced by the psychological state of the mother rather than the physical illness of their child when a lone parent
- Disparity of health provision e.g. whether register as non-serving members can with the military medical centre or not, who may have a greater understanding of the impact of military enforced separation than a civilian practice.

**5**
**Interprofessional Collaboration and Effective Communication**

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This presentation explains IPC as a process when multiple HCP from different professional backgrounds work together with patients, families, caregivers, and communities to deliver the highest quality of care. Professional competencies in healthcare systems will be discussed as an integrated enactment of knowledge, skills, and values/attitudes that define the domains of a particular health profession applied in specific care contexts. IPC is clustered into 4 core domains that are conceptually linked and serve as a theoretical construct. IPC has 4 Core Competencies: Values/ Ethics, Role/ Responsibilities, IP Communications, and Teams and Teamwork. When various health professions collaborate to reflect a shared commitment to creating safer, more efficient, and more effective systems of care, they are demonstrating the IPC core competency of Values/Ethics. When various health professions collaborate to reflect diversity of background or cultural characteristics that adds to resources, they are demonstrating the IPC core competency of Role/ Responsibilities. When various health professions share their expertise and relinquish some professional autonomy to work closely with others, including patients and communities, to achieve better outcomes, they are fulfilling the IPC core competency of Teams and Teamwork. Finally, being available in place, time, and knowledge, as well as being receptive through displaying interest, engaging in active listening, conveying openness, and being willing to discuss and clarify; these are elements indicating the core of all cores in IPC that is Interprofessional Communication.

**6**
**The Code of Ethics in Nursing Practice**

*Raeda Abu Al Rub RN PhD (Jordan)*
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Nurses are increasingly confronted with ethical and moral dilemmas in their practice than ever before. All nurses, regardless of the clinical setting, will face ethical situations that they are opt to handle. They will encounter challenges where they will ask themselves "What should I do?" or "Why can't I do the correct action?" Ethics is concerned with 'right and wrong', although agreeing what is 'right' can be challenging.
The Code of Ethics for Nurses is essential to nursing, yet its' application is often obscure in many clinical settings. The Code calls on each of us to strive for an ethically driven work environment that ensures quality and safe care for all patients. However, in order to ensure that such an environment exists, nurses at all levels need to be well prepared to help creating work environments that support moral courage. Nurses need to be involved in policies' development and implementation. They need to be aware of where decisions are made and being able to speak up when necessary. As nursing and its social context evolve, the code of ethics is also dynamic. Although there are authentic international codes of ethics for nurses, it is paramount that the national code of ethics that is culturally sensitive is updated according to the emerging challenges in nursing practice. The purpose of this discussion is to highlight how the work environment and organizational structures can support and empower nurses to practice ethically.

**7**
**Four Quadrant Approach of Clinical Ethical Decision Making**

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The four quadrant approach is the tool that is used by clinicians from the British Defense Medical Services to aid their ethical decision-making. This presentation will report the findings of a study (Study 1)undertaken in 2013 to explore how useful clinicians, deployed to the Field Hospital in Afghanistan, found using the four quadrant approach (4QA) as a tool to aid ethical decision-making. In addition, the study aimed to determine whether the 4QA needed to be amended to make it more effective in assisting the ethical decision-making process for military health professionals on deployment. It will also report the findings of a second study (Study 2) undertaken in 2015 with senior clinicians to explore what makes an ethical dilemma and how the 4QA assisted their decision-making.

For Study 1, a qualitative pilot study in 2 phases was undertaken in 2013. For Phase 1, deployed senior clinicians completed a proforma of the 4QA on cases that potentially raised ethical issues. Thirteen proformas were submitted on 4 cases, the Deployed Medical Director (DMD) submitted a log of 14 cases of case discussions that had involved using the 4QA. Phase 2 consisted of interviews with 5 senior clinicians who had recently returned from deployment from Afghanistan to discuss their experiences and perceptions of using the 4QA. Study 2 undertook focus groups and an interview with senior clinicians who had deployed to the Field Hospital in Afghanistan as Deployed Medical Director (DMD) in 2015.

Study 1: Phase 1 identified a variation in the level of detail recorded and where that information was placed on the quadrant. Four themes were generated from Phase 2. These included the characteristics of ethical decisions, the processes used to make ethical decisions; use, usefulness and limitations of the 4QA and views about training in ethics. The findings have suggested amendments be made to the proforma to improve its utility.

Study 2: The DMDs found the 4QA a useful tool to aid their decision-making. Ethical dilemmas were created when working with limited/ rationing of resources; working with clinicians from other countries; not knowing team members' ways of working; when there was a lack of medical intelligence of the capability of the indigenous health system, when upholding the Medical Rules of Eligibility was not in the best interest of an individual patient and caring for children.

Study 1: The 4QA is a useful tool within an operational setting but amending its diagrammatic presentation could improve its effectiveness. Pre-deployment training should include practicing using the quadrant as described in Clinical Guidelines for Operations 6. This is particularly important as the participants relied heavily on experience to help them make ethical decisions, and this experience may not be available in future operations outside Afghanistan.

Study 2: Training in ethical decision-making should be included routinely in clinical training courses, pre-deployment, during deployment and as part of post-deployment de-briefing. Pre-deployment training must include all nationalities who are deploying together so different ethical values can be explored before deployment. Ethics workshops should be included in all training courses.

**8**
**Communication is Caring**

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Caring is considered a universal need and cornerstone for nursing care delivery. Nurses can communicate their practices through caring behaviors. Selection of proper nurse caring approach depends on patients' specific needs and the health organization settings.

Communication is a significant but complicated practice in nursing. Patients present many complain about poor attitude of healthcare providers' as they perceive them as stepping away from patients and care providing. Nursing practice mandate proper interpersonal environment with effective communication skills to exchange information between nurse and patient; patients' family; and other healthcare providers in order to plan their health promotion activities

In order for the nurses to be successful in their work they have to know the key components of the communication process, enhance their communication skills, and recognize the potential problems with errors in communication. Communication requires genuine intention of the nurse to understand appreciate what concerns the patient and communicate the message that he/she is understandable and acceptable.

**9**
**Self-Management and Communication**

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This presentation responds to the global cry for help in "Self-Management" (SM). For research, education, clinical and economic reasons the exponential rise of persons living with chronic conditions and diseases is overwhelming healthcare providers and healthcare systems. When IPC takes place, SM becomes essential. SM is defined as the person's ability to manage the symptoms, treatment, physical, psychosocial and biobehavioral consequences and lifestyle shifts inherent in aging and living with chronic conditions. SM does not happen naturally. Healthcare providers, especially nurses and healthcare systems are mandated (not by the

government) but by their individual professional organizations or funding agencies to practice SM with patients and families. In SM roles of healthcare providers and patients/consumers shift from passive to active, guide to collaborator, observer to participant, teacher to co-learner, and director to coach. The role of Nursing Science in SM research, sustainability, scalability and globalization are discussed. Examples of SM programs are presented. The Nurse-Patient relationship in SM changes from passive to active, guide to collaborator, observer to participant, teacher to co-learner and director to Coach. According to Marie Zvonickova of Charles University in Prague, SM is all the things a person, healthy or well can do to Manage self. The three dimensions of SM are: Context, Process and Outcomes. The role of Nursing Science in SM according to Grady and Gough (2014) is to demonstrate effectiveness, sustainability and scalability that set an example for Globalization

**10**
**Diabetes in the Arab World**

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The rapid urbanization and wide infrastructure development in many Arab countries as well as increased life expectancy and reduced infant mortality have translated into lifestyle changes that included reduced physical activity, increased obesity, increased smoking and the spread of low-nutrition fast food. These in turn led to soaring rates of diabetes across most countries in the region, especially the Gulf States. With nearly 35 million people diagnosed with the disease, the Middle East and North Africa have the highest prevalence level in the world, with 1 in every 10 people living with the disease.Healthcare expenditure has failed to keep up with the rapid increase in diabetes. In 2013, all the countries in the region spent US$13.5 billion on diabetes healthcare, just 2.5% of global spending on the disease. With diabetes killing more than 10% of all adults in the region, and nearly half of these under 60, the cost to society and development due to the disease and other metabolic syndromes is high and rapidly growing. The Middle East needs more effective healthcare systems, higher awareness among people and a change of lifestyle in order to stop the spread of one of the most prevalent diseases they have faced.
In Jordan according to the latest epidemiologic data showed an alarming figure of 30.5% of the population have either impaired fasting glucose (17.3%) or overt diabetes (13.2%)
A structured national prevention program has been put by the government to combat these epidemics of diabetes and obesity among other chronic disease through the National Strategic Committee where all medical sectors and governmental and non governmental bodies contribute to abate these diseases.

**11**
**Quality Education Services in Diabetes Care**

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Nowadays, Diabetes Care is constantly being improved towards better treatment outcome. Given the complexity of the disease and the challenging nature of the treatment, successful outcome can only be obtained when comprehensive care is offered. Self-Management Education and Support addresses all aspects related to / or affected by the disease and aim to empower people with Diabetes, their families and care givers in the daily self-management, care and control of their condition. Ensuring access to quality education services requires actions at the different levels of a healthcare facility. It is built on National Strategy and Standards of Care tailored to meet local needs and include the education structure, process and outcome with the respective indicators.
Educators are qualified and supported by the management, nursing, medical and administration teams. They complete and blend with the other professionals in a multidisciplinary approach. A referral/feedback mechanism between the Diabetes care team is integrated though communication channels. The use of comprehensive and learner-centered education approach gives a holistic overview on patients including the psycho-social aspects. Sharing effective information with the diabetes team help to better adapt the therapy and improve ultimately the treatment outcome.
The integration of quality Self-Management Education and Support empowers people with diabetes to better manage and control their

condition and improve ultimately their quality of life.
Access to quality Education Services relies on collaborative actions between diabetes stakeholders and namely health authorities, related scientific societies, associations, support groups and others.

## 12
## Effect of Diabetes Mellitus as Chronic Illness on Quality of Life

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Diabetes is a life-long disease that influences almost all aspects of life of an individual, especially quality of life (QOL).Assessment and improvement of quality of life is necessary for appropriate holistic diabetes management. Many studies in the literature are conducted to investigate the impact of diabetes as a chronic disease on the different domains of diabetic patients' QOL and the relationship between these patients' glycemia control and its related associates and their QOL. Based on the related literature, diabetes seriously affects quality of life, with the incidence (presence and number) of even mild diabetic complications has been shown to have a significant adverse effect on patients' quality of life and its compromising. Poor glycemia control among these patients appears to have significant harmful effects on their health-related quality of life (HRQOL) with those with uncontrolled diabetes had a lower QOL than controlled one. There are many factors that are related to lower QOL among diabetic patients. Quality of life is found to depreciate with increasing age; years lived with diabetes and lower income class as well as existence of comorbidities. Early diagnosis and treatment is essential to help prevent deteriorating these patients' HRQOL. High QOL represents an ultimate goal and a central outcome of all medical interventions in diabetic patients. These results are considered important at both theoretical and practical level because they add to knowledge to the diabetes-related QOL investigation and literature in addition to has important applications for the diabetes-care system generally and for diabetes self-management education specifically.

## 13
## Innovative Learner-Centered Approaches for People with Diabetes

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Diabetes is a silent, unpredictable, multifactorial, progressive and lifelong disease. Although it may look similar to all but "living with it" remains unique for each person. Adherence to the treatment is very challenging for patients and consequently for the healthcare providers.
The concept of therapeutic education developed in the 1970swas medical-centered and aimed to help – (what used to be called) "diabetic patients" better adhere to the treatment. Replaced later on by a new patient-centered approach, it aimed to help "people affected by diabetes" better live with their condition and improve their quality of life.
Innovative approaches induce interactive sessions with a real-world active dialogue, dynamic exchange and discovery-learning experience between the learners (patient and family/ caregivers) and the educators. They include various education models tailored for individual and group sessions. There is no preferred method reported in the literature, and participants can benefit from combining methods. Programs are structured, comprehensive and respect the patients' pace and different needs. They are based on clinical practice guidelines and on national or international standards. In addition, to their endorsement by health authorities, the access to, and use of innovative education approaches relies on a good leadership within the healthcare facility, on well-trained educators and on an outstanding team approach. Implementing such education approaches helps the diabetes care teams better achieve their objectives by improving the treatment outcome and makes a difference in the life of the persons affected by diabetes.

## 14
## Nursing Management of Insulin Initiation Therapy

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Insulin therapy is a cornerstone of treatment in type 1 diabetes, also critical to the management of type 2 diabetes with documenting evidence in achieving glycemic control and reducing risk of long-term diabetes complications.

Despite the essential role of insulin therapy in management of type 1 diabetes, compromised adherence is also common among younger patients, with many failing to follow their treatment plans, at last one third of patients fail to take their insulin as prescribed, and 20% of patients intentionally skip their doses.

Nurses are required to acquire knowledge and skills in the current best practice in injection technique, they have a duty to teach and check patient's injection technique regularly by asking patients how they inject, performing a visual inspection and physical examination of injection sites as part of routine, ongoing management.

Recently in many countries with patient bulk overload centers, nurses are authorized to adjust doses of insulin even probable in collaboration with attending physicians.

A number of factors contribute to good injection technique, including injection site selection, injection site care, the injection process, needle length, the use of lifted skin folds (if appropriate) and the rotation of injection sites.

In Conclusion patients need to be educated the proper injection techniques when injectable therapies are initiated. It is also imperative that the subject is revisited and reviewed regularly at subsequent visits.

To support patients effectively and safely, to increase patient's quality of life and minimize the risk of diabetes- associated complications; nurses have a responsibility to acquire knowledge and skills in the current best practice in injection technique.

## 15
## Parenting Stress among Jordanian Parents with Type 1 Diabetes Mellitus Children in Jordan

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**Objectives:**The purposes of this study was to identify the parental stress level among Jordanians parents of children with type 1 diabetes mellitus, the difference of parental stress among fathers and mothers, and the factors associated with parental stress.

**Methodology:**A descriptive correlational retrospective design was used in this study. Ninety eight Jordanian parents (53 mothers and 45 fathers) of children with type 1 diabetes mellitus recruited through network sampling completed the Parenting Stress Index-Short Form questionnaire (Abidin, 1995)

**Results and Discussion:** The study results revealed that Jordanian parents of children with type 1 diabetes mellitus reported a significant level of stress, with a mean score of 111.3(±19.7). In addition, the study results indicated mothers have significantly higher overall stress levels with mean 115.9(±21. 1) than fathers, with mean 105.8 (±16.3). Parents perceived their experience related to parenting role of diabetic children and problematic child as demonstrated with high scores on the Difficult Child subscale, (mean 38.2 ±7.74). The results of multiple regression indicated that a predictive model of the two variables of parent age and child age accounted for 35% of the variance in parenting stress. Greater parent stress was associated with increasing parent age in both fathers and mothers ($r = .56$, $P < .000$), also child age predicted a high significant effect in mothers as a negative correlation ($r = -.30$, $P < .005$).

**Conclusion:**Parents of children with type 1 diabetes perceive and experience a lot of stress as a result of having a diabetic child. So, it is the responsibility of nurses to play more visible, instrumental and even leading role in empowering

the parents of diabetic children and enabling them self-manage which implies the necessity to value and provide psychological support for parents at the time of diagnosis to give them the opportunity to express their concerns about their child to help them to find a solution for resolving problems.

**Keywords:**
Parenting Stress, Type 1 Diabetes Mellitus

**16**
**Family Needs of Critically Ill Child**

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**Objectives:** This study describes the family needs of the critically ill child and identifies the relationship between family needs and different demographical and medical variables.

**Methodology:** A descriptive, correlational design was utilized. A convenience sample of 110 family members who had a child admitted to pediatric intensive care was recruited. The Arabic version of Critical Care Family Needs Inventory was used to collect the data.

**Results and Discussion:** The highest family needs were assurance (3.09±.43) and proximity (3.06±.48), while the lowest reported need was support (2.70±.38). Step-wise multiple regression showed that medical state of the child and parents' educational level were predictors of family needs ($R^2$=.30, p<.001). The major concerns of Jordanian families were health status of their critically ill children and their ability to be near their children while they were in the intensive care.

**Conclusion:** The more critically ill the child and the higher the education level of the parents the more these needs increase. The health care team should focus on information provision and improvement of visiting policies of intensive care units in order to facilitate meeting the assurance and proximity needs of parents with sick children.

**Keywords:** Critically Ill Child, Family Needs, Critical Care Family Needs Inventory, Nurses

**17**
**The Risk of Ischemic Stroke in Atrial Fibrillation Patients**

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**Objectives:** To Identify Atrial Fibrillation (AF) patients who are at risk for developing ischemic stroke at Queen Alia Heart Center.

**Methodology:** A cross sectional descriptive design was used. A convenience sample was of 100 adult patients recruited from the hospitalized patients with AF at Queen Alia Heart Institute. The patients were assessed by using the CHA2DS2VASc scoring system, which was developed in 2010 by Lip and his colleagues. The CHA2DS2VASc scoring system helps in identifying and classifying AF patients who are at risk for developing ischemic strokes by giving scores to the sociodemographic characteristics of the AF patients and their chronic and vascular diseases.

**Results and Discussion:** The mean age was 66.2 year (SD=19.1). Hypertension was found in the most of the study participants while DM was found in three fourth of the participants and previous vascular disease in about half of them. After applying the CHA2DS2VASc scoring system on the participants, about two third (66%) of the participants their score was 2 or more, which means that they had high risk for developing ischemic stroke and had five-folds risk in comparison to healthy adults. Twenty-seven percent of the participants have intermediate risk; while 7% have low risk for developing ischemic stroke following the presence of AF.

**Conclusion:** Patient age of more than 65 year and female gender, in addition to presence of previous chronic diseases or vascular must be taken into consideration when identifying patients who are at risk for developing ischemic stroke after following AF. The large percentage of AF patients who are at risk for ischemic stroke indicate that there is a need to give more attention for the early detection and management of risky AF patients to prevent developing ischemic stroke.

**Keywords:** Atrial Fibrillation, Ischemic Stroke, the CHA2DS2VASc Scoring System

**18**

## Clinical Governance: Improving the Safety and Quality of Patient Care by Recognizing and Improving the Systems in which we Work

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The way to address clinical quality has become an important movement all over the world. The core responsibilities of health-service providers for quality improvement are different. In each case, they will ideally be committed to the broad aims of quality policy for the whole system, but their main concern will be to ensure that the services they provide are of the highest possible standard and meet the needs of individual service users, their families, and communities (Scaly G, 1998).

Traditionally, medical training has concentrated on the acquisition of knowledge and skills related to diagnostic intervention and therapeutic procedures. The need to focus on non-technical aspects of clinical practice, including communication and team working, is now evident; ensuring tomorrow's staff are competent to function effectively in any healthcare facility, and to address this area in the health care professionals who are currently in the practice, and are assigned to leadership positions and policy making, it is required to design a training program that addresses clinical governance components taking into consideration context of the region and the current movement in most of the countries toward institutionalization of quality management and patient safety programs in the healthcare organizations.

The presentation will addresses one of the most important issues facing healthcare professionals, managers and policymakers today, how can we ensure that we provide the safest and highest quality health care services within the constraints of the current system, through this presentation , the participants will be able to develop understanding of clinical governance and the various components of clinical governance.

It will begin by examining the definitions of governance and clinical governance, it will then analyze the causes and consequences of breakdowns in quality and safety and why these breakdowns are proving so difficult to remedy, despite the concerted efforts of healthcare professionals, managers, policymakers and patients, and how the clinical governance as a framework will help in addressing the challenges at the different levels of health care system, and it will focus on the importance of clinician engagement in quality improvement.

**19**

## The Effectiveness of an Educational Program on Anxiety Reduction in Patients Undergoing Elective Cardiac Catheterization

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**Objectives:** The aim of this study was to evaluate the effectiveness of an educational program on anxiety level reduction among patients undergoing elective cardiac catheterization.

**Methodology:** A quasi-experimental non-equivalent controlled group study conducted at Queen Alia Heart Institute between June and September 2014. This study involved two groups, the intervention group (N=51) received the educational intervention, and the Comparison group (N = 48) received the routine care. State anxiety Inventory (SAI) used to assess anxiety level at baseline 24 hours pre cardiac catheterization, 2 hours immediately pre cardiac catheterization, and finally 4-6 hours post cardiac catheterization.

**Results and Discussion:** An independent sample t-test was performed to assess if there were a significant difference between the study groups in anxiety level at different study phases. The results revealed, no significant difference of baseline (24 hours) anxiety level pre cardiac catheterization between the comparison and interventional groups ($t = 1.184$; $df = 97$, $p = 0.239$). However, there was a significant difference in anxiety level between the interventional and comparison groups at 2 hours pre cardiac catheterization ($t = 14.420$; $df = 97$, $p < 0.001$). The anxiety level post cardiac catheterization, was significantly different between comparison and interventional groups ($t = 13.84$, $df = 71.3$,

p<0.001), the interventional group experienced lower anxiety level than the comparison group pre and post cardiac catheterization.

**Results:** Introducing the education program 24 hours before undergoing cardiac catheterization procedure, may significantly decrease anxiety level pre and post cardiac catheterization.

**Keywords:** Anxiety, Cardiac Catheterization, an Educational Program

**20**
**Rehabilitation Post Sepsis**

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**Objectives:** 1. Evaulation of the impact on physical, psychological and social functioning following sepsis, both patient and family involvement, outlines length of time for recovery. 2. Highlighting the importance of person centred care; increase the knowledge of ICU acquired weakness, myopathies and neuropathies. 3. Rehabilitation goals set early -regularly updated. Understand barriers which may exist from both patients and relatives perspective resulting in challenges for the multidisciplinary team.

**Methodology:** Commenced in Critical Care and on discharge from Critical Care as early as clinically possible, clinical assessment to determine risk of developing physical and non physical morbidity - individualized structured programmed developed. During Ward Based Care and prior to home discharge individualized structured rehabilitation programme developed and delivered by members of the Multidisciplinary Team. Rehabilitation needs continuously reviewed post discharge from Critical Care - and in the follow up clinic post discharge.

**Results and Discussion:** 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 readmissions to Critical Care.

**Conclusion:** Rehabilitation should start on admission to Critical Care and continue post discharge from hospital - "Nice Guidelines" and NCEPOD reports. 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 sepsis and septic shock remains a challenge.

**Keywords:** Sepsis, Septic Shock, Post Traumatic Stress, Rehabilitation, Follow up Clinic

**21**
**Patient Satisfaction Evaluation on Hospitals: Comparison Study between Accredited and Non Accredited Hospitals in Jordan**

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**Objectives:** The study aims are to: compare accredited and non-accredited hospitals in relation to patient's satisfaction in Jordan and to identify any significant differences between the accredited and non-accredited hospitals in relation to patient's satisfaction.

**Methodology:** Descriptive cross-sectional study was conducted based on hypotheses testing which explains the relationships between variables. The study population consisted of inpatients in public and private hospitals that provide health services in Jordan. A stratified random sample from the selected accredited and non-accredited hospitals in Jordan was selected during the second quarter of 2015. Inpatients were selected randomly from 74 hospitals in the three provinces in Jordan. Out of 1000 distributed questionnaires 788 completed questionnaires were collected, resulting in 78.8% return rate. The researchers employed SERVQUAL questionnaire developed by Parasuraman et al. (1988) to measure patient's perception of services provided by the chosen hospitals. SERVQUAL constructed of 22 items representing five dimensions. A five point likert-type scale, ranking from (1) for 'Strongly Disagree' to (5) for 'Strongly Agree' was used to measure the service

quality scales. The following statistical tests were used: Frequencies and percentages, means and standard deviations, T test for independent sample and One-way ANOVA

**Results and Discussion:** The demographic profile indicates that majority of inpatients were female with 59.1% of total sample. In addition, approximately half of respondents have bachelor degree representing 42.2% of the total sample. Finally, the sample covered different age group, 30-35 years age group represents the highest present totaling 36.8%. T test indicates that means for credited hospitals are higher than non credited hospitals for each dimension which reflect high level of satisfaction. Also (t) calculated values are significant at (0.01) level for each dimension. Findings revealed that accredited hospitals have the preference based on patient's perception. The order according to the grand mean of each dimension was as follows: tangible dimension, empathy dimension, responsiveness dimension, assurance dimension and finally reliability dimension. The biggest problem in non-accredited hospital according to its patients perception in tangible dimension is physical facility as water cycle, waiting rooms , drinking water, these issues concern with infrastructure defects and poor hospitals design ,which may be due to financial inadequacy. Additionally, the cleanliness of hospital was a concern to their patients which implies managerial issues

**Conclusion:** The complex nature of health service affects the patient evaluation of quality service. Therefore, it's important to enhance patient education about the tangible and intangible elements in hospital which contribute in improving service quality and it's important to deliver effective training and motivation for all staff to improve their skill in communication, work efficiently and better recognizing of patients need (Amin & Nasharuddin, 2013).
In conclusion, accreditation programs have shown a positive impact in improving patient's satisfaction. Thus, accreditation programs should be supported starting from managerial level, since accreditation build on clusters requirement which can't be achieved without management support. Therefore, healthcare professionals should be informed of the long-term beneficiary of accreditation programs

**Keywords:** Accreditation, Service Quality, Patient Satisfaction, SERVQUAL

**22**

## The Impact of Training Program on Nurses' Attitudes toward Workplace Violence in a Military Hospital

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**Objectives:** To assess the impact of training program on nurses' attitudes toward workplace violence in a military hospital

**Methodology:** Non-experimental one group pre-test post-test design was used. One hundred nurses working in King Hussein Medical Center were recruited in stratified random sampling to participate in this study. Self-reported questionnaire "Attitudes Toward Patient Physical Assault" (Poster & Rayan, 1994) was introduced before the training program and five weeks after. One day training program was adopted from world Health Organization WHO (2004) "preventing violence: a guide to implementing and recommendations of the world report on violence and health". Descriptive statistics was used for data analysis and paired t-test was used to assess the impact of training program analysis.

**Results and Discussion:** A total of 97 nurses completed the study. Results revealed significant impact of training program on nurses' attitudes towards workplace violence ($t=6.62$, $df=96$, $p< .001$). Sixty four % of nurses were exposed to verbal abuse and 7.2% to physical abuse by patients, 63.9% of nurses exposed to verbal abuse and 3.1% to physical abuse by patient's relatives. Most of violent incidents occurred during day duty and during providing nursing care (40.2% and 32%, respectively). Major source of emotional support was nursing team (88.7%) and nursing management (48.5%) for legal support.

**Conclusion:** This study showed that workplace violence is a prevalent phenomenon. Patients and their relatives are the most common cause of violent incidents. The training program has a significant impact in improving nurses' attitudes toward workplace violence.

**Keywords:**
Workplace Violence, Nurses, Military Hospitals, Attitudes, Training Program

**23**

## The Relationship between Control over Nursing Practice (CONP) and Both of Pediatric Nurses' Satisfaction, and Quality of Child Care as Perceived by Pediatric Nurses at Queen Rania Al-Abdullah Hospital for Pediatrics

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**Objectives:** To measure the level of CONP and its relationship with both pediatric nurses' job satisfaction and quality of child care from the pediatrics nurses' points of view.

**Methodology:** A descriptive cross-sectional correlational design was adopted in this study. A convenience sample of 178 pediatrics nurses was selected from Queen Rania Al-Abdullah Hospital for Pediatrics. A self- administered questionnaire consisting of three survey instruments related to demographics of the participants, CONP level, job satisfaction level, and child quality care was used to collect data.

**Results and discussion:** Pediatric nurses have a moderate level of CONP with a mean of 2.42 (SD = 0.609). Nurses' control over practices is positively correlated with their job satisfaction ($r = 0.300$, $p < 0.001$) and with their perception toward quality of child care ($r = 0.189$, $p < 0.05$).

**Conclusion:** The study provides information regarding CONP and its relation with pediatric nurses' job satisfaction and quality of child care to help nursing administrators and policy makers in creating comprehensive strategies to promote the level of job satisfaction and nurses' retention and improving quality of nursing care.

**Keywords:** Control over Nursing Practice, Pediatric Nurses Job Satisfaction, Quality Child Care.

**24**

## Nurses' and Other Hospital Workers' Uniforms as a Source of Infection in Intensive Care Units

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**Objectives**: To identify the types of microorganisms present on nurses', healthcare workers', and other hospital workers' uniforms in the intensive care units.

**Methodology:** Using a cross-sectional correlational design, a convenience sample of intensive care unit nurses, physicians, respiratory therapists and housekeepers (n=115) were recruited from military hospitals in Amman and surveyed through self-administered questionnaires that include practice of handling uniforms and a demographic data. Environmental cultures were taken from all participant uniforms (n=305). A microorganism classified according to it is pathogenicity.

**Results and Discussion:** The results revealed that the abdominal and pocket area of nurses' and other workers' uniforms were highly contaminated by hospital potentially pathogenic microorganisms. Other workers have higher levels of contamination by hospital potentially pathogenic microorganisms on the sleeve area of the dominant hand. No significant differences existed between nurses' and HCWs' uniforms as a source of microorganisms (Chi-square=0.354, p=0.552).

**Conclusion:** Directed administrative efforts toward assessing the role of nurses' and healthcare workers' uniforms in hospital-acquired infection and the presence of an adequate number of uniforms with guidelines for laundry and wearing are required.

**Keywords:** Hospital Acquired Infection, Jordan, Uniform, Nurses

## 25
## Stress Level and Coping Strategies among Mothers and Fathers of Children Diagnosed with Leukemia

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**Objectives:** The aim of this study was to identify the stress levels and coping strategies among Jordanian parents caring for children with leukemia.

**Methodology:** A descriptive correlation cross-sectional design was used. A convenience sample consisted of 130 mothers and fathers of children with leukemia. Data about participants' demographic characteristics, parenting stress and coping were collected through using self-administered questionnaires. Parents completed the Parenting Stress Index–Short Form (PSI-SF), (Abidin, 1995) and Coping Health Inventory for Parents (CHIP) (McCubbin et al., 1983).

**Results and Discussion:** The results showed that there was a significant negative correlation between parenting stress and coping strategies ($r = -0.39$, $p < 0.001$). This result indicated that parental stress level decreased when coping strategies increased. Over all, older parents and those with higher educational level with good family income had less stress level and employed more effective coping strategies.

**Conclusion:** The finding of this study indicated that mothers and fathers of children with leukemia experience a serious crisis leading to stress. Main coping strategies used by parent's emancipation of Allah and their faith for Allah to care and cure their child, and the support they received from other family members and friends. Implementing further supportive strategies by nursing staff by offering information and counseling could be beneficial in further alleviating parental stress.

**Keywords:** Stress, Coping Strategies, Leukemia

## 26
## Nurses Attitudes and Perception toward Drug Abuse Clients

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**Objectives:** to study the nurse's attitudes towards drug abuse clients.

**Methodology:** A descriptive cross sectional design was used. A convenience sample of 84 nurses working at Royal Medical Services was recruited. The researcher used the Drug and Drug Problems Perceptions Questionnaire (DDPPQ) (Watson, et al., 2006). The DDPPQ is a 20-items instrument using a seven-point Likert type scale ranging from strongly agree to strongly disagree. Low scores denote positive attitudes, whereas high scores are associated with negative views. The DDPPQ has five subscales: role adequacy, role-related self-esteem, role support, role legitimacy, and Job satisfaction.

**Results and Discussion:** Eighty four nurses with mean age 28.5 years (SD=8.6) participated in the study. Fifty were female nurses and 34 were male nurses. Most respondents had a baccalaureate in nursing (73 nurses) while 11 nurses have diploma degree. The mean duration of nursing experience was 7.2 years. Regarding nurses attitude and perceptions, nurses had a neutral attitudes toward drug abuse clients with mean of DDPPQ scale = 75.4 (SD=12.1) with a possible score between 20 and 140. Furthermore, the mean score for role adequacy subscale was relatively high (mean=3.9), which a negatively affect on the overall DDPPQ score. In addition, there was no significant correlation between demographical variables and DDPPQ score (p value >.05).

**Conclusion:** The study concluded that nurse had neither a positive nor a negative attitude toward drug abuse clients, and addressing knowledge gap regarding drug abuse. These results suggest a potential need for organizational interventions such as training courses to enhance nursing knowledge and attitudes toward drug abuse

clients in order to fulfill their professional role and facilitate an appropriate nurse-patient relationship.

**Keywords:** Nurses, Attitudes, Drug Abuse, Perceptions

**27**

**Recent and Current Advanced Techniques in Mitral Valve Repair; Should we Repair Asymptomatic Mitral Valve Regurgitation? When to Repair Functional Tricuspid Valve Regurgitation?**

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Cardiac surgeons are increasingly coming across Mitral Valve Regurgitation, either ischemic with coronary artery revascularization or degenerative; mandating extensive, thorough knowledge & experience of cardiac surgeons with the appropriate and current techniques of Mitral valve repair and the reasonable avoidance of replacing the valve; which carries a higher mortality and a poorer outcome. In my presentation I will take you through the evidences of the superiority of repairing the Mitral valve in terms of decreasing mortality & better outcome, and I will describe the recent and current techniques in repairing the Mitral valve. Also I will discuss if we are justified to repair a Mitral Valve Regurgitation in asymptomatic patients or not, and the evidence behind it.Finally, Iwill discuss the issue of "when to repair the forgotten Valve Regurgitation (Functional Tricuspid Valve Repair)"

**28**

**Trans-Catheter Valve Replacement and the Cardiac Surgeon**

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Since the landmark case of trans-catheter aortic valve replacement (TAVR) by Professor Alain Cribier in 2002, the role of this novel therapy has evolved and its indications are ever expanding. The procedure was initially introduced for patients who were deemed unsuitable for conventional valve replacement. Recently its indications have been extended to the intermediate risk patients. We have embarked on a trans-catheter valve programme at the Manchester Heart Centre since 2008. It was the first intervention introduced with multi disciplinary team at its inception. We developed joint cardiac surgeon and cardiologist leadership to steer the programme. The cardiac surgeon has been an integral part of this multi disciplinary team. This joint venture resulted in expansion of the indications for trans-catheter valve implantation. We used the hybrid procedures for trans-catheter aortic valve replacement. We implanted world first trans-catheter mitral valve in the native position. We also deployed trans-catheter valve implantation in the adult congenital population including unconventional minimal access approach. Our experience highlights the importance of cardiac surgeon participation in any programme of trans-catheter valve implantation. The cardiac surgeon's contribution is not only to deal with complications of the procedures, but to be an active member of the team. The cardiac surgeon will be a joint operator, carefully devise patient tailored interventions including hybrid and unconventional procedures.

**29**

**Alternative Approaches for Transcatheter Self-Expanding Aortic Bioprosthetic Valves Implantation: Single Centre Experience**

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**Objective:** Transcatheter aortic valves implantation (TAVI) is a valid treatment for elderly patients with symptomatic severe aortic stenosis considered high-risk surgical candidates. The safety and effectiveness of TAVI have been demonstrated in numerous observational clinical studies, national registries and also form controlled randomized trials.
The least invasive approach for TAVI should be considered the trans-femoral retrograde route, because it is minimally invasive, feasible with local anesthesia and mild sedation. Although significant

technical improvements in last years, the trans-femoral approach is contraindicated in case of severe peripheral artery disease.

**Methods:** We describe our single center experience in the use of alternative arterial access for self-expandable Core Valve TAVI. Seventy-two patients were excluded from trans-femoral approach because of iliac-femoral arteriopathy, small size, excessive tortuosity, calcification or abdominal aorta aneurysm and underwent CoreValve implantation through the left axillary artery in 13 cases or directly to the ascending aorta through a right mini-thoracotomy in 59 cases

**Results:** Mean patients age was 81 years, mean STS mortality score was 13%.
Nineteen patients had previously undergone cardiac surgery, 15 underwent coronary artery bypass grafting surgery and had a patent left internal mammary to left anterior descending artery graft. Procedural success was obtained in 71 cases (98.6%); hospital mortality was 6.9% (5 patients) all other patients were discharged in asymptomatic status, with mid-term good prosthesis performance. Ten patients (13.8%) required the implantation of a permanent pacemaker. One patient needed a subclavian covered stent implantation to treat a post implant artery dissection. One patient of the direct aortic access group was converted to femoral approach due to an extremely fragile aortic wall, but died in the intensive care unit for abdominal aortic aneurysm rupture. All discharged patients improved their NYHA functional class and functional capacity. All patients underwent regular echocardiographic follow-up controls that evidenced normal prosthesis performance with an average mean trans-valvular aortic pressure gradient of 9±4 mmHg at 2 years, with only trivial para-valvular leak.

**Conclusions:** Transcatheter aortic valve implantation with surgical subclavian or direct aortic approach seems safe and feasible offering an attractive option to treat selected high-risk patients with severe aortic stenosis and peripheral vasculopathy, and emerged as a valuable alternative route to trans-apical procedures.

## 30
## Multiple Arterial Grafts in Coronary Artery Bypass Surgery

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A fundamental principle in coronary artery bypass surgery is the importance of utilizing the left internal mammary artery to the left anterior descending coronary artery. Early and late survivals as well as freedom from future cardiac events are all improved with the usage of arterial conduits.The addition of a second arterial graft or the adoption of total arterial strategy had been reported to have a positive impact on patency rates compared to venous conduits which is a fact that can be translated into survival in the field of coronary artery surgery
Drawback of utilizing bilateral mammary arteries is mainly due to the risk of sternal wound infections in diabetic patients in particular; however an alternative harvesting maneuver which many centers are using nowadays may decrease such a risk
In the view of the advantages obtained in using arterial conduits and the younger age groups operated upon by cardiac surgeons nowadays, literature is in favor of utilizing arterial revascularization on a wider range.

## 31
## Dual Anti-Platelet Therapy (DAPT) in Interventional Cardiology Positioning Statement 2016

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History of DAPT; 2003- 2006. Short DAPT (3-6m), 2006-2012. Longer DAPT (≥ 12 months) 2014-2015.Short DAPT or long DAPT?? Guidelines simplified duration with SIHD (average 6month = class I), High risk bleeding 3month, low risk of bleeding ≥6 months) and in ACS (average 12month class I), high risk bleeding = 6month and low risk bleeding (> 12 months) but no one size fits all. Longer duration of DAPT decreased risk of MI and stent thrombosis, increases bleeding risk and does not affect CV mortality. DAPT score is important in defining who is in need of longer duration if more than 2, it is class IIb with benefit ≥ risk.

## 32
## Corevalve Single Center Seven Year Experience

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**Objective:** Transcatheter aortic valves implantation (TAVI) is a valid treatment for elderly patients with symptomatic severe aortic stenosis considered high-risk surgical candidates. The safety and effectiveness of TAVI have been demonstrated in numerous observational clinical studies, national registries and also form controlled randomized trials.

**Methods:** We describe our single center experience in the use of third generation CoreValve transcatheter aortic valve implantation to tread high risk surgical candidates affected by severe aortic stenosis. Between May 2008 and February 2015 two-hundred fifty patients underwent CoreValve implantation at our Center. All outcomes were reported according to VARC 2 (Valve Academic Research Consortium) criteria.

**Results:** Mean patients age was 80.3±9 years, 116 patients were male (46.4%) mean STS mortality score was 9.4±6.8%. Fifty-seven patients had previously undergone cardiac surgery, 13 had previously underwent aortic valve replacement. Severe renal failure was present in 140 patients (56%), 117 (46.8%) patients were affected also by coronary artery disease. The majority of patients were treated from femoral access 180 (72%), while seventy patients were excluded from trans-femoral approach because of iliac-femoral arteriopathy, small size, excessive tortuosity, calcification or abdominal aorta aneurysm and underwent CoreValve implantation through the left axillary artery in 11 cases or directly to the ascending aorta through a right mini-thoracotomy in 59 cases. Twenty-three patients (9.2%) experienced major vascular complication. Procedural success was obtained in 240 cases (96%); hospital mortality was 4% (10 patients) all other patients were discharged in asymptomatic status, with mid-term good prosthesis performance. Forty-nine (19.6%) required the implantation of a permanent pacemaker. Three patients experienced post-operative stroke (1.2%). Mean post-operative hospital stay was 10 days. All discharged patients improved their NYHA functional class and functional capacity. All patients underwent regular echocardiographic follow-up controls that evidenced normal prosthesis performance with an average mean trans-valvular aortic pressure gradient of 10±4 mmHg at 2 years.

**Conclusions:** Transcatheter aortic valve implantation with surgical subclavian or direct aortic approach seems safe and feasible offering an attractive option to treat selected high-risk patients with severe aortic stenosis and peripheral vasculopathy, and emerged as a valuable alternative route to trans-apical procedures.

## 33
## Computerized Tomography (CT) and the Cardiac Surgeon

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Sir Godfrey Hounsfield built the first CT prototype. This culminated in the introduction of this imaging modality in medicine in 1971, when it was used for scanning a brain cyst. He subsequently developed the whole body scanner in 1975. Currently, CT scanning of the chest accounts for over a third of scans carried out. CT angiograms and cardiac CT are evolving as an integral part of the imaging modalities to help the cardiac surgeon in the diagnosis and treatment of cardiac pathologies. I will be exploring the ever expanding indications for these modalities in the current practice of cardiac surgery.

## 34
## Controversies in ST Elevation Myocardial Infarction (STEMI) 2016

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During primary PCI, there are three controversies. First to do culprit versus complete revascularization. Second to aspirate in all or selective and third

to do the technique via radial versus femoral approach. The focus update regarding PCI of non-infarct artery in stable patient with STEMI was appropriately changed from class III to II b (LOEB) recommendation with the caveat that physician individualized the decision for non-infarct artery revascularization based on each patient's risk-benefit profile. This change occurred after 3 important trials PRAMI, CvLRiT & DANAMI-PRIMUTI and we are waiting for the COMPLETE trial. Regarding aspiration thrombectomy in all or not TAPAS trial (N = 1071) showed large benefit versus TASTE (N = 7244) which showed no benefit of thrombus aspiration. TOTAL trial (N=10000) revealed that routine thrombectomy is not beneficial except as bailout with increased risk of stroke within 30 days. So, the recommendation was appropriately changed from class II A to class III (LOEA) and bailout as (IIB, LOEC). Finally, Radial access in experienced centers, a radial approach is class IA according to MATREX meta-analysis.

## 35
## Cardiac Myxomas: Clinical Characteristics and Outcome Following Surgical Treatment

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**Objective:** Determine the most clinical presentation and some of the epidemiological factors in patients diagnosed with cardiac myxoma and to determine the outcome and complications following surgical treatment.

**Methods:** A retrospective study included data collected from the medical records of 26 patients who were diagnosed with cardiac myxoma and underwent surgical treatment during the period between 1984-2015.

**Results:** Twenty-six patients were included in the study with a mean age of 42 years (range 15-70). There were 13 males and 13 females. The most common clinical presentation was dyspnea (57%) followed by embolization localized in various body parts (38%). Overall, non-specific signs such as weight loss, fever, fatigue, arthralgia, anemia, and increased rheumatoid factor were present in 42% of the patients. The tumor was located in the left atrium in 20 patients (76.9%), in the right atrium in 4 patients (15.3%) while it was diagnosed in the right ventricular side of the septum in 1 patient (3.9%) and involving the tricuspid valve in 1 patient (3.9%). The most common secondary cardiac pathology associated the tumor were coronary artery diseases in 3 patients that required cardiac by-pass, atrial septal defect in 1 patient, and tricuspid valve involvement in 1 patient that required repair. Echocardiography was sufficient to reach a definitive diagnosis in all cases while trans-esophageal echocardiography was used prior to surgery to help determine the exact location of the tumor, structures involved and the size of the tumor. To remove the tumors, a left atrial approach was used in 20 patients while right atrial approach was used in 4 patients while in 2 patients a bi-atrial surgical approach was used. The most common intra-operative challenges were the resultant inter-atrial communication due to the removal of wide-base tumor that involves large parts of the septum which was repaired successfully using autogenous pericardial patch. The second challenge was the removal of parts of the tricuspid valve leaflets which was replaced using a prosthetic device (1 patient), and finally the involvement of the interventricular septum which occurred in 1 patient. In 3 patients a coronary artery by-pass grafts were necessary. All patients in this study recovered uneventfully from surgery. No complications were reported after a 6-months follow-up period. In 1 patient however, recurrence of the tumor was diagnosed and re-operated successfully. In another patient, several interventricular septal small nodules were noted on follow-up echocardiography after 2 years of the initial surgery.

**Conclusions:** Cardiac myxoma is a common primary cardiac benign tumor. It can be presented with a variable range of clinical presentations. The success rate after surgical removal is excellent and complications are rare. However, intra-operative challenges to the surgeon.

## 36
## Percutaneous Coronary Intervention in Coronary Chronic Total Occlusions

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Coronary Chronic Total Occlusions (CTOs) are commonly encountered complex lesions

identified in 15% of all patients referred for coronary angiography. Chronic total occlusions have been referred to as the final frontier in interventional cardiology. This sentiment relates to the difficulty and complexity of recanalizing them with percutaneous techniques. The difficulty in treating CTOs percutaneously is reflected in the observation that success rates are lower for CTO percutaneous coronary intervention (PCI) than for subtotal stenoses (70% vs. 98%). Thus, this common and complex coronary occlusion remains the strongest independent predictor of referral for coronary artery bypass graft surgery. The benefits of CTO percutaneous coronary intervention (PCI) include symptom relief, improved left ventricular function, and potentially a survival advantage associated with success when compared with failed CTO-PCI. Remaining barriers to attempting CTO-PCI include the perception of increased risk of CTO-PCI, and financial disincentives to operators and hospitals. Recent advances in CTO-PCI techniques that have broadened PCI indications and improved success rates can be categorized into antegrade and retrograde techniques. Queen Alia Heart Institute (QAHI) has been the leader across all Jordanian hospitals in performing the first Retrograde X-CART and retrograde wiring techniques as well as STAR and other complex antegrade CTO techniques. Ancillary devices such as rotablation, IVUS and FFR are all made available. Moreover, CTO-PCI attempt rates at QAHI have been changing over the past 5 years with the adoption of the significant advances in techniques and technology, some of which we review here.

## 37
## How to track CPAP Adherence and Improve Compliance (Recent Updates)

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Obstructive Sleep Apnea (OSA) is a common medical problem with serious medical consequences if left untreated. Continuous positive airway pressure (CPAP) therapy is the treatment of choice for OSA. However, compliance with CPAP therapy remains a major challenge for patients and practitioners. Therefore, close monitoring and follow up, support, education and behavioral therapy are needed to improve CPAP adherence among patients. CPAP compliance has been reported to range from 20 to 84% depending on the design of the study, the definition of compliance and the population examined. In this lecture, we will discuss CPAP compliance, factors that influence compliance, how to monitor CPAP compliance, interventions to improve CPAP compliance, and will focus on tracking systems utilization. Moreover, we present new data about:

1. The effect of support, education and behavioral therapy CPAP adherence among local patients.
2. CPAP compliance in patients with REM-related OSA.

## 38
## Noninvasive Ventilation in Acute Respiratory Failure

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Noninvasive ventilation (NIV) is delivering ventilatory support through a mask device. Ventilation can be achieved using a standard mechanical ventilator or a noninvasive device. NIV is widely used in intensive care units, emergency rooms and step down wards around the world. NIV has well established efficacy in acute exacerbation of COPD and cardiogenic pulmonary edema with marked reduction in mortality and the need for invasive mechanical ventilation. NIV is increasingly used in patients with acute hypoxic respiratory failure. Patients with H1N1 pneumonia, ARDS, and severe pulmonary infections were treated successfully with NIV. Also this modality is successfully utilized in post extubation setting, post-operative respiratory failure, and in palliative care. Patient selection is invaluable in predicting the success use. Contraindications for this approach include uncooperative patients, hemodynamic instability, large amount of secretions including vomiting, and post cardiopulmonary arrest. Patients should be assessed for signs of improvements shortly after the initiation of NIV. Training health care providers including nurses and respiratory therapist is essential for ensuring success.

**39**

## Gender Differences in Patients with Obesity Hypoventilation Syndrome (OHS): Is OHS a disease of Women?

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Studies have shown that menopause is a major risk factor for OSA in women. In contrast, the impact of gender and menopause on the clinical characteristics and polysomnographic findings of patients with OHS have not been investigated. In this lecture, we will present our findings from data collected prospectively to evaluate gender differences and the relationship between menopause and OHS in a large cohort of consecutive patients who were referred to a sleep clinic. The novel findings include: 1) a much higher prevalence of OHS and excess comorbidities in women compared to men; 2) a much higher prevalence of OHS in postmenopausal women than premenopausal women, and 3) a much higher prevalence of OHS and excess comorbidities in postmenopausal women compared with men matched for age and body mass index. With the increased awareness of the association between menopausal status and OHS, early diagnosis and appropriate treatment should be possible.

**40**

## Superior Vena Cava Obstruction: Clinical Features and Etiology at King Hussein Medical Center

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**Objective:** The aim of this study was to investigate the clinical features and to identify the underlying etiology of superior vena cava obstruction (SVCO) among patients with suspected lung malignancy.

**Methods:** This a retrospective analysis of 28 patients diagnosed with SVCO who presented to the division of pulmonary at King Hussein medical center of Amman, Jordan between July 2009 and August 2013. Medical records of these patients were retrieved and analyzed for patients' demographics, the various disease manifestation, clinical findings and diagnosis.

**Results:** A total of 28 patients were enrolled in the study, there were 18(64%) males and 10(36%) females patients. The mean age was 65 years (range, 24 to75 years). SVCO was diagnosed by the characteristic symptoms and signs and radiological findings.
The most frequent signs and symptoms at presentation were distension of neck veins in 26 patients (93%), face or neck swelling in 24 (86% ), dilated chest veins collaterals in 13 (46%), upper limbs swelling in 11 (39%), cough in 27 (96%), dyspnea in 23 (82%), headache in 16(57%), and chest pain in 15 (53%). Dyspnea at rest, cough, and chest pain were more common in patients with malignancy. The mean duration of presenting symptoms was 28 days (range, 10 to 96 days). Majority of the patients (85.7%) had malignancy as the underlying cause of the SVCO and 67.8% of the malignancy was bronchogenic carcinoma

**Conclusion:** Early recognition of the clinical symptoms and signs of SVCO may help early diagnosis of underlying lung malignancy such as bronchogenic carcinoma being the most common cause of SVCO, and may improve the survival among these patients.

**41**

## Lung Transplantation: What Do We Need to Start?

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Organs transplantation ideas predate the modern medicine since long time. The legend of "Miracle of the Black Leg" describes two surgeon brothers, who lived during the 3rd century in Arabia and their miraculous removal of the diseased leg of a White man and its replacement with the leg of a recently deceased black African. In 1947 Vladimir Petrovich, a Russian scientist performed the first lung transplants in animals since then new era of organ transplantation started. Nowadays lung transplantation is considered an effective treatment for end stag lung diseases. Many centers around the world showed its successful result depending on a good standardization of their transplantation programs. Beginning of this sophisticated specialized program depends on gathering of institutional resources, analysis of regional availability of recipient and donors by

creation of Network of Organ Sharing system, strategic planning for recruitment of specialized personnel and advanced medical tools. Herein we discuss the prerequisite and quality measures to create a road map for launching national lung transplantation program in our region.

**Keywords:** Lung Transplantation

**42**
**Hypersomnia: Pharmacological Therapeutic Options**

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Hypersomnia is a relatively common medical problem that can affect productivity and health of patients. Several disorders may cause hypersomnia including respiratory and neurological disorders. In this lecture, we will assess the effects of different therapeutic modalities on two main disorders: Narcolepsy and Idiopathic Hypersomnia. We will cover the current pharmacological treatment of hypersomnia with a special focus on sodium oxybate (SXB) and future management of hypersomnia and narcolepsy.

**43**
**Clinicopathological Characteristics of Primary Lung Cancer Patients at King Hussein Medical Center**

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**Objectives:** The aim of our study to clarify the demographic features of patients diagnosed with lung cancer at our hospital and the stage of disease at presentation, whether it differ with various histopathology subtypes.

**Methodology:** A retrospective descriptive study conducted in oncology clinic at King Hussein Medical City in Amman –Jordan from January 2014 till August 2015, all patients diagnosed with lung cancer in this period included in our study. Clinical data collected from these patients include demographic data (age, sex, and smoking status), symptoms of presentation, histopathology subtype of tumor, clinical stage of disease at presentation, anatomical location, and site of metastasis at presentation.

**Results and Discussion:** A total of 112 patients included in our study; 96 patients male (85.7%) and 16 female patients (14.3%), whom age range from 22 years to 85 years with mean age of 62.2 years. Most patients were symptomatic at presentation. It was found that Small cell lung cancer (SCLC) in 23.2% (26 patients), Non- small cell lung cancer (NSCLC) in 76.8% (86 patients): (squamous cell carcinomas 59.3%, adenocarcinoma 25.2 %, Non-small cell carcinoma NOS 11.6 %, others 3.4%).88% of our patients were smokers. Seventy percent of patients presented with metastatic disease. Most common sites of metastasis were lung followed by liver and bone.

**Conclusion:** Squamous cell carcinoma was still the predominant type in our patients which is strongly associated with smoking. Most of our patients were symptomatic at the time of diagnosis. Significant number of patients was presented with distant metastasis.

**Keywords:** Lung Cancer, Metastasis, Stage, Clinicopathological Characteristics, Smoking.

**44**
**Immune Therapy the New Era of Cancer Treatment in Non-Small Cell Lung Carcinoma (NSCLC)**

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Lung cancer, which forms in the tissues of the lungs, usually within cells lining the air passages, is the leading cause of cancer death worldwide. Each year, more people die of lung cancer than die of colon, breast, and prostate cancers combined. The two main types of lung cancer are non-small-cell and small-cell. NSCLC is the most common type of lung cancer, accounting for about 85 percent of all cases. The five-year relative survival rate for patients suffering from highly advanced, metastatic (Stage IV) lung cancers is estimated to be four percent. Pembrolizumab is a humanized

monoclonal antibody that works by increasing the ability of the body's immune system to help detect and fight tumor cells. Pembrolizumab blocks the interaction between PD-1 and its ligands, PD-L1 and PD-L2, thereby activating T lymphocytes which may affect both tumor cells and healthy cells. Pembrolizumab is indicated in the United States at a dose of 2 mg/kg administered as an intravenous infusion over 30 minutes every three weeks for the treatment of patients with unresectable or metastatic melanoma. Pembrolizumab is also indicated for the treatment of patients with metastatic non-small cell lung cancer (NSCLC) whose tumors express PD-L1 as determined by an FDA-approved test with disease progression on or after platinum-containing chemotherapy. Patients with EGFR or ALK genomic tumor aberrations should have disease progression on FDA-approved therapy for these aberrations prior to receiving Pembrolizumab. KEYNOTE-010 is a global, open-label, randomized, pivotal Phase 2/3 study (ClinicalTrials.gov, NCT01905657) evaluating two doses of Pembrolizumab (2 mg/kg or 10 mg/kg every three weeks) compared to docetaxel (75 mg/m^2 every three weeks) in 1,034 patients with squamous and non-squamous NSCLC who experienced disease progression after platinum-containing systemic therapy and whose tumors expressed PD-L1. The primary endpoints were OS and PFS. Tumor response was assessed at week 9, then every 9 weeks thereafter per RECIST 1.1 criteria by independent, central, blinded, radiographic review and investigator-assessed, immune-related response criteria. The Pembrolizumab program currently addresses more than 30 tumor types in more than 160 clinical trials, including more than 80 combinations of Pembrolizumab with other cancer treatments. In lung cancer, Pembrolizumab is being studied across lines of therapy, both as a monotherapy and in combination with chemotherapy.

**45**
**Difficult Cases, Difficult Bugs, and Difficult Choices**

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This presentation will discuss several pediatric cases with difficult courses and difficult bugs. Emphasis will be directed to prediction, diagnosis and management of common resistant bugs like Extended Spectrum B-Lactamase producers, multidrug resistant Acinetobacter, multidrug Pseudomonas infections, and Methicillin Resistant Staphylococcus aureus infections. Pathways and algorithms will be used to direct physicians approach and follow up. Supportive laboratory services role will also be highlighted.

**46**
**Multidisciplinary Management of Childhood Sarcomas**

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Bone and Soft Tissue Sarcomas in Children and Young People present specific therapeutic challenges. With optimal therapy they can be associated with high levels of long-term survival. The treatment required to achieve this is also often associated with substantial morbidity. The effective treatment of these tumours depends on effective collaboration between chemotherapy, radiotherapy, surgical and supportive services. Specialized diagnostic services combining radiology, histology and cytogenetic analysis result in clear and specific diagnoses. Highly specialist surgical services are required with expertise in orthopaedic oncology and reconstruction, plastic surgery, head and neck, thoracic and abdominal surgery. A network is needed bringing multiple surgeons together to work closely with chemotherapy and radiotherapy services. Over the last 20 years we have established a multi-disciplinary team (MDT) encompassing these specialties providing diagnostic and treatment services to patients for the North of England. The MDT also drives research activity to identify new and improved therapies. The components, activity and strategies of this MDT will be described.

## 47
## Recent Advances in the Treatment of Candidiasis

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As medical advances have increased survival among the severely ill, immunocompromised and prematures, health care associated infections, including fungal infections, emerged as an important cause of mortality and morbidity among them. The most common such fungal infection is invasive candidiasis, which constitutes a real threat to patients especially those who receive broad spectrum antibiotics and have indwelling intravenous and urine catheters which increase the infection risk among them. The first treatment guideline about the management of candida infections was published in 2009 and in 2016 the IDSA updated these in order to keep up to date with recent advances. The new guidelines emphasized the need for early and timely recognition of candidiasis and recommended antifungal therapy be administered as soon as possible. In contradistinction to the 2009 guidelines which recommended an azole (fluconazole) as first line agent, the new recommendations call for treatment with an echinocandin as first line therapy since these drugs are fungicidal whereas the azoles were fungistatic. In addition they call for consideration of antifungal prophylaxis to be used in intensive care units that have rates of invasive candidiasis exceeding 5%. They also recommend infectious disease consultation to help in the management of these cases as well as performing susceptibility testing for C. Glabrata, C parapsilosis and in patients who received echinocandin therapy previously. As for the treatment of candidiasis in the newborn, AmBdeoxycholate, 1 mg/kg daily, is the preferred agent for disseminated candidiasis, while Fluconazole, 12 mg/kg intravenous or oral daily, is a reasonable alternative in patients who have not been on fluconazole prophylaxis. Echinocandins in the newborn should be used with caution. Reference will be made to the experience with fungal infections in Jordan.

## 48
## Current Multi-Modal Therapy for Neuroblastoma

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Neuroblastoma is the most common solid cancer of infancy and High Risk Neuroblastoma remains a difficult therapeutic challenge. Identification of prognostic risk factors has permitted stratification of tumours and their treatment. Over particularly the last 30 years international basic research and clinical trials have enabled a multimodal therapy to be developed. Current therapy commences with rigorous staging and biological classification followed by initial chemotherapy to control metastatic disease. When this is successfully achieved a surgical resection of the primary tumour is undertaken. The surgery is rapidly followed by high dose chemotherapy with stem cell rescue. As soon as possible after this radiotherapy is delivered to the primary tumour site and finally minimal disease therapy with differentiation therapy and directed antibody mediated immunotherapy is administered. Aggressive delivery of this therapy requires sophisticated supportive care but is associated with long-term survival of 50% of patients. The therapy has been subject to ongoing innovation and improvement. The search for additional novel therapies is also ongoing. The risk stratification and components of therapy will be discussed as well as areas for possible new therapies.

## 49
## Helicobacter Pylori Gastritis in Jordanian Children: A Tertiary Center Experience

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**Objectives:** Helicobacter pylori (H. Pylori) infection is the most common chronic bacterial infection in humans. Its prevalence in Jordanian children is not known. This study aims to: measure the prevalence of H. Pylori infection in Jordanian children, who underwent endoscopic evaluation at Jordan University Hospital (JUH); and to review the endoscopic finding in the H. Pylori positive group.

**Methodology:** A retrospective chart review was performed for children who underwent Esophagogastroduodenoscopy (EGD) at JUH from 2013-2016. Epidemiological data of the patients were collected from the charts. Indication for endoscopy, and Endoscopic findings were recorded. The gastric biopsies were re-examined by a pathologist to determine whether it had H. Pylori or not.

**Results and Conclusion:** 170 patients (95 girls-56%) underwent EGD over the period of three years at JUH. Average age was 12.1 years. Of them, 89 patients (46 girls – 52%) had H. Pylori identified in the gastric biopsy. The prevalence rate of H. Pylori in this population was 53% . Average age for these patients was 12.4 years. Indications for endoscopy were abdominal pain in 82% of the patients, and vomiting in 29% of the patients. Endoscopic findings were nodular gastric body (20 %), erosions (9%), and gastric ulcers (5%). The average age for the gastric ulcer group was 14.5 years.

**Conclusion:** H. pylori infection is common in the Jordanian children. The prevalence rate in this study group is comparable to the published international data. An ulcer tends to occur at the older children, and is rarely seen in the young ones.

**Keywords:** H. Pylori, Children, EGD

## 50
## Approach to Thromboembolic Attacks in Pediatrics, Different Congenital and Acquired Risk Factors

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Children are not immune to developing clots and more and more clots are being recognized in children – particularly during the first month of life. Risk factors for clot development in children include acquired risk factors [trauma, surgery, immobility, cancer, cardiac lesions, nephrotic syndrome and most importantly the presence of a central venous line]. In adolescents antiphospholipid syndrome (usually signifying SLE) is a strong risk factor for clots. Inherited risk factors include factor V Leiden, prothrombin mutation, or deficiencies of antithrombin, protein C or protein S and anatomical congenital disorders such [May-Thurner syndrome and thoracic outlet syndrome]. However the contribution of these inherited risk factors to thrombosis in children is actually quite small and it is generally the acquired risk factors that are most important. Given this the value of thrombophilia testing in children is debatable. Once a clot is diagnosed in a child many decisions need to be made: is anticoagulation required?; are there contraindications to anticoagulation?; which antithrombotic should be used and for how long?. In children antithrombotic therapy is adjusted according to the child's weight and drug levels are monitored. Warfarin, although commonly prescribed in adults, is used much less frequently in children because of children's' difficulties with maintaining a steady intake of vitamin K. The potential ramifications of a clot in a young child can be more substantial than in adults mainly because a child still has the rest of their life to live and a clot that causes quality of life issues will consequently affect that child potentially for the rest of their life.

**Keywords:** Clots; Children; Risk Factors

## 51
## Challenges in the Diagnosis of Thromboembolic Disease in Adults and Diagnostic Parameters

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Thromboembolic disorders are common in the adult population and are major causes of morbidity and mortality. Accurate diagnosis is critical since under-treatment can lead to serious and often fatal consequences, while over-diagnosis can result in unnecessary anticoagulation with its attendant risks. Because of the variety of clinical presentations, diagnosis may be challenging. Over the past 20 years, several non-invasive diagnostic procedures have been developed, chief among these being measurement of d-dimer, useful in ruling out significant thrombosis; there are however several conditions where the use of this test is not optimal e.g. pregnancy, cancer, previous VTE and in the elderly – in these, especially in cancer patients, diagnostic methods and the need for treatment is controversial, as is the need for cancer screening in unprovoked DVTs. With accessibility to molecular

and coagulation diagnostic methods a search for congenital thrombophilia is often undertaken. While thrombophilic disorders are most frequently discovered in the pediatric population, when associated with other risk factors they may be first seen in the adult. The need and timing of diagnostic testing and the need for prophylaxis and treatment are important considerations.

## 52
## Extended Half-life Clotting Factors: Similarities and Differences with Conventional Factor VIII and Factor IX

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Extended half-life (EHL) products have been protein engineered to last for a longer time in the circulation. This permits less frequent dosing for individuals with Hemophilia A and Hemophilia B. Since dosing is intravenous, any decrease in frequency improves the burden of treatment. Two technologies have been utilized successfully to lengthen the circulating time of coagulation factors VIII and IX: addition of polyethylene glycol to the protein (pegylation) and fusion of the coagulation factor with the Fc portion of IgG or albumin. This fusion confers the ability to bind to a receptor within endothelial cells lining the blood vessels, the neonatal Fc receptor (FcRn) which recycles the bound protein back to the cell surface, rather than following the degradative pathway via lysosomes. Since the first extended half-life products were approved in 2014, thousands of patients have utilized both FVIII and FIX Fc fusions to treat acute bleeding and to prevent bleeding via prophylactic use. FVIII-Fc (Eloctate) confers approximately 50% increase in half-life over conventional FVIII proteins, from a 12 to 19 hour half-life. This increase permits less frequent prophylactic dosing and it is more likely a single dose will control an acute bleeding episode. For Hemophilia B patients, FIX-Fc (Alprolix) has a half-life of approximately 86 hours, compared to conventional FIX products which have half-lives of 19-24 hours. This increase permits dosing every 1-2 weeks for prophylaxis. No safety issues have been identified to date, including no increase in inhibitor formation in previously treated patients.
The WFH is now distributing approximately 100 million IU/year of Alprolix and Eloctate via the Expanded Humanitarian Aid program. This prospective program, which will last at least 5 years, is, for the first time, allowing prospective planning within recipient countries, creating an opportunity for more government support, elective surgery, and even low dose prophylaxis for children.

## 53
## Different Prophylaxis Regimens in Hemophilia and the Use of Extended Half-Life Products in Prophylaxis

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No longer should individuals with severe hemophilia be treated on-demand as the consequences of this are that they will experience bleeds and develop longterm joint damage; additionally such patients are constantly at risk of severe life-threatening bleeds. Consequently prophylaxis is now standard of care. Yet it is not clear how prophylaxis should best be done. In general, there are certain caveats when doing prophylaxis. Certain patients have better pharmacokinetics, i.e. factor last longer in them. In all patients the more frequent the infusions are given, the more successful the regimen is and lastly missed doses immediately put the patient at risk of bleeding. It is important that prophylaxis be started early in life (i.e. primary prophylaxis; usually by 2 years of age) as bleeds early in life can have major long-term consequences and make future prophylaxis less effective. Increasingly children are commenced on less frequent infusion prophylaxis and then escalated quickly should they still be bleeding. Yet with current factor concentrates even patients started on primary prophylaxis are still, in many cases, developing joint disease. Much of this has to do with the fact that conventional factor concentrates, unless they are given on a daily basis, are still resulting in very low trough levels and consequently patients remain at risk of bleeding. Extended half-life factor concentrates may allow for fewer infusions, and higher trough levels resulting in better compliance and less bleeding. As such, prophylaxis will change with extended half-life concentrates and should allow for patients to maintain pristine joints throughout their lives.

**Keywords:** Children; Prophylaxis; Extended half-life factor concentrates

**54**
**WFH Online Reporting System on Utilization of Donated Products**

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The World Federation of Hemophilia (WFH) Humanitarian Aid Program witnessed a tremendous expansion in 2015 following signing an agreement with one of our major corporate partners, in which the WFH will be receiving a total 500 million international units of factor VIII and factor IX over the coming 5 years. This good news will reflect positively on increasing quantities of Clotting Factor Concentrates (CFCs) donated to developing countries, which will enable countries to address and use the products for acute bleeds, surgeries and even prophylaxis.
With this increase in donated products, there is a need to document utilization in order to make sure that these donated products are received, stored and used properly. The WFH established an online reporting system that hemophilia treatment centres (HTCs) could report on the utilization of the products they receive and use. Jordan is major recipient of WFH donated products through the Royal Medical Services (RMS) and it is expected that WFH donated products to Jordan will reach 4 million IU annually for the coming 5 years. Based on this, it is very important to establish a good distribution mechanism in the country between RMS and health facilities belong to other health systems like Ministry of Health. It is also important to establish a reporting mechanism to ensure products are used in a timely manner in order to release the next shipment.

**55**
**Infant Regurgitation and Pediatric Gastroesophageal Reflux Disease**

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The incidence of GER in healthy infants and children is unknown since it is unethical to investigate asymptomatic children. Regurgitation is a common condition in infants. GERD is a multifactorial disease, independent of age. There is a wide spectrum of symptoms and signs both for GER and GERD, which are partially age-dependent. Infant regurgitation spontaneously disappears with increasing age. Since "time is the cure", reassurance is the cornerstone of its management. Regurgitation is not a reason to stop breastfeeding. Thickened formula reduces regurgitation reassuring parents. Isolated infant crying and/or distress without the presence of other symptoms are not a symptom of GERD. There is an overlap between symptoms of eosinophilic esophagitis is, cow's milk protein allergy and GERD in infants. Esophageal and extra-esophageal symptoms and signs caused by reflux do exist, although the evidence for causal relation between reflux and extra-esophageal manifestations is difficult to predict in an individual patient. At-risk populations such as patients with severe neurological disorders, cystic fibrosis, and esophageal atresia exist. Alginates are useful when immediate symptom relief is required, although there are almost no data in children. Medical therapeutic options are limited to acid-secretion reducing medications although not all reflux symptoms and disease are caused by acid reflux. Adverse effects of proton pump inhibitors are mostly related to an altered gastro-intestinal microbiome because of the decreased gastric acidity. Laparoscopic surgery is recommended in patients dependent on chronic anti-acid treatment and in those with severe, sometime seven life threatening, symptoms.

**56**
**Short Bowel Syndrome in Children**

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'Short bowel syndrome' refers to the pathophysiological effects of a reduced small bowel absorptive area, inadequate to maintain growth and normal homeostasis, through loss of bowel length. This is most often seen in the neonatal period and related to congenital or acquired bowel disorders. Successful management of parenteral nutrition and promotion of bowel adaptation through enteral feeding are key aspects of management. Supervision of care should be through a multidisciplinary intestinal rehabilitation team including both surgeons and physicians. Adaptation of residual small bowel results in an increase in absorptive surface area over the first year and beyond, leading in

many cases to the establishment of full enteral feeding. The role of bowel lengthening surgery is controversial; in some situations this may lead to earlier establishment of enteral autonomy but exposes the child to risks of surgery, and long-term outcomes are uncertain. The complications of small bowel bacterial overgrowth are likely to arise with dilated and dysmotile bowel, and when there is no ileo-caecal valve, but is difficult to diagnose and often treated empirically. Fermentation in the large bowel may give rise to recurrent D-lactic acidosis. Long term follow up is required even when no longer PN dependent given such risks as vitamin deficiency, renal and gall stones, and anaemia from peri-anastamotic ulceration. Novel therapies such as the trophic glucagon-like peptide-2 analogue teduglutide have yet to be fully evaluated, but may prove to have a role in promoting adaptive changes in the gut and reducing PN dependency in some patients.

## 57
## Probiotics in Functional Gastro-intestinal Disorders

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Functional gastro-intestinal disorders (FGIDs) are frequent conditions from infancy over childhood into adulthood. While some FGIDs occur at any age (eg constipation), others are more age specific (eg infantile colic (IC), regurgitation). Whether IC is the infantile expression of irritable bowel syndrome (IBS) remains a matter of debate. There is evidence suggesting that Lactobacillus (L.) reuteri DSM 17938 decreases IC, especially in breastfed infants. Two trials conclude that the same strain is effective in the prevention of IC. Few studies are performed in children and adolescents with chronic abdominal pain or IBS. A meta-analysis showed an improvement in abdominal pain for L. GG, L. reuteriDSM 17938, and the probiotic mixture VSL#3.In adults with IBS, the efficacy of probiotics has been much more frequently evaluated than in children. Evidence for a benefit of probiotics in IBS has been provided by laboratory studies implicating the microbiome and the host response, as well as in vitro and in vivo studies demonstrating the ability of bacteria to influence such relevant functions as motility, visceral sensation, gut barrier integrity and brain-gut interactions. Probiotics as a category are considered to have beneficial effects in IBS although overall, more than 50% of trials presented negative outcomes. The majority of the single-strain probiotic trials employing lactobacilli or Saccharomyces were negative, whereas trials employing bifidobacteria showed positive results. Defining the optimal strain, dose, formulation and duration of therapy is challenging. The heterogeneity of the studies of probiotics in IBS questions the value of meta-analyses.

## 58
## Delivering Safe and Effective Parenteral Nutrition to Children

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Parenteral nutrition (PN) is a lifesaving intervention for children with intestinal failure (IF) but carries certain risks including central venous catheter related blood stream infection (CRBSI), intestinal failure associated liver disease (IFALD), biochemical disturbance, venous thrombosis and mechanical catheter related problems. The aims of PN are to maintain homeostasis, promote normal growth, avoid complications and optimise outcomes. A multi-disciplinary approach to provision of PN has been shown to reduce biochemical and catheter related complications while increasing use of enteral nutritional support. Nutritional support teams (NST) are therefore to be commended and as well as physician, nutrition nurse specialist, dietician and pharmacist may now include interventional radiologist and others. Ideally, the NST should act as an expert resource within a children's hospital and have the authority to advise enteral nutritional support rather than PN when thought appropriate. Regular audit of sepsis rates, PN related errors, duration of PN (were short courses unnecessary in the first place?) help to improve the service. Home PN may be offered to children with long term PN dependency (most commonly short bowel syndrome) who are stable, have appropriate home accommodation, and parents who are both willing to take on the considerable burden of care and can be trained to the required high standard. Home PN offers a good quality of life with reduced risk and promotes normal development. Many children with long term IF will eventually establish full enteral feeding. For those who develop life-threatening complications while PN dependent, intestinal transplantation is an option.

**59**

## Biotinidase Deficiency: A survey of 18 Cases of Metabolic Unit from Queen Rania Al-Abdullah Hospital for Children - Jordan

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**Objectives:** To study clinical, biochemical and outcome profile of 18 cases with biotinidase deficiency.

**Methodology:** A retrospective case record study was performed to document Clinical, biochemical and outcome profile from metabolic clinic records. Biotinidase level was measured using spectrophotometric method. Genetic study was not performed for reported patients.

**Results and Conclusion:** Study group included of 12 males and 6 females (from 11 families and 10 consanguineous parents) with median age of presentation 9 (1-36) months. Median Biotinidase level in study group 0.45 nmol/ml/min (0.03-2 nmol/ml/min). Study group was further divided according to age of presentation to early (<12 month) n=11/14 and late presentation n=3/14, and 4/18 cases from study group were detected early < 1 month of age because of positive family history of biotinidase deficiency. Brian MRI scanning performed for 11 out of 18 cases and the main abnormalities were leukodystrophy, widening of CSF spaces and white matter abnormalities. Seizure, hypotonia, speech delay, hearing loss and alopecia are the most predominate features reported in our conducted study. Control of seizures activity was important outcome noted in study group where 12/18 experienced seizure activity in form of tonic-clonic convulsion and 10/12 outgrow their convulsion and remaining 2 cases need only one anti-convulsion drug instead of triple or quadruple therapy. On this study, 4/17 cases that start treatment on presymtomatic period, they did not show any reported abnormality.

**Conclusion:** This study conducted to highlight the significance of early detection of biotinidase deficiency through neonatal screen for favorable outcome for potentially treatable inherited metabolic disorders.

**Keywords:** Biotinidase Deficiency, Neonatal Screen

**60**

## Amino Acid Disorders in Jordan; A 10 Years' Experience at Queen Rania Al-Abdullah Hospital for Children

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**Objectives:** Metabolic disorders are becoming more important in our pediatric practice. We want to describe the frequencies, presentations and outcome of different amino acid disorders in the Jordanian population at the pediatric metabolic genetics clinic, Queen Rania Children's Hospital. Amman, Jordan

**Methodology:** Patients and methods; a review of the data of patients attending the metabolic genetics clinic who were diagnosed to have amino acid disorders, including aminacidopathies and organic acidurias over the last 10 years was carried out. There was no age limit. The following data were recorded; age, sex, diagnosis, modality of diagnosis, consanguinity of parents, the presence of affected family members or relatives and the outcome.

**Results and Discussion:** Out of a total of 570 patients diagnosed with a metabolic disorder, 216 had a disorder of amin acid. The mean age of patients at diagnosis was 11.8±11.1months (range 1-50 months). 123 (22 %) patients had aminoacidopathies of whom 54 (44%) had tyrosinemia, 93 (16%) patients had organic acidemias of whom 22 (23%) had propionic acidemia. Parental consanguinity was noted in 10% of families, and 47% of families had another affected family member. 28/93 of the organic aciduria patients died and 12 missed to follow up, whereas 16/121 of the aminoacidopathies died and 11 missed to follow up.

**Conclusion:** Patients with inborn errors of metabolism are becoming increasingly diagnosed. Tyrosinemia is the most common of the aminoacidopathies, whereas propionic acidemia is the commonest of the organic acidemias. There is a significant morbidity and mortality in

these diseases which makes early diagnosis very important for future care and treatment cost. Due to the difficulties and delays in diagnosing these diseases, newborn screening is very crucial for early intervention and counselling. A national database is very important for future premarital and antenatal prevention.

**Keywords:**
Pediatric, Inborn Errors, Metabolism, Jordan

## 61
## Percutaneous Pulmonary Valve Replacement: State of The Art

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Significant pulmonary valve regurgitation results in progressive right ventricledilation that may lead to the risk of development of ventricular arrhythmias, rightVentricle dysfunction and sudden death. The occurrence of pulmonaryregurgitation and or obstruction is not uncommon after surgery for congenitalheart defects, including tetralogy of Fallot, pulmonary atresia and any othersurgical 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 valveimplantation at an appropriate age may restore right ventricular function andimprove the symptoms, however cardiopulmonary bypass and ventriculotomyneeded for such operations may further impair the right ventricular function. Therefore timing and indications for resurrection of a competent pulmonary valveare still controversial issues.Bonhoeffer was the first one to implant a percutaneous valve in the pulmonicposition using a bovine jugular vein with a valve mounted inside a stent (TheMelody Valve) Since then, Cribier and his colleagues reported on the first human2application of another percutaneous heart valve (PHV) in the aortic position. Thisvalve was designed initially for application only in the aortic position and the earlyclinical experience with this PHV in the aortic position is ongoing.In December 2005, we implanted this valve in a 16 yr old patient who had a failedconduit between the right ventricle and pulmonary artery. Since then, a clinicaltrial (COMPASSION) sponsored by the United States FDA has been completedand the valve received United States FDA approval for the pulmonic positionMarch 2016.The Melody and Edwards valves meet the needs of about 15-20% of patientswith congenital heart disease who have a dysfunctionalconduit/bioprostheticvalve between the right ventricle and pulmonary artery. Therefore, the majority ofpatients will be unserved by these two valves. The Venus P valve was designedwith this in mind, to help such patients. It is a self-expandable nitinol metal framewith porcine leaflets. The stent is covered with porcine pericardium except thedistal cells, for easy access to the branch pulmonary arteries. The valve hasbeen used in China, India, Thailand, UK and Ireland. I will go over the data usingthis valve.

## 62
## Queen Alia Heart Institute Experience in Transcatheter-based Closure of Secundum Atrial Septal Defect (ASD)

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**Objectives:**
This retrospective review was of 235 patients who had been listed for transcatheter-based closure of secondum Atrial Septal Defect (ASD) between 2011 and 2016.

**Methods:** Retrospective review of all patients who underwent elective transcatheter closure of Secundum ASD between 2011 and April 2016. Transesophageal echocardiography (TEE) was used for measurement of ASD size and location. We excluded those with complex congenital heart defects. Major and minor complications were predefined and indications for referral were evaluated, immediate and mid-term outcomes were assessed.

**Results:** We identified 235 patients (58% females and 42%males) meeting criteria with a median procedural age of 16.67 years (4 to 62 years), and median weight of 41 kg (15 to 118kg), with a median secondum atrial septal defect size of 14 mm. Nearly 40% of which were asymptomatic, 2 patients had history of transient ischemic attack (TIA).Single defects were observed in 218 patients. The remainder 17 had multiple or multi-

fenestrated defects.220Occlutech, 14Amplatzer, and one cera devices were used, 223 ASDs were closed without balloon sizing. Implantation of device (median size of 18 mm) was successful in all, but 1 patient (Transient heart block during device deployment thus retrieved, one patient reported device early remobilization and one late device remobilization (0.01%). There was one thromboembolism complication. During follow up, there have been no episodes of late arrhythmias, cardiac erosion, endocarditis, wire fracture, device leak or death.

**Conclusions:** Transcatheter ASD closure is feasible, safe and highly successful as a standard method of closure in most of the cases even without balloon sizing.

**Keywords:** Device Closure; Echocardiography; Heart Septal Defects, Atrial, ASD.

**63**
**Paravalvar Leaks: Incidence, Presentation & Catheter Therapy**

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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 dehisce 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 hemolysis2 (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 (percutaneoustrans-apical vs. via limited thoracotomy). I will discuss these techniques and show some examples.

**64**
**Recurrent Pneumonia in Children**

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Recurrent pneumonia in children is defined as two episodes within the same year or 3 or more episodes over any time period. For a child to be diagnosed with recurrent pneumonia there must be complete resolution of clinical and radiological findings between acute episodes. This should be differentiated from Persistent or non-resolving pneumonia - when there is clinical and radiological evidence of pneumonia despite adequate treatment for a month. History and physical examination remain the gold standard for reaching a diagnosis. Further investigations are then dictated by the most likely diagnosis, based on the age of the child, the onset of symptoms. CT of the chest or bronchoscopy may be indicated in many cases.

**65**
**Sacroilliac (SI) Screw Fixation in Posterior Pelvic Ring Fracture, Review of Surgical Technique**

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In this presentation we will discuss the Sacroiliac screw fixation though a percutaneous approach under C-arm image intensifier which is indicated in unstable posterior pelvic ring fractures. In this review we will be describing the indications, preoperative planning, surgical technique, post-operative radiographs, outcome and complications in all patients done in hospitals of the royal medical services in Jordan through description of the literature review about the percutaneous approach for the unstable posterior pelvic ring fractures followed by presentation of the cases done to be discussed as an example of the technique as a successful method, and the expected complications for the treatment of this type to injury.

**66**
**Surgical Approaches in Tibial Plateau Fractures**

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On this lecture the different surgical approaches for tibial plateau fractures will be cover. It will start with an analysis of imaging of the different fracture patterns and the decision making to choose each approach. We will review with different cases the following approaches: anterolateral approach, Tscherne – Johnson approach, medial approach, posteromedial (Lobenhoffer) approach, modified posteromedial approach and posterolateral approach.

**67**
**Early Results of Femoral Reconstruction with Taper Cementless Modular Stem**

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**Background:** The orthopedic surgeon is faced with various challenging problems on the femoral side while performing a revision total hip arthroplasty. Some of these challenges may arise acutely or even intra operatively with limited resources. The aim of this study is to evaluate clinical and radiological outcomes with a single revision modular system used for various indications, and to determine whether such a system achieved initial fixation, femoral offset restoration, stability, and leg length equalization.

**Methods:** We prospectively followed 33 patients with 36 implants for various indications. Functional assessment was achieved using the Harris hip score (HHS). Hip stability, Leg length discrepancy, stem fixation, and offset restoration were evaluated radiographically. Follow up ranged from 24- 87 months.

**Results:** HHS increased from a preoperative mean of 22.1 to a mean of 71.6 postoperatively. The total number of patients who had dislocation is 5 (13.9%).Three stems were re-revised (9%). Subsidence of the femoral component was less than 5mm in 30 patients (83%). Leg length discrepancy was corrected to within 5mm in 53%

of patients, Offset restoration was achieved in 39% of patients. No fractures at the body to stem junction were seen at latest follow up.

**Conclusions:** Modular femoral stems are useful to address hip stability, leg length equalization, offset restoration, and distal fixation when revising a failed femoral component in the presence of significant proximal femur bone loss. These stems provide good clinical outcome in a simple, uniform, reproducible way.

**68**
**Total Hip Replacement in Skeletally Mature Patients with Developmental Dysplasia of the Hip**

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Hip dysplasia leads to anatomic deformities resulting in greater contact stress in the hip, eventually ending in osteoarthritis. None the less, majority of the patients having hip dysplasia are symptomatic even prior to the occurrence of severe arthritic changes due to distorted hip biomechanics, hip instability, impingement, or associated labral pathology. Due to the broad spectrum of deformities, total hip replacement in DDH patients is technically demanding, especially in patients with Crowe III and IV. Loss of acetabular wall- particularly, anterior and superior parts- , shallow acetabulum, formation of a false acetabulum in high DDH, narrow femoral canal requiring the use of small femoral stems, abnormally increased femoral antiversion, and limbs length discrepancy (necessitating shortening osteotomy) are among the different deformities found in these patients.

**69**
**Surgical Approaches in Pilon Fractures**

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On this lecture the different surgical approaches for pilon fractures will be cover. It will start with an analysis of imaging of the different fracture patterns and the decision making to choose each approach. We will review with different cases the following approaches: anterolateral approach, anteromedial approach, medial approach, posteromedial approach, posterolateral approach (for fibula and for tibia) and combined approaches.

**70**
**Objectives and Goals in Major Spinal Reconstructions**

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With the advancement in surgical technology and techniques, more and more spinal reconstructions are performed in cases that were not considered feasible in the past. While some of these results have been remarkable, some have done well but required further procedures, and others may have been better off living with their original disability. A review of the basic principles, alignment parameters, surgical techniques and indications for major spinal reconstructions will be presented. Challenges and controversies as to choice of levels, approach, and techniques, planning strategies and methods to minimize and manage complications will be addressed. Reconstructions related to spinal deformity will be the major focus of the presentation. Case examples and outcome studies will be used to illustrate key points. Addressing and identifying surgical goals and methods to be used to accomplish these objectives will be presented. Understanding which patients can benefit maximally from our surgeries and which techniques are best suited for a given procedure should be the focus of our learning as we continue to strive to better understand the pathologies that we treat.

**Keywords:** Scoliosis; kyphosis; correction; osteotomies; sagittal alignment; complications; strategies

## 71
## Complications Following Unilateral Fasciotomy for Compartment Syndrome of the Lower Leg

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**Objectives:** Unilateral fasciotomy for the Treatment of compartment Syndrome is a Standard procedure but requires experience and can lead to severe complications. Different from the bilateral fasciotomy, all compartments are opened from lateral side using one Long incision. Aim of this retrospective study was to evaluate the results of this procedure and to identify risk factors for complications.

**Methodology:** 204 patients (173 males, 28 females) were included in this study with a mean Age of 40 years (10 - 91) who developed a compartment Syndrome of the lower leg following an open or closed lower leg fracture, ankle fracture, contusion of the lower leg or without Trauma. Patients were evaluated clinically until discharge in case of no complications or up to one year in the case of complications.

**Results and Discussion:** 201 patients were evaluated. 84 Patients (41.8%) developed complications, mostly wound healing Problems (46.4%), partial muscle necrosis (36.9%), disturbance of sensitivity (32.1%), pain (20.2%) and peroneal nerve lesion (19%). Two revisions (1 - 11) were needed until wound closure was reached, including scheduled Change or removal of vacuum assisted closure dressing. There was no statistical significant difference regarding comorbidities in patients with or without complications.

**Conclusion:** Unilateral fasciotomy is a limb preserving procedure in the case of manifest compartment Syndrome of the lower leg. The results of this study Show the high rate of complications with 19% of peroneal nerve lesions. Although the lower leg injury can cause nerve injury itself, the unilateral technique contains the risk of iatrogenic nerve injury. Evaluating our results, the bilateral faciotomy using smaller incisions on the lateral side might prevent nerve injuries.

**Keywords:**
Compartment Syndrome, Fasciotomy, Lower Leg

## 72
## Approach to the Treatment of Coronal Plane Spinal Deformities

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With evolving surgical equipment and techniques, coronal plane corrections in spinal deformity surgeries continue to improve. Despite this, controversies persist related to important decisions regarding choice of level, approaches, appropriate implants and metals, and spinal column releases. The purpose of this report is to review current strategies to optimize outcome in scoliosis surgery. A review of the biomechanical principles of deformity correction as well as strategies to maximize correction will be illustrated through case examples. Indications for different approaches and osteotomies will be discussed. Considerations for choice of level to maximize correction while maintaining adequate motion segments,as well as approaches to revisions in the setting of persistent deformities and imbalances will be addressed. Despite the controversies, strong principles exist in the treatment of coronal plane deformities in both adults and children. Adherence to these principles will yield consistent results and outcomes in the surgical treatment of scoliosis.

**Keywords:** Scoliosis; Correction; Osteotomies; Biomechanics; Complications

**73**
**Novel Techniques in Jordan**

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**1. First Metatarsal Chondroblastoma; Case Report**

To report a case of first metatarsal chondroblastoma and to share our experience and results in the management of this case since it is extremely rare. The case presented to our clinic at King Hussein Medical Center during June 2014. The patient was complaining of 4 months long intolerable and progressive right foot pain associated with swelling over the dorsal and medial aspect of the forefoot. As accurate diagnosis is crucial in such case, investigations that included x-rays and magnetic resonance imaging (MRI) demonstrated an expansile and lytic lesion involving first metatarsal bone associated with intraosseous septations and sclerosis.A thorough review or the literature was done to report the case along with its management plan by retrospective analysis and comparison. An open biopsy was carried out to be reported by histopathology as chondroblastoma after which first metatarsal complete resection was performed and reconstructed with an autogenous fibular graft.Chondroblastoma is a benign rare tumor of bone accounting for around 1% of all bone tumors most commonly treated by surgical curettage or bone resection and bone grafting. Some studies show excellent results with low complication rates after surgical curettage or resection and grafting. Some theories explaining the origin of chondroblastoma one of which showed calcium containing, subcellular articles resembling those observed in Chondrocytes which led to the conclusion that these tumors are chondrogenic. Chondroblastoma conventionally occur in the ends of long bones as the distal femur and proximal tibia followed by proximal humerus making our case (first metatarsal chondroblastoma) worthwhile reporting. It is worth mentioning that such lesions are painful and activity limiting and that the male to female ratio is 2 to1 in most studies.

We conclude that first metatarsal chondroblastoma is an extremely rare aggressive benign bone tumor that is known to cause disabling pain especially when aggressively involving the entire bone and that tumor resection followed by bone grafting provided a good and satisfactory result for the patient.

**2. Shoulder reconstruction with the proximal Humerus reverse shoulder endoprosthesis system: a first surgery done in Jordan**

To share our results and experience in an extremely rare surgical procedure through which the proximal Humerus was resected along with the shoulder joint due to an aggressive benign tumor and reconstructed with the modular proximal Humerus reverse shoulder endoprosthesis system and to document this surgical procedure as a first in Jordan.

Orthopedic tumor resection surgeries were carried out since the early eighties at King Hussein Medical Center using different methods of reconstruction procedures , these strong basis and foundations aided our development as orthopedic surgeons at royal medical services hospitals and enabled us to perform worldwide state of art rare surgical procedures and to compare with the old school previous reconstruction methods performed.

we received a 25 year old female with a left shoulder aggressive benign bone tumor and with almost zero range of shoulder motion for well over a year duration. we decided to perform a proximal humerus and shoulder resection for this patient and to choose the modular proximal Humerus reverse shoulder enoprosthesis as the reconstruction method , since this implant is highly recommended for such cases. The patient was discharged home in a good condition with ten to fifteen degrees of shoulder abduction and ten to fifteen degrees of shoulder flexion and intact neurovascular function of her upper limb.

Since such surgical procedures are extremely rare worldwide we concluded that the modular proximal Humerus reverse shoulder endoprosthesis system is an excellent implant choice for long standing aggressive benign shoulder tumors with significant loss of shoulder function due to diseased rotator cuff.

**74**

## Percutaneous Fixation Of Thoracolumber Spinal Fractures, An Overview of the Indications, Surgical Technique and Possible Complications??

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**Objectives:** Surgical treatment of thoracolumbar spine fractures is based on different factors. Type of fracture, neurological status, general Medical and Surgical conditions, and associated other injuries will affects both treatment and final result. Minimally invasive techniques in spinal surgery are becoming more and more popular due to Many advantages, including reduced blood loss, reduced length of stay, and reduced need for post-operative analgesia as well as earlier return to work.

**Methodology:** A Retrospective study of 60 cases of percutaneous Fixation of thoracolumber Fractures done between October 2014 and December 2015, this review will discuss potential indications for minimally invasive fusion and instrumentation techniques for Thoracolumber spinal fractures surgery and support these with descriptive and illustrative cases. We will discuss the general guidelines used in our department and the technique for safe implantation of percutaneous pedicle screws with the help of the image intensifier .we will also discuss some intraoperative tricks and tips and at the end we will discuss some possible intra and post op complications we had.

**Results and Discussion:** The Data Revealed Average Operative time of 70 min for 3 levels instrumentation, No case required blood Transfusion with average of 100 cc blood loss, Average Hospital Stay post-operative is 2 days, And only 3% screw malpositioning showed on CT Scan with no Neurological Complications and only one case with wound infection post operatively.

**Conclusion:** The clinical results suggest that the pedicle fixation percutaneous technique may be an alternative to open surgical treatment of thoracolumbar fractures, without neurological deficits. This technique has proved to be safe and effective, with less hospital stay and less complications.

**Keywords:** Percutaneous, Minimally Invasive, Pedicle Screw, Fractures.

**75**

## Ponseti Method for Treating Congenital Club Foot (Royal Medical Services Experience)

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**Objectives:** To evaluate our experience in royal medical services in treating congenital club foot using ponseti method.

**Methodology:** This is a retrospective study from Nov 2011 _Nov 2015 in queen Rania hospital for children and Royal rehabilitation center,150 infants were included in this study(200 feet),each infant had 6_8 visits to the pediatric foot clinic (average 7 visits) where manipulation and casting applied to the foot, after correction infant was taken to operation room were achilis tenotomy done and casing applied for 3 weeks, Denis brown splint applied for 23 hours for 3 months then change to night splint till age of 3 years.

**Results and Discussion:** 150 infants (100 male, 50 female) with 200 feet. All infants needed tenotomy and every infant was followed in the clinic for 3 years. 150(75%)feet were fully corrected and maintained correction for 3 years,20(10%)feet lost correction during follow up and manipulation and casting were able to regain correction 30(15%)were partially corrected and surgical treatment were needed later.

**Conclusion:** Ponseti method is very powerful method for treating club foot and should always be the first line in treating these cases.

**Keywords:**
Ponseti, Clubfoot, Denis Brown Splint

**76**

## Bone Tumor Resections and Endoprosthetic Reconstructions: King Hussein Medical Center Experience

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**Objectives:** To demonstrate and examine our experience and results in bone tumor resections followed by endoprosthetic reconstruction surgeries, since these surgeries are considered to be the most up to date and state of the art performed surgeries in orthopedic oncology specialty worldwide. And to compare with other older reconstruction procedures that used to be performed at our center.

**Methodology:** A study was conducted covering the period between January 2005 till December 2011 analyzing 30 patients with bone tumors treated with various limb salvage procedures. The tumors included 25 primary malignancies, two metastases and three giant cell tumors; the lower femur was involved in 24 patients, and the upper tibia in six patients. The reconstruction procedures included 28 prosthetic replacements, two autologous fibular grafts.

**Results and Discussion:** With 30 months as a follow-up, local recurrences occurred in two cases and systemic metastases in seven. Twelve patients died and 18 survived and remained disease free. The five year Kaplan-Meier survival rate of the patients with malignancies was 40.4 % (those who passed 5 years of follow up in our study). The average Musculoskeletal Tumor Society (MSTS) functional score was 60 % (range 20–100 %) in all patients.

**Conclusion:** We concluded that bone tumors treated by the introduction of tumor endoprosthesis limb sparing surgery into our service improved the outcome and decreased the mortality and morbidity of our patients.

**Keywords:** Bone Tumor, Tumor Resection, Endoprosthesis, Limb Sparing.

**77**

## Terrible Triad of the Elbow

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This lecture will cover the terrible triad of the elbow (fracture of the radial head, fracture of the coronoid and dislocation of the elbow), it will review the anatomy and stabilizing structures of the elbow, how to asses this injury and the protocol to reconstruct the elbow (bone and ligaments) and the post-operative protocol to rehabilitate it.

**78**

## Avascular Necrosis (AVN) of Femur Head, Jordan Hospital Experience in Core Decompression and Bone Graft

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Core decompression with modification of technique is one of the safest and most commonly employed procedures with evidence of success in early stages of avascular necrosis (AVN) of the femoral head. Our study aims at assessing our experience at Jordan Hospital in using core decompression and bone grafting as a modality of treatment of early stages of femur head AVN.
We reviewed ninety six cases of femur head AVN in seventy two patients treated with core decompression and bone grafting. On follow up, fifty two cases (54%) were showing evidence of bone regeneration and no evidence of collapse. We recommend core decompression and bone grafting as a successful method for the treatment of early stages (Ficat stage two and three) femur head AVN.

**79**

## Augmentation in Intertrochanteric Fractures

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This lecture will review the use of augmentation using bone cement in intertrochanteric fractures in elderly patients (over 65 years of age), it will discuss the current evidence (basic science as well as clinical) of this subject. And will present the preliminary results of a RCT using this technique in intertrochanteric fractures in elderly patients.

**80**
**Current Concepts in Patellar Instability**

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Instability of the patellofemoral joint is a multifactorial Problem. Patellar stability relies on the limb alignment, the osseous architecture of the patella and the trochlea, the integrity of the soft-tissue constraints, and the interplay of the surrounding muscles. Treatment of patellar instability requires an understanding of these relationships and how to evaluate them. The evaluation and treatment of patellar instability continue to evolve. The importance of a thorough physical examination and an accurate diagnosis is paramount. The current concepts of treatment of this condition will be reviewed with emphasis on treating the underlying predisposing pathological conditions.

**81**
**Modified Latarjet Procedure for Recurrent Anterior Shoulder Dislocation: Our Experience at the Jordanian Royal Medical Services**

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**Purpose:** it is a retrospective study to assess our results with patients treated using modified Latarjet procedure.

**Materials and Methods:** This is a retrospective study done in the period between Apr.2014 and Oct. 2015.22 patients with recurrent traumatic anterior shoulder dislocation who underwent surgical treatment with modified Latarjet technique were included in the study. Patients were questioned about satisfaction, range of motion and its effect on daily life and were examined for stability and range of motion and complications if present.

**Results:** 21 Patients (95.5%) were satisfied of the surgery with no experience of redislocation. One patient (4.5%) was not satisfied because of axillary nerve injury. Four patients (18%) had a limitation of external rotation ranging from 5-15 degree. All patients returned to their level of activity at three months except the one with nerve injury fortunately he was improving.

**Conclusion:** The Latarjet procedure is an effective technique for the treatment of recurrent anterior shoulder dislocation particularly associated glenoid bone loss.

**Keywords:** Latarjet procedure, complication, shoulder dislocation

**82**
**Single Operation Management for Neglected Dislocation of the Hip by Open Reduction, Pelvic Osteotomy and Femoral Shortening with Derotation after the Age of 24 Months**

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**Objectives:** To evaluate the results of open reduction, pelvic osteotomy and femoral shortening with derotation in a single operation in the management of children who present with high hip dislocation after the age of 24 months.

**Methodology:** This is a retrospective study on 46 patients, 61 hips. Between April 2012 and July 2014, with an average follow up of 20 Months. All patients underwent correction of all elements of developmental dislocation of the hip at the same surgery in one time. Open reduction through anterior approach followed by femoral shortening, derotation and mild varization, and finally salter pelvic osteotomy. After surgery a one hip spica is applied for 6 weeks duration followed by another 6 weeks application of broomstick cast. Patients were assessed clinically and by radiological imaging preoperatively and post operatively at 6,12,24 months. A modified Mackey's scoring system was used to evaluate functional outcome and the Severin's scoring method used to assess the radiographic results.

**Results and Discussion:** The mean age as surgery time was 5.3 years (2 to 11 years), the average follow up was 20 months ranging from 9 to 38 months. The Mackey's score was good to excellent in 37 hips, the Severins was class I and II in 28 hips 60% at the time of final evaluation as compared to non at the time of presentation.

**Conclusion:** To correct all the elements of developmental dislocation of the hip in a single stage surgery at one time you need to do open reduction, femoral shortening and derotation with pelvic osteotomy which will give you excellent results in younger patients and a fair result after the age of 6 years.

**Keywords:** Neglected Hip Dislocation

**83**
**The Challenge of the Treatment of Methicillin-Resistant Staphylococcus Aureus Osteomyelitis in Pediatric Age Group Royal Medical Services Experience**

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**Objectives:** The treatment of acute osteomyelitis needs a proper antimicrobial therapy in all cases and sometimes requires surgical incision and drainage, the drainage has become particularly important in the treatment of the osteomyelitis. The challenge when the osteomyelitis comes in subacute or chronic stage. Unluckily, the persistent of Methicillin-resistant Staphylococcus Aureus (MRSA) among community-associated isolates has limited treatment options in that all β-lactam antibiotics are eliminated from consideration.

**Methodology:** We retrospectively analyzed six cases of MRSA osteomyelitis presented to our clinic Royal Medical Services in between 2012-2015; multiple incision and drainage procedures were done in all cases, even with appropriate antibiotic therapy and incision no less than 10-15 cm in length, is made in the soft tissues overlying the lesions and preserving the periosteum, surgical removal of dead bone and debridement of affected soft tissues. Vancomycin or clindamycin used in all six patients in addition to TMP–SMX or rifampicin in the hospital and continue by TMP–SMX or rifampicin as outpatient. Both the C -reactive protein (CRP) and the Erythrocyte sedimentation rate (ESR) have been used as markers to monitor the response to therapy in children with osteomyelitis.

**Results and Discussion:** All six patients were followed up; five of them full fill the clinical criteria and the laboratory markers for cure in less than 8 weeks (mean duration for cure 4 weeks) the sixth case his CRP was normalized after 20 weeks. The hospitals stay range between 3-4 weeks during which we did not face any drug reaction or side effects. After clinical and radiological healing was achieved, the patient was seen in the outpatient clinic in 3 months intervals. The mean clinical follow up was 9 months (range 6 to 12 months), and the mean time to return to activities was 16 weeks (range 12 to 19 weeks).

**Conclusion:** MRSA osteomyelitis in pediatric age group can be treated effectively with following the guidelines by appropriate surgical and medical treatment.

**Keywords:** Methicillin-resistant Staphylococcus Aureus, Osteomyelitis, Pediatric Age, Royal Medical Services

**84**
**8 Plate for Correcting Knee Angular Deformity (Royal Medical Service Experience)**

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**Objectives:** To evaluate our experience in RMS in using physis guided growth procedure using 8 plates in correcting coronal knee angular deformity

**Methodology:** This is retrospective study from Oct 2012 -0ct 2015 in queen Rania hospital ,42 patients with 70 knees angular deformities treated with 8 plate were evaluated ,age of patients range from 8-14 years(average 11.5 years),32 males,20 knees were left,30 right and 20 bilateral, every

patient was evaluated pre operatively clinically and by radiography and deformity parameter were recorded ,patients were followed in the clinic for one year post operatively to evaluate angular correction.

**Results and Discussion:** 50 (70%)knees were found to be in varus,30(42%)the source of deformity was found in the proximal tibia,22(31%) were found in distal femur and the remaining was combined. The average of varus deformity 15 degree and valgus deformity 10 degree.post operative evaluation showed 36 patients (86%) regain normal lower limb mechanical axis,8 (19%) patients required osteotomy to correct deformity.

**Conclusion:** Physis guided growth procedure using 8 plate is very effective to correct knee coronal angular deformity and to avoid the complications and morbidity of the osteotomy.

**Keywords:** 8 Plate, Knee Deformity, Physis.

**85**
**Management of Adolescent Residual Hip Dysplasia by Triple Pelvic Osteotomy, Royal Medical Service Experience and Short Term Follow-Up**

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**Objectives:** To evaluate the radiological and clinical outcome of using triple pelvic osteotomy in adolescents with residual acetabular dysplasia.

**Methodology:** Between March 2015 and May 2016, 12 patients with the diagnosis of residual acetabular dysplasia underwent triple pelvic osteotomy. Preoperative clinical evaluation of hip range of motion and abductor muscle strength and radiographic assessment using center edge angle, sharps angle and head coverage percentage were done.

**Results and Conclusion:** At the conclusion of surgery and while the patient in the operative room, radiographic assessment reveal a significant improvement in acetabular coverage and other radiographic parameters, and this correction maintained well at follow up radiographic evaluation. Clinically 11 patients regain their preoperative range of motion, which is still painless, and show a good recovery of their abductor strength. One patient developed hip chondrolysis which lead to progressive hip stiffness and pain.

**Conclusion:** Triple pelvic osteotomy is a valuable surgical procedure that not only improving the radiographic appearance of dysplastic hips, but also it improve patient symptoms, especially limping related to abductor weakness due to improved hip biomechanics ,As well as improving hip durability which need longer follow up period to be proved.

**Keywords:** Triple pelvic Osteotomy, Hip Dysplasia

**86**
**Ipsilateral Supracondylar Humerus, Monteggia Fracture Dislocation and Distal Radius Fracture: A case Report**

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We present a 7 year old male patient who had fallen down on his left upper limb from a ground level height that resulted in an Ipsilateral Supracondylar humerus, Monteggia fracture dislocation type 1 and Distal Radius fracture which is a very rare injury with no clear surgical indications, many patients with such injuries were treated conservatively and others were treated surgically with acceptable functional results. We decided to proceed with the surgical option with a very good functional result.

**87**
**Emergency Radiology, New Evolution**

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Thrombectomy is proving to be effective in treatment of acute ischemic stroke, the indication and clinical evidence of thrombectomy of acute stroke versus medical treatment is discussed.

## 88
## Hepatobiliary MRI 2016

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With recent technical advances in hardware, software, and intravenous contrast agents, MRI has evolved into a clinically useful procedure to detect and characterise liver tumours. The combination of MRI systems with larger gradients, improved surface coils, and parallel imaging techniques have produced substantial improvements in MRI quality and speed of image acquisition. Images that previously needed several minutes to acquire can now be obtained in several seconds. The notably faster imaging capabilities of new MRI scanners are ideally suited for dynamic contrast-enhanced liver imaging in which early arterial-phase imaging is best for detecting hepatocellular carcinomas and hypervascular liver metastases. The inherent excellent soft-tissue contrast of MRI can be further improved by non-specific extracellular contrast agents and by liver-specific contrast agents. These contrast agents are now routinely used for liver imaging and improve the sensitivity and specificity of hepatobiliary MRI.

## 89
## Neuroimaging in Hematological malignancies

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Neurologic complications of leukemia have increased with treatment advances and longer survival times. Improved Neuroimaging techniques help characterize CNS abnormalities caused by primary disease involvement of the Central Nervous System or due to complications caused by different treatment methods encountered in neurologically asymptomatic patients. Such complications include: cerebrovascular disorders, infections, treatment-related neurotoxicity, and second malignant tumors. Knowledge of clinical information such as prior and current therapy, presenting signs and symptoms, and any lab data must be considered along with the radiologic findings if an accurate evaluation is to be made in the leukemic patient presenting with signs of neurological disease

## 90
## Diffusion and Perfusion – New Tools for Abdominal MRI

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**Purpose:** To determine whether abdominal and pelvic magnetic resonance imaging (MRI) with diffusion-weighted and dynamic gadolinium-enhanced imaging can be used to accurately calculate the peritoneal cancer index (PCI) before surgery compared to the PCI tabulated at surgery.

**Methods:** Thirty-three patients underwent preoperative MRI followed by cytoreductive surgery for primary tumors of the appendix (n = 25), ovary (n = 5), colon (n = 2), and mesothelioma (n = 1). MRIs were retrospectively reviewed to determine the MRI PCI. These scores were then compared to PCI tabulated at surgery. Patients were categorized as having small-volume tumors (PCI 0–9), moderate-volume tumors (PCI 10–20), and large-volume tumors (PCI >20). The respective anatomic site scores for both MRI and surgery were compared.

**Results:** There was no significant difference between the MRI PCI and surgical PCI for the 33 patients (P = 0.12). MRI correctly predicted the PCI category in 29 (0.88) of 33 patients. Compared to surgical findings, MRI correctly predicted small-volume tumor in 6 of 7 patients, moderate volume tumor in 3 of 4 patients, and large-volume tumor in 20 of 22 patients. MRI and surgical PCI scores were identical in 8 patients (24%). A difference of\5 was noted in 16 patients (49%) and of 5–10 in 9 patients (27%). Compared to surgical-site findings, MRI depicted 258 truly positive sites of peritoneal tumor, 35 falsely negative sites, 35 falsely positive sites, and 101 truly negative sites, with a corresponding sensitivity of 0.88, specificity of 0.74, and accuracy of 0.84.

**Conclusions:** Combined diffusion-weighted and gadolinium-enhanced peritoneal MRI accurately predicts the PCI before surgery in patients undergoing evaluation for cytoreductive surgery.

**91**
**MRI of Peritoneal Malignancy**

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Diffusion is a physical property that describes the microscopic random movement of molecules in response to thermal energy. Also known as Brownian motion, diffusion may be affected by the biophysical properties of tissues such as cell organization and density, microstructure and microcirculation. Diffusion weighted (DW) imaging uses pulse sequences and techniques that are sensitive to very small-scale motion of water protons at the microscopic level. Single shot echo planar imaging (EPI) DW imaging is used to provide very rapid imaging sensitive to subtle small-scale alternations in diffusion. Areas of restricted water diffusion are displayed as areas of high signal intensity. The application of DW imaging for the evaluation of intracranial abnormalities, such as acute cerebral infarcts, is well established.10 DW imaging often shows areas of altered diffusion in the abnormal brain long before any changes are manifested on conventional anatomic MR images. However, the challenges posed by DW imaging of the abdomen and pelvis initially limited its application for body MR imaging. With use of DW imaging, artifacts related to physiologic motion, susceptibility, and chemical shift are compounded by inherent limitations in signal-to-noise ratio and image resolution. The larger fields of view used for abdominal imaging accentuate many of the artifacts inherent in DW imaging and single shot EPI.

**92**
**A New Aneurysm Occlusion Classification after the Impact of Flow Modification**

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A new classification is proposed for cerebral aneurysms treated with any endovascular technique, for example, coiling with or without adjunctive devices, flow diversion, intrasaccular flow modifiers, or any combination of the above. Raymond-Roy Occlusion Classification is expanded with novel subgroups such as class 1 represents complete occlusion and is subdivided if a branch is integrated to, or originated from, the aneurysm sac; class 2 represents neck filling; class 3 represents incomplete occlusion with aneurysm filling as in the previous classification; and class 4 describes the immediate postoperative status after extra- or intrasaccular flow modification treatment. A new concept, "stable remodeling," is included as class 5, which represents filling in the neck region that stays unchanged or reduced, as shown with at least 2 consecutive control angiographies, at least 6 months apart, for not <1 year, or the remodeled appearance of a dilated and/or tortuous vessel in continuation with the parent artery without sac filling.

**93**
**Radiological Approach to Adult White Matter Disorders**

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White matter is composed of bundles of axons supporting glial cells, and penetrating blood vessels. It attains its color from fatty myelin sheaths formed by Oligodendrocytes and Schwann cells (in the periphery). It is divided into U fibers, deep and periventricular parts. White matter disorder are quite complex and variable giving overlapped frequently confusing patterns on imaging particularly MRI and considered a real challenge for every radiologist. Following a diagnostic algorithm, picking specific features of certain diseases and using advanced imaging tools will help in narrowing the list of differential diagnoses.

**94**

## Endovascular Treatment of Brain Arteriovenous Malformations with Prolonged Intranidal Onyx Injection Technique: Long-term Results in 350 Consecutive Patients with Completed Endovascular Treatment Course

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**Objective:** The purpose of this study was to present the authors' clinical experience and long-term angiographic and clinical follow-up results in 350 patients with brain arteriovenous malformations (AVMs) treated using prolonged intranidal Onyx injection with a very slow "staged" reflux technique described by the authors.

**Methods:** Three hundred and fifty consecutive patients with brain AVMs treated using Onyx between 1999 and 2008 and in whom definitive status for endovascular treatment was reached are presented. There were 206 (59%) male and 144 (41%) female patients, with a mean age of 34 years. There were 607 endovascular sessions performed. Onyx was the only agent used for intranidal injections in all patients, but in 42 patients high-concentration N-butyl cyanoacrylate glue was used adjunctively to close high-flow direct arteriovenous intra- or perinidal fistulas, or when a feeding vessel or nidus perforation and/or dissection occurred.

**Results:** Angiographically confirmed obliteration was achieved in 179 patients (51%) with only endovascular treatment; 1 patient died due to intracranial hemorrhage after the treatment. Twenty-two patients underwent resection, and 136 patients were sent to radiosurgery after endovascular treatment. In 4 patients embolization therapy was discontinued, and 5 additional patients refused the suggested complementary surgery. In all 178 surviving patients who had angiographically confirmed AVM obliteration by embolization alone, 1-8 years of control angiography (mean 47 months) confirmed stable obliteration, except for 2 patients in whom a very small recruitment was noted in the 1st year on control angiography studies, despite initial apparent total obliteration (recanalization rate 1.1%). In the entire series, 5 patients died; the mortality rate was 1.4%. The permanent morbidity rate was 7.1%.

**Conclusions:** With the prolonged intranidal injection technique described herein, Onyx allows the practitioner to achieve higher rates of anatomical cures compared with the cure rates obtained previously with other embolic agents. More importantly, due to this technique's much more effective intranidal penetration, it allows high-grade AVMs to be made radiosurgically treatable in a group of patients for whom there has been no treatment alternative.

**95**

## Prognostic Value of Histopathologic Vascular Invasion in Differentiated Thyroid Carcinoma; A Single Center Experience.

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**Objectives:** To determine whether the presence of vascular invasion in differentiated thyroid carcinoma at diagnosis is associated with more aggressive disease course and its implication for the need for repeated ablation doses by Iodine 131.

**Methodology:** A retrospective database study, we evaluated post total thyroidectomy patients with differentiated thyroid carcinoma (WDTC) who presented to our center as new or follow up cases referred from surgical or medical departments from January 2009 to December 2012. The medical records, demographic data and detailed histopathological reports alongside with follow up parameters were reviewed in details for 176 patients of both genders. Age, gender, baseline thyroglobuline , metastases and need for subsequent doses of radioactive iodine were used as predictors ,SSPS 11.5 software was used for statistical analysis.

**Results and Discussion:** Patients were categorized into two main groups with WDTC according to vascular invasion proved by histopathology report. Group 1 consisted of 56 patients who had WDTC and histological evidence of vascular invasion, while Group 2 consisted of 120 WDTC patients with no histological evidence of vascular invasion. There was no significant

difference neither in the age group between Group 1 and Group 2 (42.2 +/- 15.6 and 41.9 +/-14.5 years {P = 0.44}) nor in gender predominance. There was significant higher incidence of distant metastasis at diagnosis in the patients with vascular invasion (12.5 % versus 1.7%, OR =8.3 (1.53-61.07), RR = 7.5 (1.61-34.95) P = 0.005). The need for further ablation doses by Iodine 131 was also much higher in the first group (25% versus 7%, OR=4.67 (1.68-13.2), RR=3.75 (1.67-8.43), P = 0.0006). Other predictors were of no significance.

**Conclusion:** The presence of histologic vascular invasion in differentiated thyroid carcinoma is associated with more aggressive disease and predicts further distant metastasis, and with a higher need for future repeated Iodine 131 ablative doses. All these factors collectively necessitate careful postoperative patient stratification for more accurate treatment and close follow up.

**Keywords:** differentiated thyroid ca, vascular invasion, thyroglobulin

## 96
## MRI of the Acute Abdomen

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**Summary:** MR imaging provides and effective and safe method to evaluate patients with acute abdominal pain.

**Goals:** Accurate and rapid diagnosis of acute abdominal pain with reproducible results.

**Advantages:** MRI is safe and effective providing abdominal imaging without ionizing radiation. Superior soft tissue contrast and multiple contrast mechanisms including T1, T2, DWI, and gadolinium-enhanced imaging make it superior to CT for many types of abdominal imaging. Specific MR techniques including MRCP are unique to MRI and are often very useful for the patient with acute abdominal pain.

**Clinical Applications:** We routinely use MRI to evaluate patients with suspected acute cholecystitis, pancreatitis, intestinal ischemia, diverticulitis, colitis, peritonitis, appendicitis, bowel obstruction, and acute pyelonephritis. The list of possible uses is quite extensive. For some clinical applications such as biliary disease, peritonitis, and suspected acute appendicitis in the pediatric patient we use MRI as the initial test rather than CT. For patients who cannot receive CT intravenous contrast material MRI is more effective than unenhanced CT. In other patients in whom the results of CT are equivocal, MR is used to determine the diagnosis.

**MRI Technique:** Rapid breath-hold imaging is essential for the cooperative patient for superior image quality and rapid diagnosis. Our protocol includes pre contrast breath-hold T1, T2, and diffusion-weighted (b20, 500-800) MR imaging followed by dynamic gadolinium-enhanced imaging. Additional imaging techniques can include MRCP, MR angiography, and MR urography as indicated by the clinical presentation.

**MR Image Interpretation:** The key contrast mechanisms for MRI of inflammation, ischemia, or infarction include gadolinium-enhancement and restricted diffusion using DWI with an intermediate b-value 500. Other tools including T2-weighted imaging are useful to identify fluid and cystic structures. SSFSE and T1 and SSFP are useful for defining anatomy. The gastrointestinal tract is best depicted on SSFP (2D FIESTA, balanced FFE, true FISP) imaging and SSFSE. However, inflammation or ischemia of the GI tract is often best seen on delayed gadolinium-enhanced MRI and DWI b500-800 images.

**Conclusions:** MRI provides a highly effective imaging tool that can complement or replace CT in the cooperative patient with acute abdominal pain.

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## Importance of Ultrasound in Diagnosis and Management of Musculoskeletal Disease

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Ultrasound use in diagnosis and management of musculoskeletal diseases is gaining popularity nowadays, not only due to the fantastic advantages of ultrasound when compared to other radiological modalities ,but also as more and more studies are proving that ultrasound is at least equal to MRI exam in many of the musculoskeletal diseases. Ultrasound supersedes MRI examinations due to a long list of advantages including: widespread availability, accessibility, low cost, Real-Time examination, time saving, no need for technician, coil or huge resources. Ultrasound now days can diagnose reliably a lot of muscles, tendons, ligaments, joints, soft tissue and peripheral nerves diseases, examples include rotator cuff injury, tendons tear ligaments injury, elbow diseases, joint effusion, nerves injury, soft tissue edema and infection. In addition, Ultrasound uses extending to include follow up and treatment of musculoskeletal diseases including ultrasound guided procedures, like joint aspiration and many other uses, not our focus in these lectures. Finally, this new medical field has very hopeful future as many studies recommend strongly to do more studies in this field as the available studies showed excellent results about use of ultrasound in diagnosis and management of musculoskeletal diseases when done by experience hands, and I'm so optimistic to see this medical field is growing in our area as this field had already grew in the developed countries like European Countries.

**98**

## Diffusion Weighted Imaging in Evaluation of Various Musculoskeletal Disorders

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**Aim:** to emphasize the role of DWI in musculoskeletal pathologies.

**Introduction:** MRI is one of the important modalities used in evaluation of musculoskeletal disorders. The wide range of MSK diseases and the similarities in imaging findings between various pathologies made it mandatory to search for new modalities or technologies to aid for better differentiation. One of the recent advances is the use of diffusion weighted imaging. DWI has been used for evaluation of vertebral fractures, bone infections, bone and soft tissue tumors, follow-up and evaluation of response to therapies, skeletal metastases and early detection of arthritis. In this lecture revision of literature regarding the use of DWI, and in what conditions it proved to be helpful and of important diagnostic value.

**Keywords:** diffusion, musculoskeletal

**99**

## Evaluation of Ultrasound Features of Thyroid Nodules to Assess Malignancy Risk: A step Towards TIRADS (Thyroid Imaging Reporting and Data System)

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Advances in diagnostic imaging tools have led to increased awareness and availability of information on thyroid nodules. This combined with the high incidence of thyroid nodules (10% lifetime probability and 5-15% is generally found to be malignant.), make it necessary to standardize terminology and create guidelines to categorize thyroid nodules according to their malignant potential for effective management. Thyroid FNA biopsy is the most reliable, safe and cost-effective diagnostic tool used in the definitive evaluation of thyroid nodules, especially when done under US guidance, and has a 95-97% accuracy rate. The decision to pursue FNA sampling should be based on a risk-stratification approach that includes history and US characteristics. Unnecessary investigations of thyroid nodules place a huge burden on societal healthcare costs. No single US feature has enough accuracy to distinguish benign from malignant thyroid lesions, but the combination of multiple features greatly increases sensitivity and specificity. Recently, US classification of thyroid nodules have been modeled on the Breast Imaging Reporting and Data System (BIRADS) for classification of breast cancer. A Thyroid Imaging Reporting and Data System (TIRADS) scores malignant potential for thyroid nodules based on US imaging features. The ultrasound features

are divided into: Major: Microcalcification, marked hypoechogenicity, lobulated or ill-defined margins, taller than wider, suspicious lymph nodes. Minor: Macro calcification, eggshell calcification, hypoechogenicity, solid consistency. Benign: Hyperechogenicity, comet-tail artifact, complete halo, cystic /microcystic. Different TIRADS with different thresholds for decision makings will be discussed.

**100**

**Imaging the Child with Acute Abdomen ''It's not Always What You Think"**

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Acute pediatric abdomen is a very common clinical problem in pediatric emergency department. Clinical and laboratory findings, however, are nonspecific or confusing in many instances. This talk focuses on strategy in diagnosing acute pediatric abdomen, highlighting briefly the more common causes of abdominal pain that may require surgery. A variety of diseases such as appendicitis, gastroenteritis, mesenteric adenitis, intestinal intussusceptions, Henoch-Schonlein purpura, Crohn's disease, Meckler's diverticulitis, duodenal ulcer, congenital biliary dilatation, ovarian torsion, and anomaly of the internal genitalia are discussed in this article. Selection of an appropriate imaging modality is essential to ensure prompt management. In the majority of cases, plain abdomen X-Ray and ultrasound can provide specific diagnoses, whereas in others valuable supplemental information can be obtained. CT will be reserved for selected patients in whom further information is needed. Indications of MR imaging in the management of acute pediatric abdomen are currently limited. MR imaging, however, is indicated on an emergency or semi-emergency basis in selected conditions including anomaly of the internal genitalia, ovarian torsion, and congenital biliary dilatation.

**101**

**May Bone-Targeted Radionuclide Therapy Overcome PRRT-Refractory Osseous Disease in NET? A pilot Report on 188Re-HEDP Treatment in Progressive Bone Metastases after 177Lu-octreotate**

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**Objectives:** Assess the clinical benefit of bone-targeted radionuclide therapy (BTRT) in patients refractory to PRRT

**Methodology:** A small cohort of n=6 patients with progressive BM failing PRRT with 177Lu-octreotate (mean cumulative activity, 46.7 GBq) were treated with a total of 11 cycles BTRT using 2.6-3.3 GBq 188Re-HEDP per cycle and a median cumulative activity of 5.9 GBq. Pain palliation was quantified applying the visual analogue scale (VAS)

**Results and Discussion:** The mean VAS decreased from 6.6 (range 5-8) to 3.7 (range 2-7). Five patients experienced partial resolution of bone pain (? 2 steps reduction on the VAS for at least 2 weeks) and one patient had no significant improvement. Flare phenomena occurred in 2 patients and lasted for 2-3 days. Tumor response consisted of stable disease in 2 and progressive disease in 4 patients. No regression of bone metastases has been observed. The median overall survival was 5 months (range 2-9). Relevant myelosuppression (grade 3-4; self-limited with no interventions or hospitalization), occurred 4-6 weeks post-treatment, and after 2 (18.1%) administrations or in 1 (16.7%) patient. No other relevant toxicities or treatment-related death was observed

**Conclusion:** 188Re-HEDP may be safely applied in patients with bone metastatic GEP-NET previously treated with 177Lu-octreotate. While acceptable pain relief may be expected, no tumor-regression or long-term disease stabilization with apparent survival benefit has been observed.

**Keywords:** Bone metastases, neuroendocrine tumors, peptide receptor radionuclide therapy, targeted radionuclide therapy, 188Re-HEDP

## 102
## Diagnostic Value of Bone Scan in Children with Back Pain

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**Objectives:** The aim of this retrospective study was to assess the diagnostic value of 99mTc-MDP bone scan in children with back pain with analysis to scan findings in various pathologies

**Methodology**: We included 77 children in this study, all complaining of back pain for period ranging from 7 days to 6 months. There were 48 boys and 29 girls (mean age of 14+6. All had nonspecific or normal initial physical, radiological and laboratory examination All underwent bone scan imaging after the injection of 99mTc-MDP with calculated doses according to body there weights. Bone scan included 3 phase technique for the complaining area followed by whole body scan and spot views if recommended.

**Results and Discussion:** Bone scans were abnormal in 22(27%) patients within 13 boys and 8 girls. Scans findings were suggestive of spondylolysis (n=5); malignancy including primary tumors and metastases (n=5); infection including osteomyelitis and discitis(n=3); sacroilietis (n=3); benign tumors (n=2); pseudo fracture(ribs) (n=2); necrosis in femoral head epiphysis(n=1) and nonskeletal causes (n=1). Sensitivity and negative predictive values of bone scan in detecting gross skeletal abnormality as a cause for back pain were 94% and 100% respectively.

**Conclusion:** Bone scan has proved high sensitivity in localizing bone pathologies in in children with back pain. Although the mechanism of uptake is nonspecific, still this modality was able to suggest the true diagnosis in many pathologies.

**Keywords:** Bone scan, pediatric, back pain

## 103
## The Role of Neuroendoscopy in the Management of Tectal Plate Gliomas

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**Objectives:** The objective is to review our experience in the neuroendoscopic management of tectal plate gliomas at King Hussein Medical Centre.

**Methodology:** Over the period between January 2010 and January 2015, twenty one patients diagnosed clinically and radiologically as tectal plate gliomas associated with hydrocephalus and raised intracranial pressure were included. All underwent Endoscopic Third Ventriculostomy. Successful outcome was defined as shunt-freedom and resolution of symptoms and signs of raised intracranial pressure.

**Results and Discussion:** Twenty one patients (12 males and 9 females) underwent Endoscopic Third Ventriculostomy. Median age was 10 (range 9-54) years. None of our patients had endoscopic biopsy of the tumor performed. During a median follow-up period of 36 months (range 6–50) 19 patients remained asymptomatic and shunt free. Two patients had to be re operated and were shunted. Follow up of the tumor showed no progression in all cases except 3 cases. Endoscopic Third Ventriculostomy went smooth in all cases with no morbidity or mortality.

**Conclusion:** Tectal plate gliomas are very slow growing tumours that can be managed conservatively in adults and children. Endoscopic Third Ventriculostomy is a very safe and effective procedure in the management of hydrocephalus and raised intracranial pressure caused by tectal plate gliomas.

**Keywords:** Neuroendoscopy, Tectal plate gliomas, Endoscopic Third Ventriculostomy

## 104
## Neuroendoscopy Treatment of Colloid Cysts, King Hussein Medical Centre Experience

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**Objectives:** Colloid cysts of the third ventricle are fairly common pathology in the neurosurgery practice. Options for the treatment include microsurgical resection, stereotactic aspiration and VP shunt. Recently, endoscopic approaches have gained popularity as a minimal invasive procedure for the management of colloid cysts. This study will describe our experience in the neuroendoscopic management of colloid cysts at King Hussein Medical Centre.

**Methodology:** Between 2006 and 2015, 12 patients diagnosed with a colloid cyst of the third ventricle were treated with neuroendoscopic technique. Mean age was 25 years, 7 males and 5 females. All cases operated by the same surgeon at King Hussein Medical Centre. The 12 cases were chosen for endoscopic procedure mainly depending on the dilatation of ventricles, size of foramen of Monro, and the size of cyst. Cyst diameters ranged from 5 to 40 mm. rigid endoscope was used in all cases. Pre coronal burr hole was used. The technique consisted in cyst fenestrations, colloid aspiration, coagulation of the internal cyst wall and, occasionally, capsule excision.

**Results and Discussion:** Mean postoperative hospital stay was 5days. Technically 5 cases were totally resected, 4 cases near total resection and 3 cases with significant residual. There were two complications one cerebrospinal fluid leak and the other prolonged bloody cerebrospinal fluid in the external ventricular drain. Follow-up varied between 10 and 96 months. There were two asymptomatic recurrences, one required shunting.

**Conclusion:** The endoscopic approach to the treatment of colloid cysts is safe, effective and well accepted by patients. Asymptomatic, recurrences remains a pitfall and necessitate follow up. The success of the procedure is dependent on the size of the cyst and the dilatation of ventricles.

**Keywords:** Colloid cyst, Neuroendoscopy,Third ventricle tumor, Microsurgery, Stereotactic aspiration

## 105
## Management of Complications of Endovascular Aortic Repair (EVAR and TEVAR) Our Experience at King Hussein Medical Center

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**Objectives:** Endovascular stent-graft placement (EVAR and TEVAR) has become an acceptable and increasingly widely used technique worldwide, and is gaining acceptance as an alternative to the traditional open surgical repair of aortic disease. Although EVAR and TEVAR are obviously less invasive than open surgical repair, they are accompanied by disastrous complications which can potentially result in severe morbidity or even mortality. The management of these complications is a challenging endeavor. To report the incidence of various types of endovascular aortic stent-graft complications including various types of endoleak, graft infection, neurological complications ,mesenteric ischemia and graft limb occlusion, and to represent treatment options and their outcomes at king Hussein medical center.

**Methodology:** This a retrospective study held in our vascular and endovascular surgery department at King Hussein Medical Center in Amman, during the period of January 2012 and March 2016. During the mentioned period, 221 patients were treated with either endovascular abdominal aortic repair (EVAR) for infrarenal abdominal aortic aneurysm (181 patients) or thoracic endovascular aortic repair (TEVAR) for thoracic aortic aneurysms (40 patients). Mean age was 56 years old. There were 165 males and the remaining were females. 188 procedures were done electively while the remaining 33 cases were done on an emergency basis.

**Results and Discussion:** Among these patients, the procedure was complicated by type 1 endoleak in 8 patients (3.5%) and that was managed immediately during the procedure successfully by deployment of an endovascular extension graft or cuff. Sixty seven (30%) patients had type 2 endoleak , either detected immediately during the procedure or later on at the follow up ; 8 of the 30 patients were treated by coil embolization of

the feeding vessel and the others were managed successfully conservatively. During the follow up period, seven patients presented with aortic endograft infection (3%). Five of the seven were treated surgically with aortic endograft removal and axillobifemoral bypass, among them two survived and three died. And two patients were successfully treated conservatively. 5 out of 7 were done to ruptured abdominal aortic aneurysms (r EVAR) in an emergency setting. 8 patients had paraplegia post procedure , and 7 of the 8 patients who experienced paraplegia, had TEVAR which required long coverage area grafts , while the remaining one had TEVAR with a past history of aortobifemoral bypass for infrarenal aortic aneurysmal disease. One of the patients had mesenteric ischemia and treated surgically but died in the third post operative day due to surgical complications. Immediate graft limb occlusion with limb ischemia occurred in 12 patients, While late limb occlusion occurred in 25 patients and treated surgically either by thrombolysis and stenting, or femorofemoral bypass or axillofemoral bypass.

**Conclusion:** Endovascular aortic repair (EVAR and TEVAR ) is accompanied by major and sometimes disasterous complications. A thorough knowledge of the potential complications, sticking to the worldwide protocols, early diagnosis, and appropriate treatment are mandatory to reduce morbidity and mortality due to these complications.

**Keywords:** TEVAR , EVAR

**106**

## In situ Arterial Bypass Surgery for Lower Limb Salvage. Experience at King Hussein Medical Center

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**Objectives:** To assess the outcome of the in situ technique in lower limb revascularization in terms of techniqal success, complications, advantages and disadvantages.

**Methodology:** A retrospective analysis was performed on all patients who underwent this procedure at KHMC between January 2012 and January 2016. Data was collected from patients' notes, operating room records, and vascular laboratory records.

**Results and Discussion:** A total of 34 patients underwent this procedure. 21 (61.7 %) were males, and 13 (38.6%) were females. Age ranged between 35-78 years. The indication for these bypasses was critical ischemia in 27 patients (79.4%) and acute ischemia in 7 patients (21.6%). A venous duplex study was performed to assess the adequacy of the great saphenous vein for this bypass. The inflow artery was the common femoral artery in 25 (73.5%) cases, the superficial femoral artery in 5 (14.7 %) cases, and the popliteal artery in 4 (11.8%) cases. The immediate success rate was 32/34 (94.1%). The average operative time was 110.7 minutes. Five patients developed vein injury by the valvulotome, all were repaired successfully. Two patients needed basilic vein interposition between the great saphenous vein and the common femoral artery.

**Conclusion:** In situ byass is a valid and effective technique and associated with many advantages as shorter operative time, less incisions, less caliber mismatch between the arteries and the vein, with comparable patency to the reversed great saphenous vein technique.

**Keywords:** Arterial bypass, limb ischemia, limb slavage.

## 107
## Outcome of Surgical Treatment for Popliteal Artery Aneurysms Repair in King Hussein Medical Center (KHMC)

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**Objectives:** To assess the outcome of the in situ technique in lower limb revascularization in terms of technical success, complications, advantages and disadvantages.

**Methodology:** A retrospective analysis was performed on all patients who underwent this procedure at KHMC between January 2012 and January 2016. Data was collected from patients' notes, operating room records, and vascular laboratory records.

**Results and Discussion:** A total of 34 patients underwent this procedure. 21 (61.7 %) were males, and 13 (38.6%) were females. Age ranged between 35-78 years. The indication for these bypasses was critical ischemia in 27 patients (79.4%) and acute ischemia in 7 patients (21.6%). A venous duplex study was performed to assess the adequacy of the great saphenous vein for this bypass. The inflow artery was the common femoral artery in 25 (73.5%) cases, the superficial femoral artery in 5 (14.7 %) cases, and the popliteal artery in 4 (11.8%) cases. The immediate success rate was 32/34 (94.1%). The average operative time was 110.7 minutes. Five patients developed vein injury by the valvulotome, all were repaired successfully. Two patients needed basilic vein interposition between the great saphenous vein and the common femoral artery.

**Conclusion:** In situ bypass is a valid and effective technique and associated with many advantages as shorter operative time, less incisions, less caliber mismatch between the arteries and the vein, with comparable patency to the reversed great saphenous vein technique.

**Keywords:** Arterial bypass, limb ischemia, limb slavage.

## 108
## Redo CABG In Elderly Off-Pump Versus on Pump

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**Objectives:** Morbidity and mortality rates rise with increasing age in patients undergoing reoperation for coronary artery bypass grafting (CABG). The aim of this study is to compare the outcome of On-pump versus the Off-pump revascularization in elderly patients undergoing elective redo CABG.

**Methodology:** We retrospectively analyzed morbidity and mortality of 137 patients? 70 years old who underwent redo CABG between 2001 and 2011. Sixty-two patients underwent redo CABG without Cardiopulmonary Bypass (CPB), and 75 patients underwent CABG with CPB of which 3 were converted to on-pump. Follow-up end points were defined by 30-days mortality, post-operative morbidity and 1-year survival.

**Results and Discussion:** 30-days mortality was 5.3% (4 out of 75 patients) in the on-pump group versus 3.2% (2 out of 62 patients) in the off-pump. Nonfatal myocardial infarction occurred in 6 patients (5 in the CPB group versus 1 in the group without CPB) and overall MACCE score in the CPB group was 7 compare to 4 in the group without CPB. Mean number of grafts was 3.4 ± 0.8 in the CPB group versus 2.5± 0.9 in the group without CPB. One-year survival was 90.7% and 83.9% in the group with and without CPB respectively.

**Conclusion:** Although the 1-year survival is insignificantly better in group with CPB, but post-operative morbidity and short-term mortality are more in this group than the group without CPB. More studies are required to elucidate the long-term results of off-pump redo CABG in elderly.

**Keywords:** CABG, REDO, OFF PUMP

## 109
## Retrograde Cardiopleagia in Open Heart Surgeries; Is it a necessity or a luxury?

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**Objectives:** The purpose of this study was to assess the role of retrograde cardiopleagia given through the coronary sinus in open heart surgeries in terms of myocardial protection and its short and long term benefits to the patient as a whole.

**Methodology:** Between January 20014and December 2015 information was collected for 500 selected adult patients undergoing open heart surgery. All those patients were due for coronary artery bypass surgery alone, and all had normal ventricles, and were hypertensive and diabetics. They were divided in two equal groups, where 250 of them received the standard ante grade cardiopleagia while the rest received both ante grade and retrograde cardiopleagias.

**Results and Discussion:** The study showed those who had received both ante and retrograde cardiolplegias were easier to be weaned off the bypass machine, needed less inotropic supports in the first 48 hours after surgery 42 (16.8%) to 78(48%), had a significantly less incidence of post-operative arrhythmias mostly atrial and ventricular fibrillation 6 (2,4%) to 38 (15.2%) ICU stay was in average 24 hours less, and The hospital stay was 3 days shorter, due to the need of arrhythmia and low pressure control in those who received ante grade cardiopleagia alone.

**Conclusion:** A number of precautions augment cardiac surgical outcomes, with the routine use of retrograde cardioplegia being one of them. This study showed that retrograde cardioplegia is myocardial protective and minimizes post-operative complications and hospital stay,

**Keywords:** antegrade cardiolpegia, retrograde cardiopleagia. Myocardial protection

## 110
## Uncontrolled Diabetes; Is It Really A Killer in Cardiac Surgery?

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**Objectives:** The purpose of this study was to assess the role of long term uncontrolled diabetes as a risk of mortality and morbidity in cardiac surgery in our institutional patient population between 2013-2015. Long term diabetes was described as diabetes more than 5 years, and uncontrolled diabetes, was a diabetic patient with HbA1c of more than 7.0%.

**Methodology:** Between January 2013 and December 2015 information was collected for 1500 consecutive adult patients undergoing open heart surgery. The EuroSCORE and the age-adjusted EuroSCORE was calculated for these patients and data regarding postoperative 30-day mortality and morbidity was collected. The European System for Cardiac Operative Risk Evaluation (Euro-SCORE) points out a number of risks which help to identify mortality due to cardiac surgery. The predicted mortality (in percent) is calculated by adding the percentages of each factor.

**Results and Discussion:** The studied patients were divided to: 1- The whole patient group. 2- Patients who survived 30 days post Op. 3-Patients who died within 30 days . The EuroSCORE and the age-adjusted EuroSCORE results were largely incremented with diabetes in the entire patients as well as in the group of patients who survived 30 days post op ( groups 1 & 2). The 30-day mortality increased greatly with diabetes..

**Conclusion:** A number of risk factors augment cardiac surgical complications, with uncontrolled diabetes being one of them, either directly or indirectly. Thus in diabetics, measures should be taken prospectively to decrease the diabetes dependent effects on the deterioration and death post-surgery.

**Keywords:** diabetes, EuroScore, mortality

## 111
## Role of Level I Hospital when Establishing and Deploying United Nation Mission, Haiti 2005 JORBAT2

*Col. Samir Al-Ofieshat MD (Jordan)*
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**Introduction:** It is mandatory to send a level I hospital with an operational battalion especially in actual operations when sending a battalion for act.

**Objective:** Is to give a highlight on establishing, deploying and role of level I hospital which is a medical platoon, with a united nation peacekeeping battalion and to show the capabilities of the platoon during a united nation mission in Haiti which started since 2005.Material and Methods: The records of level one hospital which was serving with the Jordanian battalion 2 working in united nation mission in Haiti 2005 during which treated a large number of patients from the Jordanian troops and Haitian civilians.

**Results:** The troop number of Jorbat2 was 750 troops. There were 368 injuries, of different categories, which were wounded during operations from the Jordanian battalion 2, 6 of which required repatriation.

**Conclusion:** This hospital of level one was of great value in medical support by treating hundreds of cases from the JORBA2 and the Haitian people.

## 112
## StratAirMedEvac in German Transcontinental Military Missions

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**Objectives:** Strategic Air Medical Evacuation is presented comprising aircraft, medical personnel, medical equipment and capacities. The Chain of Rescue for injured Soldiers from the place of injury to German military hospitals is depicted with special consideration of its complexity and effectiveness.

**Results and Discussion:** not applicable

**Conclusion:** not applicable

**Keywords:** StratAirMedEvac, Intensive Care Treatment, MasCal

## 113
## Field Medicine in Royal Jordanian Medical Services Role in Humanitarian Missions: Past and Present

*Brig. Gen. (Ret) Ali Rafai MD (Jordan)*
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**Introduction:** Field Medicine department started to implement its humanitarian medical service since 1992 by sending medical platoons hospitals and surgical units of different levels and deploying force medical officers worldwide with its humanitarian service locally.

**Objective:** is to give an overview on the role of Field Medicine department of Royal Jordanian Medical Services in international crisis, earthquakes, humanitarian missions and united nation peacekeeping operations besides its local humanitarian aids.

**Material and Methods:** A literature search was performed from database of Royal Jordanian Medical Service, field medicine department, directorate of humanitarian mission, extending from 1990 until February 2016.

**Results:** The role was of tremendous value in not only to treat patients but also played an important role in the world peace and security. Hospitals of level one, two, three and four were sent all over the world such as Croatia, Bosnia, East Timore, Sierra Leone, Coe De Vuaer, Sudan, Liberia, Iraq, Congo, Palestine, Pakistan Iran and Turkey. Total number of missions collaborated with united nations was 217 missions and total number of hospital was 28 hospitals of different levels around the world, with total number of patients of more than 5 million cases which were treated, in the other hand, more than 63 force medical officers and health cell officers all over the crisis areas.

**Conclusion:** Literature shows a clear role on humanitarian locally and in peacekeeping missions was done through these missions sent and huge effort on health care quality worldwide and locally.

## 114
## Prehospital Trauma Care in Jordan

*Col. Hazem Ajarmeh RN PhD (Jordan)*
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**Background:** Trauma is the leading cause of death worldwide. According to the WHO, 5.8 million deaths annually result from injuries mainly traffic accidents. Jordan was classified as the fourth in the Middle East in car accidents. Most of the deaths occur before patients reach the hospital which can be prevented with appropriate prehospital and subsequent hospital emergency care. Commonly, PHTC is provided through three levels; Care by First responders, Basic PHTC and Advanced PHTC. This review article aims to explore the existing status of prehospital trauma care service in Jordan.

**Prehospital trauma care status in Jordan:** PHTC in Jordan is provided mainly by the civil defense for civilians, while in the military, it is the responsibility of the field medicine at the RMS. Civil defense is responsible for providing only basic life support and transportation to health care facilities for different types of accidents. Field medicine at the RMS is responsible for providing medical support for the different field units during peace and war through many clinics, medical centers and field hospitals. However, there is lack of evidence by studies about the effectiveness of prehospital interventions provided by the civil defense, which make it difficult to judge the value of these interventions in enhancing the mortality and complications of trauma. On 2004, the National Emergency Medical Services Educational Center (NEMSEC) was established to provide the RMS with professionals who are able to provide effective PHTC. Many programs were started such as: Paramedics (EMT-Advanced), EMT-Basic and intermediate. In 2007; we started to conduct Tac-Medic (TCCC) courses aiming to provide at least 27 TAC-Medics In each battalion who received adequate training on the basic PHTC. Additionally, the NEMSEC has started in 2014 to conduct ATLS courses for Physicians and PHTLS courses for paramedics and nurses which provide them with rigorous training that enable them to provide advanced PHTC.

**Conclusion:** Despite increased global awareness of the impact of trauma on the countries, it has been noticed that the field of trauma care and emergency medicine in Jordan has not progressed uniformly and it is still at a primitive stage. Assessment of PHTC in Jordan is essential in order to guide future efforts to strengthen the overall systems. Additionally, active steps should be taken toward establishing laws and policies that govern the qualifications, the training requirements and clear job description of those who are involved in providing PHTC.

## 115
## Key Success Factors for a Field Hospital

*Brig. Timothy Hodgetts MD (UK)*
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This lecture will focus on the preparation and delivery phases of a field hospital and highlight the key success factors. The preparation phase will discuss how training is used to sequentially build individual clinical skills, team clinical skills and hospital management skills through a series of integrated courses and exercises. It will also discuss how each field hospital is 'mission tailored' and how innovation at pace may be needed to adapt the training to the context of a specific new Operation: this may lead to new clinical concepts, clinical practices and guidelines, and supporting simulation training systems being developed in a matter of weeks. The delivery phase will discuss how a field hospital is optimally configured and how it may need to 'adapt in contact' to unforeseen challenges. It will discuss the predictable vulnerabilities a field hospital faces with necessarily limited clinical consumables, imaging, laboratory diagnostics, blood products and pharmacy, and how these vulnerabilities can be overcome or mitigated against. It will highlight how differences in national culture within a multinational field hospital may express itself in clinical behaviors, and how these different behaviors can be understood and worked through in collaborative pre-deployment training.

## 116
## Combat Medical Support in Mountain Environments

*Col. Pharm. Ali Alkinani (KSA)*
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The Success of combat operations requires good training and experience in the battle environment, it also requires being aware of all the variables and difficulties that might occur and their solutions in case the plan fails or is drastically changed. Wars in mountain environments are one of the most difficult battle environments due to the rugged terrain, volatility of the weather and because the enemy can easily camouflaged. The level of difficulty may increase because these wars are considered low-intensity unconventional wars. Therefore evacuation methods differ from the traditional conventional military methods. Saudi Armed Forces has benefited from fighting at the Southern borders with the Houthi rebels which gave them excellence in combat planning, treatment and evacuation in the mountain battlefield. This led to the Saudi Armed Forces being at the forefront of the coalition forces in operation "Decisive Storm" and bringing back hope to their Yemeni brothers. Being well trained at combat, evacuation and rescue in mountain environments under fire gives the supporting units an advantage. This enabled the Armed forces Medical Services to perform its duties within Yemen in battles at the Southern borders of Saudi Arabia. To work according to this military system, some considerations must be taken such as the security and safety of the rescuers and evacuation teams and also evaluating environmental conditions and risk assessments; in order to receive the best services with minimal loss. In this paper we relied on the lessons learned from the combat operations in previous wars, and on the references of the specialists in this field so as to provide a simplified description beneficial in training medical support units in working in mountain environments and assisting the combat units.

## 117
## Occupational Noise Exposure and Hearing Loss in Military Personnel in Saudi Arabia

*Lt. Col. Fahad Al-Saab MD, Ahmed ElZubair, Ahmed Zekry MD, Wafa Al-Homaydan Bsc (KSA)*
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The Success of combat operations requires good training and experience in the battle environment, it also requires being aware of all the variables and difficulties that might occur and their solutions in case the plan fails or is drastically changed. Wars in mountain environments are one of the most difficult battle environments due to the rugged terrain, volatility of the weather and because the enemy can easily camouflaged. The level of difficulty may increase because these wars are considered low-intensity unconventional wars. Therefore evacuation methods differ from the traditional conventional military methods. Saudi Armed Forces has benefited from fighting at the Southern borders with the Houthi rebels which gave them excellence in combat planning, treatment and evacuation in the mountain battlefield. This led to the Saudi Armed Forces being at the forefront of the coalition forces in operation "Decisive Storm" and bringing back hope to their Yemeni brothers. Being well trained at combat, evacuation and rescue in mountain environments under fire gives the supporting units an advantage. This enabled the Armed forces Medical Services to perform its duties within Yemen in battles at the Southern borders of Saudi Arabia. To work according to this military system, some considerations must be taken such as the security and safety of the rescuers and evacuation teams and also evaluating environmental conditions and risk assessments; in order to receive the best services with minimal loss. In this paper we relied on the lessons learned from the combat operations in previous wars, and on the references of the specialists in this field so as to provide a simplified description beneficial in training medical support units in working in mountain environments and assisting the combat units.

## 118
## Family Practice: Concept, Practice and Scale up

*Oraib Alsmadi MD (Jordan)*
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**Objective:** To improve the quality of primary health care in the country, through a comprehensive program, assisting the Government of Jordan to improve primary and reproductive health care by strengthening the public and private provision of these services. Background: Family practice [FP] is defined as the health-care services provided by family doctors and often supported by a multidisciplinary team; it is characterized by comprehensive, continuous, coordinated, collaborative, personal, family-and community oriented-services and provides comprehensive medical care with a particular emphasis on the family unit. The World Health Organization (WHO) in collaboration with WONCA is working on accelerating the adoption of family practice in the countries of the Region. This means that the requirements necessary for implementation should be in place: clear policies and strategies; evidence-based information to ensure technical support; engagement of the community; and the necessary mechanisms for patient follow-up, Challenges: The major challenges facing family practice approach in Jordan includes diversity of human resources capacity, financing limitations and weak organization. Policy-makers have limited awareness about the concept of family practice, and there is an increasing tendency to rely on expensive technology. Poor logistics management and distribution of health facilities and workforce, lack of public–private partnerships, and a shortage of resources and incentives are major challenges to the proper implementation of a family practice program. Among the biggest challenges are the insufficiency of trained family physicians and the fact that existing training programs are failing to meet the enormous need for those practitioners to support primary care. Conclusions: Experience from across the world has shown that the family practice approach can increase households' access to a defined package of services at an affordable cost, through trained and motivated family practice teams. Scale up Family Practice in Jordan needs trained and motivated family practice teams that can ensure high-quality, continuing and comprehensive primary care services for the individual and family across all ages and both sexes.

## 119
## Updates on Cardiopulmonary Resuscitation (CPR) Guidelines

*Afsin Kayıpmaz MD (Turkey)*
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American Heart Association updated Cardiopulmonary resuscitation and emergency cardiovascular care guideline in 2015. This guideline does not contain fundamental changes from what was provided by the 2010 version. However, it provided recommendations toward enhancing the quality of cardiopulmonary resuscitation under the light of literature data. For instance, it categorized survival chain into 2 separate parts as in-hospital and out-of-hospital. Observance and prevention were featured. Upper limits were set for chest compression rate and depth. Compression rate previously set to "at least 100" was revised to "100-120/min". Compression depth set to "at least 5 cm" by the former guideline was restricted to no more than 6 cm. Naloxone use by lay people was allowed in cardiac arrest associated with opioid intoxication. Ventilation rate was updated as "one breath for every 6 seconds". This guideline is also the first to feature the notion that at least 60% of total cardiopulmonary resuscitation time be spent for chest compressions. This presentation will discuss the updates featured by the 2015 guidelines.

## 120
## Myocardial Infarction in Transcontinental Military Missions

*Lt. Col. Andrea Kolodziejski MD (Germany)*
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**Objectives:** Military internists / cardiologists are physicians who generally work in traditional internal medicine settings. However, when deployed to combat settings, they must prepare and adapt their skills for a wide spectrum of several medical challenges. Among the combat related casualities the internist has to focus on the non hostile diseases. Cardiovascular diseases such as coronary artery disease and myocardial infarction are the most common cause of mortality worldwide. A number of autopsy studies performed on young soldiers who died from a noncardiac

related cause have demonstrated evidence of atherosclerosis ranging from insignificant disease to total occlusion. Atherosclerosis causes disease through luminal narrowing or by precipitating thrombi that obstruct blood flow to heart. The most common of these manifestations is coronary heart disease, including stable angina pectoris and acute coronary syndrome. Initial therapy of acute myocardial infarction is directed toward restoration of perfusion as soon as possible to salvage as much of jeopardized myocardium as soon as possible. This may accomplished through percutaneous coronary intervention (PCI). In most places of transcontinental military missions percutaneous coronary intervention (PCI) is not available. Fibrinolytic therapy is a viable option of reperfusion due to the limited availability of PCI in foreign deployment. A transfer to a PCI-capable centre following fibrinolysis is indicated in all patients after firbrinolytic therapy. Therefore soldiers in a foreign mission with an acute ST-elevation myocardial infarction should be evacuated after fibrinolysis as soon as possible to a military PCI capable center for heart catheterization and PCI.

**Resultsanddiscussion:** not applicable

**Conclusion:**
not applicable

**Keywords:** Atherosclerosis, Cardiovascular disease, Myocardial infarction, Percutaneous coronary intervention, Fibrinolysis, Evacuation

## 121
## Antidote for Toxicological Emergencies

*Afsin Kayıpmaz MD (Turkey)*
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Intoxication is the main etiology of accidental deaths worldwide. Its incidence has been progressively increasing. Thousands of deaths occur due to intoxications each year. The Swiss physician and chemist Paracelsus who lived between 1493 and 1541 stated that: "All things are poison and nothing is without poison; only the dose makes a thing not a poison". Antidotes have a vital role for the management of persons who are intoxicated or exposed to overdose of any substance. Certain antidotes should be kept ready at emergency departments and hospitals' pharmacies to be used in emergency situations (for example atropine, naloxone, flumazenil, sodium bicarbonate, n-acetyl cysteine, pralidoxime). Ideal antidotes for emergency department should be of low cost, readily available, and have a low side effect profile. In addition, ideal antidotes should be free of toxic effects. In this presentation it was aimed to discuss antidotes recently made available, such as high dose insulin therapy, hydroxycobalamine (vitamin B12a), intravenous lipid emulsion, octreotide, and antidotes of novel anticoagulants.

## 122
## Pediatric Trauma Management and New Perspectives

*Lt. Col. Samer Karadsheh MD (Jordan)*
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As trauma in all of its variable forms is a major common cause of morbidity and mortality in children with a significant financial burden; this talk tackles the injuries that can occur to pediatric age group population, taking into consideration in this unique age group the great major differences anatomically and physiologically with the adult population and the special knowledge required for caring of an injured child hence how much they do affect the lines of care in the forms of initial assessment and acute management, pre hospital transfer approach, metabolic requirements, trauma scores and the eventual management at pediatric trauma center with brief discussion about the recent advances in pediatric trauma management.

## 123
## Military Support to Civic Organization in Humanitarian Assistance and Disaster Relief

*Brig. Gen. Eng. Mohammad Al-Mawajdeh*
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This Talk will highlight in details the role of the Jordanian Armed Forces in support in the government's efforts in disasters and crises management. We will describe all forms of support throughout all stages, from the standby response

and re-construction. The main targets of the talk will be the mechanism of action of cooperation, coordination and in-advance plans with the concerned bodies in the country, to satisfy their goals. The quality of this cooperation will be assured by implementation a pre-mission different exercises and training that will help to ensure the effectiveness and consistency all devices. The role of the Jordanian armed forces cooperation in the areas of civil-military with the United Nations agencies and various humanitarian organizations will be discussed in details, including the different ways of providing aids. The humanitarian role of the Jordanian armed forces at all levels and Syrian refuges campaigns will be especially addressed including the plan, mechanism of action and the progress since the beginning of the crisis.

**124**
**Understanding innovation in Defence medicine-models for innovation adoption and innovation translation**

*Brig Timothy Hodgetts MD (UK)*
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This lecture provides a structured approach to understanding the strengths and weaknesses of innovation in Defense medicine. It will first describe how the imperative for innovation is determined through external factor analysis ('STEEPLE') and internal factor analysis ('TEPID COIL'). The reasons for why UK Defence medicine has been an early innovation adopter are explained ('ADOPTER') and how best practice is being effectively translated to the civilian healthcare sector ('TRANSL8'). Obstructions to innovation are also described ('B-OWELS').

**125**
**Islamic Perspective of Patient Care**

*Maj. Gen. Yahya Albtoush, Grand Mufti,*
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Allah honoured mankind whether alive or dead. Allah says: (We have certainly honoured the children of Adam). And Allah necessitates beneficence to the poor, the needy, the sick, and those who are in needs in particular. Some names of Allah, is the most Gracious, and he is the most merciful. Who himself is the most gracious, and merciful to his servant. The patient suffering from pain and wrestles illness. Islam has ordered us to look after patients in order to reduce their pain and suffering, and make them feel calm and secure. The messenger of Allah says (peace of Allah be upon him): the best deed is to bring delightful to a Muslim, give him clothes, food and fulfill his needs. There are regulations and rules for visiting a patient such as choosing the suitable time to visit the patient, praying for the patient, presenting appropriate gifts and talking about what helps him and inspires him with hope. There is no item in the law of Islam approves (Euthanasia), it's a crime against humanity, since human does not have the right to determine his own destiny to kill himself or allow others to commit this crime. The medical care for the patient requires abidance to the successful job ethics that make a doctor aware of the divine referentially, which ensuing honesty and loyalty. The doctor's job is related to life and death, and it is preceded by the medical oath which is witnessed by. The doctor's job should go along with seriousness, Knowledge, research and real diagnosis of diseases that afflict people, and spread very quickly, leaving behind thousands of death people.

**126**
**An integrated Approach to Military Medical Simulation**

*Brig. Timothy Hodgetts MD, Defence Medical Services (UK)*
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This lecture describes the sophisticated and integrated application of simulation in UK Defence medicine to train at the individual level (micro-simulation), team level (meso-simulation) and unit level (macro-simulation).The latest developments in the UK's application of simulation techniques to pre-hospital emergency care and surgical training.

**127**
**Building A National CBRN Program for Health Care in Jordan**

*Emad Abu Yaqeen MD (Jordan)*
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The CBRN (CHEMICAL, BIOLOGICAL, RADIOLOGICAL ANDNUCLEAR) Risk have a place in the world specially in industrial cities and countries whereas the violence and fighting leading daily scene Chemical and Biological incident (accidental or intentional) is part of our care in Jordan. The need to develop a national program or center to deal with CBRN victim in medical care imposes itself day by day. We in Jordan estimating the size of dangers and take a first steps to start Building a National CBRN program for Healthcare. It will be a long way but it time to take it priority with cooperation with our friends. First steps were taken a place realization of the risk and awareness was the first difficult step. Now we have discussion, meeting, training, tabletop planning, sharing the information, teleconferences with our partners and vision for the future. The presentation will review the steps of our program to Building a National CBRN program for Healthcare and our prospective

**128**
**Protection Procedures Against Weapons of Mass Destruction**

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The purpose of this paper is to identify general points about the protection procedures against WMD which are done by Jordan Armed Forces, in the beginning it is important to talk about chemical, biological, radiological, and nuclear CBRN agents, the classification of these agents based on their impact and symptoms caused to the body. Also it is important to talk about how to detect, identify, and verify these agents. Actually there are two types of protection: individual and collective protection each type has character sand features. This paper gives us a strong opportunity to talk about Jordan procedures to counter weapons of mass destruction and incident response through applying a national plan to deal with any risk can be subjected to the Hashemite Kingdom of Jordan, regardless of the type threat, external or internal threat, and we will explain more about Jordan Armed Forces (JAF) roll in responding to CBRN Incidents /Accidents and in counter WMD. Finally we will not forget to talk about Jordan's response to the international conventions and treaties which are related to counter the weapons of mass destruction.

**129**
**Mass Destruction Weapons Chemical Agents Review**

*Capt. Samer Hamadneh MD (Jordan)*
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Chemical agents comprise a diverse group of extremely hazardous materials. As potential weapons of mass destruction, Chemical agents are capable of causing a catastrophic medical disaster that could overwhelm any healthcare system. Since civilian victims exposed to Chemical agents are likely to flee to the nearest hospital, emergency physicians play a key role in preparing emergency departments for the treatment of persons exposed to Chemical agents. Medical and non-medical staff working in emergency department should be familiar with the pathophysiology and various clinical presentations produced by Chemical agents as well as the principles and practices of appropriate medical management. This presentation reviews the physical properties and general clinical effects of Chemical agents, medical management of victims of Chemical agents, including the use of personal protective equipment (PPE), victim decontamination, and provision of specific antidotal therapy

**130**
**Workplace Hazard Assessment**

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Each workplace has its specific hazards. Unfortunately, not all workplace hazards are temporary issues or can be easily avoided through training. Some of the exposures to hazards might be immediate and can be recognized easily others, however, like prolonged exposure to extreme noise

or temperature, can cause issues later in life, as can chemical hazards like exposure to heavy metals or other chemicals. It is the employer's responsibility to alert their employees to the immediate issues, and to also to the potential issues they may face in the future. It is also the employer's responsibility to provide their employees with adequate training and protection to limit the potential for long-term damage to their health.

**131**
**Fostering Bio-Security Capacity in Jordan, Assets and Challenges**

*Lt. Col. Rami Khasawnah MD (Jordan)*
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Biosecurity capacity in Jordan is growing rapidly during the last three years. Laboratory capacity has been enhanced through acquiring two important facilities; modular BSC-3(ministry of health) and mobile enhanced BSL-2 (royal medical services) laboratories. Sustainability is the big challenge to keep the two facilities fully operated and well maintained. Furthermore, biosurvillance capabilities have been enhanced; nevertheless more intersectroal collaboration is not anymore a luxurious mandate. Jordan University of science and technology is a key stakeholder in training at the national level; moreover, a potential regional hub training role is needed to be further encouraged and activated. Jordan is a member in global health security agenda (GHSA); road map for further capacity and gaps assessment are essential through action plans of different action packages of GHSA. This presentation will highlight on national biosecurity capacity and gaps and GHSA.

**Keywords:** Biosecurity, mobile biolab, global health security agenda.

**132**
**Surgeon Influenced Variables**

*Steven Wexner MD(U.S.A)*
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Numerous surgical influenced variables can help optimize the outcomes of rectal cancer surgery. Specifically, striving to obtain tumor free distal and radial margins as well as an intact mesorectum are fundamental elements of the oncological aspects of the surgery. Furthermore, appropriate preoperative staging with high quality rectal protocol MRI with a view to appropriately direct neoadjuvant therapy only to patients with threatened circumferential rectal margins is necessary. The knowledge that both rectal resection and radiation therapy significantly impair postoperative function mandate the consideration of reconstruction with a colonic J-pouch or potentially and end to side anastomosis whenever possible rather than a standard straight colorectal coloanal anastomosis. Consideration when appropriate of wait and watch may be useful and knowledge of the availability of the various surgical options particularly within the realm of minimally invasive surgery is critical. Within this armamentarium should be laparoscopic and/or robotic approaches plus transanal endoscopic microsurgery. This latter technique should be made appropriate when available for both transanal excision and for transanal endoscopic microsurgical excision again when appropriate. The surgeon should not make isolated decisions, but should discuss each patient at least three multiple points during their treatment cycle with their multidisciplinary team.

**133**
**Optimal Staging of Rectal Cancer**

*Mariana Berho MD (U.S.A)*
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Despite the advances of in the field of molecular pathology and molecular biology, staging remains, overall, the most important prognostic factor in colorectal cancer. In addition, the degree of tumor invasion into the colorectal wall as well as the status of the lymph nodes will determine the postoperative therapy. Although several staging systems have been proposed along the years, the

TNM system has been widely adopted around the world. The TNM system has shown to be easy to apply and has demonstrated acceptable reproducibility. Historically the most critical piece of information has been the presence (stage III) or absence of metastatic lymph nodes (stage II) Several versions of the TNM staging manual have been published to include new relevant information as well as to discard parameters that have are no longer considered prognostic. One of the consistent criticisms to the TNM staging system is that, although it may powerful to predict prognosis, it does not give any indication of how patients in the different stages will response to prognosis. In the latest edition of the TNM staging manual, the Commission on Cancer has acknowledged the need to include other factors associated with prognosis including histological features and certain molecular tumor characteristics. In addition, it is well known that stage II and stage III colorectal cancer is a heterogeneous group of conditions and therefore the Commission on Cancer has divided stage II and stage III tumor into different subcategories. In an era of personalized medicine it would seem that the TNM staging system could become obsolete, however, it is important to recognize that until molecular and genetic profiling of tumors is widely accessible around the world, familiarity with this system is essential not only for clinicians but also for pathologists.

**134**
**Establish Centers of Excellence for Rectal Cancer Surgery**

*Steven Wexner MD(U.S.A)*
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In the early 1980's Professor Bill Heald revealed to the world the importance of performing a total mesorectal excision. Professors Norman Williams, John Nicholls, and Phil Quirke demonstrated the corollary lack of need to perform a long 5 cm distal margin and the importance of a circumferential resection margin. Building upon these precepts the need to perform a complete total mesorectal excision and to direct therapy based upon preoperative MRI staging became apparent. These data coalesced multiple initiatives in Scandinavia and elsewhere in Europe in which the implementation of centers of excellences were shown to significantly improve outcomes. This talk will review some of the improvements and short term outcomes such as ability to achieve complete mesorectal excisions, radial margins, avoid stomas, and decrease morbidity. In addition some long term benefits will also be demonstrated including decreased local recurrence rates and increased survival. Based upon these abundant European data the American College of Surgeons and the Commission on Cancer proved moving forward with the initiative of the Optimizing Surgical Treatment of Rectal Cancer (OSTRiCh) consortium and a national accreditation program for rectal cancer has now been established. Over 300 programs have expressed interest in becoming accredited by the Commission on Cancer. This lecture will review the implementation of that program in the United States.

**135**
**Colorectal Cancer in Ulcerative Colitis Patients: A Surgical Perspective**

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Although ulcerative colitis (UC) is primarily treated medically, surgery may be required in patients who become refractory to medical therapy or develop severe complications. Approximately 15% to 30% of patients with UC will require or elect operative intervention at some point in their lives. The role of surgery becomes more pronounced when it comes to the management of colorectal cancer which is a known complication in ulcerative colitis patients. This role can be prophylactic or therapeutic. Surgery for UC should be indicated by interdisciplinary means. The choice of operation requires consideration of the advantages and disadvantages of each option and must be tailored to an individual patient's needs and circumstances. This presentation aims at throwing some light on the role of surgery in the management of colorectal cancer in patients with UC, operative choices, complications and their management.

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## How Anastomoses Heal and Why They Don't Heal

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Wound healing is a complex, tightly regulated process that follows similar steps regardless of the anatomical site of injury. It has classically been divided into four phases, hemostasis, inflammatory, proliferative and remodelling , however the means by which healing takes place following tissue trauma is dynamic in nature and flows along a continuum that depends on a variety of immunological and non-immunological cells that unleash intricate molecular process that cross through all phases The critical event that initiates the wound healing process after injury is the vascular damage in which endothelial cells undergo molecular and morphometric changes that allow the extravasation of plasma elements including components of the complement system and coagulation factors that along with the platelets will form a thrombus that will secure hemostasis in the first 24 hours (hemostatic phase). The inflammatory phase (day 1 to day 7) is characterized by the efflux of neutrophils and macrophages which will clean the wound site of debris and bacteria either by direct phagocytosis or through the secretion of toxic molecules stored within intracytoplasmic granules. Lymphoid cells closely regulate the quality and quantity of the inflammatory effect of neutrophils and macrophages to avoid damage to the host tissues. Besides the protective functions of neutrophils and macrophages against deleterious by-products of tissue injury and microorganisms, these cells are also initiate the proliferative phase (7 days to 3 weeks) attracting fibroblasts to the wound site via numerous molecules and growth factors. Fibroblasts and other specialized cells such as myofibroblasts will reconstitute the stroma that supports the cellular elements, structural proteins including collagen and other extracellular matrix proteins are synthesized and released in large quantities during this period. The last phase of wound healing can last up to 1 year and is aimed at reaching an adequate balance between synthesis and degradation of extracellular matrix proteins, this final act may prove to be a difficult one as an excess in collagen production may lead to unwanted fibrosis which, in the case of the bowel, may translate to the formation of adhesions. The different phases of wound healing were first described in the skin, it is important to emphasize that a few but notorious differences exist between the healing process in the skin and the bowel, the latter is characterized by heavy colonization with both aerobic and anaerobic flora which is not the case with the skin and therefore the risk of infection in the bowel following injury (transection and anastomosis) is significantly higher than in the cutaneous tissue. In addition, the levels of collagenases found in the colon is greater than in the skin and therefore the process of stromal regeneration is more cumbersome Numerous factors contribute to an optimal wound healing process; some of these are related to the host including age, co-morbidities and medications. In this regard it has been shown that wound healing in elderly is often delayed compared to younger individuals. Any medical condition associated with an impaired immune system will inevitably lead to a defective wound healing process, including not only autoimmune diseases but also numerous congenital genetic mutations that lead to faulty enzymatic reactions within the endothelial cell, neutrophils, lymphocytes and macrophages. Diabetes has long been recognized as a factor that adversely impacts wound healing, defective glucose control leads to vascular damage those results in decreased blood flow as well as to the accumulation of toxic glucose derived products within the cells. A variety of medications including corticosteroids and chemotherapeutic drugs that attenuate the function of the immune system as well as radiation negatively impact wound healing. Adequate blood flow in the area of wound healing is critical as every single intracellular molecular reaction that take place in the immune cells is oxygen dependent, interestingly, what exactly constitutes and optimal oxygen tension has not been clearly defined, furthermore, it is well known that the initial phase of wound healing is characterized by a notorious decline in oxygen content in the microenvironment, few studies have detected a decline of up to 57% in the oxygen level without adverse outcomes in the wound healing process. Clearly additional research is necessary to further determine the adequacy of blood flow and the methods to measure this variable.

## 137
## Controversies in J-pouch Surgery

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Restorative proctocolectomy with construction of ileal J-pouch and pouch anal anastomosis has been become the standard of care for patients with mucosal ulcerative colitis, familial adenomatous polyposis, and occasionally other entities. As this operation has now been in place for approximately 35 years its indications have broadened and its challenges have become apparent. Some of the former debates such as the need to perform a mucosectomy have been resolved and the double stapled anastomosis has become the global standard of care. Other controversies such as the creation of a temporary loop ileostomy have also become accepted. While a few surgeons may elect to, in selective cases, eliminate a stoma the vast majority of surgeons routinely employ loop ileostomy. The construction of pouches in patients with indeterminate colitis has been better defined as whether or not that colitis more closely resembles Crohn's disease or mucosal ulcerative colitis. The main differentiator between these two entities appears to be the presence on physical examination or by history of perianal sepsis. Therefore patients in whom a perianal abscess and/or fistula has been present should probably not be offered a restorative proctocolectomy. When in doubt a subtotal colectomy to obtain final pathology followed by a waiting period of 1 to 2 years may be appropriate. While pouches are not initially offered to "elderly" patients this operation now commonly performed in patients in their 60's and 70's. These data will be reviewed. In addition, as the overall societal BMI continues to increase patients more obese and morbidly obese patients present for consideration of this operation. Again the outcome and results will be reviewed.

## 138
## The Role of Oncoplastic Surgery in The Treatment of Breast Cancer

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Oncoplastic surgery refers to the incorporation of plastic surgical techniques into the management of patients with breast cancer and includes breast conserving surgery and post mastectomy breast reconstruction. In most European countries oncoplastic surgery is undertaken by breast cancer surgeons who have undergone specific training. In many other countries breast surgery does not encompass these techniques which are undertaken by plastic surgeons either separately or as combined procedures. A number of studies have demonstrated that these techniques provide opportunities to combine enhanced patient outcomes in terms of breast conservation combined with low rates of local recurrence and good quality of life. For this to be achieved in all patients', best practice guidelines should be adhered to and specific pre-operative evaluation, patient selection and training in oncoplastic techniques are required. These issues will be reviewed in the context of modern breast surgical practice

## 139
## Management of the Primary Breast Tumor in Metastatic Setting

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The natural history of stage IV breast cancer is changing, with diagnosis when the disease burden is lower and better systemic therapy translating into longer survival. Nevertheless, a small constant fraction of woman presents with stage IV disease and an intact primary tumour.
The management of the primary site in this settings has classically been determined by the presence of symptoms (palliative approach), but this approach has been questioned based on multiple retrospective reviews reported over the past decade that suggested a survival advantage for women whose intact primary tumor is resected. These reviews are necessarily biased as younger women with lower disease burden and more

favourable biological feature were offered surgery. Nowadays, there are several randomized trial testing the value of local therapy for the primary tumour in face of distant metastasis. Preliminary result of two of these (Tata- memorial- India and Turkey MF 01-01) does not support a significant survival benefit, although local control benefit may exist. Completion of ongoing trials is needed to reach a definite conclusion regarding the merit of primary tumour resection for local control and survival. Until unbiased data are available, routine local therapy for asymptomatic primary tumour can't not be recommended in the expectation of a survival benefit.

## 140
## The Role of Sentinel Node Biopsy (SNB) in the Management of Breast Cancer.

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Traditionally breast cancer surgical management included axillary lymph node clearance (ANC) but in the last twenty years this has been replaced by SNB using isotope and dye localisation for those patients with a clinically and radiogically normal axilla. SNB became the standard of care for these patients whilst ANC or axillary radiotherapy was reserved for those patients with a positive SNB or preoperative biopsy confirmed metastatic spread to axillary nodes. The ACOSOG Z011 trial has challenged the need for completion axillary clearance in specified patients with up to two positive axillary nodes undergoing breast conserving surgery, breast radiotherapy and systemic adjuvant treatment. Whilst many centres in the United States and elsewhere have adopted this practice, uptake has not been universal and other studies have indicated that the addition of radiotherapy to axillary clearance, in certain (high risk) patients may confer benefit in breast cancer specific survival. The POSNOC Trial in the United Kingdom is currently repeating the 2011 study with the additional inclusion of patients undergoing mastectomy and stringent radiotherapy quality assurance. Other trials are extending the role of reduced surgical treatment of the axilla by comparing SNB to no axillary surgery in patients with a clinically negative axilla. These studies will be reviewed and set in context for current breast cancer management.

## 141
## Familial Breast Cancer in Jordan

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**Background:** Breast Cancer is the leading cause of cancer-related deaths among Jordanian women. With a median age of 50 years at diagnosis, a higher prevalence of hereditary breast cancers may be a contributing factor. The objective of this study is to evaluate the contribution of germline mutations in BRCA1/2 to hereditary breast cancer among Jordanian patients with a selected high risk profile.

**Methods:** Jordanian breast cancer women, stages I-IV, with a selected high risk profile; were invited to participate. Peripheral blood samples were obtained for DNA extraction. A detailed 3-generation family history was also collected. BRCA sequencing is performed at Myriad Genetics laboratory (Myriad Genetics, Salt Lake City, UT). Mutations were classified as deleterious, suspected deleterious, variant of uncertain significance or favor polymorphism. Patients medical records were reviewed for extraction of clinical outcome data and tumor pathology.

**Result:** 100 patients were enrolled to the study. Median age was 42 (22-76) years. In total, 27 patients had deleterious or suspected deleterious mutations in BRACA1 or BRACA2 and 6 others had genetic variants of uncertain significance. All patients with BRCA1/2 mutations had significant family history of breast and/or ovarian cancer. Eighteen patients had triple negative disease; 7/18 and 4/18 had deleterious mutations in BRCA1 and BRCA2, respectively.

**Conclusion:** BRCA1/2 mutations are not uncommon among highly selected Jordanian females with breast cancer. The contribution of these findings to much younger age at diagnosis is still debatable. Our findings suggest that BRCA1/2 screening should be offered to patients with certain high risk features.
Running a culturally sensitive genetic research in a developing country with limited resources is a challenge. Future recommendations for establishing a Clinical Cancer Genetics program are envisioned, where unaffected family members can also benefit from early screening and take appropriate measures to reduce the risk of breast cancer.

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## Oncologic Safety of Nipple Sparing Mastectomy (NSM) in Comparison to Skin Sparing Mastectomy (SSM) & Modified Radical Mastectomy (MRM)

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The current surgical procedures that entail the breast cancer extirpation is modified Radical Mastectomy ( MRM) which is equivalent in overall survival and 5-year disease free interval to Breast Conserving Surgery ( BCS) followed by Adjuvant Radiotherapy. Nipple Sparing Mastectomy (NSM) is a surgical procedure that allows the preservation of the skin and NAC in breast cancer patients or in patients with prophylactic mastectomy. However, the oncologic safety and patient selection criteria associated with NSM are still under debate. The incidence of NAC involvement of breast cancer in recent studies ranges from 9.5% to 24.6%, which can be decreased through careful patient selection. To evaluate the oncologic safety of nipple-sparing mastectomy (NSM) for breast cancer patients based on current literature; herein we reviewed the English- language researches that focus on NSM. In conclusion, NSM is quite safe surgical procedure in Treating Breast Cancer patients comparable to ( MRM) & (SSM).

**143**

## Updates on Treatment Standards of HER2 +ve Metastatic Breast Cancer

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HER 2 gene over expression or amplification is undeniably a poor prognostic feature of breast cancer. Anti- HER2 based regimen has resulted in improved outcome in the management of breast cancer, be it in the adjuvant, neoadjuvant and metastatic breast cancer. Most notable is its improvement of TTP and OS as shown in the trastuzumab registration trial. Subsequently, taxane and/trastuzumab became the front line therapy of metastatic breast cancer after it showed its superiority over what was once considered the standard of care namely capecitabine and lapatinib. Dual inhibition of HER2 , however quickly became the new frontier of treatment of metastatic breast cancer with introduction of pertuzumab. The current standard front line therapy is Pertuzumab, trastuzumab and docetaxel (or paclitexal). This dual inhibition based chemotherapy did not come with any increased risk of side effects particularly cardiac toxicity: the rate of Cardiomyopathy was not higher than what we see with single HER2 inhibition with trastuzumab. Detailed data about the dual inhibition and its impact on the treatment of metastatic breast cancer will be detailed at the presentation, in addition to what would be the paradigm of treatment of second line therapy of metastatic breast cancer and beyond.

**144**

## Best Practices in Development of a Successful Bariatric Surgery Practice (Managing High Volume Center): A Single Centre Study on 10000 Patients

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**Background and aims:** The Roux-en-Y gastric bypass is considered the golden standard of bariatric surgical procedures. Our standardized technique, used in fully stapled laparoscopic RNY gastric bypass surgery (FS-LRYGB) has been previously described and demonstrated low mortality and leak rates in 2606 patients. Bleeding percentage however was 3.42% and since then small surgical and anesthesiological improvements have been implemented to decrease bleeding.

**Objectives:** The primary objective is to analyze short term major surgical complications by 10000 patients, with mortality, bleeding and leakage as primary outcomes. Secondly, possible risk factors for bleeding complication were analyzed.

**Material and methods:** We performed an analysis of a prospectively kept database on 10.000 laparoscopic RNY gastric bypasses performed between April 2004 and May 2015. There was a successful 30 day follow-up in 98.6% (n=9855) of these cases. Patients were split into 5 cohorts of 2.000 patients and the differences between those groups subsequently analyzed using various statistical tests.

**Results:** Two patients died within 30 days of surgery (0.02%). In 195 patients a severe complication occurred (1.98%), of which 80 patients (0.81%) needed surgical revision. Anastomotic leakage occurred in 7 patients (0.07%); iatrogenic small bowel perforation requiring surgery occurred in 3 patients (0.03%). In 156 patients there was postoperative bleeding (1.58%); surgical reintervention was required in 43 of these patients (0.44%). Lateral entrapment of the small bowel occurred in 12 patients (0.12%), and was surgically corrected; three of them needed a small bowel resection. In 15 patients reintervention was performed for various other reasons (0.15%). There is a statistically significant decrease in bleeding percentage and in surgical reintervention for bleeding. (cfr. graph 1 and table 1), presumably caused by increased experience and small improvements in surgical technique and anesthesiological aspects. Only male gender is a statistical significant risk factor for bleeding complications.

**Conclusion:** This 10000 FS-LRYGB study confirms that complete standardization and the gradual implementation of surgical and anesthesiological improvements can further diminish the complication rate, particularly the risk of bleeding.

**TABLE 1**: Bleeding complication after RNY gastric bypass

| | 10000 | Cohort 1 | Cohort 2 | Cohort 3 | Cohort 4 | Cohort 5 | Pearson Chi-Square Tests | Spearman correlation coefficient | P-value of Spearman correlation coefficient |
|---|---|---|---|---|---|---|---|---|---|
| **Bleeding complication** | 156 | 61 | 43 | 21 | 18 | 13 | <0,001 | -1 | <0,001 |
| **Intraluminal bleeding** | 101 | 37 | 25 | 15 | 12 | 12 | <0,001 | -0,975 | 0,005 |
| **Extraluminal bleeding** | 58 | 27 | 18 | 6 | 6 | 1 | <0,001 | -0,975 | 0,005 |
| | | | | | | | | | |
| **Revision for bleeding** | 43 | 21 | 11 | 2 | 8 | 1 | <0,001 | -0,900 | 0,037 |
| **Laparoscopy for bleeding** | 41 | 19 | 11 | 2 | 8 | 1 | <0,001 | -0,900 | 0,037 |
| **Laparotomy for bleeding** | 4 | 4 | 0 | 0 | 0 | 0 | 0,003 | -0,707 | 0,182 |
| **Eusophagogastroduodenoscopy** | 28 | 1 | 5 | 7 | 6 | 9 | 0,178 | 0,900 | 0,037 |
| **Blood transfusion** | 131 | 52 | 36 | 20 | 16 | 7 | <0,001 | -1 | <0,001 |

**GRAPH 1**: Bleeding complication after RNY gastric bypass

## 145
## Revisional Bariatric Surgery: A Management Algorithm for Patients after Failed GastricBypass

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**Background:** More and more, bariatric surgery seems to be the most sufficient intervention to deal with increasing rates of obesity worldwide. Of all bariatric procedures described, laparoscopic Roux-en-Y gastric bypass (RYGB) is considered by some to be the gold standard in the morbidly obese. However, weight regain after RYGB is reported with factors including pouch dilatation being thought to be responsible. In these patients suffering from their obesity as a chronic disease, revisional surgery can be the only solution.

**Material and methods:** An expert panel discussed the issue of failed primary bypass surgery and its appropriate management, and developed a proposed management algorithm for failed RYGB, according to the current reviewed literature and evidence based medicine.

**Results:** In all patients, an upper GI series and a daily calorie intake are mandatory examinations to distinguish several reasons for weight regain. If the upper GI series is abnormal, a correction of the anatomy of the RYGB might be sufficient, with the non-adjustable band to prevent dilatation of the pouch when daily caloric intake is more than 1500 kcal. If however, a normal upper GI series is seen, the caloric intake will determine whether we will add restriction or malabsorption to the RYGB. Although there is limited outcome data, there is evidence that laparoscopic adjustable gastric banding (LAGB) is a valid option as revisional procedure when caloric intake is more than 1500 kcal a day, with an acceptably low morbidity and mortality rate. If we want to offer more malabsorption to a compliant patient eating less than 1500 kcal a day, we prefer to lengthen the biliopancreatic limb instead of the alimentary limb.

**Conclusion:** We offer a treatment algorithm for failed gastric bypass, depending on upper GI series, daily caloric intake and the evidence in the literature. With appropriate training, B-RYGB or lengthening of the biliopancreatic limb are technically safe and feasible strategies to apply for revisional bariatric surgery, with good results on weight loss.

## 146
## King Hussein Medical Center (KHMC) 10 Years' Experience in Bariatric Surgery

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**Objectives:** To evaluate our experience at King Hussein Medical Center in redo surgery for failed or complicated previous bariatric procedures done at our hospital or outside.

**Methods:** This is a retrospective study done at King Hussein Medical Center between Jan 2010 and Sept 2016 for 146 patients who underwent redo bariatric surgery. These were removal band and conversion to Roux-en-Y gastric bypass 37 cases, removal band and conversion to mingastric bypass 24 cases, removal band and conversion to sleeve gastrectomy 3 cases. Sleeve Gastrectomy into mini gastric bypass 41 cases; redo sleeve for 36 cases, gastric plication into sleeve gastrectomy 2 cases and conversion of open vertical banded gastroplasty with incisional hernia into Roux-en-Y gastric bypass 3 cases. Post operative complications, time of the procedure and the results were discussed.

**Results:** All these procedures were done and completed laparoscopicaly by the same team without any conversion. Average time of the procedures were around 3.5 hours between (1.5-8) hours, and the complications were between simple chest infection in 3 cases, deep vein thrombosis (DVT) in 2 cases, pulmonary embolism (PE) in one case, recurrent incisional hernia in one case, and one case of leak at the site of jejunojejunostomy which was managed surgically. The results regarding weight loss were satisfactory ranging from 30%-75% loss of the excess weight. No mortality.

**Conclusion:** Redo surgery in obese patients is very challenging, needs good centers, expert surgeons and team. Redo surgery is very helpful for the obese patients with good out come and acceptable complication. Our results are matching the results of big centers all over the world.

## 147
## Single-stage versus Two-stage Conversion of Gastric Banding to Laparoscopic Roux-en-Y Gastric Bypass: A single-center Experience of 885 Consecutive Patients

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**Aims:** To achieve additional weight loss or to resolve band-related problems, a laparoscopic adjustable gastric banding (LAGB) can be converted to a laparoscopic Roux-en-Y gastric bypass (RYGB). There is limited data on the feasibility and safety of routinely performing a single-step conversion. We assessed the efficacy of this revisional approach in a large cohort of patients operated in a high volume bariatric institution. Methods: Between October 2004 and December 2015, a total of 885 patients who underwent LAGB removal with RYGB were identified from a prospectively collected database. In all cases a single-stage conversion procedure was planned. The feasibility of this approach and perioperative outcomes of these patients were evaluated and analyzed. Results: A single-step approach was successfully achieved in 738 (83.4 %) of the 885 patients. During the study period, there was a significant increase in performing the conversion from LAGB to RYGB single-staged. No mortality or anastomotic leakage was observed in both groups. Only 45 patients (5.1 %) had a 30-day complication: most commonly hemorrhage (N=20/45), with no significant difference between the groups. Conclusion: Converting a LAGB to RYGB can be performed with a very low morbidity and zero-mortality in a high-volume revisional bariatric center. With increasing experience and full standardization of the conversion, the vast majority of operations can be performed as a single-stage procedure. Only a migrated band remains a formal contraindication for a one-step approach.

## 148
## Laparoscopic Sleeve Gastrectomy .Is There a Need to Reinforce The Staple-line?

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**Objectives:** To evaluate the effect of staple-line reinforcement (SLR) on gastric leak and bleeding rate after laparoscopic sleeve gastrectomy (LSG).

**Methodology:** This is a retrospective study that has been performed on 326 patients who underwent laparoscopic sleeve gastrectomy at King Hussein Medical Center between Jan 2010 and April 2016.The patients were divided randomly into two groups, namely the reinforcement group (RG) (n=229) in which a 2-0 PDS (polydioxanone) continuous lambert suture was used to reinforce the staple line during LSG, and non-RG (NRG) (n=97) in which a staple line reinforcement material was not used. Patient characteristics, comorbidities, duration of surgery, hospital stay, as well as complications including leaks, and bleeding after surgery were analyzed and compared between the RG and (NRG).

**Results and Discussion:** Staple line leak developed in two patients (0.87%) in the RG and one patient (1.03%) in the NRG, while bleeding developed in two patients (0.87%) in the RG and four patients (4.12%) in the NRG. There was no difference between the RG and NRGs for the rate of staple line leaks (P =0.529).However there was a statistically significant decrease of bleeding rate among patients of the RG (P=0.047). One of the patients with leak died in the RG while there were no deaths in the NRG

**Conclusion:** According to our results we demonstrated that reinforcement of the staple line in LSG resulted in statistically significant decrease in the incidence of staple-line bleeding post operatively. In contrast to the rate of post-operative leak in which the difference between the two groups (RG and NRG) was not statistically significant.

**Keywords:** Morbid obesity; Sleeve gastrectomy; Gastric leak; bleeding; Staple line; Reinforcement

**149**

## Outcomes after Cleft Surgery – Does there have to be a Compromise Between Speech and Maxillary Growth?

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It is probable that many if not all patients with clefts of lip and palate have some intrinsic tissue deficiency and a tendency to impaired maxillary growth. However, the type of surgery carried out to the hard palate seems to be a major factor in producing maxillary retrusion and Class III malocclusion. As a result, the concept of delaying hard palate repair evolved. However, the evidence suggests that, depending on the duration of delay, this has adverse effects on speech. The aim, therefore, should be a technique which produces as little disturbance of maxillary growth as possible but results in normal speech. It is well recognised that maxillary growth cannot be assessed until maturity. We have also found that speech can deteriorate between 10 and 20 years. Therefore, the only results which are meaningful are long-term results – at the age of 20 years. The author's technique involves single layer vomerine flap closure of the hard palate at the time of lip repair at three months and radical dissection and reconstruction of the soft palate musculature under the operating microscope at six months. The long-term results will be presented and compared where possible with other protocols.

**150**

## Otoplasty for Prominent Ears Two years Review of our Practice at the Royal Jordanian Rehabilitation Center

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**Objectives:** Prominent ear deformities are common in our population, they impose serious psychological and behavioral disturbances in both children and adults, accurate surgical correction of the deformity is high yielding procedure for both patients and families, in this review we present our practice at the Royal Jordanian Rehabilitation center.

**Methodology:** Between January of 2014 and April of 2016, 30 patients with prominent ears were corrected, all of these cases were retrospectively studied and classified, surgical technique included hybrid combination of multiple otoplasty techniques present tailored to each individual case deformity.

**Results and Discussion:** The age of the patients ranged between 4 to 30 years, male to female ratio was 3:1, ratio of bilateral to unilateral deformity was 9:1. the most common presenting motivation for surgery was psychosocial disturbances , Mustrad"e and Conchomastoid sutures were used in all cases, Stenstr"om scoring was used only in adult cases with stiff cartilage, only cases of severe conchal hypertrophy underwent variable degree of conchal resection. The complication rate was 26.6%.

**Conclusion:** Otoplasty for prominent ears if executed correctly is one of the most yielding procedures in plastic surgery, resolving a lot of behavioral and social disturbances not only in children but also in adult population, comprehensive analysis of the deformity and knowledge of various techniques are the keys for success.

**Keywords:** prominent ear deformity, otoplasty, cartilage molding, cartilage breaking.

**151**

## The Management of Velopharyngeal Incompetence

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The assessment of velopharyngeal function involves oral examination, the objective assessment of speech by a speech and language therapist, videofluoroscopy (especially the lateral view to demonstrate velar function), nasendoscopy and, on occasions, nasometry and nasal/oral airflow/pressure measurements and sleep studies. Management of velopharyngeal incompetence (VPI) is determined jointly with the speech pathologists. Functional velopharyngeal incompetence, which can often be inconsistent) is generally treated by speech therapy, while structural VPI requires surgical intervention.

Causes of VPI include: incompetence following cleft palate repair, submucous cleft palate, and incompetence following adenoidectomy, muscular and neurological disorders, and velopharyngeal disproportion. Pharyngoplasty has been the standard surgical modality for treatment of VPI following cleft palate repair. The problems of airway obstruction and sleep apnoea are increasingly being recognised. The author therefore aims in the first instance to maximise velar function. Palate re-repair is considered as the first line of surgical management. This involves retropositioning and reconstruction of the velar musculature if investigations have demonstrated anterior insertion of the levator muscles. If palate function is optimised and velopharyngeal incompetence remains, the options are a posterior wall augmentation pharyngoplasty (Hynes) or velar lengthening with buccinator flaps. Midline pharyngeal flaps and prosthetic management are used rarely. The aim in surgical management is to achieve competence whilst avoiding velopharyngeal obstruction.

**152**
**The Evolution of Our Technique to the Use of Two Cross Facial Sural Nerve Grafts in Facial Reanimation, A single Center Study**

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**Objectives:** To describe the evolution of our technique to the use of two cross facial sural nerve grafts in facial reanimation, a single centre study. in our unit we perform facial reanimation surgery over one and two stages, the first stage being the use of sural nerve graft to be placed from the donor site to the recipient site of the face, and this is a well-established technique for reanimation of the muscles of the face to be followed by a free functional muscle transfer 6-12 months down the line. We have modified our harvest technique to the use of endoscopic harvesting and we have recently started to use two cross facial nerve grafts to innervate the upper and lower face using two functional muscle transfers for smile and blink reanimation

**Methodology:** A review of the cases performed in the Royal Free Hospital and Mount Vernon hospital London, United Kingdom. With prospective and retrospective data collection, we examined the findings at the dissection, length of the nerve graft and donor site morbidity.

**Results and Discussion:** We have performed a total 420 sural nerve harvests using both open step ladder technique and the endoscopic harvesting technique. , on one rare occasion in Moebus syndrome the child had absent sural nerve from the ipsilateral side to the facial palsy. In assessment of donor site morbidity we examined the patients 6 -12 months post operatively for nature of donor site scar, mapping of the parasthesia, presence of dysasthesia and other functional deficit.

**Conclusion:** Use of two cross facial nerve grafts did not result in significant increase in morbidity and allowed us to reanimation the upper part of the face with free Platysma muscle transfer as well reanimation of the lower face with free Pectorals minor flaps. In cases of single cross facial nerve graft we recommend harvesting from the contra-lateral side to the facial palsy.

**Keywords:** Facial Reanimation, Sural nerve Graft, cross facial nerve, facial palsy.

**153**
**Towards a more Functional Palate Repair**

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Primary palate repair is the most important operation in the management of a baby with cleft lip and palate. It is vital for speech development but palate repair also has probably the greatest effect on maxillary growth. The aim is to minimise adverse effects on maxillary growth and to maximise function. A technique has been developed over 40 years which involves: Minimising scarring of the hard palate by avoiding incisions in the palatal mucoperiosteum in 80%+ of cases, Performing lateral releasing incisions (von Langenbeck) if necessary, Avoiding pushback procedures, and Restoring the soft palate musculature to a more normal and functional position. Reconstruction of the musculature involves separation of the muscles (palatopharyngeus and levator palati) from the oral and nasal layers from their anterior insertions and reconstructing their continuity across the midline of the posterior soft palate.

This operation is carried out, wherever possible, using an operating microscope. The same principle is involved in repairing submucous cleft palate, except that wherever possible the nasal mucosa is kept intact. Palate re-repair, with retropositioning and reconstruction of the soft palate musculature, is usually the first line of treatment in velopharyngeal incompetence following palate repair. Results of primary palate repair, submucous cleft palate repair and palate re-repair using this technique for muscle reconstruction has demonstrated its efficacy.

**154**
**Keystone Flaps and their Use in Lower Limb Wounds and Trunk Reconstruction: Advantages, Modifications and Review of the Literature**

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**Objectives:** Keystone flaps are a relatively new technique for wound closure that was initially described to close limited skin defects following cutaneous malignancy excision particularly on the lower limb. However there has been a gradual increase in their incorporation into the reconstructive ladder as a step between using a local flap and a free flap, and more commonly to replace the need for skin graft. With the rise in popularity of this flap, their usefulness and adaptability is constantly being reviewed and there are increasingly mixed views

**about them Aim:** We aim to review the published literature on the Keystone flap with a view to identify the reported trends and indications for its use and the modifications described, as well as the advantages and disadvantages of it its use in trunk and lower limb reconstruction.

**Methodology:** A critical analysis of the published literature on keystone flaps

**Results and Discussion:** The search conducted revealed 53 results; of these there were 21 relevant publications that directly related to our area of interest
**Conclusion:** We support the incorporation of these flaps into the standard practice and training for reconstructive plastic surgeons, as the literature clearly shows that in the hands of the experienced surgeons, these flaps have excellent performance records with consistently good cosmetic outcomes.

**Keywords:** Keystone flap, limb reconstruction, reconstructive technique.

**155**
**An Algorithmic Approach to Predicting the Volumes of Muscle Flaps for Facial Reanimation Procedures**

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**Objectives:** Facial paralysis has far-reaching physical and psychosocial implications for patients. A "restitutio ad integrum" is, however, not feasible just yet. The principal management strategy involves facial reanimation surgery as a single-stage or two-stage procedure using cross facial nerve grafts (CFNG) with subsequent free flap anastomosis. However, excessive cheek bulk remains a major cause of patient dissatisfaction post-operatively, requiring secondary debulking procedures which put additional strain on patients, both physically and mentally.

**Methodology:** In this report, the authors present their experience with 151 free flap transfers over a 10-year period and identify a number of controllable and uncontrollable variables which influence the likelihood of post-operative bulk

**Results and Discussion:** Our results demonstrate that revisional debulking procedures were necessary in 5.3 % of all flap transfers which mainly included pectoralis minor and latissimus dorsi muscle flaps. The authors hypothesize that by taking into account certain parameters such as patient age, race, body mass index (BMI), and donor muscle origin, it may be possible to predict the likelihood of post-operative bulkiness and employ anticipatory strategies such as primary muscle and/or recipient bed thinning to avoid secondary procedures. It must, however be noted that despite the optimization of controllable parameters, as yet uncontrollable factors such as rate of reinnervation or muscular atrophy can limit such an algorithmic approach

**Conclusion:** Despite the optimization of controllable parameters, as yet uncontrollable factors such as rate of reinnervation or muscular atrophy can limit such an algorithmic approach. The authors believe, however, that future advances in the field of tissue engineering and regenerative medicine will provide some, if not all answers to the hitherto encountered challenges by providing custom-made tissues ranging from synthetic muscles to tissue engineered nerve grafts.

**Keywords:** Facial Paralysis, functional muscle transfere, free muscle flaps, debunking procedures, muscle bulk, patient satisfaction, Free Pectorals minor flap, Free Latissimus Dorsi Flap, cross facial nerve graft (CFNG).

## 156
## Stress and Stress Management Biological Perspectives

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Stress has always been a major point of concern to mankind both to lay people, different professionals in variant fields and not least of course to medical professions.
Medical and psychological literatures are indeed vastly rich in research tackling stress types, history, causes, and negative impacts and discussed as well, the best tools to prevent and fight against distress morbid aftermaths. In this review we'll discuss different scopes of stress, and focus on the crucial biological model of stress relying on wide medical references and meta-analysis regarding responses on both central and peripheral neuroendocrinological, & immunological systems generated by morbid stress type (Distress). In conclusion, the author found that, a covert and important consensus about the current as well as the future importance of research in the field of psychoimmunoneurological science and its practical implications in almost all fields of clinical practice and an agreement to highlight such issue all through continuous medical teaching.

## 157
## Substance Abuse: Naltrexone and Neurotransmitters

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Addictive disorders share common neurobiological mechanisms that are fairly well understood. Each substance of abuse "exploits" certain neurotransmitters that result in increases in pulsatile release of dopamine in the nucleus accumbens. Continued use of these substances then alters neuronal nets and neurotransmitter levels. In addition, conditioning paradigms and psychosocial stressors affect behavior of dependent individuals. Thus, treatment has to be multifaceted. This lecture will discuss the neurobiology of substance abuse especially as related to alcohol, opiates and cocaine. The way in which stresses result in relapse will be discussed and various treatment strategies will be outlined.

## 158
## Schizophrenia Treatment and Its' Complications: Update

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Pharmacological treatment of schizophrenia started more than 60 years ago. It used to have lots of distressing adverse events such as sedation and severe extra pyramidal side effects which were not tolerated by patients. There has been a great advance in medications produced with remarkable improvement of both positive and negative symptoms. Unfortunately that was at the expense of serious metabolic adverse events. In my talk I shall discus the most recent research published about schizophrenia and the advanced pharmacological treatment and what methods need to be addressed to reduce the harmful effect of metabolic syndrome induced by modern antipsychotics. The most recent neuroimaging and pharmacological studies will be reviewed and the pharmacological, psychological and social method used to counteract the harmful effect of antipsychotics will be discussed.

**159**
**Closed Head Injury and Post-traumatic Stress Disorder: Overlapping Syndromes**

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There is considerable overlap between the symptoms of PTSD and those of closed head injury. Moreover, some individuals will develop PTSD symptoms as a result of traumatic incidents also causing head injury. This lecture will discuss overlap in symptoms, possible neurobiological mechanisms of action and treatment strategies for both disorders including the use of medications and a variety of cognitive behavioral therapies.

**160**
**Injections to Improve Facial Aesthetics Dermal Fillers**

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Dermal fillers have provided a safe and effective means for aesthetic soft tissue augmentation, and have experienced a dramatic increase in popularity during the past 10 years. Much focus has been placed upon filler technique and patient outcomes. However, there is a relative lack of literature reviewing the basic science of dermal fillers, which is vital to a physician's understanding of how each product behaves in vivo. Part I of this lecture reviews the basic science and evolution of both historical and contemporary dermal fillers and face anatomy; Part II examines their adverse effects. We endeavour to provide the physician with a practical approach to choosing products that maximize both aesthetic outcome and safety.

**161**
**The Spectrum of Cutaneous Lymphoproliferative Diseases: A Clinicopathological Perspective**

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The evaluation of cutaneous lymphoproliferative diseases is a challenging process. Often the answer to the diagnostic dilemma goes beyond the microscope requiring a thoughtful clinicopathological assessment. This is a unique scenario for the pathologist, which contrasts with other situations like melanocytic lesions or epithelial tumors in which a diagnosis can be rendered in most cases without interaction with the clinician. After a brief introduction to the subject, I will present a few cases that help illustrate the spectrum of cutaneous lymphoproliferative diseases.

**162**
**Injections to Improve Facial Aesthetics Botulinum Toxin**

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Botulinum toxin is a naturally occurring neurotoxic protein produced by the bacterium Clostridium botulinum. Botulinum toxin type A (BTX-A) have been used for aesthetic purposes for almost 25 years. BTX-A inhibits the release of acetylcholine, resulting in temporary muscle paralysis, which has been utilized successfully to treat glabellar frown lines, periorbital wrinkles and other facial enhancement procedures. Since 2002, when the US Food and Drug Administration (FDA) approved botulinum toxin type A for the treatment of moderate to severe glabellar furrows, it has been used to restore an illusion of youth, and many dermatologists routinely use botulinum toxin for total facial rejuvenation.
Originally, applicability was found for botulinum toxin in the treatment of strabismus; however, this single indication has now grown into many. Currently, the Food and Drug Administration (FDA) has approved BTX-A for several indications, including blepharospasm, strabismus, cervical dystonia, chronic migraines, axillary hyperhidrosis, upper limb spasticity, urinary incontinence. The list of indications continues to grow, including off-label use of this product.
Currently, botulinum toxin is most commonly used in the management of hyper functional lines. Previously, hyper functional lines were the source of much consternation for those affected by them. These lines often caused patients to be misinterpreted as angry, anxious, fearful, or fatigued. In the past, facial plastic surgeons only had surgical options in their armamentarium.

These procedures often provided minimal improvement and exposed patients to the risks associated with surgery. Injections of BTX-A provide an opportunity to manage these hyper functional lines with minimal morbidity. The 3 most common sites for injection are the glabella, periorbital crow's feet, and forehead areas.

**163**
**Cutaneous Adverse Drug Reactions**

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Cutaneous adverse drug reactions (ADRs) are frequently encountered in dermatology outpatient clinics. They are the most frequently occurring adverse reactions to drugs. There is a wide spectrum of ADRs varying from simple transient exanthems to fatal reactions as Stevens-Johnson syndrome and toxic epidermal necrolysis.
In only less than 60% of patients it is possible to attribute a specific medication definitely as the cause of the eruption. Simple exanthems and urticaria account for the vast majority of drug eruptions.Aminopenicillins cause drug eruptions in about 8% of exposures and trimethoprim-sulfamethoxazole (TMP-SMX) in around 4%. About 20% of emergency department visits for adverse events caused by medications are related to antibiotics, mainly penicillins and cephalosporins.

**Objective:**
To review the clinical spectrum of common and/or serious cutaneous ADRs and the most common encountered causative drugs in Jordan.

**164**
**Reasons For Primary Teeth Extractions Among Children Attending a Pediatric Dental Clinic in Jordan**

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**Objectives:** The aim of this study was to identify the reasons for extraction of primary teeth and the most frequently extracted teeth among Jordanian children attend a pediatric clinic in Amman-Jordan.

**Methodology:** A cross-sectional study includes 230 patients with 119 females (51.7%) and 111 males (48.3%) was evaluated. Their ages of children ranged from 2 to 13 years, who was seen at a Pediatric Dentistry out clinics of King Hussein Medical Center in Amman – Jordan. All children who had one primary tooth extracted during the period of the study were included, the patient's age, gender, the number of teeth, tooth type extracted, and reasons for extraction were recorded.

**Results and Discussion:** A total of 230 primary teeth was extracted. Dental caries (47%) appear the most common cause of primary tooth extraction. The most common tooth type extracted was first primary molars and comprised (48.7%) of all teeth extracted, while a central incisor was the next most common tooth type extracted and accounted for (23.5%). However, in the age group (2-5 years) old the most common teeth extracted were primary central incisors and account (59.3%) while; in the age group (6-9 and 10-13 years) the first primary molars were the most common extracted tooth and comprised (56.4%) and (59.7%) respectively.

**Conclusion:** Dental caries was found to be the most common causes for extraction of primary teeth in children. Educating parents and their children about dental prevention programs are needed to reduce the prevalence of dental caries, which is the main cause of tooth extractions in pediatric patients.

**Keywords:** dental caries, pattern, prevalence, reasons, tooth extraction, tooth loss

**165**
**Durability of Dentine Bonding Adhesives: A comparison between One Step Self-Etch and Etch-and-Rinse Dentine Bonding Adhesives**

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**Objectives:** The science of bonding in dentistry is of great importance in modern dental practice. Durability of bond is a major issue for research nowadays to compare between different types of dental adhesives. A systematic review and Meta-analysis were performed to compare between durability of one step self-etch (1SE) and etch-and-rinse(ER) dentine bonding adhesives.

**Methodology:** The following databases were searched for PubMed, MEDLINE, Web of Science, CINAHL, and the Cochrane Library and by a manual search of the Journal of Adhesive Dentistry. Keywords used were: "etch and rinse," "total etch," "self-etch," "dentine bonding agent" "bond durability" and "bond degradation." Included were in-vitro experimental studies performed on human dental tissues of sound tooth structure origin. The included studies measured micro tensile bond strength (μTBs) as a measuring value of bond strength and durability of both types of dental adhesives at different times. The selected studies depended on water storage as the aging technique. Statistical analysis was performed for outcome measurements compared at 24 h, 3 months, 6 months and 12 months of water storage.

**Results and Discussion:** Comparison between μTBs of 1SE and ER bonds found higher values for ER with P values statistically significant only at 24 hours of water storage. The P=values were as follows: after 24 hours (P-value= 0.003), after 3 months (p-value=0.149), after 6 months (p-value= 0.061), after 12 months (p-value= 0.365)
Conclusion: In this study, μTBs values determined the durability of compared bonding adhesives. Durability values were higher for etch-and-rinse systems after all aging periods, but were only significant after 24 hours of water storage.

**Keywords:**
Dental adhesives, Self-etch, Etch-and-Rinse, Bond durability.

**166**
**Abscesses of the Periodontium**

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**Objectives:** Abscesses of the periodontium are common dental emergencies in dental clinics. They include gingival abscess, periodontal abscess and pericoronal abscess. Due to the importance of these common clinical conditions they were classified as a specific category in the latest classification of periodontal diseases and conditions in 1999. Because these conditions may affect the prognosis of the affected tooth or teeth and may disseminate to other body systems they should be managed quickly and properly. Management of these emergency conditions should be done in a step wise sequel, by dealing with the acute condition first and then by definitive treatment for the original causative factors. In my review lecture regarding this subject; issues related to the subject as predisposing factors, pathogenesis, microbiology, differential diagnosis and management will be discussed in details.

**Keywords:** gingival abscess, periodontal abscess, pericoronal abscess

**167**
**Effectiveness of 5% EMLA Cream Versus 20% Benzocaine Gel as a Topical**

*Anesthetics in Palatal Injection*
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**Objectives:** To investigate the difference in effectiveness of Eutectic Mixture of Local Anesthetics (EMLA) and Benzocaine as topical anesthetics in palatal injection.

**Methodology:** Forty volunteers from dental department at Prince Ali Bin Al Hussein Military Hospital participated in the study. 5% EMLA cream or 20% Benzocaine gel were applied to either side of the hard palate opposite the maxillary first premolars. A short needle was inserted at site of topical anesthetic application at 3, 6 and 9 minutes until it touches the bone

and the volunteers assisted the pain on a visual analogue scale (VAS) where 0 indicated "no pain" and 10 indicated "unbearable pain"

**Results and Discussion:** EMLA found to be associated with less pain than Benzocaine at all applied time and the difference was statistically significant ($p < 0.05$). There was no significant difference between inter-groups of EMLA or between those of Benzocaine. EMLA found to be associated with less VAS values than Benzocaine and the difference was statistically significant.

**Conclusion:** 5% EMLA was statistically more effective than 20% Benzocaine gel as a topical anesthetic agent before palatal injection.

**Keywords:** EMLA, Benzocaine, Topical Anesthetic, Pain, VAS

**168**
**Improvement Of Oral- Health-Related Quality Of Life Of Children Receiving Comprehensive Dental Treatment Under General Anaesthesia And TheirParent Satisfaction At Prince Rashid Military Hospital**

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**Objectives:** To assess the changes in oral-health- related quality of life of children and their families after comprehensive dental treatment under general anaesthesia in a group of patients at Prince Rashid military hospital.

**Methodology:** A randomly selected group of patient's parents were interviewed before and one month after comprehensive dental treatment under general anaesthesia at Prince Rashid military hospital between July 2015 to June 2016. A questionnaire and family impact scale were given before and after treatment which assess the impact of the oral health on children and their parents and parental satisfaction. The following were analyzed: impact on oral health, functional limitations, and emotional status, and impact on family.

**Results and Discussion:** Two hundred and twenty- nine patients were included, 121(52.8%) males and 108(47.2%) females. The average age 6.4 years (2.5 -8 years). Functional improvement in quality of life was encountered in both the questionnaire and family impact scale. Sleep disturbances, eating problems, and pain scale were all improved. Parent satisfaction scale was high.

**Conclusion:** In spite of general anaesthesia risks, especially for immune- compromised patients, the quality of life improvement was significant for all children receiving comprehensive dental treatment under general anaesthesia and their parents.

**Keywords:** Quality of Life, General Anaesthesia, Family Impact Scale

**169**
**Prevalence of Occupational Hazards: Chronic Illnesses and Psychological**

**Disorders Among Jordanian Dentists**

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**Objectives:** The aim of this study is to show the effect, if any, of dental profession on the prevalence of chronic physical and psychological illnesses

**Methodology:** A random sample of 200 participants of licensed dentists from north, middle and south of Jordan participated in this study. Structured questionnaires were distributed taking into consideration the distribution of dentist in the country to make the sample more representatives of Jordanian dentists.

**Results and Discussion:** Data were analyzed to show if there is any effect of dental profession on the development of chronic illnesses. The respondents were 134 participants (67 %) with average age between $33.0 \pm 10.4$ years and most of the respondents worked between 34-50 hours per week. Two thirds of the respondents were male dentists.
The prevalence of systemic disease between

respondents was 5.2% for diabetes mellitus Type II, 8.2% for hypertension, 1.5% for cardiovascular disease, 25.4% for musculoskeletal problems, 6.0% for pulmonary disease, 20.1% for vision impairment, 3.0% for hearing impairment, 5.2% for dermatitis, 3.0% for psychological problems and 66.4% for exhaustion

**Conclusion:** Most of the chronic illnesses had a prevalence rate similar to other occupations while other chronic diseases found to have higher prevalence in the sample of this questionnaire.

**Keywords:** Occupation, Physical, Psychological, Hazards

**170**
**Prematurity and Dental Caries, Coincidence or Risk Factor?**

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**Objectives:** The aims of this study were to evaluate the occurrence of dental caries in primary dentition and premature children in comparison to full term children and to report other dental anomalies in premature children.

**Methodology:** This is a prospective cross-sectional, hospital-based study conducted in Pediatric dentistry clinic at KHMC on 50 premature children and an equal number of full-term children aged between 3-5 years of both groups, over the period of one year.

**Results and Discussion:** Relevant history concerning demographic information, feeding habit, oral hygiene, neonatal condition were obtained from the parents or guardians. All full term and premature children were examined orally by one pediatric dentist. dmft and other oral lesions were recorded and analyzed using SSPP and chi square test. No significant difference was observed between premature and mature children in dmft, P value= 3.5 but some statistical differences were found in dental caries prevalence in relation to breast-feeding, bottle-feeding habit and sweets consumption.

**Conclusion:** Prematurity may not be a risk factor for dental caries in primary dentition, but good oral hygiene, long breast-feeding, avoidance of sweet foods, and over-protection of those premature babies by their mother guided by their pediatrician, may decrease chances of developing dental caries. Enamel hypoplasia was found to be more frequent in premature children.

**Keywords:** prematurity, dental caries , enamel hypoplasia

**171**
**Molar Incisor Hypomineralization: Prevalence, Etiology and Treatment Approaches**

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**Objectives:** To evaluate the prevalence, etiology, severity and treatment approaches for school aged children having MIH (Molar Incisor Hypomineralization) and living in Amman City-Jordan

**Methodology:** A sample of 600 child aged 7-9 years were examined in two military hospitals in Amman, and based on the criteria of the European Academy of Pediatric Dentistry; our data was collected.

**Results and Discussion:** (MIH) was diagnosed in 104 child (17.3%) out of 600 child examined, with 84 child (81%) of affected children were diagnosed as having medical problems prenatal, perinatal or Postnatal. The demarcated creamy white opacities were the most lesion type observed in (81%) of children affected; which are considered among the mild (MIH) defects. The treatment modalities that were performed for those children include prevention; as Fluoride therapy, which was applied for (55.8%) of the affected children, as well as different types of restorations in addition to extractions.

**Conclusion:** (MIH) is quite common in children living in Amman with a prevalence of (17.3%). It was associated with health problems in prenatal, perinatal and postnatal period. The severity of the defects was mainly mild in nature, and was

treated by either applying preventive measures, using different types of fillings, or by extractions.

**Keywords:** hypomineralization, prevalence, childhood illness

**172**
**Hypochlorite Accident**

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**Objectives:** Sodium hypochlorite is the irrigant of choice for disinfection of the root canal system during root canal therapy but it should be used carefully because it may cause one of the most serious complications (hypochlorite accident)
In this presentation definition, symptoms, short complications, long term complications, management and the most importantly how to avoid this complex situation will be discussed.

**Methodology:** ------

**Results and Discussion:** -------

**Conclusion:** --------

**Keywords:** Hypochlorite accident, Complications, Management

**173**
**Silorane Composite Based Material**

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**Objectives:** The purpose of this lecture is to compare the product profile of new silorane based composite material that polymerizes with cationic ring opening process with product profile of traditional methacrylate based restoratives.

**Methodology:** Silorane based material compared with methacrylate composites with regard to polymerization shrinkage, marginal integrity, ambient light stability and compressive and flexural strengths based on literature review.

**Results and Discussion:** Silorane have much lower polymerization shrinkage (< 1%) compared to (1.5 - 3 %) shrinkage in methacrylate composites. Ambient light stability of (>10) min for silorane was higher than methacrylate composites (55 - 90) sec. Silorane provide better marginal integrity .Compressive and flexural strengths of silorane rank within the range of clinically proven methacrylate composites.

**Conclusion:** The ring opening chemistry of silorane enables it's shrinkage to be as low as (< 1 %), thus, decreasing sensitivity and post operative pain and decreasing microleakage and recurrent caries. The high ambient light stability (> 10) min enables the operator to work under full light for longer time, thus, better application and more time for shaping of silorane before light activation. Silorane have better marginal integrity.

**Keywords:** Silorane , Methacrylate , Cationic ring opening

**174**
**Macroesthetics in Smile Design Discipline**

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**Objectives:** Understanding of macroesthetics guidelines in smile design

**Methodology:** The number of patients who are seeking dental treatments with primary motive and their main objective of obtaining pretty smiles have been increased, although aesthetics is a subjective discipline, so as pretty smiles, yet there are aesthetics guidelines, principles, strategies to be understood and followed to obtain the desirable pretty smiles These principles involving making pretty smiles are known as discipline of smile design or smile design theory

**Results and Discussion:** Smile design theory can be divided into four specific areas, these four specific areas that have an overall impact of the smile are: facial aesthetics, gingival aesthetics, macroesthetics and microesthetics Macroesthetics, represent the principles that apply when grouping of individual teeth are considered. It represents the relationship and the ratio of relating multiple teeth

to each other, to the surrounding soft tissues, to facial characteristics and facial land marks. In simple words it is the appearance of teeth from a distance ,as a part of the whole picture macroesthetics is based on the midline and the amount and position of tooth reveal, which dictated by many guidelines such as ,the incisal embrasures ,teeth connectors, teeth axial inclines, the intercommissure line, smile line and the vestibular space.

**Conclusion:** Every patient has a unique macroesthetics that provide guidelines for evaluation, treatment, subsequent treatment and only a part of other parts that make up smile design discipline

**Keywords:** Macroesthetics ,Smile design, Teeth

## 175
## Evaluation of PRF Addition on Periodontal Regeneration

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**Objectives:** To evaluate the effect of open flap debridement with Platelet Rich Fibrin (PRF) on periodontal tissue regeneration versus open debridement alone.

**Methodology:** 20 cases of moderate generalized chronic periodontitis, 10 cases (test group) underwent open flap debridement with PRF, 10 cases (control group) underwent open flap debridement alone. Evaluation of results based on pre-operative and post-operative (4, 8, 12 weeks) clinical attachment level, pocket depth, furcation involvement, mucogingival junction level and mobility.

**Results and Discussion:** The test group showed significant improvement in clinical attachment level, reduction in pocket depth and furcation involvement. No significant results noticed related to mucogingival junction level and mobility

**Conclusion:** the addition of PRF enhance the outcomes of open flap debridement in periodontal regeneration

**Keywords:** PRF,Regeneration, Open debridement

## 176
## The Challenge in Treating the Complicated Orthodontic Cases

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**Objectives:** To discuss the challenge presented in treating the complicated orthodontic cases.

**Methodology:** All the factors complicating the orthodontic case will be discussed. The modern concepts and tools aid in simplifying the orthodontic treatment of most of the complicated orthodontic cases will be mentioned with presentation of clinical cases

**Results and Discussion:** Skeletal features, soft tissue, dentoalveoler, and patient factors are considered important factors complicating the management of orthodontic cases . Modern orthodontic concepts and tools are successful in minimizing treatment time and give better results

**Conclusion:** Recent updates and development in treatment concepts and tools give the orthodontist a wider spectrum of cases that can be treated successfully

**Keywords:** Orthodontic treatment, Soft tissue, Dentoalveoler

## 177
## Diagnosis and Management of Extracranial Head and Neck Schwannomas

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**Objectives:** To emphasize the importance of accurate diagnosis and associated risks of Head and Neck Schwannomas following surgical excision.

**Methodology:** 10 patients with Head and Neck Schwannomas of multiple origins underwent surgical excision and were associated with different types of postoperative morbidities.

**Results and Discussion:** Preoperative diagnosis with MRI and intracapsular surgical excision were associated with the least postoperative morbidities.

**Conclusion:** MRI as well as biopsy are the most important diagnostic tools for the proper diagnosis and surgical planning

**Keywords:** Schwannomas, nerve of origin

**178**
**Barotrauma in Orofacial Region**

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**Objectives:** To assess the role of diving and aviation on causing Barotrauma and Bariodontalgia in both military and civilian sectors.

**Methodology:** This is a literature review that highlights the etiology and manifestations of dental barotrauma and barodontalgia as well as its differential diagnosis, treatment modalities as well as its prevention.

**Results and Discussion:** Aerodontalgia and tooth squeeze are previous terms of barodontalgia have been reported in different case reports and studies. The change in pressure according to Boyle's law will cause the gas to change its volume. Gas expansion and shrinkage in walled area of human body cause pain that may jeopardize the safety of aviators or divers.

**Conclusion:** Barotrauma is a phenomenon that can be well understood, prevented and treated if care-givers of those mostly at risk are well informed and prepared to take preventive measures. Annual checkups and treatment modification are crucial to divers and aviators

**Keywords:** Barotrauma,Barodontalgia,Aviation Dentistry

**179**
**Sjogren's Syndrome: Our Clinical Experience at King Hussein Medical Center (KHMC)**

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**Objectives:** The aim of our retrospective study was to evaluate the clinical and serological parameters in patients with Sjogrens syndrome (SS).

**Methodology:** 60 patients with clinical signs of SS have been analyzed for clinical and serological features. All patients in this study fulfilled the revised American-European consensus criteria for classification of SS. Serological parameters included: Antinuclear antibody (ANA), anti-Ro(SSA) and anti-La(SSB). Clinical and laboratory information was retrieved from the clinical records of all patients between 2011 and 2013 at Princess Eman center for research and laboratory science, KHMC/RMS.

**Results and Discussion:** The serological pattern for the patients shows that ANA was positive in 67% of all patients. Anti-Ro/SSA antibodies and Anti-La/SSB antibodies were presented in patients with primary SS (58% and 61% respectively); however SSB rarely present in secondary SS.

**Conclusion:** Diagnosis of SS is a difficult process and depends on certain criteria that involve subjective symptoms and clinical, serological and histological features. Serological profile can help to identify SS at an early stage, so that measure the disease activity and prevent the initial presence of complications such as B-cell lymphoma. However new laboratory techniques need to be explored.

**Keywords:** Sjogrens syndrome, serology, pattern

## 180
## Odontogenic Keratocystic Tumor; A Clinical Review

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**Objectives:** The aim of my paper is to review the clinical features of Odontogenic Keratocystic Tumor (OKCT) and to compare between aggressive and conservative treatment procedures.

**Methodology:** 13 patients diagnosed with OKCT had been treated at Jordanian Royal Medical Services hospitals assessed according to treatment procedures, age of the patients, site, size, and tumor recurrence.

**Results and Discussion:** The aggressive treatment results in a lower recurrence rate than conservative procedures. Large size lesions have high recurrence rate, lesions present at posterior mandible are most common.

**Conclusion:** The high recurrence rate and the aggressive nature of OKC warrants an aggressive surgical treatment procedures where updated knowledge regarding this lesion classify it as a neoplastic rather than cystic lesion.

**Keywords:** KCOT ,Enucleation ,Resection, Marsupialization.

## 181
## Does Mouth Breathing Habit Cause Malocclusion?

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**Objectives:** investigate the relation between mouth breathing habit as an etiological factor causing orthodontic alterations in a sample of growing children.

**Methodology:** A total of 67 children (24 females, 43 males) with a mean age of 9.3 years were referred from Ear, nose and throat clinic, provided they had mouth breathing habit of more than 6months, and aged between 8-11years, upon arrival to Orthodontic clinic, comprehensive orthodontic assessment with extra and intraoral examinations were carried out.

**Results and Discussion:** This study showed the significant connection between mouth breathing habit and various orthodontic malocclusion traits. Upon patient extra-oral profile examination, a class II skeletal relation presented in 78% of patients, showing maxillary protrusion and/or mandibular retrognathia with more than 4mm profile convexity. Intra-orally, an increased overjet of 4mm or more was found to exist in 89.4% of this mouth breathing respiratory pattern sample. Open bite or reduced overbite of less than 1mm appeared to occur in 68%. Unilateral or bilateral Posterior cross bites co-existed with class II molar angle relation in 65.7% of the mouth breathing habit sample. Finally, moderate to severe maxillary crowding was detected in 64.6% of the sample.

**Conclusion:** There was a great correlation between nasopharyngeal airway obstruction causing mouth breathing habit and the development of various skeletal and dental abnormalities, eventually leading to higher demand and need for orthodontic care.

**Keywords:** breathing pattern, mouth breathing, skeletal and dental alterations, orthodontic malocclusion

## 182
## Temporomandibular Joint Ankylosis

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**Objectives:** The aim of this literature review is to highlight type, cause, classification and treatment modalities of temporomandibular joint (TMJ) ankylosis

**Methodology:** This review is based on most up to date knowledge and information extracted from published papers in the period between 2013-2016 regarding TMJ Ankylosis

**Results and Discussion:** TMJ ankylosis is mostly related to trauma especially in children. It is classified according to the type of tissue involved,

location and degree of fusion.
Diagnosis mostly depends on clinical examination and radiographical investigation.

**Conclusion:** The surgical approach is the most common technique to be used in treatment of TMJ ankylosis.

**This include:** Gap arthroplasty, coronoidectomy, costocondral graft with temporalis fascia flap and total joint prosthesis. Follow up is important to avoid recurrent ankylosis.

**Keywords:** TMJ Ankylosis, Gap Arthroplasty

**183**
**Bisphosphanate Osteonecrosis of the Jaws Be Cautious!**

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**Objectives:** Highlighting Bisphosphanate Induced Necrosis of the jaws (BINJ) as an entity that is yet not well known to many oncologists, the need for good counseling and careful dental clinical examination and appropriate imaging before starting and through the course of bisphosphonate therapy and a review of updates in it's management is discussed.

**Methodology:** Systemic review of updates in the subject

**Results and Discussion:** Intravenous bisphosphonates used in the management of osteoporosis, Paget's disease, Multiple Myeloma, bone metastases, improves quality of life, delays skeletal complications, decreases the pain and hypercalcemia. But it can induce osteonecrosis of the jaws (BINJ) that is usually misdiagnosed as a malignancy or metastases that's all beside the difficulty in its management and it's protracted course of healing.

**Conclusion:** Ounce of Prevention is better than Pound of cure.
Proper counseling before and during therapy course and obtaining a complete patient history and clinical examination remains the most effective method of establishing a timely diagnosis of Bisphosphanate related osteonecrosis of the jaws (BRONJ) in most patients. This will facilitate proper disease stratification and implementation of stage-specific treatment strategies.

**Keywords:** Bisphonate jaw osteonecrosis, Medication related jaw osteonecrosis, Antiresorptive therapy, Antiangiogenic therapy

**184**
**Extracapsular Dissection as Current Treatment Modality of Parotid Benign Tumors in Prince Rashid Military Hospital**

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**Objectives:** To evaluate the success rate of extracapsular dissection of parotid benign tumors relating to facial nerve function and adequate excision capability.

**Methodology:** 10 cases with benign parotid mass based on clinical , fine needle cytology and radiographically using computerized scan (CT)

**Results and Discussion:** The post operative facial nerve function evaluated clinically as well as adequate excision evaluation was based on final histopathological examination. All patients showed normal nerve function and complete excision of tumors.

**Conclusion**: Extracapsular dissection is considered efficient and less invasive treatment modality in benign parotid tumors

**Keywords:** Extracapsular dissection, Facial nerve, Parotid gland

## 185
## Sarcopenia with Special Insight into Spinal Cord Injury

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Sarcopenia is defined as the presence of low skeletal muscle mass with either low muscle strength or performance. Sarcopenia was first coined by Irwin Rosenberg in 1998. The sequelae of sarcopenia often contribute to frailty, decreased independence, and subsequently increased health care costs. Sarcopenia is determined by two factors: the initial amount of muscle mass and the rate at which it declines with age. The rate of muscle loss with age appears to be fairly consistent, approximately 1%–2% per year past the age of 50 years. A clear relationship exists between loss of muscle strength and loss of independence, contributing to falls, fractures, and nursing home admissions. Biology of sarcopenia remains elusive. Two key observations associated with sarcopenia include a loss of skeletal muscle fiber number and a change in the cross-sectional area of the remaining fibers. In CNS diseases, mainly stroke and spinal cord injury, different and specific patterns of muscle loss and muscle changes have been described, due to denervation, disuse atrophy, spasticity and myosteatosis. The primary treatment for sarcopenia is exercise, specifically resistance training or strength training exercise. Resistance training has been reported to positively influence the neuromuscular system, hormone concentrations, and protein synthesis rate. Although drug therapy is not the preferred treatment for sarcopenia, a few medications have been used in clinical trials. These include: Urocortin II, HRT, testosterone, and growth hormone. Prevention strategies should be considered for all risk groups.

## 186
## Recent Advances in Spinal Cord Injury Management

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Ever since spinal cord injury (SCI) management was revolutionized during the Second World War, a lot has been achieved in all aspects of management thus helping reduce the impact of this most devastating ailment.
Comprehensive management of SCI initiates from the site of accident and continues throughout the life span of the patient. It includes pre-hospital care; evaluate acute medical care, management of vertebral lesion, bladder/bowel management, prevention and management of complications, psycholosocial support, comprehensive rehabilitation, community inclusion and lifelong follow up.
A significant progress has been made in all these areas. Along with this, the potential for central nervous system (CNS) regeneration and repair has also opened up numerous therapeutic targets and opportunities for restoration of neuronal function using cellular interventions.
This presentation will discuss the recent advances in all these aspects for the comprehensive management of SCI.
The need for a concerted research effort on spinal cord injuries involving a multidisciplinary team addressing all the aspects of SCI to restore function and improve quality of life will also be discussed.

## 187
## Interventional Pain Management for Chronic Spinal Pain

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Pain in the spine is one of the most common conditions with one of the highest economic burden on governments. The Pain in the spine will be discussed in detail from an interventional Pain specialist perspective, this will include various pain conditions, their diagnosis, radiological studies and blocks. New techniques will be also discussed. Discussion will also include the multidisciplinary approach to treat and control chronic Pain syndromes.

**188**
**Stem Cell Transplantation for Spinal Cord Injuries – Current Status**

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Recent advances in science and technology have led to improved survival rates, quality of life, and longer life spans of individuals with a spinal cord injury (SCI). Advances in surgical management, pharmacological interventions, cellular interventions and rehabilitation pave way for future therapies for achieving repair and regeneration after SCI. Cell and tissue transplants may facilitate repair and regeneration by replacing neuronal and glial cells lost to injury or disease; providing substrate (scaffold) for axonal outgrowth; reducing detrimental inflammation and secondary cell damage; promoting blood vessel formation (angiogenesis); releasing beneficial cytokines, growth factors and extracellular matrices; and/or stimulating remyelination.

Many studies have been performed that involve animal models of spinal cord injury (mostly rats and mice) and they suggest that certain cell-based interventions may restore function after SCI. Currently, in case of SCI, new discoveries with clinical implications have been continuously made in basic research, and cell based approaches are advancing rapidly toward application in patients. There is a huge base of pre-clinical evidence in vitro and in animal models which suggests the safety and clinical efficacy of cellular therapies after SCI. Despite this, data from clinical studies is not very encouraging and at times confounding. Human trials published so far have had various flaws in design and documentation.

Cellular therapies hold remarkable promise, particularly in the management of diseases and conditions for which there are currently limited or no treatment options. However, as with all emerging technologies, creating novel applications from an evolving knowledge base is a slow process. There is a significant gulf between public expectations and the reality of progress towards clinical application. Initiatives of various associations in educating clinicians as well as individuals regarding cellular therapies and clinical trial design in case of spinal cord injury go a long way in promoting moral, ethical and scientifically validated use of cellular interventions.

Investigating new avenues for facilitating repair and regeneration after SCI is currently the focus of several clinical trials. One can look forward to the results of several trials of which have gained worldwide attention. With the rapid developments in our knowledge regarding the clinical, molecular, biomechanical, biochemical and cellular basis of spinal cord injury and the advances in the field of tissue engineering and stem cell biology, it can be envisioned that future trials would involve an amalgamation of inputs from clinicians, pharmacologists, cell biologists and biomaterial engineers to come up with multi-pronged strategies for achieving repair and regeneration after SCI.

**189**
**Traumatic Brain Injury**

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Traumatic brain injury (TBI) is a leading cause of death and disability in both children and adults. TBI is complex, as it involves injury to multiple brain areas caused by both the initial injury and secondary events. The most persistent sequelae of TBI are cognitive and behavioral, reflecting the fact that the preponderance of damage is to the frontal lobes. Although the sequence of recovery follows a pattern, TBI is a heterogeneous disorder and rehabilitation programs must be tailored to the needs of the individual and his or her social situation. Specific therapy approaches, environmental structure, and medications all play a role. Many of the emerging approaches to facilitating CNS plasticity can be applied.

**190**
**Deep Brain Stimulation for Parkinson's Disease and other Movement Disorders (Our Experience at the QMC, Nottingham)**

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Deep Brain Stimulation (DBS) is an established, considerably safe and well tolerated surgical procedure, widely used symptomatic treatment modality for Parkinson's disease and other movement disorders such as tremor and dystonia. Over the last few decades more than 100 000 patients have been

implanted with electrodes and DBS has been shown to provide remarkable therapeutic effect on carefully selected patients. Although its precise mechanism of action is still unknown, DBS improves motor functions and therefore quality of life. Future work will undoubtedly involve establishing new indications and targets in the treatment of movement disorders with further optimization of existing technology. This review highlights recent common application of DBS in the management of movement disorders with special emphasis on Parkinson's disease and dystonia. We review our experience in this field at Queens Medical Centre in Nottingham and discuss some video-cases before and after surgery.

**191**
**Neurorehabilitation of Common Neurologic Disorders**

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Rehabilitation treatment and the interdisciplinary approach to care improve the function of those with acute neurologic disorders like stroke. They also improve the function of those with acute neurologic disorders such as multiple sclerosis; Parkinson disease; MND; Muscular dystrophy; and Neuropathy.
For patients who have had a stroke, an effective rehabilitation programme is critical to maximize functional recovery and quality of life. Rehabilitation can occur in a number of different physical settings and is often coordinated by a comprehensive interdisplinary team of professionals. It includes retraining to regain loss of function and teaching compensation strategies when that is not possible. For Chronic Neurologic Problems appropriate goals and therapies are specific to the stage of the disease as well as the needs and values of the individual patient.

**192**
**Unusual and Difficult Stroke Cases at King Hussein Medical Center (KHMC)**

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Stroke is the commonest neurological emergency. Diagnosis and management of patients with typical stroke presentations is usually done along well-established guidelines. However, there are many unusual or atypical presentations of stroke or Transient Ischemic Attacks (TIA's), which can be challenging to diagnose and manage. Examples of some challenging stroke cases seen recently at KHMC will be presented. Diagnostic difficulties and delay and management dilemmas will be discussed, with the aim of alerting physicians which encounter such patients to such problems. This will hopefully prevent unnecessary delays in diagnosis, which is of great importance, especially with the increasing use thrombolysis and interventional procedures for acute stroke. Also, some difficult management scenarios encountered will be discussed and recommendations, based on current evidence and personal experience, will be presented.

**193**
**Is it Subclinical Status Epilepticus?**

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"Is it subclinical status epilepticus?" is a question that often difficult to answer through an Electroencephalography (EEG). It is one of the commonest referrals for Urgent EEG in laboratories that provide continuously available emergency service. Nonconvulsive status epilepticus (NCSE) was originally described in patients with chronic epilepsy, but it is now recognized with increased frequency in other patient populations, especially the critically ill. It is certainly underdiagnosed, but its presentation is variable. NCSE can occur in patients with pre-existing seizures including absence and complex partial epilepsy and in a variety of disorders, including hypoxia, metabolic disturbances, and after convulsive seizures. A number of EEG patterns have been described in NCSE, and many of these are controversial, particularly as to whether they are ictal and how it should be treated. This presentation will review and discuss various aspects of NCSE, including classification, clinical and electroencephalographic features and prognosis, with the aim of raising awareness about different types of Periodic Epileptiform Activity.

**194**
**Approach to Nystagmus**

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Nystagmus is a rhythmic, repetitive, oscillation of the eyes. Nystagmus may occur physiologically in response to an environmental stimulus or change in body position. It is also seen with disease of the central nervous system, peripheral vestibular system or visual loss. The most important distinction in a patient who develops acute vertigo and nystagmus is whether they have a peripheral vestibular lesion, which is usually benign, or cerebrovascular disease. Therefore, it is important to distinguish the central from peripheral type of nystagmus. In this presentation, we are going to present various types of nystagmus by videos, so participant will be able to localize the cause of nystagmus.

**195**
**Rheumatoid Arthritis: A Clinician's Overview**

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Rheumatoid arthritis is a common worldwide disease that affects 1-2% of the population. It is one of the commonest chronic inflammatory arthropathies and a major cause of disability if not treated early. Theories on the pathogenesis have varied from complement and immune complexes to T-cell-mediated responses, B-cells and cytokine networks and more recently "aggressive" synovial like fibroblasts. Accordingly, various therapeutic interventions and approaches have been designed and developed to improve outcome and prevent joint damage. Early diagnosis, stronger treatments and newer therapies have prevented early joint damage and subsequent disability. However more needs to be understood. There is a need to identify prognostic markers of disease progression in early RA, an understanding of who will remit spontaneously and a clearer understanding of co-morbidities, outcomes and predisposing factors. There is a need for clearer guidelines on therapeutics and therapeutic protocols. This presentation will provide an overview on a wide range of themes as they relate to rheumatoid arthritis with a particular emphasis on basic science, clinical innovation and clinical translation.
Keywords: Rheumatoid arthritis, pathogenesis, treatment, outcomes

**196**
**BEHÇET'S Disease: An Update**

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Behçet's Disease (BD) is an auto-inflammatory multi-systemic disease, which is found primarily along the ancient Silk Route from the Mediterranean Basin across Asia to Japan. The disease is characterised by variable vessel vasculitis and classically presents with orogenital ulceration; skin, eye, joint, brain and gut manifestations. In order to accurately diagnose BD, a number of diagnostic criteria exist to improve accuracy of clinical phenotyping. Two recent whole genome studies confirmed that HLA B51 is the most significant genetic determinant of BD. Ocular involvement is most dreaded complication and has its onset mostly within the first 3 years. The prevalence and severity of ocular lesions in Behçet's disease is relatively low in Jordanian patients. Ocular manifestations occur in 41.9% of patients compared to 70% in other countries and the commonest manifestations are: vitritis 55.6% and anterior uveitis and retinal vasculitis (50% for each). Retinal vein occlusion in the presence of inflammation is due to BD until proven otherwise. BD affects both arterial and venous large vessels (variable vessel vasculitis). Major vessel involvement is more frequent in males and a strong pathergy reaction. Sixty to 80% of these lesions are deep vein involvement of the lower limbs. Inferior and superior vena cavae, dural sinuses may be involved. Axillary, brachial, hepatic and portal veins are less frequently involved. Chronic recurrent deep vein involvement of the legs may cause erythema, dermatitis, pigmentation and even ulceration. Systemic arterial involvement is seen in 1.5-7.5%, typically aneurysmal and uncommonly occlusive. Abdominal aorta is most frequently affected. Other sites affected are: iliac, femoral, popliteal, carotid and subclavian in descending order. Atherosclerosis is not overtly accelerated in BD. Other manifestations will be discussed. Drugs used in BD might be somewhat selective to different organs: Colchicine is mainly

effective in arthritis, erythema nodosum, genital ulcers and oral ulcers in some patients. It is more effective in females. Thalidomide is effective in mucocutaneous disease except for the nodular lesions which it exacerbates. Etanercept is effective in mucocutaneous disease and arthritis. Adalimumab and infliximab are effective in eye, central nervous system, vascular and gut disease. Low dose prednisolone effective for erythema nodosum. Azathioprine is effective for preventing eye disease, thrombophlebitis, genital ulcers and arthritis. Cyclosporine and interferon are effective in controlling eye disease. Anti TNF drugs successfully control the oral ulcers while they have no effect on the pathergy reaction. Apremilast is an orally effective small molecule that specifically inhibits phosphodiesterase-4 and thereby increases levels of intracellular cyclic AMP, particularly in immune cells, with consequent effects on several inflammatory pathways. It has been shown to reduce pain and the number of ulcers at 12 weeks.

## 197
## Emerging Trends in Rheumatology

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A focus on the trending topics in rheumatology considered of particular interest to the presenter will be presented. Topics that range from the emerging features of arthritis developing following treatment with the new immunotherapy drugs for melanoma; the possible role of herpes zoster virus in the aetiopathogenesis of giant cell arteritis; novel imaging techniques using 99mTc-glucosamine radiotracer for the detection of synovial inflammation; and the links between food, diet, immune and inflammatory responses will be discussed.

**Keywords:** Arthritis, melanoma, nuclear imaging, giant cell arteritis, food

## 198
## Management of Osteoporosis

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**What Is Osteoporosis?** Osteoporosis is a skeletal disorder characterised by compromised bone strength, predisposing a person to an increased risk of fracture. Bone density is only one factor that influences bone strength and overall fracture risk. There are changes in bone architecture and thin interlinking trabeculae.

**Why Is Osteoporosis Important?** Osteoporotic fractures are associated with increased mortality, morbidity and further fracture risk. After a hip fracture, mortality at 1 year is at least 20%; of those that survive, less than 50% return to their previous level of function. This is a common disease – at the age of 50 years, one in three women and one in five men will sustain at least one fracture in their remaining lifetime.

**How Do We Assess Fracture Risk?** Not all fractures are osteoporotic. The term 'fragility fracture' refers to injuries sustained from a mechanical force that would not ordinarily result in a fracture, for example a fall from a standing position. Common sites include the distal forearm, proximal femur and shoulder. An assessment of fracture risk should be considered in all women over the age of 65 years and all men over 75 years. In individuals under this age, assessment should be carried out if there is a history of previous fragility fracture or other risk factors.

**What are the indications for DEXA scanning?** Bone mineral density (BMD) is measured with a Dual-Energy X-Ray Absorptiometry (DEXA) scan. BMD should not be routinely measured without prior assessment. Based on individual risk factors, the FRAX score and NOGG give guidance on whether the patient is high risk (treat), intermediate risk (calculate BMD with a DEXA scan) or low risk (lifestyle advice and reassure).

**When should bone density tests be repeated?** The need for repeat bone density testing and its time interval depends on the previous result and individual factors. We know that that 10% of women with normal or mildly osteopenic bone density develop osteoporosis

after 15 years of follow-up. This interval reduced to 5 years for moderate osteopenia (defined in this study as T score -1.5 to -1.99) and 1 year for advanced osteopenia (T score -2.0 to -2.49).

**How often should we monitor patients?** Improvement in BMD accounts for a small part of overall reduction in fracture risk. In clinical practice, DEXA is the best available measure of response to treatment - stable or improving BMD is an indicator of good response. Once bone protection has been started, BMD may be tested one year after commencing treatment and then every 2 years subsequently.

**What drug treatment?** Bisphosphonates are first line management for osteoporosis with robust evidence showing reduced risk of vertebral and hip fractures, increase in BMD and a reduction in markers of bone turnover (FIT, VERT, and HORIZON). Other treatments include: raloxifene, denosumab and teriparatide

**Continuing Treatment: For Whom & For How Long?** Bisphosphonates have been associated with an increased risk of atypical fractures and osteonecrosis of the jaw. There is no absolute consensus on when to commence a drug holiday, how long for and the precise indications for re-starting therapy. In our practice, after three years (IV bisphosphonate) or five years (oral bisphosphonate) of use, patients with no recent fractures and low risk BMD (T-score higher than -2.0) are considered for a 2 year drug holiday with a repeat DEXA after this period. Patients with low T-scores or fractures despite bisphosphonate use are at greatest risk of further fractures and benefit most from continued bone protection.

**Conclusion:** Fractures carry significant burden of morbidity and mortality, with huge impact on individuals and carers' lives. Reducing this risk requires thorough screening, judicious use of investigations and pharmacological therapy and most importantly, a holistic approach to managing the risk of falls.

**199**

## Balneo-Climatological Factors and Resources at the Dead Sea Area for Treatment of Psoriasis and Psoriatic Arthritis.

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**Background:** In the PMR field the Balneotherapy is well known for its therapeutic effect and recreational purposes in treating various diseases and physical disorders, such as; Skin Diseases, Locomotors System Disorder, Neurological Disorders, Respiratory Disorders, Rheumatologic Diseases and Allergic Problems

**Objective:** To explore the effect of using different Dead Sea minerals (i.e.: Water, mud, tar, Radon-222), Thalassotherapy, and sun rays Solarium in the treatment of people with Psoriasis and Psoriatic Arthritis.

**Methods:** 219 patients were divided into two groups: first group consisted of 146 Psoriasis patients in the age of 20-60 years, which received different Dead Sea minerals therapy. Second group consisted of 73 Psoriatic arthritis patients in the of age 40-60 years, which received different Dead Sea mineral therapy and physical therapy. The duration of treatment for the two groups was 4 weeks.

**Results:** Both groups showed improvements of the dermatological symptoms (Almost disappearing of the squam, softening and elasticity of the skin). In addition the second group showed decrease of pain during movement, decrease of pain at night time, decrease of morning stiffness, increase in ROM, increase in muscle power, and almost stopped the use of analgesics.

**Conclusion:** There are advantages of using the special characteristics of the Dead Sea Region which proved positive effectiveness in the treatment of Psoriasis and Psoriatic arthritis. In addition, the therapeutic characteristics of the Dead Sea region may also be effective in treating certain rheumatic diseases, Neuromusculoskeletal conditions, and Respiratory problems that will need further investigation in future studies.

## 200
## Introduction to Mesthotherapy

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Monotherapy {from Greek mesos,"middle", and therapy from Greek therapeia," to treat medically"} is a nonsurgical medical and cosmetic medicine specialty. Monotherapy treatments employ the technique of multiple micro injections of pharmaceutical and homeopathic medications, standardized natural plant extracts and vitamins into the mesoderm. In cosmetics a serotherapy injection target adipose fat cells, rejuvenates collagen and stimulates new hyaluronic acid support of the mesoderm extra cellular matrix.
Worldwide, Monotherapy is a branch of medicine called homotoxicology which induces the body to stimulate its own healing processes in order to treat cosmetic problems {cellulite treatment, lipo-sculpturing and body contouring, facial rejuvenation treatment and weight loss?}, general medical conditions, pain management and skeletal problems (bones, joints, muscles, tendons, peripheral nervous system). It's a doctor procedure and the physician must had diploma and training in serotherapy.

**History** Dr. Michel Pistor (1924-2003) French doctor performed clinical researches and founded the field of mesotherapy. Multi-national researches in intra dermal therapy culminated with Pistor's work from 1948 to1952 in human mesotherapy treatments. The French press coined the term Monotherapy in 1958. The French Academy of Medicine recognized Mesotherapy as a Specialty of Medicine in 1987. Popular throughout European countries and South America, mesotherapy is practiced by approximately 18,000 physicians worldwide. Popularized in the United States during the late 1990s, Mesotherapy is now the fastest growing aesthetic medicine specialty.

## 201
## Rehabilitation Concerns in Myopathies

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"Myopathies" encompass a large group of generally pure motor syndromes that includes symmetrical proximal greater than distal weakness with preserved reflexes and sensation, they result from structural or functional problems of muscle fibers. A small number of muscle diseases also include sensory or autonomic involvement.
Successful identification and classification of a myopathic disease entails obtaining a detailed history and physical examination accompanied by the judicious use of diagnostic strategies.
Rehabilitation plays an important role in management, it included exercise prescription, functional training, orthotics for upper, lower limbs and spinal orthotics. Care for cardiopulmonary system is of utmost important. Psychological wellbeing is an important and nutritional status should be also addressed.

## 202
## Rehabilitation of Shoulder Pain

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**Abstract:** Shoulder pain is the third most common cause of musculoskeletal disorders after low back pain and neck pain. Rotator cuff tendinopathy (Shoulder impingement) accounts for 40% - 60% of shoulder pain. It is predisposed by various intrinsic and extrinsic factors and more commonly encountered in repetitive overhead sports activities. Diagnosis is based mainly on history and clinical examination and can be confirmed by Ultrasound or MRI. Early treatment is crucial to prevent adhesive capsulitis of the shoulder or complete tendon tear. Treatment comprises pain control by oral medications, intraarticular steroids or local nerve blocks. Correcting biomechanical abnormalities and improving range of motion by using various physical modalities, stretching and strengthening exercises. Surgery is reserved for refractory pain or complete tear.

**Keywords:** Rotator Cuff Impingement, Predisposing Factors, Diagnosis, Management

## 203
## Evolution of Viscosupplementation In Knee Osteoarthritis

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Hyaluronic acid (the magic molecule) was first discovered in 1934 by Karl Meyer and John Palmer, researchers at Columbia University and was first commercially used in baking in 1943 by Endre Balazs
During the 1960s, the development of purified hyaluronan for medical use was begun and this preparation was used initially in the late 1960s in clinical trials for ophthalmic use and in viscosupplementation for the equine knee joint.
Hyaluronic acid's commercial journey within medicine began some 60 years ago. It was first introduced to the French market (Healon®) and was unsuccessful. During the late1990's Synvisc® (a sterile, viscoelastic liquid, free from pyrogens. Hylan G-F 20) was released and became one of the leading products within arthritic knee treatment.
Viscosupplement was first approved prescription by the U.S. Food and Drug Administration (FDA) in 1997, to treat mild to moderate OA of the knee. Herein, the rationale behind the use of viscosupplementation; different formulations (similarities and differences); indications; contraindications; repeat treatment were detailed. Safety and cost /effectiveness issues were also discussed.
On the horizon, Injectable hyaluronic acid (HA)-based hydrogels compose a promising class of materials for tissue engineering and regenerative medicine applications. Incorporation of cellulose nanocrystals (a-CNCs) in the hydrogel resulted in a more organized and compact network structure and led to stifferhydrogels and higher resistance to degradation.

## 204
## Screening Calcaneal Bone Mineral Density Among Jordanian Women

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**Objectives:** Introduction: Osteoporosis is the most common systemic skeleton illness that is characterized by reduction in bone density and increased risk of fracture. The diagnostic sensitivity of ultrasound measurement of the calcaneus in the prediction of hip fracture has been shown by recent large prospective studies to be similar to hip bone mineral density (BMD) measured with dual-energy X-ray absorptiometry (DXA) and superior to spine BMD. For each standard deviation decrease in the measurement, the risk of fracture increases approximately two-fold. The aim of this study was to screen BMD between different age groups of the Jordanian women in different parts of Jordan using a Hologic Sahara Bone Densitometer Machine.

**Methodology:** Bone mineral density of the calcaneal Jordanian Women screen had been executed by the National Woman's Health Care Centre in collaboration with the Jordanian Osteoporosis Society (JOPS) through woman's health awareness campaign from 2014-2016 using an easy and painless procedure; an osteoporosis screening measures the calcaneal T-score by placing the (Lt) foot in a Hologic Sahara Bone Densitometer Machine for all ladies attended the campaign and were elder than 20 years.

**Results and Discussion:** 776 women have been screened from different parts of Jordan, their age was (20-87) years. Using estimated BMD by heel ultrasound, few patients have T-scores below -2.5, whereas most women fall above this level.

**Conclusion:** The discrepancies in the prevalence of osteoporosis, osteopenia, and normal BMD are the result of several factors including differences in age-related bone loss, some medication and secondary to other disease.

**Keywords:** osteoporosis, osteopenia, bone mineral density, Bone Densitometer Machine

## 205
## Gastrointestinal Upset in Oral Versus Intramuscular Methotrexate Injection in Rheumatoid Arthritis Patients Experience at Royal Rehabilitation Centre

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**Objectives:** To observe gastrointestinal (GI) upset in Rheumatoid Arthritis (R.A) patients

diagnosed and followed at Physical Medicine and Rehabilitation (PM&R) clinic - Royal Rehabilitation Centre (RRC) treated with oral Methotrexate (MTX) and shifted to intramuscular route(IM).

**Methodology:** A prospective study was designed at PM&R clinic –RRC. All R.A patients who were maintained on oral MTX and developed intolerable GI upset were shifted to IM MTX then they were enrolled in this study, followed by intervals; one, two and three months and observed their GI upset using the 0-10 VAS score.

**Results and Discussion:** 288 patients fulfilled American College of Rheumatology Criteria (ACR) for R.A and treated with oral MTX were the base of our study. 32 patients of them shifted to IM route after they have been developed intolerable GI upset, and were enrolled in this study during the period from May 2015 to May 2016. 28 patients were female and 4 were male, male to female ratio (1:7). Their age was 25- 67 years (mean 44.3 years ±10.6). Gastric upset using 0-10 VAS Score before IM administration was (8.7±0.92) and after shifting to IM route became (4.15± 2.14). Less pain, morning stiffness, tender joints and swelling were observed after MTX IM administration.

**Conclusion:** Intramuscular MTX in RA patients are found to be superior than oral MTX regarding GI upset which in turn help in better disease control.

**Keywords:** Rheumatoid Arthritis, Methotrexate.

**206**
**Combined Hepatocellular Carcinoma-Cholangiocarcinoma**

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Malignant Hepatic tumors are classified into primary or secondary, epithelial or nonepithelial, hematopoietic and lymphoid, in addition to other miscellaneous tumors.
Hepatocellular carcinoma (HCC) is the most common histological type of primary liver cancer, followed by the much less frequent intrahepatic cholangiocarcioma (CC) with their incidences varying widely in different parts of the world.
Combined hepatocellular carcinoma and cholangiocarcinoma of the liver is an uncommon tumor Classified as a separate entity in the WHO classification of liver tumors. Its diagnosis depends on the presence of unequivocal elements of both HCC and CC that are intimately admixed. Its incidence reported in the literature ranges from 0.4-4.7%, however it is probably under reported since liver biopsies are sometimes not recommended to diagnose HCC.
It has gained increasing recognition lately, partly because of the extensive sampling of explants and surgical resection specimens. This tumor continues to be poorly understood with studies suggesting an origin from a multipotent stem cell.
There are varying reports in the literature regarding its behaviour and prognosis in comparison with HCC and CC. And there continues to be a lack of well-delineated treatment options for recurrent or metastatic disease. The role of the pathologist is essential in reaching the proper diagnosis since radiologic studies have not been described extensively and are mostly nonspecific.

**Key words:**
Hepatic tumors, intrahepatic, Cholangiocarcinoma.

**207**
**Lung Cancer Targeted Therapy: Molecular Pathology in Lung Cancer Treatment David Zhang MD (U.S.A)**

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Rapid progress in understanding lung cancer genomic alterations through various international collaboration projects such as The Cancer Genome Atlas (TCGA) has led to identify many driver genes that are important in lung cancer pathogenesis. This progress, in turn, expedited the development of effective inhibitors of these important signaling pathways and driver genes in lung cancer which are available clinically either as primary treatment of lung cancer or through clinical trials. However, survey of actionable gene mutations is required before offering these specific drugs for lung adenocarcinoma treatment. Currently, mutations in EGFR and KRAS genes and translocations of ALK and ROS genes are important in predicting the response to targeted therapy in lung adenocarcinoma. Other potential genes include BRAF mutation, MET amplification; RET gene rearrangement and HER2 gene mutation. Next Generation Sequencing (NGS)

offers a comprehensive survey of the somatic mutations; therefore, this technology has been adopted in clinical settings to detect mutations that are important in lung cancer treatment. In this lecture, current recommendation on molecular determination of mutation status in lung cancer and how to use this information to guide treatment will be discussed.

**Keywords:** Precision medicine; driver gene; actionable mutations; lung cancer; next generation sequencing.

## 208
## Diagnosis and Classification of B-cell Non-Hodgkin Lymphomas

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Accurate diagnosis and classification of lymphoma is the cornerstone for understanding the biology and management of this disease. The current WHO classification has helped in unifying our approach in dealing with this disease. Historic classification systems will be briefly introduced as a prelude to the WHO classification. The presentation will focus on handling lymph node biopsies, and incorporation of morphologic, immunophenotypic, molecular and clinical data to reach a precise and a specific diagnosis of B-cell lymphomas. Furthermore, new immunophenotypic and molecular findings that help in defining indolent B-cell lymphomas such as small lymphocytic lymphomas, follicular lymphomas, lymphoplasmacytic lymphoma, and hairy cell leukemia will be addressed. The latest data on diffuse large B-cell lymphomas (DLBCL) such as defining the cell of origin, and double hit lymphomas will be presented. Specific subtypes of DLBCL and diagnostic criteria will be briefly discussed. Finally, difficult issues related to overlap entities between Burkitt lymphoma and DLBCL, as well as those between Hodgkin lymphoma and DLBCL will be presented.

## 209
## Immunohistochemistry in Cytopathology Applications

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With the advancement of image technologies and fine needle aspiration (FNA) techniques, cytopathology become a very important tool for obtaining tissue samples for pathology diagnosis, especially in those of deep organs, such as lung, pancreas, etc. FNA cytopathology offers many advantages than conventional biopsy, including adequacy assessment, rapid on site determination of malignancy, etc. However, FNA cytopathology also faces many challenges in providing more definitive and specific diagnosis due to limited number of diagnostic cells and lack of tissue structures. Therefore, immunohistochemistry (IHC) is often employed in assisting diagnosis and differential diagnosis in cytopathology. Since hundreds of antibodies are available, it is important to select only limited but most useful panel of antibodies in order to preserve tissues for downstream molecular analysis. The selection of antibodies should be based on clinical/radiology correlation, the location of the sample, initial impression of cytology and downstream molecular analysis. In this lecture, common panels used in cytology pathology and how interpret staining patterns will be discussed.

**Keywords:** Cytopathology; immunohistochemistry; antibody panel; differentiate diagnosis; algorithm.

## 210
## The New WHO Classification of Myelodysplastic Syndromes

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A revised updated classification of myelodysplastic syndromes (MDS) of the 4th edition (2016) World Health Organization (WHO) Classification of Tumours of Hematopoietic and Lymphoid Tissues was done by a Clinical Advisory Committee of hematologists, oncologists, pathologists, and cytogeneticist from all over the world.
The revision incorporates new discoveries in MDS that impact existing disease categories, replaces

the routine use of refractory anemia/ cytopenia with the term MDS with single lineage dysplasia, includes new diagnostic criteria for MDS cases with ring sideroblasts based on the detection of new SF3B1 mutations. It also modifies the cytogenetic criteria for MDS with isolated del (5q), and reclassify the acute erythroleukemia cases. Moreover the revision emphasize on the familial link in some cases of MDS which allow screening and early diagnosis of such cases.This review provides full details about the new WHO revised classification of MDS.

**Keywords:** myelodysplastic syndromes, WHO classification.

## 211
## Examination of Rectal Cancer Specimens and Evaluation of Rectal Cancer Specimens after Neoadjuvant Chemotherapy

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Pathological examination of total mesorectal excision specimens for rectal cancer consists of several steps:

1. Assessment of the quality of the mesorectum: The integrity of the mesorectum is critical to prevent local recurrence. Assessment of the mesorectum usually follows the following classification: complete (intact mesorectum), near complete (minor irregularities in the mesorectum) and incomplete, defects down to muscular is propria and/or very irregular circumferential margin.

2. Determination of the pathological TN stage.

3. Evaluation of the margins of resection: Several publications have demonstrated that the status of the circumferential (radial) margin of resection is one of the most important factors that influence local and distant recurrence. A positive circumferential margin of resection is defined as the presence of tumor at or at less than 1mm from the margin.

4. Quantification of tumor response to neoadjuvant chemoradiotherapy (CRT): Several grading systems have been proposed to document the different degrees of tumor response. The College of American Pathologists recommends the following system: No residual tumor identified, grade 0; Moderate response, minimal residual disease, grade 1; minimal response, grade 2 and no definitive response, grade 3.

**Keywords:** Rectal cancer, total mesorectal excision, neoadjuvant therapy.

## 212
## Hand Hygiene the Single Most Important Task in Health Care Associated Infection

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Hand hygiene is the single most important tool used in health care facilities to prevent healthcare infections (HCI). The world health organization setup guide lines to follow in order to minimize the rate of health care related infections. In this lecture health care epidemiology is going to be discussed and hand hygiene in particular as the single most important tool used to prevent health care infections.

**Keywords:** Hand hygiene, Healthcare epidemiology, Healthcare related infections.

## 213
## Molecular Markers in Colorectal Cancer

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The histopathological findings seen in surgically resected specimen of colorectal cancer are critical to make postoperative clinical decisions; however, it is also clear that basing the treatment entirely on tumor pathological stage may insufficient.
Numerous molecular markers have been claimed to be helpful as prognostic indicators in patients with CRC. Molecular markers could be divided into those that carry prognostic weigh and those that could predict response to a specific therapy. The single most important molecular marker, both as predictor of prognosis and response to therapy is microsatellite instability. Microsatellite unstable tumors are related to a better outcome, regardless of stage, and, in addition, they display a poor response to any 5-FU based regimen. It is therefore essential that MSI is carefully investigated in

every case of CRC. Testing for MSI tumors may be conducted by both immunostains to detect loss of staining of one of the MMR proteins (MSH2, MSH6, MLH1 or PMS2) or by PCR.
The correlation of other molecular marker with prognosis or response to therapy is more controversial. The only exception is the status of KRAS and the tumor response to anti- EGFR; it has been shown that the mutation affecting codons 12 and 13 within the KRAS gene leads to resistance to this type of treatment. It is therefore critical that all tumors from patients who are potential candidates to receive anti-EGFR medication are tested for KRAS mutation.

**Keywords:** Colorectal cancer, molecular markers, microsatellite instability.

## 214
## Diagnosis and Classification of T-cell and NK-cell lymphomas

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T-cell lymphomas account for approximately 15% of all non-Hodgkin lymphomas. Because they are relative rare, their classification has been difficult, and our understanding of their biology remained incomplete. The aim of this presentation is to shed light on the current classification scheme of T-cell/natural killer cell lymphomas. Epidemiologic features of T-cell lymphomas and geographic variations in their incidences will be presented. Specific categories of nodal based diseases such as peripheral T-cell lymphoma, NOS, angioimmunoblastic lymphoma, anaplastic large cell lymphoma (ALCL) and adult T-cell leukemia/lymphoma will be discussed with emphasis on their histopathologic features, immune profile, molecular characteristics and clinical presentations. Other predominantly extranodal T-cell/NK cell lymphomas will also be addressed. These entities include cutaneous anaplastic large cell lymphomas, extranodal NK/T cell lymphoma, hepatosplenic lymphoma, enteropathy associated T-cell lymphoma, and subcutaneous panniculitis-like T-cell lymphomas. Features distinguishing systemic from cutaneous and systemic ALCL will be delineated. Finally, recommendations on handling and diagnosing these lymphomas will be provided.

**Keywords:** T-cell lymphoma, NK-cell lymphoma, anaplastic large cell lymphoma, Lymphoma classification.

## 215
## A Large Electronic Health Records Data Show that Prevalence of Pseudomonas in Urinary Tract Infections in Jordan is Similar to International Norms

*Zeid Abu Ghosh MD (Jordan)*

**Introduction & Objective:** Pseudomonas infections are associated with higher mortality and morbidity rates since the pathogen has a widespread intrinsic resistance to various antibiotics such as beta-lactams, tetracyclines, co-trimoxazole, and most fluoroquinolones. The aim of our study is to investigate the incidence of Pseudomonas species in urine cultures in four Jordanian hospitals to detect susceptibility patterns to different classes of antibiotics using the national e-health program "Hakeem". Up to the authors' knowledge, no other published large scale studies of susceptibility testing of urine samples for Pseudomonas were found in Jordan. The results were compared to other international studies in terms of the prevalence of Pseudomonas and the susceptibility to various antibiotics.

**Material and Methods:** The population based reporting tool that is integrated within the national e-health program "Hakeem" was used to collect the data. Over 1.4 million unique patient records were registered on the national Electronic Health Record (EHR) system at the time of conducting this study. "Hakeem" is based on the open source United States Veterans Health Information Systems and Technology Architecture (VistA). Using Microbiology trend report of the laboratory component of Hakeem, data was collected retrospectively from May 1st, 2011 until April 30th, 2015 from three major microbiology laboratories located at three big cities in Jordan serving four hospitals. Prevalence of Pseudomonas was identified in addition to its resistances for standard antibiotics were recorded. Statistical analysis and demographics were identified. After extracting the data from the database of the national e-health program, "Hakeem", the raw data was transferred to Microsoft Excel for Windows (Microsoft, USA) for further data analysis.

**Results:** 29410 urine cultures were processed at the four public hospitals covered by the microbiology labs. In the 48 months period of the study 4940 (16.8%) isolates were positive for pathogens. Among the positive cultures only 83 (1.7%) were Pseudomonas Aeruginosa positive. Pseudomonas Aeruginosa showed high resistances of 93,3% to cefixime, 87,5% to co-trimoxazole, 87,5% to nitrofurantoin, and 76,2% to ceftriaxone. The isolates displayed a high sensitivity of 93,3% to gentamicin, 92,3% to ciprofloxacin, 90,9% to levofloxacin, 90,6% to imipenem, and 90,5% to amikacin.

**Conclusion:** The use of a centralized national electronic reporting tool offers a great advantage to receive data from different hospitals around the country. With the gathered information it is possible to assess microbial prevalence, to evaluate the microbial resistances of pathogens and to achieve an adequate treatment. In our study we detected that is advisable to follow the internationally adopted standards for the treatment of Pseudomonas in UTIs in Jordan. Quinolones, aminoglycosides and carbapenems showed to be very effective in the treatment of Pseudomonas. Other alternatives include Aztreonam and some antipseudomonal penicillins or cephalosporins.

**Keywords:** Urine cultures, Urinary tract infections, Pseudomonas, antibiogram, susceptibility, Jordan

## 216
## Clinical Applications of Next Generation Sequencing

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With the understanding of human cancer genomic landscape and improvement of the Next Generation Sequencing (NGS) technology and reduced sequencing cost, NGS has transitioned from a research tool to a clinical diagnostic platform. NGS is now replacing convention sequencing technique to become main platform for genetic mutation analysis. NGS offers many advantages including cost reduction, comprehensive survey of multiple genes, adoptability of FFPE samples, etc. Clinically, NGS has been applied to many different cancer types, including lung cancer, colon cancer, melanoma, acute myeloid leukemia, etc. Currently, Ion Torrent PGM and Illumina MiSeq are the 2 most common platforms used in clinical laboratories and both companies offer kits to test hotspot mutations in a panel of genes, ranging from 50 genes to over 1000 genes. There are many challenges in applying this technology in clinical practice, including sample preparation, NGS, data analysis, annotation and report. In this lecture, the clinical applications of NGS and its pros and cons will be discussed with emphasizing the role of pathologists.

**Keywords:** Next Generation Sequencing; molecular genetics pathology, cancer genome, precision medicine.

## 217
## Updates and Molecular of Myeloproliferative Neoplasms

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Myeloproliferative neoplasms (MPN) are a group of clonal hematopoietic stem cells disorders characterized by constitutive bone marrow cellular proliferation triggered by molecular markers defect. Historically, MPN had been classified according to clinical and morphologic features. Advances in cytognetic and molecular techniques have explored more downstream biomarkers that play pivotal roles in diagnosis, treatment and prognosis of MPN. Moreover, rapid pace advances in next generation sequencing techniques will open the door for more potential targets toward shaping the era of precision medicine for MPN. MPN classification, pathogenesis and key molecular aberrations will be elaborated in this presentation.

**Keywords:** Myeloproliferative neoplasms, molecular techniques, classification.

## 218
## Ultra-Structural Rat Mitochondrial Changes in Hypertension and its Pharmacological Correction (Experimental Research)

*Lyashchenko Olga I. MD (Russia)*

**Introduction:** Mitochondrial dynamics is a recent topic of research in the field of cardiac physiology and pathology.

**Objective:** The aim of our study was to investigate Ultra Structural changes of the mitochondria in rat cardiomyocytes in normal conditions, in cases of hypertension and the effect of different types of pharmacological correction.

**Materials and methods:** We used 50 Wistar rats (male) at the age of 6 months. All rats were divided into groups:

1. Control group.
2. Experimental group: Rats from the experimental group underwent surgery to induce renovascular hypertension.
   A. Usage of angiotensin converting enzymes inhibitors (ACEI)
   B. Usage of Calcium channel blockers (CCBs)
   C. Combined action of the above mentioned drugs.

Left ventricular myocardial slices were prepared for electron microscopy. Morphometrical results were received and analyzed by statistical methods.

**Results:** Electron-microscopic examination of cardiomyocytes in hypertensive rats revealed significant changes in the structural organization of mitochondria. Mitochondria were observed to have lighter matrix and impaired spatial orientation of the inner membrane folds as compared to the control group.
Usage of CCBs compared to ACEI has positive influence on the structure of mitochondria which can be related to the antagonism of calcium and potassium ions and prevention of accumulation of calcium in mitochondria that prevents apoptosis.

**Conclusions:** Our results indicate pathological changes of mitochondria in cardiomyocytes of rats with hypertension. This may be one of the morphological criteria of myocardial remodeling. CCBs will serve as a mitochondrial protector in preventing apoptosis caused by hypertension and increased functional overload of the cell.

## 219
## Settlement of Plasma Fractionation Facilities for Military Medicine Practices: Kingdom of Saudi Arabia as Study Case

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**Objectives:** The main objective of this study is to investigate and suggest suitable blood collection program capable to fulfill the requirements for implementing and designing such crucial industry.

**Methodology:** The study is based on quantitative analysis of the national requirements of plasma derivative products, national market value and the blood donors statistics.

**Results and Discussion:** The results show that the demand of such bio-products has increased dramatically during the last five years and manufacturers consolidation becomes common during the last three decades. Moreover, the national numbers of blood donors are much less than the requirements of starting such industry and designing of special rewarded blood collection is badly needed to guarantee up to 50,000 regular plasma donors.

**Conclusion:** Local or regional implementation of such industry is highly recommended to establish this industry and military candidates are the most suitable donors to buildup such donation program and implement this crucial industry.

**Keywords:** fractionation, donors, blood, collection

## 220
## Normal Ranges of Platelet Delta Granules in the Pediatric Age Group: An Ultrastructural Study of Platelet Whole Mount Preparations from Healthy Volunteers

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**Objectives:Background:** Delta Granules (DG) are

important for the function of platelets (Plts). Platelet DG deficiency (i.e. storage pool disease) is a mild bleeding disorder associated with mucocutaneous bleeding symptoms; therefore, the enumeration of platelet DG by Electron Microscopy (EM) has emerged as a powerful tool in the workup of bleeding disorders. A technique called Whole Mount Preparation (WMP) represents a reliable method to determine the average number of DG in Plts. Two main related issues are yet to be settled: 1-The cut-off value for normal DG (3.68 DG/Plt), based on the scant available literature, appears too high in children. 2-There are no published studies of normal DG in the pediatric age group. Aim & **Design**: 1-Test the utility of the 3.68 DG/Plt cut-off value in healthy children (0-21 years of age). 2- Determine the variability, if any, in pediatric age subgroups.

**Methodology:** After IRB approval, WMP was performed on ACD collected blood from healthy volunteers who had no medical or family history of bleeding tendency. Screening was conducted with the help of a pediatrician. Blood draws and sample preparation were performed on-site where the EM suite is located to minimize shaking and Plt degranulation, and to reduce time between draw and processing. Samples were processed by an experienced technologist. The average DG for every sample was determined after reviewing and scoring 100 Plts by one experienced Pathologist/Pathology Fellow and one experienced technologist.

**Results and Discussion:** Specimens from 40 healthy volunteers (2 months through 21 years old, 21 females and 19 males) were tested. DG/Plt ranged from 1.78 to 5.25. The 5th percentile is 1.96 DG/Plt, with an overall mean of 3.06 DG/Plt (SD = 0.77). The currently used lower cut-off value, 3.68 DG/Plt, is significantly higher than the mean of our volunteers, $P<0.0001$. An astounding 77% of volunteers had values lower than the current 3.68 cut-off.

**Conclusion:** The current 3.68 DG/Plt cutoff is too high for our healthy pediatric population. -There appears to be no DG variability based on race or gender, and no significant variation in the pediatric age subgroups. -Larger studies on healthy volunteers and suspected patients need to be conducted to determine an appropriate cut-off value and reference ranges.

**Keywords:**
Delta Granules(DG), Platelets, Platelet DG deficiency

**221**

## Histopathological and Clinical Characteristics of Testicular Germ Cell Tumors, An Experience at Prince Hussein Urology and Transplant Center, Jordan

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**Objectives:** The study aims to investigate clinical and histopathological characteristics of testicular tumors in a group of Jordanian males , and comparing it with worldwide findings.

**Methodology:** The data of 75 patients who had undergone radical orchiectomy for the germ cell tumor at Prince Hussein Urological Center between 2010 an d 2014 were collected. They were retrospectively analyzed according to variable clinical and histopathological parameters.

**Results and Discussion:** 62% of the cases were found to be seminoma, with the mean age being about 36 years( 22-80) most of which were of classical seminoma. 38% of the cases had Non-Seminomatous Germ Cell Tumor (NSGCT). Only 14% of the cases were of pure form, the rest were of mixed NSGCT. Yolk and teratoma were found to be the most common histological types among Mixed NSGCT and the average, and median age was 32 years (range 20-48). Overall, the average period that patients stayed before seeking medical attention was about 4 months, which ranged from 3 weeks to one year.

**Conclusion:** The age and the type of distribution of testicular germ cell among Jordanian patients are similar to those currently published in the world records. However, the Jordanian patients still manifest delays in diagnoses and acquisitions of definitive managements; this implies that the concerned stakeholder should emphasize on the need of patient education and physician awareness.

**Keywords:** testicular, germ cell tumor, histology, clinical characteristics

## 222
## Laboratory Bio-risk Management: Biosafety & Biosecurity

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Communicable diseases remain a leading cause of death globally and account for nearly one-third of world deaths. The emergence of newly identified pathogens, as well as the re-emergence of pathogens with public health significance, exacerbates the global threat of infection diseases. For example, it has been reported that between 1973 and 2003 over 36 newly emerging infectious diseases had been identified. Research and diagnostic activities involving pathogenic microorganisms are critical to global security as this research elucidates knowledge and leads to products that improve the health, welfare, economy, quality of life and security for all persons around the globe. The combined threats to public health resulting from emerging diseases and the potential for deliberate release of pathogenic microorganisms altered the research and public agenda for countries around the globe.
For that, it is the responsibility of all organizations that work with biological agents and toxins to operate safely and securely. Biorisk management, as defined by CEN workshop agreement (CWA) 15793:2011, IS " a system or process to control safety and security risks associated with the handling or storage and disposal of biological agents and toxins in laboratories and facilities. "Effectively implementing this type of management is a complex process that involves all organizational stakeholders and institutional levels. It takes time, resources, and continual oversight and effort to create and sustain a highly effective biorisk management system in any organization.

**Keywords:** Biosafety, Insecurity, Biorisk management.

## 223
## Venous Thromboembolism and Prophylaxis in Medical Settings

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Venous Thrombo-Embolism (VTE) is common in certain adult patients who are hospitalized for medical conditions or surgical procedures. It also occurs in recently hospitalized patients with medical and surgical illness.
VTE is a major cause of pulmonary embolism and subsequent morbidity and mortality in hospitalized adult patients. The risk is variable according to the type of patient and disease.
Various guidelines are being adopted by hospitals worldwide aiming at reducing the risk of VTE in hospitalized or recently hospitalized adult patients. In addition to early ambulation, the measures include use of Low Molecular Weight Heparin (LMWH) for high risk patients, use of Intermittent Pneumatic Compression (IPC), or combination of all these measures.
This paper will discuss the various aspects of VTE prophylaxis in medical and surgical patients and how a locally adopted model has resulted in considerable increase in prophylaxis and subsequent reduction in VTE in hospitalized patients

## 224
## Prenatal Diagnosis for Thalassemia (PND) and Hemoglobinopathies

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**Objective:** To evaluate the thalassemia mutations and other common hemoglobinopathies in fetal tissue at Princess Iman Research and Laboratory Sciences Center.

**Introduction:** Thalassemia is an autosomal recessive inherited group of disorders of hemoglobin synthesis characterized by the absence or reduction of one or more of the globin chains of hemoglobin, prenatal diagnosis can be performed

in the first or second trimester of pregnancy to prevention and control the disease. Thalassemia is the most common monogenic disease. This disease with more than 200 different mutations has a complex genetic. There is a decrease in the synthesis of globulin chains in this disease. Two common types of alpha thalassemia and beta-thalassemia are caused as a result of deficiency of alpha and beta chains.

**Materials and Methods:** Two hundred CVS samples were referral at our center from Gynecology clinics, 185 samples were cleaned up from maternal tissues while fifteen CVS samples were clotted of maternal tissue. DNA from fetal tissue were extracted by DNA spin micro DNA method provided by Vienna lab and by Promega method Genomic DNA Purification Kit.DNA samples analyzed for thalassemia by PCR and reverse hybridization method provided by Vienna lab, and confirmed by Amplification Refractory Mutation System (ARMS).Rare cases of betathalassemia mutations not detected at our center, so the DNA samples sent to Princess Haya Biotechnology center for sequencing .Family screening was investigated for all families before CVS investigation. The following are 15 mutations that investigated :2.848[C>A] ,2.745[C>G] ,2.1[G>A] ,IVS 1.110 [G>A],IVS 1.6[T>C] ,IVS1.5[G>C], IVS 1.1[G>C], codon 37,codon30[G>C],codon 5[-CT], codon8[-AA], stop codon15, -29 [A>C], codon 6HbS[A>T], PolyA1[AATAAA>AATAAG].

**Results:** On molecular analysis for 185 DNA samples the results were as following: 35% was negative for beta thalssemia, 22% was affected, one of them was for sickle cell disease and two of analyzed sample were for Hb H disease. 43% was carrier for beta- thalassemia.

**Conclusion:** PND for Thalassemia and hemogloninopathies are successfully investigated and technically feasible by DNA analysis in our center, there were no falsely misdiagnosis results.

**Recommendation:** The study can be applied for genetic counseling to prospective affected fetus as well as prevention and control the disease

Keywords: Thalassemia, PND Prenatal diagnosis, CVS, PCR, Jordan.

## 225
## Direct Oral Anticoagulants - Issues for the Laboratory

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Guidelines are available from the British Committee for Standards in Hematology. The recommendations are summarized in following text. Each laboratory should know the sensitivity of its own PT and APTT tests to rivaroxaban, apixaban and dabigatran and advice on interpretation Prothrombin time (PT) and activated partial thromboplastin time (APTT) should not be used to measure the plasma concentration of DOACs. Clotting factor assays performed in the presence of DOACs should include multiple test plasma dilutions and an assessment of parallelism. Direct Thrombin Inhibitors: Dilute thrombin-based assays, ecarin-based assays or chromogenic anti-IIa assays (in the absence of heparin) are suitable for determination of plasma concentrations of dabigatran. Assays to determine anticoagulant concentration should be calibrated with drug-specific calibrators. Normal PT and APTT may occur in the presence of therapeutic concentrations. A normal thrombin time suggests the level of dabigatran is likely to be very low. Fibrinogen should be determined using assays in which dabigatran has minimal influence. Direct factor Xa (FXa) inhibitors: Anti-Xa chromogenic assays should be used to determine plasma concentration of direct FXa inhibitors. Product-specific calibrator should be used and results should be expressed in mass concentration. For rivaroxaban the PT is usually more sensitive than the APTT but cannot be used to determine the drug concentration. Normal PT and APTT may occur in the presence of therapeutic concentrations. For apixaban both the PT and APTT are insensitive and patients often have normal coagulation times in the presence of therapeutic concentrations.

**Keywords:** Dabigatran: Apixaban; Rivaroxaban: Laboratory testing.

## 226
## JAK2 Mutation Status and Methylenetetrahydrofolate Reductase in Myeloproliferative Neoplasms

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**Objectives:** To determine the relationship between the presence of JAK2 mutation, or coexisting methylene tetra hydro folate reductase (MTHFR) mutation to the thrombotic events in myeloproliferative neoplasms (MPN)

**Methodology:** We examined 50 MPN patients (21 males, 29 females) age ranged from 27 to 65 years. Patients were diagnosed according to the World Health Organization (WHO) criteria and included 15 with polycythemia vera (PV), 28 with essential thrombocythaemia (ET) and 7 patients with myelofibrosis (MF) those patients examined for pathogenetic JAK2V617F mutation, prothrombitic gene mutation: MTHFR. The JAK2-V617F mutation status was estimates in patients samples by using the Polymerase Chain Reaction - Restriction Fragment Length Polymorphism (PCR-RFLP) method, whereas MTHFR mutation by reverse hybridization method

**Results and Discussion:** Janus Kinase 2 (JAK2V617F) mutation occurs in 87% of PV patients, 71% of MF patients and 64% ET patients. Incidence of arterial and venous thromboembolism ranges from 7% to 20% in PV and 25% to 11% in ET . Hemorrhages are reported with low = 10% incidence in ET and PV but more frequently (= 28%) in MF patients. Thrombotic events were more frequently accompanied with JAK2-V617F 18 (51%) out 35, but only 40% (6 out of 15) was accompanied with wild type JAK2. in 56% (28 out of 50) of MPN patients MTHFR mutation was detected. in twenty four patients, JAK2 V617F and MTHFR mutation were found simultaneously, nine of them have thrombotic events.

**Conclusion:** This study demonstrates high expression of JAK2V617F mutation (87%) in PV patients whereasyahoo.com 68% of ET patients express MTHFR mutation. Both mutations correlated with thrombotic events in MPN patients.

**Keywords:** myeloproliferative neaoplasm, reverse hybridization,JAK2V617F.

## 227
## Effects of Cigarette Smoking on Serum Lipid Profile among Middle Age Jordanian Smokers

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**Objectives:** Cigarette smoking in different forms is generally recognized as one of the major risk factors of variety medical diseases. The current study was undertaken to clarify the effects of cigarette smoking on serum lipid profile parameters in smokers in comparison with matched age non-smokers.

**Methodology:** The subjects of this study were selected from a middle- age patients' relatives attending the outpatient specialty clinics in King Hussein Medical Center during the period from 12 May 2014 to 28 October 2014. Blood samples were collected from 200 subjects, 150 of them were smokers, while 50 of them were non-smokers as a control group. Venous blood samples were collected between 8:00 and 10:00 h into plain tubes after a minimum 14 –h overnight fast. The triglyceride, total cholesterol and high- density lipoprotein cholesterol (HDL-Cholesterol) concentrations were measured using full biochemistry auto analyzer; levels of low-density lipoproteins cholesterol (LDL-Cholesterol) were calculated by Friedwald formula.

**Results and Discussion:** Serum total cholesterol levels were significantly higher in smokers group (254.5 ± 94.4 vs. 181.3 ± 63.6 mg/dL, $p < 0.005$). Serum triglyceride levels were also significantly higher in smokers group (224.5 ± 75.5 vs. 171.3 ± 63.6 mg/dL, $p < 0.005$). The levels LDL-Cholesterol were higher in smokers group (198.5 ± 30.8 vs. 137.7 ± 37.8 mg/dL, $p < 0.005$). Serum HDL-Cholesterol levels were significantly higher in control (45.4±12.7 vs. 46.8±9.8 mg/dL, $p < 0.005$).

**Conclusion:** Cigarette smoking has counteractive

effects on lipid profile parameters raising the coronary heart disease risk, so early monitoring could be helpful to avoid any complications.

**Keywords:** Cigarette smoking, lipid profile, coronary heart disease.

**228**
**The Sensitivity of Pseudomonas Aeruginosa against Ceftazidime asBactericidal Agent**

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**Objectives:** To evaluate the sensitivity of Ceftazidime as bactericidal agent against pseudomonas. Aeruginosa in patients suffering from urinary, pulmonary tracts, burns, sepsis, endocarditis and blood streams infections.

**Methodology:** Specimens are received in microbiology lab at Princess Iman Research Center during January to December in 2015 from in and out patient's; adults, pediatrics of both sexes. All specimens are cultured on blood; chocolate agar incubated 24h at 37°C in incubator. The pseudomonas. aeruginosa identified by VITEK 2 compact automated microbiology system, (bioMérieux's, Inc, USA),( Automated bacterial identification and antibiotic susceptibility testing:, Results can be obtained as quickly as 3 to 7 hours, VITEK 2 identifies the vast majority of routine organisms (over 300 microorganisms,VITEK2 is important because:-Indicating which antibiotics are most likely to cure an infection, reducing the empirical prescription of "broad-spectrum" antibiotics, which are partly responsible for the rapid increase in antibiotic resistance, avoiding the unnecessary prescription of antibiotics reduces healthcare costs. ID/AST tests also play a role in epidemiological monitoring; making it possible to track changes in microbial resistance patterns in healthcare settings)

**Results and Discussion:** This study showed that pseudomonas. Aeruginosa are responsible for about 435 infections in urine, pulmonary track, wound tissue, burns, and bacteremia. Application of ceftazidime as antibiotic choice for treatment pseudomonas. Aeruginosa showed that 303(69.7%) results appear sensitive, with minimum inhibitory concentration (MIC) ranges from (1-4 mg/l), 90(29.7%) gave resistant, whereas about 42(13.9%) results didn't identified MIC.

**Conclusion:** Ceftazidime which is the third generation of cephalosporin showed powerful efficiency and sensitivity toward pseudomonas. Aeruginosa as bactericidal antibiotic.

**Keywords:** Pseudomonas Aeruginosa, Ceftazidime, bactericidal agent, minimum inhibitory concentration

**229**
**Extended Half Life Products for Haemophilia Treatment: LaboratoryMonitoring Issues**

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Newly developed modified recombinant FVIII and FIX therapeutic products with extended half-lives will create challenges for the haemostasis laboratory in relation to assays used to monitor infusions. If the local assay overestimates activity compared to the potency assignment assay then there is a risk of under dosing patients and conversely where a local assay underestimates activity then over treatment may follow. Possible strategies may include the use of a product-specific standard, use of chromogenic assays, selection of a particular APTT reagent, or application of correction factors. Other strategies may follow. The three pegylated FVIII materials (N8 GP, BAX 855 and BAY 94-9027 ) have different properties in different assay systems. BAX 855 (Baxalta) can be adequately monitored using one-stage or chromogenic FVIII: C assays without a product specific standard. N8-GP (Novonordisk) could be accurately measured in one stage assays with Actin FS, DG-APTT Synth and Pathromtin, but not with both SynthAFax and SynthASil where activity was underestimated. Chromogenic FVII assays recovered close enough to target to be usable in routine practice. In relation to BAY 94-9027 (Bayer) one stage assays performed with some silica based APTT reagents recover only 10% of target whereas chromogenic assays or one stage assay with some ellagic assays reagents

are suitable. The Fc fusion FVIII protein (Biogen) can be monitored using a conventional one stage assay or chromogenic. For pegylated FIX (N9 GP) chromogenic FIX assays and one stage assays performed using Synthafax or DG Synth recovered expected values whereas FIX activity was underestimated with Actin, Actin FS, Actin FSL or Synthasil, and massively overestimated using either of Pathromptin SL or APTT-SP. Measurement of post infusion plasma rFIXFc levels is dependent on the APTT reagent used in the one stage assay.

**Keywords:** Extended half life: FVIII assays: FIX assays.

**230**
**Evaluation of Platelets Surface Antigens and Activation Markers in Myeloproliferative Neoplasms Using Multicolor Flowcytometry**

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**Objectives:** To evaluate platelets membrane glycoproteins and activation markers by multicolor flowcytometery and correlate that with thrombotic complications in myeloproliferative neoplasms (MPN) patients.

**Methodology:** Fifty MPN patients were studied 15 polycythemia vera (PV), 28 essential thrombocythemia (ET) and 7 myelofibrosis (MF)[ and 50 healthy controls. The patient's mean age was 58 years. The age range was 27-89 years, of these, 29 (58%) were females and 21 (42%) were males with (1.4/1) female/male ratio. The mean age of the control group was 57 years, and their age range was 29-85 years with 25 (50%) females and 25 (50%) males. Flowcytometry using BDFACSCanto? six color flowcytometer was used to assess the expression of activation-dependent membrane proteins, surface membrane glycoprotein (CD36, CD41a, CD42a, CD42b, CD61, CD62p, CD63, PAC-1) in unstimulated platelets and using agonist ]thrombin receptors – activating peptide (TRAP) and Adenosine diphosphate (ADP) [- stimulated platelets on whole blood samples from the 50 MPNs patients and 50 controls.

Results and Discussion: Compared with controls, the mean percentage of CD62P positive platelets (mean± SD; 65.6 ±21.6% vs 49.7 ± 22.1%; P > 0.001) was increased in unstimulated platelets from patients with MPN. Patients who have experienced a thrombotic event had higher mean percentage of CD62P in unstimulated platelets than patients without a history of thrombosis (mean ± SD; 81.9 ± 11.2% vs. 62.7± 17.6%; P> 0.002. Respectively).On the other hand, an increased expression of CD36 were found in unstimulated platelets (49.3 ± 22.7% vs. 72.3 ± 16.8%; P> 0.0001). Stimulated platelets have attenuated expression of CD63 and PAC-1 and CD62P in MPN patients.

**Conclusion:** Our results would support a role for platelet activation status glycoprotein (GP) redistribution in thrombosis in myeloproliferative neoplasms patients. Multicolor flowcytometry is a suitable technology for the analysis of platelet antigens expressed on quiescent and activated platelets.

**Keywords:** platelet membrane glycoprotein, flowcytometry, myeloproliferative.

**231**
**Mammography: Radiologist and Image Characteristics That Determine the Accuracy of Breast Cancer Diagnosis**

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**Introduction:** Variations in the performance of breast readers are well reported, but key lesion and reader parameters explaining such variations are not fully explored. This large study aims to: 1) measure diagnostic accuracy of breast radiologists, 2) identify parameters linked to higher levels of performance, and 3) establish the key morphological descriptors that impact detection of breast cancer.

**Methods:** Sixty cases, 20 containing cancer, were shown to 129 radiologists. Each reader was asked to locate any malignancies and provide a confidence rating using a scale of 1-5. Details were obtained from each radiologist regarding experience and training and were correlated with jackknifing free response operating characteristic (JAFROC) figure

of merit. Cancers were ranked according to the "detestability rating" that is, the number of readers who accurately detected and located the lesion divided by the total number of readers, and this was correlated with various mathematical lesion descriptors.

**Results:** Higher reader performance was positively correlated with number of years reading mammograms (r=0.24, p=0.01), number of mammogram readings per year (r=0.28, p=0.001), and hours reading mammogram per week (r=0.19, p=0.04). For image features and lesion descriptors there was correlation between "detectability rating" and lesion size (r=0.65, p=0.005), breast density (r=-0.64, p=0.007), perimeter (r=0.66, p=0.0004), eccentricity (r= 0.49, p=0.02), and solidity (r=0.78, p< 0.0001).

**Conclusion:** Radiologist experience and lesion morphology may contribute significantly to reduce cancer detection. Radiologists' determinants of performance are associated with annual reading volumes. Ability to recognize normal images is a discriminating factor in individuals with a high volume of mammographic readings.

## 232
## The Diagnostic Value CT Cervico-Cerebral Angiography after the ContrastMedia Reduction Technique (in King Hussein Medical Center)

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**Objectives:** The aim of this study was to assess the prevalence, clinical significance and management of extra vascular incidental findings detected on CTCCA, before and after the reduction of the injected amount of contrast media.

**Methodology:** We used sample of 20 patients over a last year we reduced the contrast media amount to the half, and gave a normal saline flush directly after the CM with some changes in parameter and Hounsfield unit in a region of interest to get better images. This new technique was improved by our stuff (radiographers and radiologists) in king Hussein Medical Center-radiology department- to be an imaging protocol in the hospital. Now after a year of introducing this technique we had a retrospective review of some CTCCA reports and a comparison of imaging quality with previous images done using the old technique to find out what advantages have the new technique introduced.

**Results and Discussion:** The new technique have introduced a cost value by reducing the contrast media amount to the half .and saved patients from contrast media complications, side by side it introduced better image quality and a diagnostic value to the patients in our center.

**Conclusion:** According to our study we reduced the radiation dose and contrast a mount while improving image quality.

**Keywords:** We recommend to depend this technique as protocol for brain and neck angiogram CT at all multi-slice CT equipments.

## 233
## Medical Cyclotrons Technology

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A cyclotron is a particle accelerator. It is an electrically powered machine which produces a beam of charged particles that can be used for medical, industrial and research processes. As the name suggests, a cyclotron accelerates charged particles in a spiral path, which allows for a much longer acceleration path than a straight line accelerator.
Medical cyclotrons produce proton beams which are used to manufacture radioisotopes used in medical diagnosis. Radioisotopes produced in a cyclotron decay by either positron emission or electron capture. Positron emission tomography (PET) and single photon emission computed tomography (SPECT), which utilizes the gamma rays associated with electron capture, are two imaging techniques that rely on cyclotron-produced radioisotopes.
A patient receives an injection of a positron emitting radioactive tracer which is incorporated into a chemical prevalent in the body, such as glucose. The tracer moves through the body and is accumulated by the organ being studied. When positrons collide with other particles they disintegrate and give

out two opposing gamma rays. A PET scanner is a specialized body scanner which can detect these two gamma rays and utilizes a sophisticated computer to create a 3D image of the organ being studied. This enables diseases and cancers to be quickly and accurately diagnosed.
FDG (Fluorodeoxy glucose) is a typical radiopharmaceutical made using a cyclotron radioisotope. It uses Fluorine-18 which only has a short life span - a half-life of 110 minutes - before the activity level diminishes and then cannot be used as needed.FDG is a glucose analogue widely used in PET imaging. When injected into a patient it is taken up by high-glucose-using cells located in areas like the brain, kidney and cancer. After FDG is injected the PET scanner forms images of the distribution of FDG in the body.
These images of the distribution of FDG in the body are then assessed to provide a disease diagnosis. This procedure is useful for diagnosing cancers, heart disease and epilepsy; it shows the chemistry in the body, and therefore helps identify problems earlier than otherwise possible.

**234**
**The Effect of Viewing Conditions on Reader Performance in RadiographicImages**

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**Aim:** The aim of the work was to establish optimum ambient light conditions for viewing radiologic images on liquid crystal display monitors.

**Materials and Methods:** Five ambient light levels were investigated: 480, 100, 40, 25, and 7 lux. Seventy-nine experienced radiologists were asked to examine 30 images and decide whether a fracture was present. All images were displayed on liquid crystal display monitors. Receiver operating characteristic analysis was performed, and the numbers of false-positive and false-negative findings were recorded.

**Results:** For all the radiologists, greater area under the receiver operating characteristic curve and lower numbers of false-positive and false-negative findings were recorded at 40 and 25 lux compared with 480 and 100 lux. At 7 lux, the results were generally similar to those at 480 and 100 lux. The experience and knowledge of radiologists specializing in imaging of musculoskeletal trauma appeared to compensate in part for inappropriate lighting levels.

**Conclusion:** Typical office lighting and current recommendations on ambient lighting can reduce diagnostic efficacy compared with lower levels of ambient lighting. If, however, no light other than that of the monitor is used, results are similar to those with excessive levels of lighting. Careful control of ambient lighting is therefore required to ensure that diagnostic accuracy is maximized, particularly for clinicians not expert in interpreting medical images.

**235**
**Fuzzy Identification and Modeling of Common Caffeine-ContainingBeverages Consumption on Blood Pressure**

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The aim of the present study was to determine the effect of moderate caffeine consumption on blood pressure, also, to construct a prediction model for blood pressure using fuzzy modeling. The blood pressure was measured for each participant at several times after drinking the beverages. An adaptive neuro-fuzzy inference system (ANFIS) was used to model and identify the systolic and diastolic of the blood pressure. Experimental validation runs were conducted to compare the measured values and the predicted ones. The final fuzzy-based FIS model for the systolic blood pressure was formed from 62 total number of parameters, 398 number of training data pairs and 32 number of fuzzy rules. The results showed that the validation was 90% modeling or prediction accuracy of systolic blood pressure. The final fuzzy-based FIS model for the diastolic blood pressure was formed from 190 total number of parameters, 398 number of training data pairs and 162 number of fuzzy rules. The results showed that the average validation was 85%modeling or prediction accuracy of diastolic blood pressure. Based on the analysis results, it was found that the prediction of the systolic and diastolic of the blood pressure based on the caffeine consumption by ANIFS is probable. This method may be used to provide a simple means for determining the blood pressure after consuming DASH Diet "Dietary Approaches to Stop Hypertension"

**Keywords:** Fuzzy modeling, systolic blood pressure, diastolic blood pressure, caffeine consumption, caffeine-containing beverages.

**236**

## Dietary Misconception in Jordanian Diabetic Patients at AL Hussein Hospital -Royal Medical Services

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**Objectives:** The purpose of this study is to show the prevalence of various dietary misconceptions among Jordanian patients with diabetes mellitus.

**Methodology:** This was a cross sectional study conducted at nutrition clinic for Diabetes mellitus management in AL-Hussein hospital, during the period January 2015 to April 2016, the study group was composed of 673 diabetic patients over than 15 years old of both genders whom were selected randomly to fill a questionnaire including the sociodemographic, various dietary misconceptions. Then the data was collected and analyzed descriptively.

**Results and Discussion:** The data collected from 673 diabetics patient showed that, 347(51.5%) were female, the mean value for all participants ages was 46±11 years, most of the participant 635 (94.3%) were suffer from type 2 diabetes mellitus, on the other hand most of them 218(32.4%) attend primary school, beside that 246 (36.5%) never received any dietary counseling. Thus, 195 (29%) percent of the study subjects said that rice is prohibited. Where, 245(36.4%) of study subjects believed that long rice contain no starch, 386(57.3%) believed that white bread contain more calories than brown one, 173(25.7) believed that there is a special diets for diabetics, 208 (30.9%) believed that bread toast reduce carbohydrates, 491(72.9%) believed that carrots consider as vegetables, 326(48.4%) believed that diet juice have no sugar, 259(38.4%) believed that wheat doesn't rise blood sugar,79 (11.7%) believed that herbal preparations can cure diabetes, 76(11.3%) think that obesity have no relation with diabetes mellitus.

**Conclusion:** The results of this study demonstrate that there is a large proportion of Jordanian diabetic patients specially those of the first visit for dietary clinic have a wide dietary misconception. Accordingly, targeted education programs through dietary specialists in diabetes mellitus are therefore needed for diabetic patients, so as to promote dietary awareness and to ensure providing them with the true information. Moreover, all new diabetic patients should visit the dietary clinic for diabetes mellitus management to follow up the progress of his disease.

**Keywords:** dietary misconception, diabetes mellitus, dietary counseling.

**237**

## Dietary Management of Hereditary Tyrosinemia Type1 Patients at Queen Rania Children Hospital who are on Nitisinone Therapy

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**Objectives:** To assess the nutritional status and metabolic profile of Hereditary Tyrosinemia type 1 (HT1) who were started on Nitisinone therapy from Jan, 2015 until present at the nutrition clinic in Queen Rania Children Hospital.

**Methodology:** 13 patients with the diagnosis of (HT1),who were on Nitisinone therapy and on dietary restriction of phenylalanine and tyrosine were assessed with regard to growth parameters , liver function tests , succinylacetone levels, minerals (Na+,K+,PO4,Ca2+), blood gasses (HCO3) and amino acids profile during their regular follow-up visits to the nutrition clinic.

**Results and Discussion:** All of our patients improved markedly especially with regard to their growth parameters mainly height. Marked improvement in succinylacetone level was seen. However, tyrosine and phenylalanine levels increased.

**Conclusion:** Patients who were started on

Nitisinone therapy in combination with dietary restriction in phenylalanine and tyrosine showed marked improvement in their nutritional status and growth parameters .Amino acids showed elevated tyrosine which needs more vigilant dietary follow-up.

**Keywords:** Nitisinone, Metabolism, nutrition, dietary restriction.

**238**
**Teachers' Perceptions of Voice Handicap Compared with Their AcousticAnalysis**

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**Objectives:** The purpose of the study was to explore teachers' perceptions of voice handicap and to analyze their acoustic characteristics to determine whether acoustic measures of teachers' voice would verify their perceptions of voice handicap.

**Methods:** 66 school teachers (33 males and 33 females, with different years of teaching experience and age, and a 100 control participants (50 males and 50 females) who underwent vocal assessment that included the Voice Handicap Index (VHI-Arab) and acoustic measures (F0, Jitter%, Shimmer%, SNR).

**Results:** Significant differences between the teachers' group scores and the control group scores on the following subscales of VHI-Arab: physical ($p = 0.006$), emotional ($p = 0.004$)) and total score of the test ($p = 0.002$). No significant differences were found among teachers in the three VHI subscales, and the total score regarding gender (functional $p = 0.307$; physical $p = 0.341$; emotional $p = 0.126$; and total $p = 0.184$), age (functional $p = 0.972$; physical $p = 0.525$; emotional $p = 0.772$; and total $p = 0.848$), and years of teaching experience (functional $p = 0.319$; physical $p = 0.619$; emotional $p = 0.926$; and total $p = 0.638$). The significant differences between the teacher's group and the control group in three acoustic measures: F0= ($p= 0.000$), Shimmer% ($p= 0.000$), and SNR ($p=0.000$) were further investigated. Significant differences were found among female and male teachers in F0 ($p = 0.00$) and SNR ($p = 0.007$). As for teachers' age, significant differences were found in SNR ($p = 0.028$). Teachers' years of experience did not show significant differences in any of the acoustic measures.

**Conclusion:** Teachers have a higher perception of voice handicap. However, they were able to produce better voice quality than control participants were, as expressed in better SNRs. This might have been caused either by manipulation of vocal properties or abusive overloading the vocal system to produce a procedurally acceptable voice quality.

**239**
**Neonatal Seizure and Hearing Threshold Levels Estimation in PatientsUndertaking Luminal Drugs**

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**Objective:** To evaluate the hearing status of children with seizure who under luminal treatment and to investigate if Luminal drugs has result I hearing loss.
Subjects: A group of 24 children aged between 1-2 years of both sexes who is taking luminal for more than 6 months duration was included in the present study.

**Methodology:** All children underwent different audiological battery tests at the audiology department at King Hussein centre during December 2014 – December 2015, including otoscopic examination, tymapnometry, distortion product otoacoustic emission and auditory brainstem steady state response.

**Results:** Audiological tests showed that all group have normal hearing threshold levels at all tested frequencies, where subjective behavioral observations showed lack of responses to sound stimuli.
**Conclusion:** Luminal drugs does not play a role in inducing hearing loss in patients treated for epilepsy, objective measures are better to evaluate the hearing status in such group of patients than observing the behavioral subjective responses.

## 240
## Our Experience in Managing Keratoconus Using Contact Lenses at King Hussain Medical Center

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**Objectives:** To emphasis the use of different types of contact lenses (C.L) in improving vision of keratoconus patients at King Hussein Medical City (K.H.M.C.).

**Methodology:** One hundred patients (185 eyes) were randomly selected during the period between 2011 and 2015, At C.L Clinic in K.H.M.C. they were a first time C.L wearers, and had been fitted with different types of Keratoconus lenses. Their age group ranged between 15 and 48 years old.

**Results and Discussion:** Significant improvement in vision with C.L use was reported. Average uncorrected visual acuity was about 0.26 improving to 0.8. More female patients than males, the percentage of female wearers were 63.24% compared to 36.76% in male wearers. With the availability of a wide range of C.L at K.H.M.C.The percentage of patients wearing soft C.L was 6.49%, scleral C.L 12.97% and rigid gas permeable C.L about 80.54%. The relationship between the severity of the disease and management was linked. Mild to severe Keratoconus patient's vision improved from CF 3m to 0.7. The satisfaction of patients was variable; 76.22% were totally satisfied. About 11.89% had a problem maintaining the use of C.L during an active ocular disease .Unfortunately 4.3% of patients stopped C.L use due to the difficulty in lens handling specially with scleral C.L, 6.49% had a difficulty wearing them for no apparent reason, and finally about 1.1% was insisting on surgery.

**Conclusion:** Keratoconus can be managed through the use of different types of C.L. patients vision can be significantly improved, helping them to perform their daily tasks. In addition to delaying the surgical option

**Keywords:** keratoconus, contact lens, King Hussein Medical City.

## 241
## Is Quadriceps Muscle Strength a Determinant of the Physical Function of the Elderly?

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**Introduction:** Several studies examined the relationship between quadriceps strength and physical function. It is known that quadriceps strength is a determinant of physical performance. Studies showed that the time to reach maximum torque is around 400- 600 msec. However, this time is longer than is needed to prevent a fall incident. Therefore rapid rise in torque development might be more important than maximum torque during limited time actions. To our knowledge, there are no studies that examined the association of physical function with time to peak torque and the rate of torque development. The purpose of this study is to determine the relationship of quadriceps rate of toque development and time to peak torque to physical functional activities in elderly

**Methods:** Baseline data from 21 subjects (age (71.29 +/- 4.6), 13 females (61.9%)) who participated in a randomized clinical trial to study the effect of neuromuscular electrical stimulation in inducing type II muscle fibers hypertrophy in elderly was included in this study. Quadriceps strength was measured using a maximum isometric torque test and a maximum isokinetic torque test at 60 degrees/sec. Time to peak torque and Rate of torque development were calculated from the torque time curve of the isokinetic and isometric torque tests respectively. Physical functional activities were measured using timed stair climbing test, timed ramp up test, timed up and go test and 4 meter walking time test. Pearson correlation coefficients were used to examine the relationships among the variables.
**Results:** Time to peak torque was able to explain significantly 20.3%- 35.2% of the variability of physical activity tests. Rate of torque Development was able to explain significantly 32.6% of the variability of the stair-climbing test. However isometric and isokinetic peak torques were able to explain .5%-14.3% and .3%- 9% of the variability of the physical functional tests respectively.

**Conclusion:** Time to reach maximum torque and the rate of torque development might be more important measures than peak torque in determining the physical functional status of elderly.

**242**
**The Effect of Physical Activity on Life Quality of the Hyperactive Child, ADHD**

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**Objectives:** Participation in sport seems to have a positive effect on the lives of children with ADHD. Physical activities are a combination of actions and reactions, physical and mental, which can positively influence the symptoms of ADHD. The objective of our study is to show the influence of physical activity on a group of children with this type of disorder.

**Methodology:** is to examine the effect of physical activity on quality of life of the hyperactive child. Six children of the SOS Children's Village in Lebanon, attended physical activity sessions for three months at a frequency of four times per week. The experimental protocol was inspired (Bailey 2009). Evaluation of hyperactivity was performed using the test Conners short version (C. Keith Conners).

**Results and Discussion:** The comparison of the averages of the Conners test scores before (69.17 ± 6.80) and after physical activity sessions (54.83 ± 10.36) shows that there is a very significant difference between the initial and final values p = 0.0007 The results indicated that children improve in difficult to control tasks among such patients. After applying our experimental protocol, for a relatively short period, we can see that children become more attentive (For example: the average score of the item "Inattentive, easily distracted" evolves from 2.5 to 2), more patients (the average score of the item "Loses Patience easy" evolves from 2.7 prior to 2 after), less hyperactive (the item's score "does not stop moving" tends to 2.7 before the sessions to 2 after the sessions ) ... etc. (Chart 2-4). Gradually, as we argued in the sessions, and on reaching the final, improvement was remarkable but progressive, especially concerning the organization of the tasks and work with children.

**Conclusion:** One of the characteristics of ADHD are the inattentive form an alliance and form hyperactivity / impulsivity. Young people often display a motor impulsivity as well as verbal, they do not consider the consequences of their actions, their words, not that they do not want but they cannot. One of the main consequences of impulsivity being endangered, risk taking, accidents (Sigler et al., 1998; Schwebel et al, 2002). It appears that young people with ADHD have more social problems; they are more aggressive and have more crime problem. Their aggression and acting out certain behaviors could also be related to their inhibition default. Indeed, Edmond et al. (2008) hypothesize that the initial lack of control of behavioral inhibition explains the deficits in executive functions and impulsive behaviors of ADHD. In addition, these young people are probably looking for a valuation and power also exist differently with their disorder differentiates daily other youth. Moreover, hyperactive children often have poorer self-esteem; these behaviors might be set up in a recovery goal of renarcissiation. The positive relationship between physical activity and attention has also played a role in the overall improvement of the target child. The child exercise target participation and ability to concentrate, seems to have a positive influence on their behavior.

**Keywords:** ADHD, Physical activity, life quality

**243**
**Lower Limb Prosthesis: What's New?**

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Amputation is a permanent impairment which may lead to disabilities and handicap.The primary goal of rehabilitation programs following lower limb amputation is increasing or restoration mobility, personal independence and improves quality of life. In conjunction with other medical, surgical, and therapeutic interventions. Prosthesis continues to play an important role in the physical management in lower limb amputee.Prosthesis is a device or appliance prescribed and used to replace a removed, absent or amputated part of the body. The higher the level, bilaterality and multiplicity of the amputation are the worse the prognosis of functional performance due to the high energy requirement, the weak the muscles and the bad the balance.Phases of amputee rehabilitation are Pre- amputation phase, amputation phase (surgical phase), Post amputation phase

(immediate post surgical phase), prosthetic phase, review and maintenance phase.Major components of Prosthesis are suspension, liner, Joints, socket, connection piece and foot. Recent technology of prosthetic knees is Microprocessor feature, C-leg, Bionic –power knee and Bionic – Rheo knee. Recent technology of prosthetic feet are Stored-energy (dynamic response)design, Sport specific , Bionic foot Proprio foot, Triton foot and Trias foot. Purposes of recent technology in Prosthetic rehabilitation are more cosmoses , more comfortable and stable , good suspension, lightweight and strong, enables users to walk smoothly and relatively naturally, requires less energy to use and appropriate for active people.

## 244
## The Effectiveness of Using Dynamic Radial Splint in the Treatment of RadialNerve Injury

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**Objectives:** The aim of this study is to show the importance of using dynamic splint in the enhancement of good recovery for radial nerve injury.

**Methodology:** A sample of 23 patients of different age groups (16 -47 years old) with mean age 33.7 years old, (Male:19 patients which represent 70% and Female: 4 patients which represent 30%), whom referred to occupational therapy department / Royal Jordanian Rehabilitation Center during the period February 2014 to June 2015 for fabrication of dynamic radial splint for their injury.

**Results and Discussion:** The results showed that 87% of patients (20 patient) whom used dynamic splint have good prognosis and improvement of hand function in the activities of daily living (ADL) ,around 78%of patients referred to OT department their cause fracture of humerus and 13% of patients their cause was elbow dislocation. 13% of patients (3 patients) showed minimal or poor prognosis due to the severity of their injury, and around 9% of their cause of injury was gunshot.

**Conclusion:** There was a significant increase of wrist and finger extension and hand grip after three months of using dynamic radial splint. So we advise to use dynamic splint in early stage after radial nerve injury.

**Keywords:** radial nerve injury, dynamic splint, wrist drop, fabrication, ADL, function

## 245
## Short Implants versus Sinus Augmentation

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Implant therapy has improved the treatment options for restor¬ing missing teeth. The rehabilitation with implant-supported prostheses in atrophic posterior maxilla is still a challenging issue due to reduced residual alveolar bone and the presence of the maxillary sinus.Several treatment options have been used to overcome the problem of inadequate bone quantity. In many cases, sinus augmenta¬tion procedure has been also used to overcome this problem by using bone grafts, an alternative method include placing extra-long zygomatic implants in the lateral part of the zygomatic bone. However, conservative treatment options are available such as placing short implants to avoid entering the sinus cavity, or placing tilted implants in a position mesial or distal to the sinus cavity if these areas have adequate bone.
This presentation will discuss the literature concerned with the success rate of short implants compared to implants placed in augmented maxillary sinus. We will also discuss our experience at King Hussein Medical Center in using short implant for replacing teeth in the posterior maxilla as an alternative conservative method of sinus augmentation.

**Keywords:** Short implants, Posterior maxilla, Sinus augmentation.

**246**
**Quick Diagnosis and Treatment of Endodontic Emergencies**

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Most dental emergencies are endodontic in nature. When a patient is having a toothache, the dentist is called upon to quickly and efficiently relieve the pain. This seminar will investigate the diagnostic procedures needed to quickly and accurately determine the source of most toothaches. Using a simplified classification system, and based on questionnaires of endodontists over the past three decades, the speaker will describe which treatment modalities should be utilized to handle these emergencies. The anesthetic management and pharmacological management of a patient with a severe toothache will also be discussed.

**Keywords:** Pulpotomy, Electric pulp tester, one visit endodontics.

**247**
**Facial Asymmetry**

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Facial asymmetry can have multiple causes: congenital deformities, developmental deformities, trauma, tumours and others. Surgical correction is demanding, and often based on multiple procedures. In elaborating a treatment plan the nature of the defects or the excess has to be demonstrated. Regarding skeletal bony defect reconstruction withaesthetic implants, the only indication for implant seen by the authors is augmentation of the angle of mandible. In case of persisting condylar growth, high condylectomy should be the first step of treatment. Enlarged condylar resection is indicated in patients with non occlusion on the affected side and may reduce asymmetry. Soft tissue procedures are usually reserved for respective asymmetries. A soft tissue reduction is rarely necessary; all kinds of face lift techniques might be useful. In complex asymmetries, at least three steps are required. Generally, distraction ontogenesis comes first. The next steps are bimaxillary osteotomy and soft tissue procedures. Corrections of the asymmetric nose are usually the last step and extremely demanding, because surgery has to be done on all nasal structures to get stable results.

**Keywords:** Fascial asymmetry, Destruction, Bimaxillary surgery, Soft tissue procedures, Rhinoplasty.

**248**
**Dental Cone-Beam CT; Entering the 3rd Dimension**

*Hugh Devlin BDS (UK)*
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This lecture will cover how we got to this exciting stage in the development of modern imaging. The aim of this lecture will be to describe how CBCT works? What are its scope and limitations? What are the radiation dose implications? What are the main clinical uses? What will the future hold? The main uses of CBCT include studying the developing jaws and dentition, (Impacted teeth, Cleft palate and "Routine" orthodontics). CBCT can also be used for restorative dentistry (caries detection, and periodontology, periodical pathosis and endodontics, Implantology), and surgical diagnosis (third molar surgery, "Pathoses" and TMJ). Each of these uses will be described. The radiation dose implications of CBCT will be discussed, with particular emphasis on strategies for radiation does optimization. Radiation doses are higher than conventional dental imaging, and this presents challenges for training and safety. The published academic literature using large volume CBCT for routine orthodontic diagnosis and treatment is strong on hyperbole and short on evidence of significant clinical impact.

**Keywords:** Dental Cone Beam CT, Modern imaging

**249**
**Comprehensive Understanding of Immediate Implants**

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The placement of implants immediately into fresh extraction sockets, with or without placement of regenerative biomaterials, has

been demonstrated to be a predictable treatment strategy to provide functional restoration of missing teeth. Several studies in both humans and animal models describe the alterations that occur with implant placement into fresh extraction sites. Complications associated with implant placement involve both hard and soft tissues. In this presentation, the basic nomenclature will be considered and discussed, along with advantages and disadvantages of immediate implantation, its relationship to osseointegration and its influence on the final restoration. Few proposed guidelines will be summarized to obtain optimal aesthetics and function.

**Keywords:** Immediate implantation, Fresh extraction site, Osseointegration

## 250
## Best Practices in Pediatric Pain Management

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Adequate pain management is critical to positive experiences in pediatric dentistry. Pain in pediatric patients has historically been under-recognized and undertreated in both medicine and dentistry. Emerging research shows the dangerous implications of under-treatment of pain in infants and young children. Children are not little adults; they have unique physiology that impacts how they perceive and process pain. Infants and very young children have altered pain perception compared to adults and inadequate pain control may lead to adverse long-term effects. This talk will review anatomical and physiological differences in infants, children, and adults that result in an altered pain response. Best practices in system pain management including use of nonsteroidal anti-inflammatories and opioids will be presented.

**Keywords:** Pain, Pediatric dentistry, Non-steroidal anti-inflammatories, Opioids

## 251
## Implant-Supported Prostheses: Current Practice in the German Armed Forces

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Over the last 40 years, the insertion of enossal implants for the replacement of lost teeth and anchoring of dental prostheses has proved to be an effective treatment option. It has been possible to demonstrate beyond doubt the dependability of the procedure through a large number of clinical studies throughout the world, and that dependability is generally acknowledged. In recognition of this, enossal implants are also being used in the dental treatment of German military personnel. The placement of an implant-supported prosthesis is a surgically challenging and time-consuming procedure that requires a substantial financial investment. For this reason, this type of treatment is in the German Armed Forces regulated by a set of strict rules that are reflected in the Guidelines for the Dental Care of Bundeswehr Military Personnel. In general, soldiers are not entitled to free dental implant treatment. If they meet relevant requirements, a decision to fund treatment is made on a case by case basis. In the above mentioned Guidelines, the principle is defined that the treatment with a fixed dental prosthesis should always be the objective. A special challenge is the treatment of the edentulous jaw. Early edentulism often leads to a servere loss of hard and soft tissues, which can be difficult to manage in patients with fixed restorations. In these cases, an implant-supported removable prosthesis may also be a meaningful alternative for the masticatory and aesthetic rehabilitation of the patient. Removable implant-supported prostheses offer different advantages for example are fewer implants for the treatment necessary and a significantly better oral hygiene is possible. They can be attached with a variety of anchoring attachments, a standard anchoring element for removable implant-supported prostheses is the bar attachment. The presentation will demonstrate the use of electroformed double crowns, which offers a number of advantages. One important advantage is that the intraoral bonding of electroformed crowns ensures a connection between frameworks and implants that is associated with a low level of tension. The last part of the presentation will show the case of a patient

with an unfavorable anatomy who underwent an implant-supported prosthetic treatment with an obturator and a bar attachment.

**252**
**What The Physician And Dentist Should Know About Emergency TreatmentOf Traumatic Injuries To Teeth**

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Traumatic injuries to the teeth are still very prevalent even though the use of mouth guards is increasing in organized sports. It is important to save teeth, especially in younger patients for their self-esteem as well as for masticatory function. When a patient is involved in a traumatic incident, whether or not its sports related, the dentist or physician is called upon to quickly and efficiently relieve the pain and save the teeth. This seminar will investigate the diagnostic procedures needed to determine which treatment modality should be utilized, then discuss various techniques to handle these emergencies quickly. This presentation will provide the participant with an overview of various types of injuries to the teeth that can occur, such as luxations, fractures and avulsions. Diagnosis and treatment of these injuries will be discussed, emphasizing what can be done in the emergency room or office.

**Keywords:** Tooth trauma, Luxation, Avulsion, Splinting.

**253**
**The Treatment of Toothwear**

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Toothwear is a common problem and is now often seen in young patients. This lecture will describe the records required to be undertaken prior to treating patients with wear. An accurate diagnosis of the cause of the toothwear should be ascertained. This may involve close liaison with the patient's medical practitioner. When reorganizing the occlusion there is a considerable potential for catastrophic failure and litigation by the patient, so it is essential to have an accurate diagnosis of the occlusion and articulatory system. Photographs and other recordings of the static and dynamic occlusion, study models mounted on a semi-adjustable articulator using a facebow recording are all essential. Providing a diagnostic wax-up of the proposed restorations can be used to discuss with the patient the changes and also can be used as the basis for any temporary restorations. The literature suggests that if healthy dentin extends circumferentially as a ferrule of at least 2.0 mm coronal to the crown margin, then this provides sufficient long-term resistance for the crown. This can be difficult in cases of toothwear and techniques involving the Dahl concept or orthodontic repositioning may be necessary.

**Keywords:** Occlusal analysis, Pre-treatment records.

**254**
**Clear Aligners: The Facts**

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There have been many recent advances in the profession of orthodontics. Historically, advancements in the specialty of orthodontics have almost always been related to developments in other disciplines; metallurgy, engineering, mathematics, and computer science are only a few examples.Clear aligners were introduced in the orthodontic scientific literature many years ago, however, it was not until computer-aided design (CAD), computer-aided manufacturing (CAM) and stereolithic 3D printing were developed that these aligners have become a viable treatment option in orthodontics. Clear aligners have become an integral part of modern orthodontic practice. In this presentation, I will discuss the facts about clear aligners looking at the available evidence in the literature. I will then present cases where clear aligners have worked well and other where they have not been able to achieve the desired treatment goals. Finally, I will speculate about their predicted use in the future.

**Keywords:** Orthodontics, Clear aligners, 3D.

## 255
## Segmental Osteotomies of the Upper and Lower Jaw

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Modern orthodontic treatment and the use of skeletal anchorage have reduced indications for segmental orthognathic surgery procedures. Nevertheless, in severe facial deformities segmental or multisegmental osteotomies may be helpful to save treatment time, give more stability and get better aesthetic results. The variety of surgical procedures includes multisegmental Le Fort I osteotomies, segmental osteotomy or distraction, step osteotomy of the mandible and vertical osteotomies of the anterior mandible. Possible indications for multi-piece maxillary osteotomies are transverse discrepancy, anterior open bite, protrusion or retrusion of the premaxilla, tooth size discrepancies and asymmetries of the maxillary arch. Opening space with mandibular segmental distraction can be useful in cases with premolar extraction in childhood. Thus, major surgery may be avoided in dental class II cases. Segmentation of the mandible with complete osteotomy of the mandibular body is rarely necessary. However, it is the only way to correct a too large or asymmetric mandible. Piezoelectric surgery is a helpful tool to get precise cuts and avoid complications. Close collaboration between orthodontist and surgeon is indispensable in all cases with segmental or multisegmental procedures.

**Keywords:** Multisegmental osteotomy, Segmental osteotomy, Segmental distraction, Piezoelectric surgery

## 256
## Social Judgment in Relation to Visible Incisor Trauma

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**Background:** Traumatic dental injuries (TDI) are very common in Jordan with a peak in adolescent, the anterior maxilla is more frequently affected which results in compromised incisor aesthetics, studies in Jordan indicate that a high percentage of these injuries are untreated.

**Aim:** The main aim of the study is to test the null hypothesis of there is no significant difference in social judgment made toward children with and without visible incisor trauma,
Design: cross sectional study

**Methods:** The study included a sample of 400 children age 11 and 15 years who were invited to view colored photographs of four different children's faces and to make a social judgement about these children (the subjects). Participants were randomly allocated either: (i) pictures ofchildren with no trauma or, (ii) pictures of the same children whose photographs had been digitally modified to create visible incisor fracture. A previously validated child-centred questionnaire was used, participants rated subjects using a four-point Likert scale for three negative and four positive attributes.Total attribute scores were tested for significant differences, according to whether the subject had visible incisor trauma or not, using independent sample t-test. P-value was set at 0.05.

**Results:** 400 children completed the questionnaire; the percentage of negative responses to the pictures was more towards those with visible incisor trauma. The difference in total attribute score was significantly different between the study and control groups. The difference was more pronounced in adolescents.

**Conclusion:** children view other children with visible incisor trauma negatively, particularly adolescents.

**Keywords:** Trauma, Social, Judgment, Child.

**257**
**Local Anesthesia for the Pediatric Patient**

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Adequate local anesthesia is vital for pain free dentistry. Amide local anesthetics are most commonly used in pediatric dentistry and each one has advantages and disadvantages. These characteristics may impact its use in children. This lecture will review the most common local anesthetics currently used in dentistry and discuss the indications and contraindications for use in pediatric patients. New adjuncts to the local anesthesia armamentarium such as sodium bicarbonate and phentolaminemesylate will be discussed as well as new devices that claim to decrease pain on local anesthetic administration. At the end of this course attendees will be select the best local anesthetic to be used in a clinical scenario and be prepared to recognize and treat local anesthetic emergencies related to them.

**Keywords:** Localanesthesia, Lidocaine, Articaine, Sodium bicarbonate, Phentolaminemesylate, Medical emergencies.

**258**
**Polycystic Ovarian Syndrome PCOS, Diagnosis, Clinical Implications andTreatment Updates**

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Polycystic ovarian syndrome (PCOS) is a common condition which should not be considered as a primary gynaecological disorder resulting in amenorrhoea, infertility and hirsutism. The diagnosis is made by a combination of clinical and biochemical features including ovarian/menstrual dysfunction, clinical/biochemical evidence of increased androgens and ultrasonic appearances of the ovaries. Added to this should be the the metabolic syndrome as these are universal features, up to 50% of obese women with PCOS will develop impaired glucose tolerance or diabetes by the age of 30. Women with PCOS have been shown to have premature atherosclerosis and these women have a higher relative risk for coronary heart disease and myocardial infarction than others. Studies of family members with PCOS indicate that an autosomal dominant mode of inheritance occurs for many families with this disease. The fathers of women with PCOS can be abnormally hairy; female siblings may have hirsutism and oligomenorrhea; and mothers may have oligomenorrhoea. Research suggests that in women with PCOS, a family history of type 2 diabetes in a first-degree family member is associated with an increased risk of metabolic abnormality, impaired glucose tolerance, and type II diabetes. There are well evidenced treatment approaches that could be tried to improve insulin sensitivity without resorting to pharmacological agents, although there is a role for insulin sensitizing agents and anti-obesity treatments. The expectation is that actively identifying and managing these women will promote not only an improvement in health expectations for individuals with PCOS but also potentially in their off-spring.

**Keywords:** Polycystic ovarian syndrome, insulin resistance

**259**
**Update on the Management of Dyslipidemia**

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Current guidelines recommend that patients with elevated cholesterol be treated with high dose statins to delay the development of atherosclerotic plaque and lower the risk of cardiovascular complications. However, a sizable proportion of patients taking statins do not achieve recommended LDL-C target levels and others discontinue treatment because of drug-related side effects. Monoclonal antibodies are a new class of cholesterol drugs that target a cholesterol-regulating protein called PCSK9. Researchers reviewed some randomized controlled trials to assess the efficacy and safety of PCSK9 antibodies in adults with elevated cholesterol levels. The data showed that compared to no anti-PCSK9 treatment, PCSK9 antibodies are associated with lower odds of all-cause mortality and myocardial infarction. Treatment with PCSK9 antibodies also significantly reduced LDL-cholesterol and lipoprotein and were well-tolerated by patients. This new class of cholesterol drug seems to be

safe and effective for treating patients with dyslipidemia. Familial hypercholesterolemia (FH) is an autosomal dominant genetic condition resulting from mutations of the low-density lipoprotein-cholesterol (LDL-C) receptor, apolipoprotein B (apo B), or pro-protein converase subtilisin/kexin 9 (PCSK9). The diagnosis is dependent on factors such as family history, clinical presentation (e.g., xanthomas, coronary atherosclerosis), genetic testing, and severe elevations in plasma cholesterol levels. Two new drugs approved for homozygous (or compound heterozygous) FH, Lomitapide (Juxtapid) and Mipomersen (Kynamro). Mipomersen is a cholesterol-reducing drug. It is an antisense therapeutic that targets the messenger RNA for apolipoprotein B. It is administered as a weekly injection for familial hypercholesterolemia. Lomitapide inhibits the microsomal triglyceride transfer protein (MTP or MTTP) which is necessary for very low-density lipoprotein (VLDL) assembly and secretion in the liver. Does this mean we have reached a new era in lipid lowering treatment? Not yet. More long-term trials with specific cardiovascular disease endpoints and monitoring of a broad range of adverse effects are needed.

## 260
## Updated Therapeutics of Diabetes

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The prevalence of diabetes is increasing due to population growth, ageing, urbanisation, the increasing prevalence of obesity and reduced physical activity. Type 2 diabetes (T2DM) is the most common and carries risks of microvascular complications and shares associations with obesity, hypertension, dyslipidaemia and the tendency to thrombosis. Subsequently patients with T2DM have an increased risk of cardiovascular disease. People with type 2 diabetes can therefore have substantially reduced quality of life and increase morbidity and mortality. For this reason, prevention, early diagnosis and management of diabetes pose a global challenge for health professionals. Lifestyle modification and control of hyperglycaemia, blood pressure and cholesterol are essential in the management of diabetes. This lecture, with the help of a case study, will discuss the use of oral anti-diabetic agents: sulphonylureas, biguanides, dipeptidyl peptidase-4 inhibitors, thiazolidinedione, glucagon like peptide 1mimetics and the more recently introduced sodium-glucose co-transporter 2 inhibitors in managing T2DM. The overall objective of diabetes treatment will be shown to achieve and maintain glycaemic levels as close to the non-diabetic range without increasing risk of hypoglycaemia. Improving blood glucose levels significantly reduces morbidity and mortality from the microvascular complications of diabetes, and improves quality of life. To minimize cardiovascular morbidity and mortality, one should consider achieving individualised target HbA1c with avoidance of iatrogenic hypoglycaemia and preferential use anti-diabetes agents with known cardiovascular safety. Iatrogenic weight gain can exacerbate insulin resistance and therefore drugs that provide weight neutral or weight reduction should be considered the priority for obese people with T2DM.

**Keywords:** Type 2 diabetes: Pharmacological agents: hypoglycaemia: HbA1c

## 261
## Cardiovascular Safety of Newer Diabetic Agents

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Diabetes mellitus is increasing globally and now affects 7% of the world's adult population. This is mostly type 2 diabetes (T2DM) and, because of the increase in the ageing population and massive rise in prevalence of obesity, the incidence is likely to be more than double by 2030. A major concern with the diabetes epidemic is the anticipated increase in mortality and morbidity related to the complications of the disease. Insufficient drug therapies, poor patient compliance to therapy and inadequate management regimes may be contributing to the increasing incidence of complications linked to the disease. Type 2 diabetes is a complex heterogeneous disease and, in addition to the control of blood glucose, requires intricate management of a range of factors, including lipid parameters, blood pressure and thrombotic factors. The importance of good glycemic control in the prevention of chronic microvascular and probably also of macrovascular complications has been emphasized by an abundance of epidemiological and experimental

data, such as the United Kingdom Prospective Diabetes Study (UKPDS). The UKPDS revealed that a 1% decrease in HbA1c was associated with a risk reduction of 37% for microvascular disease and 14% for myocardial infarction (MI). Professional bodies, including the American Diabetes Association (ADA), the European Association for the Study of Diabetes (EASD) and the International Diabetes Federation (IDF), therefore recommend strict control of glycaemia. Regulatory authorities in the United States and Europe require an evaluation of the CV safety profile of new therapies for T2DM. Three large CV safety trials have recently reported on 3 different DPP4 inhibitors: saxagliptin (SAVORTIMI 53); Alogliptin (Examination of Cardiovascular Outcomes with Alogliptin vs. Standard of Care [EXAMINE]) and sitagliptin (Trial Evaluating Cardiovascular Outcomes with Sitagliptin [TECOS]). Drugs that showed no inferiority results compared to placebo regarding CV safety .Other studies assessing exanitide and SGLT2 CV safety also showed favourable outcome (EMPA-REG). There are; however, other ongoing studies (DECLARE-TIMI58, HFREF, CANAVAS, CARMELENA, CAROLINA, OMNEON among others); results of which will provide further insight into the newer hypoglycaemic agents CV safety profile (see table)

## 262
## Views of Erbil Interns on the Adequacy of Undergraduate Clinical Skills Training

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**Objectives:** The study aimed to determine the perceptions of Erbil intern on whether undergraduate clinical skills training adequately prepared them for internship responsibilities.

**Methodology:** This descriptive cross-sectional analytical study included (369) interns working in the public hospitals of Erbil Governorate. A questionnaire including two sections: the first is interns' demographic characteristics and the second is their views on clinical skills training (communication and practical). The collected data was analyzed by the Statistical Package of Social Sciences (SPSS, version 19.1).

**Results and Discussion:** Majority of the interns felt that their undergraduate communication skills training were adequate in all the studied areas. However, more than half of the respondents felt that undergraduate practical skills training were inadequate in several areas. Female interns felt that training was adequate in all areas of communication and practical skills more than males with statistical difference in female catheterization ($P<0.001$). Interns of <30 years old felt that they received more adequate training in both areas of communication and practical skills than those of 30 years old with significant difference in interviewing patients ($P= 0.047$), measuring BP ($P=0.023$), Pap smear ($P=0.043$), and resuscitation - basic CPR (0.001).

**Conclusion:** There are deficiencies in undergraduate practical skills training particularly in specific areas. Deficiencies presented by the interns should be considered and addressed. In-depth studies are required to identify ways to improve training.

**Keywords:** Internship and residency, Medical school, clinical skills training

## 263
## Efficacy of A new Injection Regime for Onabotulinumtoxin A in Idiopathic andNeurogenic Detrusor Overactivity: Are 10 Locations Enough?

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**Hypothesis / aims of study:** Botulinumtoxin A injection (BonT) represent the second line treatment in neurogenic (NDO) and idiopathic detrusor overactivity (IDO) non responsive to pharmacological treatment. Clinical as well as urodynamical data have shown the benefit of this treatment. However the injection technique as well as numbers of injections sites varies widely between 10-40 injection sites in- and excluding the trigonal area (1, 2). Based on these facts this study evaluated the efficacy of 10 injections sites with respect to videourodynamical effects.

**Study Design, Materials and Methods:** This study is retrospective designed. In the time of january 2011 till december 2012, 87 patients with neurogenic detrusor overactivity and 56 patients with idiopathic detrusor overactivity, both populations non responsive to pharmacological treatment, were treated with onabotulinumtoxin A.

All patients underwent a full urological examination with videourodynamic ahead of the procedure.
The standardized application amount for onabotulinumtoxin A was in conformity to the recommendation: for neurogenic detrusor overactivity 200 E onabutulinumtoxin A, for idiopathic detrusor overactivity 100 E onabutulinumtoxin A. The injection was performed in local anaesthesia after published regime in 7 injection sites into the bladder wall and 3 injection sites in the trigonal area (2).
For evaluating response, conventional urodynamic was performed 6 weeks after injection. The differences in the urodynamical data were statistically analyzed.

**Results:** All injections could be performed in local anaesthesia. A conversion to another anaesthesiological regime was not necessary.
There were no adverse events observed which would result in hospitalization of the patient. No case was observed with induced reflux, despite of intratrigonal injection.
The efficacy of the injection with respect to the urodynamical data are shown in table 1:

| | IDO (n= 56) | NDO (n= 87) |
|---|---|---|
| Max. cystometric capacity | + 132 ml [± 95.5] | + 243 ml [± 134.4] |
| Free of symptoms | 43 | 75 |
| Detrusor pressure at max. flow | - 18.8 cmH2O [± 9.2] | - 26.3 cm H2O [± 12.6] |
| **Adverse events:** | | |
| Urinary retention | 2 | 43 |
| Relapse | 38 | 84 |
| Post void residual | 36 ml [± 54.8] | 426 ml [± 237.1] |
| Vesicoureteral reflux after injection | 0 | 0 |
| Duration of treatment | 4.7 months [± 1.4] | 5.4 months [± 2.2] |

**Interpretation of Results:** BonT in neurogenic and idiopathic detrusor overactivity is a safe and recommendable therapy and has proven its efficacy. The technique is easy to perform in local anaesthesia. The effect of onabutulinumtoxin A is in conformity with published data adding aspects with respect to urodynamical effects. Showing its efficacy with only 10 location sites, it can be postulated that 10 location sites including the trigonal area are sufficient for the treatment of IDO and NDO.

**Concluding Message:** Using 10 injection sites, onabotulinumtoxin A is still highly effective and safe to perform with no significant decrease in efficacy with respect to time and urodynamical changes, which are comparable to studies with more injection sites.

## 264
## Upper Urinary Tract Urothelial Carcinoma … From Diagnosis Dilemma toTreatment Controversies

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**Introduction:** upper tract urothelial carcinoma is uncommon, the risk factors are the same as urothelial carcinoma in general, it casts a lot of difficulties both in diagnosis and treatment, the presentation is usually subtle and which may cause delay in management.

**Discussion:** common controversies in diagnosis are, the value of urine cytology, the choice of imaging (CT vs. MRI…) and the value of ureteroscopy and the positive predictive value of biopsy and subsequently the accuracy of staging, regarding the management we will discuss the choice of radical surgery, the added value of template retroperitoneal lymph node dissection and the feasibility of segmental uretroectomy in addition to the use of BCG instillation as treatment option, then the best follow up program to rule out recurrences both local and in the remaining urinary tract.

## 265
## The physiology of Ejaculation – Breaking the Dogma

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**Introduction:** The theory of ejaculation was established in the 70s by Marberger. In particular the internal spincter which represent the theoretical cornerstone of the ejaculation process. However, new aspects have been found questioning this doctrine resulting in new knowledge about the process as well as in new ejaculation preserving operation techniques.

However the exact physiology of the ejaculation is still unknown. Current studies are regarding the internal spincter as benchmark for keeping the antegradic ejaculation which should be critically reviewed.

**Materials and Methods:** Urologic literature and relevant studies were reviewed for new aspect in the physiology of ejaculation. With studies regarding different examination techniques such as videourodynamic, ultrasound, sperm analyses and new histological data as well as new surgical procedures the assignment of the internal spincter for the ejaculation process has been critically reviewed and challenged. An alternative theory with respect to these new findings has been developed.

**Results:** Clinical Observation: Sonographical studies of Gil-Vernet et al. and Hermabessiere et al. as well as videourodynamical observation proved that there is no pressurized chamber built during the process of ejaculation. The internal spincter has no function in the process.
Microscopical findings of ejaculate: Ndove et al. showed that different parts of the ejaculate appear on different timepoints. This fractionated release of compounds of the sperm is against the common theory of building up a pressurized chamber which would need an internal spincter.
Histoanatomy: Dorschner et al. found a new muscle in the crista muscularis. This musculus ejaculatorius adapts as histological structure which moves the verumontanum distally. With respect to the physiological aspects this muscle shows a high concentration of alpha-adrenergic receptors.
Missing ejaculation after the intake of alpha-blocker is related to an insufficient or missing ability for contraction of the m. ejaculatorius. This alpha-adrenergic innervation can be antagonized by imipramine.
Ejaculation-preserving TUR-Prostate: By saving these important structures a new resection technique with persisting antegradic ejaculation in >90% of patients receiving TUR-prostate underlining these aspects.

**Conclusion:** Based on these results it could be proved that the current theory about the process of ejaculation published by Marberger is wrong. With respect to the new aspects found in the literature, a new model regarding the process of ejaculation is necessary and was established. This new aspects proved that the internal sphincter is not necessary and should not be seen as benchmark for antegradic ejaculation in future studies.

## 266
## Management of Metastatic Testicular Cancer

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Testicular cancer represents 1% of male neoplasms and 5% of urological tumors. Its incidence has been increasing during the last decades especially in industrialized countries. At diagnosis, 1-2% of cases are bilateral and the predominant histology is germ cell tumor (90-95% of cases). Peak incidence is in the third decade of life for non-seminoma, and in the fourth decade for pure seminoma. Retroperitoneal and mediastinal lymph nodes are best assessed by CT. The supraclavicular nodes are best assessed by physical examination. Magnetic resonance imaging (MRI) produces similar results to CT in the detection of retroperitoneal nodal enlargement. There is no evidence to support the use of fluorodeoxyglucose-PET (FDG-PET) in the staging of testis cancer.

## 267
## Accessory Testes, Report of Two Cases

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**Objectives:** Accessory testes (polyorchidism) is very rare genitourinary anomaly, we report two Jordanian cases.

**Methodology:** Between 2012 and 2016 two cases of accessory testes were seen at urology clinic in Prince Hussein Urology Center.

**Results and Discussion:** First case is a 22 years old with accessory small testes in the left hemiscrotum. The second case is 57 years old with his accessory normal size testes is in the right hemiscrotum, both have its own epididymis and vas deference.

**Conclusion:** Accessory testes (supernumerary testes, polyorchidism) is very rare congenital genitourinary anomaly, mostly seen incidentally, diagnosed easily by ultrasonography, conservative treatment is the preferred choice in uncomplicated cases.

**Keywords:**
accessory testes, hemiscrotum

**268**
**Liposarcoma of the Spermatic Cord Mimicking A left Inguinal Hernia: A caseReport and Literature Review in King Hussein Medical Center**

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**Objectives:** Liposarcoma of the spermatic cord is a rare malignant tumor presented with painless slow growing inguinal mass. Embryologically it is of mesodermal tissue origin. They may appear in any part in the body which contains adipose tissue.

**Methodology:** We present here a 54 year old male patient who presented with a slow growing right inguinal mass of two years duration which mimics inguinal hernia. It was painless with no history of trauma. Patient was investigated and found to have a big mixed intensity soft mass lesion in the ingiunoscrotal area. He underwent radical orchedectomy with cord excision. Biopsy proved to be spermatic cord Liposarcoma which was completely excised.

**Results and Discussion:** Review of literature revealed that this type of tumor is very rare and no more than 185 cases were reported and thus there is no clear cuts concerning its behavior and management and prognosis.

**Conclusion:** Review of literature revealed that this type of tumor is very rare and no more than 185 cases are reported and thus there is no clear cuts concerning its behavior and management and prognosis.

**Keywords:** cord liposarcoma, hernia, treatment

**269**
**Roux-en-Y Choledocho-jejunostomy or Hepatico-duodenostomy afterCholedochal Cystectomy-which is the better option?**

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Controversy exists as to what is the best option for biliary drainage after a Choledochal Cystectomy. Traditional teaching has been that a jejuna Roux loop should be used for drainage to prevent cholangitis and long term cholangiocarcinoma. Is there good evidence for this? A retrospective analysis of our Hospital's experience and a review of the literature were carried out to interrogate this belief. With our experience of over 60 cases of hepatico-duodenostomy, the incidence of long term cholangitis is negligible (5%). R Strong (1999) raised the spectre that any form of biliary diversion may increase the risk of cholangiocarcinoma. His view was supported by experimental evidence by Kurumado et al in 1994. Tocchi et al (2001) in the study of more than 1000 patients for late development of bile duct cancer in patients who had biliary enteric drainage for benign disease found no case of malignancy occurred in patients scored as having no cholangitis. Narayanan et al (2013) in a systemic review and meta-analysis did not show any conclusive evidence that Roux-en-Y drainage was superior to hepatico-duodenostomy after choledochal cystectomy. In the modern era, one would argue that hepatico-duodenostomy drainage may be a better option as the incidence of cholangitis is not increased. This technique also allows easy regular long-term endoscopic surveillance of the biliary system to detect early malignant development.

**Keywords:** Choledochal cysts, Roux-en-Y Choledocho-jejunostomy, hepatico-duodenostomy

## 270
## Minimal Invasive Surgery in Children, Where Do We Stand?

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**Objectives:** Minimally invasive surgery has grown up in general pediatric surgery & pediatric urology. We present our experience in 1000 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 – April 2016 were collected and analyzed. Indications for surgery, hospital stay, cost, complications and outcome were evaluated.

**Results:** Patients included were 1000, 650 males, 350 females). Median age 3.8 years. Gastro-intestinal laparoscopic surgery performed over 260 patients. Laparoscopic urology procedures performed over 500 patients. Hepato-biliary, pancreatic and splenic laparoscopic procedures performed over 100 patients. Miscellaneous laparoscopic & thoracoscopic procedures performed over140 patients. There were no major complications and no mortality. Patients spend fewer days in hospital with less cost. The majority of patients and parents were satisfied by the functional and cosmetic results.

**Conclusion:** Pediatric minimally invasive 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.

## 271
## Paediatric Liver Transplantation-Lessons Learnt From 30 Years of Personal Experience

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Liver transplantation has dramatically improved the survival of patients with acute and chronic liver failure. A number of hurdles had to be conquered to achieve our current success of 94% 1-year survival. The universal problem of shortage of paediatric donors has largely been overcome by the initial use of reduced size grafts followed by the introduction of split and live donor grafts. The use of these size mismatched grafts created many technical issues such as abdominal compartment syndrome, graft position instability, venous outlet obstruction, vessel size mismatch, large or small for size graft syndromes. We have overcome these hurdles by the use of delayed primary closure, the use of prosthetic patches for abdominal closure,the use of the ping-pong ball or inion® for graft stabilisation, adoption of innovative anastomotic techniques and the use of hyper-reduced or mono-segmental grafts. Hepatic artery thrombosis has remained a major concern and this has largely been overcome by the use of microvascular technique for the vessel anastomosis and the use of protein C, S and anti-thrombin 3 to actively treat the transient hyper-coagulation state whilst waiting for resumption ofnormal graft function. Continuous heparin infusion with thromboelastographic and daily Doppler monitoring is also essential. Biliary stricture with partial liver grafts remains a major problem although these are often manageable by interventional radiologists. In conclusion we have slowly overcome most of the technical issues with paediatric liver transplantation.

**Keywords:** Paediatric liver transplantation

## 272
## Postnatal Management of Antenatally Detected Hydronephrosis

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Antenatal hydronephrosis (ANH) is a common finding on antenatal ultrasound occurring in 0.5 to 1 percent of pregnancies; that can be a sign of a variety of urologic conditions. Most cases of ANH are mild to moderate with the most common cause being transient physiologic dilation, which usually is of no clinical significance. But urinary tract obstruction and vesicoureteral reflux (VUR) can occasionally be the cause. These conditions can prevent normal renal development and cause renal injury. It is important to have an understanding of the possible urologic causes that can lead to ANH and it is critical to recognize the group of patients who require prompt evaluation soon after birth. In addition, it is important to select appropriate postnatal imaging studies to reach the correct diagnosis and to assist in the follow up.

## 273
## Surgical Management of Children with Short Gut and Intestinal Failure From Pseudo-obstruction

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Short gut and intestinal failure is life threatening. Whilst total parenteral nutrition is a lifesaving therapy for these children, its complications are associated with significant morbidity and mortality. A number of principles should be followed to help these unfortunate children to achieve enteral autonomy to survive with an acceptable quality of life. In situations of significant gut loss, one needs to (i) preserve as much bowel as possible; (ii) preserve the ileo-caecal valve and colon; (iii) ensure existing bowel is optimised; (iv) slow the transit time to improve absorption and (v) lengthen the bowel to improve the contact time between the enterocytes and the luminal contents of the bowel to optimise food absorption. This traditionally has been done with the longitudinal intestinal lengthening and tailoring (TILT) and serial transverse enteroplasty (STEP) techniques. We have recently adopted a new technique, double enteroplasty, and have successfully weaned 4 patients off their TPN without any complications. Patients with pseudo-obstruction have a very bleak long-term outlook. Most patients will require a small bowel transplant but some are not suitable candidates. We have treated 3 families with pseudo-obstruction from ACTG2 and FLNA (filamin A) gene abnormalities with long intestinal tube stenting and drainage with improved quality of life out of hospital. Even on prolonged TPN, their liver function has maintained normality thus negating the need for a bowel transplant.

**Keywords:** Short bowel syndrome, intestinal pseudo-obstruction, ACTG2, Filamin A gene.

## 274
## Video-Assisted Thoracoscopic Surgery in the Diagnosis and Treatment ofIntrathoracic Diseases in Children

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**Purpose:** Recent advances in minimally invasive surgery, especially thoracoscopy, allowed new applications in pediatric surgery for diagnosis and treatment of many thoracic pathology, The purpose of this study is to describe and evaluate a 6-year experience with thoracoscopic diagnosis and treatment of intrathoracic diseases in infants and children.

**Material and Method:** February 2010 to August 2016, 32 patients presented with intrathoracic pathology and no tissue diagnosis, Thoracoscopic procedures performed included biopsy and resection of masses, Age ranged from 5 months to 14 years old and weight from 3.6 to 73 kg. The operation was performed using general anesthesia, with a single lumen endotracheal tube. The patients were in lateral decubitus position; three valved trocars were utilized with 3 and 5 mm instrumentation.

**Results:** A total of 30 of 32 procedures were completed successfully endoscopically, the procedure in 2 patients one with extensive sarcoma and the other with bleeding were converted to thoracotomy, Operating times ranged from 20 to 125 minutes. Diagnosis was obtained in all cases, and complete excision was performed in 6. All children were extubated in the operating room; chest tubes were placed but removed within 24 hours. Hospital stay ranged from 2 to 4 days.

**Conclusion:** VATS is a safe and effective method for diagnosis and treatment of intrathoracic diseases. Patients had benefit in reduced postoperative pain, short hospitalization, short recovery times and good cosmetic result.

**Keywords:** Thoracoscopy, minimally invasive, Mediastinal diseases, children.

**275**
**Laparoscopy for the Management of Impalpable Testis**

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**Objectives:** To present our experience in the utilization of diagnostic laparoscopy for the management of children with impalpable testes.

**Methodology:** This is a retrospective study conducted between March 2010 and December 2011. The medical records of boys with impalpable testis were reviewed. Diagnostic laparoscopic findings regarding presence, morphological state, and location of testis were analyzed. Special attention to how initial laparoscopy influenced subsequent surgical procedures and management.

**Results and Discussion:** Fifty four boys underwent laparoscopy with 76 impalpable testes. Forty testes were unilateral impalpable testes, two third of them were left sided. Thirty seven testes were intraabdominal; eight of them were atrophied and excised laparoscopically. Twenty nine of them were viable, 90% of them underwent first stage Fowler-Stephens procedure, while the rest underwent primary laparoscopic orchidopexy. Vas and spermatic vessels were seen entering inguinal canal in 25 testes. This group had immediate inguinal exploration, 22 of testes underwent orchidopexy and three orchidectomy. Fourteen boys found to have blind end vas and vessels with no further treatment needed.

**Conclusion:** Laparoscopic exploration should be performed because it accurately identifies and localizes the missing testis. In addition, it facilitates the planning of definitive surgical management of orchidopexy, staged orchidopexy or orchidectomy. So we recommend that initial laparoscopic exploration should be performed for patient with impalpable testis.

**Keywords:** Impalpable testis, Laparoscopy, Orchidopexy, Jordan.

**276**
**Non Operative Management of Pediatric Blunt Abdominal Solid OrganInjuries (Our Experience at Queen Rania Al-Abdullah Hospital for Children)**

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**Objectives:** The aim of this study was to report our experience with conservative management of pediatric blunt abdominal solid organ injuries regarding indications, complications, outcome, success and failure rate.

**Methodology:** A retrospective study was carried out at Queen Rania Al-Abdullah Hospital for Children in the period from May 2012 to October 2015, it involved fifty four cases who sustained blunt abdominal trauma, thirty nine were males (72.2%) and fifteen were females (27.8%), male to female ratio was 2.5:1, age of patients ranged from three months to fourteen years with a mean age of 6.4 years.

**Results and Discussion:** Non operative management of pediatric blunt abdominal solid organ injuries was applied for fifty four patients,

twenty two cases with isolated splenic injury, fifteen cases with isolated liver injury, six cases with isolated renal injury, two cases with isolated pancreatic injury and nine cases with multiple solid organ injuries. Fifty one cases (94.4%) were successfully treated by non-operative management, three cases (5.6%) underwent laparotomy after failure of non-operative management. No complications were identified using non operative management apart from one case of pseudocyst after pancreatic injury.

**Conclusion:** Non operative management of pediatric blunt abdominal solid organ injuries in hemodynamically stable patients is a safe, reliable, simple and effective method with a high success rate; it avoids unnecessary laparotomies and post-operative complications.

**Keywords:** Solid organ injuries, non-operative management, complications.

**277**

## Airway Foreign Body Extraction Using Rigid Bronchoscope; Our Experience in Queen Rania Al Abdullah Hospital For Children

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**Objectives:** Foreign body inhalation can be a life threatening emergency. Diagnosis and treatment delay can cause a serious complication. In this retrospective study we report our experience in the diagnosis and treatment of FB aspiration using rigid bronchoscope.

**Methodology:** Rigid bronchoscopy was performed on 95 patients, from (2013 to 2014) diagnosed by history, physical examination, radiological methods to have foreign body aspiration. 65% were male and 35% female. Their ages ranged from 1 year to 13 years (mean 2.6 years).

**Results and Discussion:** In 52 patients (55%) FBs were in the right main bronchus, 32 were in the left main bronchus in (33%), 5 in the trachea (5%), and both bronchus in 4 cases (4%). Rigid bronchoscopy was negative for FBs in 2 cases (3%). None of the patients required post operation ventilator support, or chest tube insertion. Peanuts and seeds are the most common foreign body extracted. In the follow up period only 3 patients suffered from pneumonia.

**Conclusion:** Sudden onset of cough and wheezing in the pediatric age group is highly suspicious of foreign body aspiration. Careful history, physical examination and chest x-ray leads to a more accurate diagnosis .rigid bronchoscopy is the most effective way of diagnosis and extraction of foreign body from the airway.

**Keywords:** Foreign body aspiration, Bronchoscope, extraction

**278**

## Comparing Between Varicocele Surgery and Embolization, Our Experience in King Hussein Medical Center

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**Objectives:** To compare between endovascular embolization and surgery for the management of varicocele.

**Methodology:** A retrospective study was carried out at King Hussein Medical Center from January 2015 to May 2016 on 38 patients who underwent unilateral varicocele embolization and 125 patients who underwent bilateral and unilateral varicocele surgery in prince hussien urology Center and Organ transplantation. Patients were followed up at the clinic and by their semen fluid analysis to assess the results.

**Results and Discussion:** The failure rate in patients who underwent varicocele embolization was 3% and recurrence rate was 3%, sperm motility improved in all patients and no any complication related to the procedure, on the other hand patients who underwent varicocele surgery, the recurrence rate was 7%, sperm

motility improved in all patients, and there is no complication reported.

**Conclusion:** Both methods have the same outcome regarding improvement in the semen fluid analysis parameters, the same recurrence rate in the international studies 5 – 10%, but the cost effectiveness is in favors of varicocele surgery.

**Keywords:** infertility, varicocele, embolization

**279**
**Renal Transplantation: Concerns to Internists**

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Kidney transplantation offers the best treatment option for most of patients with chronic kidney disease approaching renal replacement therapy. Those patients are at increased risk of variety of medical illnesses due to their original diseases, increased cardiovascular risk and due to immunosuppression, and as the centers providing advanced nephrology care are limited to referral hospitals, internists and general practitioners in all other hospitals and medical centers are faced every once and while with renal transplant patients presenting with various medical presentations. This presentation will enlighten some of the common medical presentation kidney transplant recipients may present with to the internists.

**280**
**Obesity and Kidney Disease**

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Obesity is a global epidemic. There is a substantial body of evidence suggesting that obesity is a risk factor for chronic kidney disease (CKD) of all stages. This talk reviews some of the epidemiological evidence linking obesity and CKD. A number of mechanisms have been proposed including low birth weight and enthrone mass; adipose tissue derived inflammatory mediators; and the haemodynamic effects of obesity. As well as the association between obesity and all stages of CKD, there is a well defined condition known as obesity-related glomerulopathy. The clinical and pathological features will be described. There is also some evidence that histological changes in the kidney can precede any overt signs of kidney disease in obese individuals. For example there is an increase in glomerular size and thickness of the glomerular basement membrane. Parallel to the increase in the prevalence of obesity in the general population there is an inexorable increase amongst patients with end stage renal disease. Paradoxically, obesity confers a survival advantage in patients on haemodialysis. Possible explanations are discussed. Finally, the issue of transplantation in obese patients is discussed, where some evidence suggests that despite an increase in complications, survival is improved in transplanted obese patients.

**281**
**Diabetic Nephropathy Update 2016**

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Diabetes mellitus is the sixth leading cause of death in the USA. The prevalence of diabetic kidney disease is constantly rising. Approximately 40% of Type 2 Diabetes patients have renal complications. More than 40% of persons with diabetes have elevated urinary albumin excretion, and the prevalence is higher in those with diabetes of longer duration.

The prevalence of diabetic nephropathy is not uniform in different ethnic populations. The natural history of diabetic kidney disease and the prevention is discussed. The guidelines for screening of diabetic patients for kidney disease are presented. The natural history of microalbuminuria in T1 and T2 patients with DM is shown. Low GFR despite normoalbuminuria is a novel presentation of diabetic nephropathy. The circulating TNF receptors and GBM width can predict progression of diabetic nephropathy. Albuminuria and GFR as Predictors of Cardiovascular Risk and mortality in patients with diabetes mellitus.

The pathophysiologic effects of hyperglycemia leading to renal injury are discussed. Central Role for RAS activation in Diabetic CKD is now well established. Albuminuria is a risk factor for CV disease and kidney disease.

Hypertension is a modifiable risk factor of GFR Decline in T2DM and good kidney function.

The therapies for diabetic kidney disease, glycemic and blood pressure control, RAS blockers are reviewed.
Although inhibitors of the RAS can slow the progression of diabetic kidney disease, the residual risk is high. The biological bases of oxidative stress and its role in diabetic nephropathy, and the clinical trials targeting this pathway with bardoxolone methyl are presented. Multifactorial interventions in diabetic nephropathy are effective but targets are difficult to reach.

## 282
## Pulmonary Hypertension

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Pulmonary hypertension (PH) is reported to have a prevalence of 30-60% amongst patients with end-stage renal disease. The Dana Point classification of PH defines 5 groups of PH depending on the aetiology. PH in renal disease as classed as group 5: "multifactorial / unclear". This lecture reviews the definition of PH, and the potential mechanisms for developing PH in renal disease. Most PH in renal patients is probably caused by fluid overload and left heart failure. However, some analogies can be drawn between pulmonary arterial remodelling in pulmonary arterial hypertension (PAH) and uraemic vascular calcification described in renal disease. Understanding the aetiology and pathophysiology is crucial as some patients may benefit from vasodialatory treatments used in patients with proven PAH; whilst those with fluid overload and left heart failure need more careful fluid management on dialysis. The epidemiological data on the prevalence of PH in dialysis is based mainly on echocardiography. The gold standard investigation for confirming the diagnosis and defining the type of pulmonary hypertension is right heart catheterisation. However, given the large number of patients with high estimated pulmonary artery pressure on echocardiography, performing right heart catheterisation on every patient is not practical. Our clinical approach for selecting patients for referral for specialist investigation is outlined.

## 283
## Bacteriuria in Kidney Transplant Recipient

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**Objectives:** Urinary tract infections are the most common bacterial infections seen in renal transplant recipients as their incidence reaches 30-40% of patients.

**Methodology:** 83 kidney transplant recipients were selected from the total pool of transplant patients attending the nephrology outpatient clinic at KHMC, during the 3 months of the study period (Sept-Nov/2015).Selection of patients based on current renal function and time post renal transplant. Exclusion criteria include abnormal kidney function (serum creatinine?1.4mg\dl) and follow up during the first month post renal transplant.

**Results and Discussion:** There were 24 patients (28.9%) whom urine analysis and cultures confirmed the presence of significant bacteriuria. There were 16 symptomatic patients (19.2%), and 8 asymptomatic patients (9.6%) with significant bacteriuria. Pretransplant risk factors for bacteriuria were vesicoureteric reflux 6 patients(7.2%), obstructive uropathy one patient(1.2%), urolithiasis one patient (1.2%) and diabetes 8 patients (9.6%).

**Conclusion:** Significant bacteriuria and UTI remain very common among kidney transplant recipients. Any predisposing factor should be treated and eliminated before transplantation.

**Keywords:** kidney transplant, bacteriuria

## 284
## Neonatal Ovarian Cysts: Diagnosis and Management

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Ovarian cysts are one of the most common causes of lower abdominal cystic masses in a female

neonate or fetus. The antenatallydiagnosed ovarian cysts often form a therapeutic dilemma, surgical versus conservative treatment. In this presentation we will discuss the controversial issues regarding management of neonatal ovarian cysts.

**285**
**Primary Disease Recurrence after Renal Transplantation**

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Primary disease recurrence after renal transplantation is mainly diagnosed by examination of biopsy samples, but can also be associated with clinical symptoms. In some patients, recurrence can lead to graft loss (7–8% of all graft losses). Primary disease recurrence is generally associated with a high risk of graft loss in patientswithfocal segmental glomerulosclerosis, membranous proliferative glomerulonephritis, primary hyperoxaluria or atypical haemolytic uremic syndrome. By contrast, disease recurrence is associated with a limited risk of graft loss in patients with IgA nephropathy, renal involvement associated with Henoch–Schönlein purpura, antineutrophil cytoplasmic antibody-associated glomerulonephritis or lupus nephritis. The presence of systemic diseases that affect the kidneys, such as sickle cell anemia and diabetes mellitus, also increasesthe risk of delayed graft loss. This Review provides an overview of the epidemiology, pathophysiology and management of primary disease recurrence in pediatric renal graft recipients, and describes the overall effect on graft survival of each of the primary diseases listed above. With appropriate management, few pediatric patients should be excluded from renal transplantation programs because of an increased risk of recurrence.

**286**
**Utilizing Next Generation Sequencing (NGS) in Rare Diseases; Donohue and Hyalinosis Fibromatosis Syndromes**

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Rare genetic disorders stand for a hard diagnostic challenge in the field of clinical genetics as the entire spectrum of phenotypic variation is not well characterized given the reduced number of patients reported in the literature and hence lacking clear picture about the natural history of such disorders.The exome (the protein-coding region of the human genome) represents less than 2% of the genetic code, but contains ~85% of known disease-related variants, making whole-exome sequencing a cost-effective alternative to whole-genome sequencing.Utilizing NGS approaches to investigate rare genetic disorders in clinical genetics field is allowing not only the discovery of new genes, but also expand our standing of the phenotypic variation of known Mendelian genetic disorders.Our understanding of the clinical significance of any given sequence variant falls along a gradient, ranging from those in which the variant is almost certainly pathogenic for a disorder to those that are almost certainly benign.Here we represent the clinical and genetic phenotypes of two rare syndromes; Donohue and Hyalinfibromatosis. We applied whole-exome sequencing to the index case and unaffected parents in order to identify the molecular cause of their disorder. We identified compound heterozygous variants in one case and homozygous variants in the other case in the INSRgene which is responsible for the etiology of Donohue syndrome. Homozygous variants were identified in the ANTXR2gene in the two cases with a clinical diagnosis Hyalinfibromatosissyndrome.This report demonstrates that NGS has a great potential, more efficient and more cost effective for identifying molecular etiology of rare phenotypes.

**287**
**Primary Hyperoxaluria Type 1**

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Primary hyperoxaluria type 1 is a rare autosomal recessive inborn error of glyoxylate metabolism, caused by a deficiency of the liver-specific enzyme alanine: glyoxylate aminotransferase. The disorder results in over production and excessive urinary excretion of oxalate, causing recurrent urolithiasis and nephrocalcinosis. As glomerular filtration rate

declines due to progressive renal involvement, oxalate accumulates leading to systemic oxalosis. The diagnosis is based on clinical and sonographic findings, urine oxalate assessment, enzymology, and/or DNA analysis. Early initiation of conservative treatment (high fluid intake, pyridoxine, inhibitors of calcium oxalate crystallization) aims at maintaining renal function. In chronic kidney disease stage 4 and 5, the best outcomes to date were achieved with combined liver-kidney transplantation. New therapies, including iRNA agents, are under evaluation with promising results.

**288**
**Iron Deficiency Anaemia**

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Iron deficiency anaemia (IDA) is a global problem. It is estimated that 2 billion people have IDA worldwide and although the causes vary between countries, the effects of IDA on individuals and a population are similar. IDA increases risk of mortality both through the underlying causes of IDA but also by increasing mortality in other conditions such as ischaemic heart disease and heart failure. A significant advance in our understanding of mechanisms of IDA has been the realisation of the crucial role of herceptin in chronic disease states. This has opened the door for newer treatments, although oral iron salts remain a highly cost effective treatment if used with an understanding of the physiology of iron absorption. The management of IDA has changed little over the past 20 years although the role of newer imaging techniques such as capsule endoscopy, MRI and CT colonography are clearer. The role of intravenous iron has also been redefined.

**289**
**Non Alcoholic Fatty Liver Disease- Identifying and Treating those that are atRisk of Advanced Liver Disease**

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NAFLD is a massive world-wide public health problem due to the rising incidence of obesity and type 2 diabetes. The full extent of the NAFLD is yet to be seen as the development of liver disease lags behind the development of overweight/ obese states. Distinguishing between simple steatosis, and necroinflammation and fibrosis is crucial to identify those most at risk of developing serious liver disease and triaging them within the clinic. As effective treatments emerge it will be critical to be able to target them at those most in need. This talk will discuss epidemiology, pathophysiology, and non invasive assessment of NAFLD, established and emerging treatments

**290**
**Updates in Hepatitis C Treatment, The New Era of Direct Acting Antiviral**

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In the last 5 years there was a major shift and revolution in the treatment of hepatitis C infection, we have moved from 6% success rate to almost 100% success rate , the speaker will discuss the latest development in hepatitis C treatment in the last few years.

**291**
**Preventing Maternal Death A Dozen Diamonds**

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The death of a mother during or after childbirth is one of the most tragic events in medicine. From 40 years of clinical experience, and after a review of countless cases of maternal mortality, I have found 12 recurrent errors that account for a disproportionate share of maternal deaths.

## 292
## Laparoscopic Hysterectomy and Enhanced Recovery

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**Introduction:** There are perceptions that laparoscopic hysterectomy takes too long, requires a high skill set, has limited application, no benefit in terms of hospital stay, is expensive and has a high complication rate.

**Methods:** 23 hour stay laparoscopic hysterectomy (LH) was introduced as part of an Enhanced Recovery Pathway (ERP) in Guildford during 2004. All patients for hysterectomy were listed for LH unless a definite decision had been made for total abdominal hysterectomy via laparotomy usually for very large fibroids. Indications: menorrhagia, dysmenorrhoea, fibroids, prolapse, endometrial carcinoma, atypical hyperplasia, recurrent CIN. The core procedure for LH included Harmonic advanced energy, Valtchev Uterine Manipulator, and an intra-fascial dissection at the level of the cervix. Complex procedures and morcellation are discussed.

**Results:** Over 90% of patients had a laparoscopic hysterectomy and of these 90% went home within 23 hours. Means age 46.6 years (29-73), BMI 27.5 (18-54), operating time 68min (10-150), blood loss 31.7ml, uterine weight 220g (40-1300). Simple LHi 15%, with other procedures 85%. Conversion to laparotomy 0.8%. Per-operative complications 1 bladder perforation sutured laparoscopically. Post operative, return to theatre 2.3% (approximately 1 per year).

**Conclusion:** Laparoscopic hysterectomy, introduced as part of an Enhanced Recovery Pathway, enables extended day case hysterectomy in over 90% of patients with low readmission rates. Complication rates are low.

**Keywords:** hysterectomy: laparoscopy: enhanced recovery: harmonic:morcellation

## 293
## The Pelvic Floor Surgical Techniques

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Prolapse is a condition where organs fall down or slip out of the anatomic place. Genital prolapse concern the pelvis and its organs. It is a multifactorial disease including Support System, Suspension System and Neuro-muscular System in addition to many favouring factors such as congenital deficiency of pelvic diaphragm and fascias, abnormal connective tissue, mainly collagen and elastine and other determing factors like Traumatic, difficult and prolonged labour and labour pains, multiparity and newborn weight over 4 Kg. This lecture will discuss in details this common obstetric problem causes and possible medical and therapeutic treatments.

## 294
## Fetal Growth Restriction: Diagnosis and Management

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Fetal growth restriction (FGR) is defined as sonographic estimated fetal weight (SEFW) <10% for gestational age (GA). The majority of fetuses diagnosed with FGR are small for gestational age (SGA), defined as a birth weight below the 10th percentile for GA. Pregnancies complicated by growth restriction are at increased risk of oligohydramnios, stillbirth, and cesarean delivery for non-reassuring fetal heart rate tracing. These newborns are at increased risk of respiratory distress, intubation at term, proven sepsis, neonatal seizure, neonatal and infant mortality. They are also more likely to have major neurologic sequelae, autism and later in life have adult-onset diseases such as hypertension and diabetes. The relationship between fetal disease and long term adult cardiovascular complications will be explored. Pregnancy outcome of FGR will be compared between patient populations and the recently developed growth curves will also be reviewed. In this presentation the optimal diagnosis of FGR by ultrasound will be reviewed along with optimal management options. A new concept of sonographic estimation of fetal weight will be presented and discussed.

## 295
## Laparoscopic Surgery for Severe Rectovaginal Endometriosis

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**Introduction:** Deep infiltrating rectovaginal endometriosis is a severe debilitating illness. Our unit manages this disease with a staged approach. Initial laparoscopy is followed by 4-6 months of GnRH analogues. Subsequently, a second surgery is performed as a combined procedure by a single senior laparoscopic gynecological surgeon and a senior laparoscopic colorectal surgeon. Though good surgical outcomes are often quoted, validated longer-term follow up results are variable. We present the quality of life assessments of our cohort 1 year after the endometriosis surgery.

**Methods:** A prospective 1-year follow up of the quality of life assessments of these patients was undertaken. EHP 30 and gastrointestinal quality of life (GICLI) questionnaires were given pre surgery and 3 months, 6 months and 12 months post surgery.
Results: 74 cases had a 1-year follow up. During the second definitive procedure 32.4% had the disease shaved leaving a normal rectum, 6.8% had a disk resection and 60.8% had a limited anterior resection. Over 96% of the procedures were completed laparoscopically with no colostomies. The postoperative major complication rate was 6%. At one year, 85.9% showed significant pain improvement with 34.4% entirely pain free. 40.4% had significant improvement in sexual function with 13.5% reporting worse function. Overall 75.4% showed significant improvement in their quality of life, 10.8% had no change while 13.8% showed worsening QOL scores.

**Conclusion:** Severe rectovaginal endometriosis can be treated surgically as a combined procedure with expert gynaecological and colorectal input resulting in significant improvement in pain, sexual function and quality of life 1-year post operatively.

**Keywords:** Endometriosis, rectovaginal, surgery, quality of life

## 296
## Sacrospinous / Uterosacral Ligament for Apical Support Outcomes Evaluation

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Pelvic organ prolapse (POP) is a prevalent condition affecting approximately 50% of aged women in the world. The patients with POP may have a combination of anatomical defects involving the anterior, posterior and apical vaginal compartments. Surgical intervention is the only effective method for treating severe pelvic organ prolapse.Sacrospinous is simple technique with low intraoperative complications, lower hospitalization, and excellent anatomical and functional results. When bilateral, keeps the vaginal midline axis and allows adjustment of the length of the vagina.

## 297
## The Morbidly Adherent Placenta: Ultrasound Diagnosis and Management

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The term morbidly adherent placenta implies abnormal implantation of the placenta into the uterine wall and this term has been used to describe placenta accreta, increta, and percreta. Pathogenesis of placenta accreta is not clear, with several existing theories. Abnormal vascularization resulting from the scarring process after uterine surgery with secondary localized hypoxia leading to both defective decidualization and excessive trophoblastic invasion is the most prominent current theory. Most patients with placenta accreta are asymptomatic. The overall incidence of placenta accreta is around 3 per 1000 deliveries and there has been a significant increase in the incidence of placenta accreta over the past several decades. The presence of prior cesarean section in a patient significantly increases the risk of placenta accreta, especially in the presence of a placenta previa. Accurate prenatal diagnosis of placenta accreta is essential in order to minimize complications and optimize management. Complications of placenta accreta are many and include damage to local organs, postoperative bleeding, amniotic fluid embolism, coagulopathy, transfusion-related complications, acute respiratory distress syndrome,

postoperative thromboembolism, infectious morbidities, multi-system organ failure, and maternal death. The sonographic findings of placenta accreta in early gestation primarily include a gestational sac that is implanted in the lower uterine segment, a gestational sac that is embedded in a cesarean section scar, and the presence of multiple vascular spaces (lacunae) within the placental bed. Multiple markers have been used to diagnose placenta accreta in the second and third trimester of pregnancy. These include multiple vascular lacunae, loss of the hypoechoic line, abnormalities in the posterior bladder wall, thinning of myometrium, and increased vascularity on color Doppler. During the presentation, the positive predictive value of each marker will be discussed in details. Furthermore, the overall accuracy of ultrasound and MRI will be presented along with ways to optimize diagnosis and pregnancy outcome. The need for standardization of diagnostic parameters and an agenda for the future will be discussed.

**298**
**Operative Hysteroscopy**

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Is a minimally invasive gynecological procedure in which an endoscopic optical lens is inserted through the cervix into the endometrial cavity to direct diagnosis and treatment of various types of intrauterine pathology? Operative hysteroscopy became popular after improvements in endoscopic technology and instruments in the 1970s and after the introduction of fluid distension media in the 1980s. Since that time, the development of new hysteroscopic instruments, fiberoptics, and digital video equipment has continued to provide more varied, efficacious, and less invasive procedures. The introduction of smaller-diameter hysteroscopes has allowed operative hysteroscopy to become a predominately office and outpatient procedure. Our prospective study at royal medical services has shown that hysteroscopy is the gold standard diagnostic and therapeutic tool in gynecology and because of the high rate of intrauterine pathology in patients with recurrent implantation failure after in-vitro fertilization, recurrent pregnancy loss, unexplained infertility and abnormal uterine bleeding, we suggested that hysteroscopy should be considered as early as possible in the diagnostic work-up of these patients.

**299**
**Milestones of Infertility Management**

*Faheem Zayed MD (Jordan)*
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This is a presentation of the milestones of the infertility management, starting from the time of old Egyptian where the first written document dealing with infertility was found in the Kahoun papyrus (oldest Egyptian medical text), dated to 2200-1950 BC. Followed by mythology to factual history of the Greek philosophers and the middle age treatment; the history of the management by conventional treatment and nowadays by (ART) the assisted reproductive technique.

**300**
**Use of Medications in Pregnancy**

*Naser Husban MD (Jordan)*
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Birth defects are common. Three percent of all newborns born have a major structural malformation detectable at birth. By 1 year of age, malformations or developmental disorders have been identified in 7 percent. 10 % of congenital abnormalities are caused by teratogens.
A brief description of the commonly used medications and their safety in pregnancy including: Antiemetics, Antacids.Antihistamines. Analgesics.Antimicrobials.Antihypertensives. Tranquilizers.Hypnotics.Diuretics.Anticoagulants. Immuno-modulating drugs.Cardiac drugs.Anti-convulsant drugs.Asthmatic medications.A substantial number of pregnant women also abuse recreational drugs during pregnancy. 6.7 percent were using alcohol, and 8.8 percent smoked cigarettes in the USA.

**301**
**Fetal Echocardiography, Four Chambers View Axsis**

*Abdel-Nabi Al-Bdour MD (Jordan)*
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Congenital heart defects (CHD) are the most common congenital abnormalities and are found in 5–10 in 1000 live births: which is account the

most common congenital abnormality and are considered as the leading cause of infant deaths resulting from congenital anomalies. The fetal heart is a difficult organ to evaluate due its very small size, complex anatomy, dynamic blood flow physiology, as well as rapid rhythmical movement. Despite that echocardiography has progressed very rapidly, fueled by advances in image quality as well as increasing focus of the ultrasound community on the need for a proper examination of the heart. Therefore most of heart defects known to us can be diagnosed prenatally. The examination of the fetal heart became part of the comprehensive fetal scan. There are 3 axes to do fetal echocardiography: apical, costal and three vessels axes. In our speech we will concentrate in the demographic characteristics and on risk factors of heart abnormality. And we will concentrate on four chamber view (apical axes) of the heart. In other hand we will represent some cases from our practice in fetal medicine unit in King Hussein medical center.

**Key words:** Cardiac abnormality, ultrasound, echocardiography

**302**
**None-invasive Prenatal Diagnosis (NIPND)**

*Maher Maaita MD (Jordan)*
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This new method of prenatal diagnosis has made a revolution in the field of fetal medicine. My talk will give an overview of this method; it will cover indications and new guidelines.

**303**
**Recurrent Miscarriages: The Dilemma!**

*Amer Gharaibeh MD (Jordan)*
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Recurrent miscarriage is a fertility issue that is packed with argument and confusion. Couples are often faced with ambiguity and unverified medical theories.
Traditionally, in women with recurrent miscarriage, factors to be blamed are structural and numeral chromosomal anomaly, structural uterine anomaly, immunological and hormonal-endocrine imbalance. One percent of couples in reproductive age are wounded by recurrent miscarriage, more than half of them, no disease are found after widespread investigations. Historically, investigations for couples with recurrent pregnancy loss comprising sonographic imaging, uterus and tubes fluoroscopy or dye testing, screening for thrombophilia inherited and acquired factors (mainly for antiphospholipid antibodies), thyroid hormone with immune assessment, and karyotyping studies for both couples.
It is recommended that only after two prior losses an evaluation be initiated. Specific tests initialized individually based on medical history. Most common cause for pregnancy loss is abnormal number of chromosomes in the developing egg produced by couple having normal chromosomes. When it comes to recurrent pregnancy loss due to chromosomal abnormalities chromosomal translocations may be found in up to 4% of couples. Infection also was stated to be associated with pregnancy loss. The most controversial factor is allogenic immunity. There are no absolute answers to the question why the pregnancy is allowed to remain and why it is rejected in some cases. It is proposed that lack of a protective blocking antibody, increased natural killer cells numbers or activity, factors toxic to embryo growth, factors that encourage the immune system to initiate an immune response in the absence of immunosuppressive factor. Leukocyte blocking antibody detection may have a role in some cases of couples with recurrent pregnancy losses.
Modalities of management, immunotherapy, anticoagulation and assisted reproduction will also be discussed.

**304**
**Maternal Mortality Ratio at King Hussein Medical Center (KHMC), A follow Up Study Hospital- Based Data**

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**Objectives:** To review the causes of maternal mortality, figuring out the possible maternal mortality ratio at KHMC, the changing in risk factors that could be related to these mortalities over a period of seven years (Jan 2006 –December 2012).

**Methodology:** A retrospective study was done over a period of seven years from Jan 2006 to Dec 2012 at King Hussein Medical Center (KHMC). Analysis of data obtained from the annual statistical files, death certificates, medical records and labor room records

**Results and Discussion:** During this period 21 cases of maternal mortality were recorded giving a ratio of 50.12 per 100,000 live birth. Hemorrhage is the major cause of maternal death and accounts for 28.6% of cases, while sepsis and pulmonary embolism accounts for 19.0%. Cesarean section is associated with 78.57% of maternal deaths.

**Conclusion:** In the absence of national recording and registration strategy in Jordan, measuring maternal mortality ratio at KHMC is considered a reflection of health care system of our country. A maternal mortality ratio of 50.12 is almost triple the ratio measured in the previous study but still acceptable and comparable with the international figures all over the world

**Keywords:** maternal mortality ratio, risk factor, hemorrhage

## 305
## Advanced Technique in Radiotherapy for Gynaecological Cancer

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Radiotherapy (External beam radiotherapy (EXRT) and intracavitary brachytherapy (VB) plays an essential role in the management of endometrial and cervical cancers, and without brachytherapy component, no cure for patients with locally advanced cervical cancer.

**Aim of RT Treatment:** Adjuvant (post-operative), Definitive (radical treatment), Salvage (locoregional recurrence post-surgery) and Palliation. In endometrial cancer after surgery -20% relapse, 75% occur in the vagina.

**Decision to consider RT- Major prognostic factors:** Stage, age, histological type, Grade, depth of myometrial Invasion and presence of lymph-vascular space invasion (LVSI). Based on staging studies and prospective and retrospective data, EC has been classified as: low-risk, intermediate-risk and high-risk

**Method:** Adjuvant RT in endometrial cancer: for all stages except stage IA, grade me.
Adjuvant RT in cervical cancer: High risk features: Close/+ margins, positive Parametrial, positive LNs (with chemotherapy). Intermediate risk feature's: sedlis criteria (without chemotherapy). Definitive RT treatment in locally advanced cervical cancer is (Chemo-RT, Cisplatin + WPRT + HDR intrauterine brachytherapy), without brachytherapy component no cure for patients). Dose of radiation as adjuvant in endometrial cancer is -21Gy/3frs/once weekly (PORTEC 2). While in cervical cancer (low pelvic irradiation of EXRT and VB). For definitive RT treatment for cervical cancer, the equivalent dose of radiation from both modalities EXRT, VB), is 80-90GY using 2-D (Manchester point A) or 3-D brachytherapy (GYN-GEC-ESTRO).
Type of External radiotherapy delivery: 3-D, IMRT.
Type of brachytherapy delivery; 2-D, 3-D CT-MRI based.
What need in order for 3-D&IMRT to be delivered safely?
Accurate contouring (CT/MRI, PET-CT) - to ovoid misses, Immobilization (set up must be accurate and reproducible), Development of guidelines for the delineation of CTV for IMRT for post-op pelvic RT and definitive RT, Standardization of CTV definition, Adequate PTV margins (margins could be vary (institutional), and Quality assurance program (what planned is what delivered).

**Conclusion:** Technological advances are revolutionizing how radiation treatment is being used to treat cervical and endometrial cancer. More precise targeting of tumour and relative sparing of surrounding normal organs and tissues may allow the radiation dose to be increased, with the expectation of improved local tumour control while maintaining or even reducing the risk of side effects.

## 306
## Brachytherapy in Cervical Cancer Treatment

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**Introduction:** The standard treatment for locally advanced cervical cancer is a combination of external beam radiotherapy EBRT along with brachytherapy BT with concomitant Cisplatin base

chemotherapy .and depending on the stage of disease at diagnosis between 30- 80% of patents are cured.
The aim of EXRT to reduce the bulk of primary tumor to allow for intracavitary Brachytherapy and sterilize para central and nodal disease, while Brachytherapy.Is to deliver high boost dose to primary disease.

**Method:** Radiation techniques have evolve over the past years driven by advanced in technology. Traditional 2-D X-ray based treatment planning, in which radiation field were based on bony landmarks rather than 3-D were effective but with many limitations (large volume of normal tissue and organs include in the radiation field which limit the dose of radiation not to exceed the tolerance of these organs.

**Result:** Intracavitary brachytherapy was planned and evaluated according to ICRU-38 point dose to point A, B, and both were effective but also both have many limitations. Point A = 2 cm up superior to external cervical os and 2 cm lateral to central canal/tandem. Point B = 3 cm lateral to AAccording to ICRU 38 –bladder and rectal points. Radiotherapy technique must be based on 1. "Where things are and not on where they ought to be" 2. Any technologic advanced must be backed by clinical data showing an actual benefit to patients(improvement in tumor control & decrease in side effect and toxicity),either by more accurate delivery of prescription dose or through dose escalation and decreased toxicity by decrease in dose and volume of normal tissue.so to overcome the limitations of 2-D based treatment. - Do not base fields on bony landmarks and bladder & rectum contrast alone- Imaging of primary tumor (CT/MRI (IMR is superior for discrimination of GTV but no difference between CT/MR in contouring organ at risk. Imaging of nodes (CT/PET(PET is superior).

**Conclusion:** More precise targeting of tumor and relative sparing of surrounding normal tissue and organs may allow the radiation dose to be increased with the expectation of improved local control while maintaining or even reducing side effect.Several patient, tumor and treatment related factors that can detract from the benefits of new technology if not account in the treatment planning and delivery.Early encouraging results of the use of IMRT(EXRT) for definitive treatment in cervical cancer&3-D brachytherapy -raise an important question about broader worldwide experience is required to confirm these results.

**307**

## Acute Side Effects of Brachytherapy for Gyn. Malignancies Using Intra-vaginalCylinder Technique in the Royal Medical Services

*Hana Mahasneh MD, Nizar Ghunmien MD, Nadia Tubaishat RN, Laith Al-Hazaimah MP, Ahmed Al-Naanaah MP(Jordan)*
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**Background:** Brachytherapy is a major contributor in the management of gyn. tumors as an adjuvant treatment following surgery with or without external beam radiotherapy (EBRT), with an established clinical benefit, good tolerance and acceptable side effects profile. Brachytherapy facility in the RMS has been available since November 2014 and used so far for Gyn. tumors only.

**Purpose:** To assess the acute complications rate experienced by patients receiving HDR-BT
Methods and Materials: In the period between Nov,23rd-2014 and April,1st -2016, 50 patients with ca cervix and ca endometrium have been treated via HDR-BT, using intra-vaginal Cylinder technique, with different indications and doses. Patients were assessed for acute side effects during brachytherapy treatment, one week, two weeks, and four weeks after the last insertion of HDR-BT.

**Results:** Generally speaking brachytherapy procedure was well-tolerated by all patients, with mild – moderate side effects experienced by some patients (Common Toxicity Criteria Grade 1–2), and no Common Toxicity Criteria (version 2.0) Grade 3–4 occurred. The most common side effect was temporary vaginal discharge and/or mild bleeding after brachytherapy (20% of patients) , other side effects were temporary urinary irritation (10%) , and temporary diarrhea (8%) , both diarrhea and urinary symptoms were significantly more severe in patients receiving HDR-BT following EBRT.

**Conclusion:** Brachytherapy is well-tolerated by most patients, with few mild- moderate acute side effects. Long-term side effects need longer periods of follow up for assessment.

**308**
**Secondary Transfer of Critically Ill Patient**

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Transport of patients can be divided in to primary and secondary. Primary transport is the movement of patient from the scene of an accident to hospital. Secondary transport is the movement of patient after initial assessment. Transport can be interhospital or intrahospital. Transport of critically ill patient is a highly demanding process and several important aspects should be considered for safe transport. Proper training is needed for involved personnel. Moreover, proper monitoring and equipment should be prepared and cheeked. Communication is an extremely important skill to achieve better outcome.

**309**
**Planning for Anticipated Difficult Intubation (The ADAM Method)**

*Peter Charters MD (UK)*
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There have been relatively few attempts to match the individual characteristics of the anticipated difficult airway patient to the anaesthetist planning to look after the case and to suggest the most suitable local equipment available to him/her. The emphasis in many quarters on human factors and the role of the team when looking after such cases imply the need for a clearly documented plan for all participants to study, discuss all the "what happens next" aspects to any case and to determine the lead roles when for example a decision needs to be made to abandon continued attempts at intubation versus progressing to tracheostomy. At Aintree hospital consultant colleagues were initially motivated to "do better" in both suggesting guidance to none specialists and in developing team co-ordination activity locally. In 2007 we started listing the classical "scenarios" associated with difficult intubation and then documenting all the known "clinical problems" (features making them difficult) for each as determined by local airway experts and review of the published literature. The advantage of "clinical problem lists" for one or more scenarios is that they can be taken into the pre-operative setting to inform individual patient airway assessments. We specifically teach a "worst case" approach where, at least in the first instance, features on the relevant clinical problem list(s) may only be excluded from the management plan when it has been possible to discount its relevance at the pre-operative assessment. If there is any doubt or no possibility of excluding a clinical problem, the airway plan should be drawn up with the assumption that it must be considered. (This theme was taken up in the executive summary of the NAP4 report.) Some devices will be better able to deal with certain problems than others and the ADAM website accesses databases that aim to match the clinical problems with the devices available to an anaesthetist. The choice of which is the best device in a given situation is prompted by a "problem management matrix" of all the clinical problems rated against the available intubation devices. The individual anaesthetist still has to make a final choice based on their own experience with the devices under consideration and the detailed patient assessment. This choice then be printed as a formal "Responsive Contingency Plan". Plans for any intubation device can be broken down into a sequence of inevitable steps. (For most devices there are approximately ten steps.) At each of these steps it is easy to see that two types of issues might need to be addressed. Firstly, in the normal way of things, for any particular device things may go wrong in an everyday sense (a trivial example might be loss of view with a fibrescope when it first enters the nasopharynx as a result of secretions). These issues should be considered as part of normal competent use of the device in question. Secondly there may be issues specifically related to one or more of the clinical problems under consideration. (e.g. a pointing abscess on the lateral pharyngeal when a fibrescope is being used to advance towards the laryngeal inlet.) The ADAM databases list all these specific issues under at the correct step in the responsive contingency plan.

**310**
**Postoperative Pain Management**

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The post operative pain management (POPM) is an essential part of the surgical procedure. Defining the post operative challenges and explaining the different modalities for treatment will guarantee a better outcome for our patients. Based on the evidence behind each method, the perioperative team will ensure that patients get the best available protocols to tackle pain and to avoid complications' The gold standard is to use the multimodal approach to control pain. The new concept of preventing chronification of pain will be addressed and risk factors will be explained.

**311**
**Current Standing of Fibreoptic Intubation in a Changing AnaesthesiaEnvironment**

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Awake fibreoptic intubation (AFOI) is still regarded as the overall "gold standard" in the management of the difficult airway. The advent of videolaryngoscopes and subsequent improvement of their design and technology have witnessed significant inroads into the areas where AFOI was once the expected norm . Many of these situations would previously have been seen as unsuitable for general anaesthesia and muscle relaxant use because of the perceived risk of airway obstruction. Two other developments have prompted a move to question this historical attitude. Firstly better pre-oxygenation has been show to make a substantial difference to apnoea times, most notably the high flow "Thrive" method and secondly certain authorities (notably the UK Difficult Airway Society guidelines) have advocated increased use of muscle relaxant drugs for difficult airway management, based on the idea of optimising airway manipulation. This evolving situation poses certain problems for the training of anaesthetists and the use of AFOI in general. Many of the relatively small number of traditional clinical opportunities for teaching AFOI are now managed by certain groups using videolaryngoscopy. This means that the opportunities for teaching AFOI may become more limited over time when use of this device has always been considered to be relatively high skill with a substantial learning curve. Maintenance of such skills is also an important issue particularly for anaesthetists who do not work in airway centres. At present the relatively high cost in purchasing and maintaining fibreoptic laryngoscopes remains another important consideration. Some have already questioned whether it is correct to limit the use of AFOI in airway management to specialist centres. This talk discusses in detail the many issues involved and how we may make sense of the various edicts being published about this subject.

**312**
**Regional Anesthesia Advantages Over General Anesthesia**

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Both regional anesthesia and general anesthesia have been proposed to provide optimal anesthesia, in recent decades, a number of studies have attempted to determine whether regional anesthesia offers convincing benefits over general anesthesia it remains unclear whether regional anesthesia reduces mortality. However, regional anesthesia offers superior analgesia over opioid-based analgesia, and a significant reduction in postoperative pain is still a worthwhile outcome. In Meta –analysis we searched different studies and other databases for randomized controlled trials comparing regional anesthesia and general anesthesia in different surgeries. Both central neuraxial block and peripheral nerve block were associated with increased induction time, no need for recovery from anesthesia, reduced pain scores, and decreased need for post anesthesia care unit analgesics decreased post anesthesia care unit need and decreased nausea but, again, not with decreased surgery unit time. This meta-analysis indicates potential advantages for regional anesthesia; Substantial increase in healthcare costs has contributed to the development of outcomes research in the United States. Outcomes research evaluates the effectiveness of healthcare interventions in many aspects of patient care (clinical outcomes, functional health status, patient satisfaction, health-related quality of

life) and reflects national trends in determining appropriateness, value, and quality of health care. Outcomes research in regional anesthesia has traditionally focused on clinically oriented outcomes, such as overall mortality and major morbidity (cardiovascular, pulmonary, coagulation, cognitive, gastro-intestinal, immune, stress response). In Mark S. Hausman, Jr., MD, Elizabeth S. Jewell, MS, and Milo Engoren, MD, study in Surgical patients with chronic obstructive pulmonary disease (COPD) he compared patients who received regional anesthesia with patients who received general anesthesia had a higher incidence of postoperative pneumonia (3.3% vs. 2.3%, P = 0.0384, Pulmonary morbidity was 15.4% in the general group versus 12.6% (P = 0.0038, difference = 2.8% [0.93, 4.67]). Composite morbidity not including pulmonary complications was 13.0% in the general group versus 11.1% (P = 0.0312, difference = 1.9% [0.21, 3.72]). Thirty-day mortality was similar (2.7% vs. 3.0%, P = 0.6788, difference = 0.3% [−1.12, 0.67]). As a test for validity, we found a positive association between pulmonary end points because patients with 1 pulmonary complication were significantly more likely to have additional pulmonary complications. In different types of surgery regional anesthesia has advantages over general anesthesia at short time after surgery.

## 313
## Safety in Operating Room

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Safety in OR is involving a variety of specialties including physicians and allied staff. Understanding the Background and possible complications will ensure a better work environment in a complex set up .Improving Communication between the teams involved in OR will lead to better outcome and a safer workload. Surgeons and anaesthesiologists are working at the sharp end where complications can happen at any moment. Guidelines are present to help avoiding any mishap and to ensure a safer environment. Optimizing the OR processes by improving communication and establishing an efficient OR list will have a direct impact on safety and patient experience. Surgery & Anaesthesia safety checklists and team briefings prevent events ahead of any unplanned complications.

## 314
## Anesthesia Consideration for Morbid Obesity

*Hayel Gharaibeh MD (Jordan)*
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Obesity has reached epidemic preparations throughout the globe and this has also impacted people in Jordan with significant increase in the incidence of obesity with prevalence of >30% in adults. This lecture will present the pathophysiology of obesity and practical consideration for anaesthetizing such patients for major surgery. Obesity is a metabolic disorder that is primarily induced and sustained by an overconsumption or under utilization of caloric substances. The world health organization (WHO) uses a class system to define obesity according to BMI :< 18.5: under-weight.18.5 – 24.9: normal, 25 – 29.9: overweight, 30 – 34.9: obese 1, 35 – 39.9 obese 2, and >40 obese 3 (morbid).

## 315
## Awareness in Patients Undergoing Cardiac Surgery

*Yaser Alghoul MD (Jordan)*
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**Objectives:** the aim of this study is to investigate the incidence of awareness among Jordanian patients undergoing cardiac surgery under general anesthesia.

**Methods:** two hundred forty patients were enrolled in this study, 100 patients had coronary artery bypass grafting (CABG) under cardiopulmonary bypass, 40 patients had off- pump CABG and 100 patients had valve replacement surgery.All patients were interviewed 24 -48 hours postoperatively on recall of awareness by an independent research team, blinded to the patient's procedure.

**Results:** the overall incidence of awareness among all patients was 5.4%.the incidence of awareness of patients undergoing CABG with cardiopulmonary bypass, off-pump CABG and valve replacement was 6%(6of100 cases),5% (2 of 40 cases) and 5% (5 of 100 cases),respectively. The incidence of awareness of patients who had

CABG under CPB did not increase significantly, in comparison with those who had the same procedure without pump or those who had valve replacement surgery.
Conclusions: Awareness under general anesthesia in cardiac surgery is still high at Queen Alia Heart Institute. We should pay more attention to this problem in the future and consider changing our strategies in order to reduce patient's sufferings.

**316**
**Comparative Analysis of the Effect of the Alkalinization of Xylocaine on Pain During Propofol Injection**

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**Objectives:** To study the effect of adding sodium bicarbonate 1ml 8,4% to Xylocaine on severity of pain during injection of propofol intravascular.

**Methodology:** A prospective double blind randomize study was conducted at Prince Rashed Hospital at north of Jordan.150 patients ASA 1-2. Age between 20 to 65 years scheduled for elective general surgery Under General Anesthesia. Patients randomly divided into 3 groups, 50 patients each. Group 1 received 2.5 ml 2% Xylocaine Group 2 received 2.5 ml 2% Xylocaine plus 1ml 8.4% sodium bicarbonate. Group 3 received 2.5ml distilled water. Occurrence and severity of pain were measured by 0 -10 pain scale. All drugs were given 30 seconds before propofol injection.

**Results and Discussion:** Demographic data of groups were comparable. Only (10%) of Group 2 patients have complained of pain during propofol injection, Were pain was 45% in Group 1, and 81% in Group 3.

**Conclusion:** The occurrence and severity of injection pain by propofol were noticeable decreased when adding sodium bicarbonate.

**Keywords:** Alkalinization, Xylocaine, Propofol, Injection

**317**
**Anaesthesiologist-Patients Communication on Preoperative Period ReallyAffect the Patients Anxiety?**

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**Objectives:** To show the effect of good doctor-patient communication on the incidence of anxiety in patients waiting surgery in preoperative area.

**Methodology:** This study was conducted at Prince Hashim Hospital in the period between 2015-2016. After obtaining the acceptance of our local ethical committee. 1000 patients admitted for general surgery and gynecological obstetrics operations were enrolled in this study. Patients were divided in two groups (A) in which the communication between the anesthesiologist and the patients was enough to describe the anesthesia type, time of surgery, possible complication, also the anesthesiologist clarify any inquiry from the patients side. (B) Group the patients were waiting in the holding area with minimal communications. The data then was collected direct from the patients,including the patient's anxiety grade while they are in the preoperative period

**Results and Discussion:** 90% of the patients in group A were calm, satisfied and show significant less anxiety than in the other group in whom, 15% of them were calm with no anxiety ,and some of them need sedatives drugs to attenuate their feelings.

**Conclusion:** 90% of the patients in group A were calm, satisfied and show significant less anxiety than in the other group in whom, 85% of them show high degree of anxiety, and some of them needs sedatives drugs to attenuate their feelings.

**Keywords:** Anxiety, preoperative period, surgery.

**318**
**Pulmonary Embolism**

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Pulmonary embolism is a common and potentially fatal disease and frequently presents with shortness of breath.
The imaging test of choice is CT pulmonary angiography, but it is costly and associated with radiation exposure and other complications. Validated diagnostic algorithm consisting of a clinical decision rule and D-dimer test should be used to safely exclude PE without the need for CTPA. Recently, the age-adjusted D-dimer threshold has been validated.
Initial therapeutic management of PE depends on the risk of short-term PE-related mortality. Hemodynamically unstable patients should be closely monitored and receive thrombolytic therapy unless contraindicated because of an unacceptably high bleeding risk, whereas patients with low-risk PE may be safely discharged early from hospital or receive only outpatient treatment. There are multiple decision rules are available to select patients in whom early discharge or outpatient treatment will be safe. Standard PE therapy consists of heparin therapy followed by vitamin K antagonists (VKAs). Recently, several nonvitamin K-dependent oral anticoagulants have been shown to be as effective as LMWH/VKAs, and maybe safer. I will review and discuss key aspects of PE diagnosis and risk stratification and general approach to treatment

**319**
**Post Intensive Care Unit Syndrome**

*Awad Addasi MD (Jordan)*
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The number of survivors of critical illness is growing and expected to further increasewith the aging population and improving ICU mortality.It is increasingly clear that there is a formidable legacy of critical illness that ICUsurvivors experience significant long term complications in physical and psychologicalfunction that are associated with impairments in quality of life (QOL).
As we learn more about these complications and their natural history, our understandingof their high prevalence, magnitude, and impact grows.With an understanding of the long term complications of critical care, ICU clinicians can begin to modify factors that influence these complications and support interventions demonstrated to reduce them.

**320**
**Severe Pneumonia**

*Hassan Alnuaimat MD (U.S.A)*
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Severe pneumonia is a common disease that intensive care physicians have to face.
Epidemiological and clinical risk factors strongly influence microbiological cause in patients with severe pneumonia. In addition to typical respiratory pathogens, less common microorganisms and multidrug-resistant (MDR) germs may cause severe lung infections. New molecular diagnostic techniques appear promising for early detection of microbes involved in severe pneumonia. Antimicrobials remain the mainstay of causative severe pneumonia treatment and the optimization of antibiotic therapy may be obtained by applying their pharmacodynamic/ pharmacokinetic properties. Several new strategies have been implemented for the management of acute respiratory failure (ARF) due to severe pneumonia; however, their extensive clinical application is limited by the need for well-trained physicians and adequate hospital centers. Despite advancements in antibiotic and life-supportive treatments, severe pneumonia remains a leading cause of intensive care unit (ICU) admission and death. Prompt and appropriate antimicrobial therapy is essential. The use of new nonconventional strategies for ARF management might be effective in more severe patients. I review and highlight recent findings about microbiology, diagnosis and treatment, including the management of critically ill patients with severe respiratory failure.

## 321
## Antithrombotic Therapy for Venous Thromboembolism (VTE) Disease, 2016 Guidelines

*Hussein Shalan MD (Jordan)*
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In this presentation I will summarize the CHEST Guideline and Expert Panel Report that was published early 2016 with special emphasis on the major changes. As for the choice of Long-Term and Extended Anticoagulant therapy in patients with proximal DVT or PE, long-term (3 months) anticoagulant therapy is recommended; whereas in patients with DVT of the leg or PE and no cancer, as long-term (first 3 months) anticoagulant dabigatran, rivaroxaban, apixaban, or edoxaban are preferred over VKA therapy. As for duration of therapy in patients with a proximal DVT of the leg or PE provoked by surgery, treatment with anticoagulation is for 3 months. In patients with a proximal DVT of the leg or PE provoked by a nonsurgical transient risk factor, treatment with anticoagulation for3 months is recommended over treatment of a shorter period and treatment of a longer time-limited period (eg, 6, 12, or 24 months) . It is suggested to treat for 3 months over extended therapy if there is a low or moderate bleeding risk, and recommend treatment for 3 months over extended therapy if there is a high-risk of bleeding. In patients with an unprovoked proximal DVT or PE who are stopping anticoagulant therapy and do not have a contraindication to aspirin, aspirin is suggested over no aspirin to prevent recurrent VTE. In patients with sub segmental PE and no proximal DVT in the legs who have a low risk for recurrent VTE, clinical surveillance is suggested over anticoagulation. While in high risk for recurrence, anticoagulation is preferred over clinical surveillance. In patients with low-risk PE and whose home circumstances are adequate, treatment at home or early discharge over standard discharge (eg, after first 5 days of treatment) is suggested. In most patients with acute PE not associated with hypotension, systemically administered thrombolytic therapy is not recommended. Patients with acute PE who deteriorate after starting anticoagulant therapy but have yet to develop hypotension and who have a low bleeding risk, systemically administered thrombolytic therapy is suggested over no such therapy. In patients with acute PE who are treated with a thrombolytic agent, systemic thrombolytic therapy using a peripheral vein is preferred over catheter directed thrombolytic. In patients who have recurrent VTE on VKA therapy or on dabigatran, rivaroxaban, apixaban, or edoxaban, switching to treatment with LMWH is suggested.

## 322
## Management of Biliary Injuries at King Hussein Medical Center

*Sameer Smadi MD,Sahim Al-Qusous MD, Samir Egzzawie MD, Khalid Ajarmeh MD, Tareq Mnaizel MD, Abdelhamid Abadi MD, Raed Jarrah MD, Mohammad Jbour MD*
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Bile duct injury (BDI) represents the most serious complication, potentially life-threatening of cholecystectomy. The aim of this study is to summarize our experience in diagnosis, management and prevention of iatrogenic bile duct injury.

**Methods:** Between January 2009 and October 2015 a total of 14 patients with bile duct injury occurred during lap cholecystectomy referred to our hepato-biliary unit, at King Hussein Medical Center, were included in this study for retrospective analysis. In four cases the injury occurred during surgery at our hospitals, while the remaining 10 cases were referred from other hospitals.

**Results:** Twelve patients were managed surgically, and two patient conservatively by interventional radiology and gastroentologist. Of the 22 patients, 4 underwent duct to duct repair and 18 hepatico-jejunostomy. 2 patients who underwent duct-duct repair developed stricture and converted to hepatico-jejunostomy. The overall morbidity rate was 23% (5 patients). The mortality rate was 5% (1 patient).

**Conclusion:** Bile duct injury during laparoscopic cholecystectomy is a complex and a dreaded complication. Early recognition, good surgical technique and adequate multidisciplinary approach in a tertiary care center are the cornerstones for good outcome.

## 323
## The Non-Surgical Management of Hepatobiliary Cancers

*Mark Wright MD (UK)*
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The rising incidence of liver disease due to the driving forces of NAFLD, viral hepatitis and alcohol is leading to an epidemic of liver cancers. Modern imaging means that many of these can be detected at an earlier stage, but due to the silent development of liver disease, in many cases, presentation occurs late. Often at the time of presentation curative surgery is not possible either due to disease extent or advanced liver disease. Fortunately, interventional radiological techniques have advanced dramatically offering life extending therapy to many patients who would previously only received palliative care. The role of Interventional radiology is discussed, including TACE, MWA and SIRT along with some new developing therapies. Biliary cancers are also increasing in incidence and here the role of IR and ERCP is discussed, both in diagnosis and therapy.

## 324
## Laparoscopic Left Pancreatectomy for Cancer

*Mohammad Abu Hilal MD (UK)*
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Although laparoscopic distal pancreatectomy has been gaining acceptance, the laparoscopic management of pancreatic adenocarcinoma is still subject to serious debates. Concerns are raised regarding the risk of performing incomplete resections, seeding malignant cells and leaving involved lymph nodes in situ. In this presentation we will discuss techniques and results of laparoscopic radical left pancreatectomy for pancreatic cancer highlighting tips and tricks for the achievement of radical surgical resection with adequate lymphoadenectomy in line with the traditional oncological surgical pillars. We also discuss the impact of training and mentoring on the safe expansion of the laparoscopic approach and the true assessment of the learning curve.

## 325
## Optimizing Treatment of Metastatic Colorectal Cancer

*Ahmad Telfah MD (Jordan)*
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Colorectal cancer is the fourth most common frequently diagnosed cancer and the second leading cause of cancer death in the United States. In 2013 an estimated 96.830 new cases of colon cancer and approximately 40.000 cases of rectal cancer will occur. During the same year, an estimated 50.310 people will die of colon and rectal cancer combined.
Approximately 50% to 60% of patients diagnosed with colorectal cancer develop colorectal metastases and 80%to 90% of these patients have unresectable metastatic liver disease. Metastatic disease more frequently develops metachronously after treatment for locoregional colorectal cancer with the liver being the most common site of involvement. However 20% to 34% of patients with colorectal cancer present with synchronous liver metastases.

## 326
## Laparoscopic Liver Surgery for Colorectal Liver Metastasis

*Mohammad Abu Hilal MD (UK)*
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Liver metastasis from colorectal cancer represents more than 50% of the surgical indication for liver resection. Open surgical resection has been traditionally completed with good results. With the expansion of mini invasive surgery laparoscopic liver resection has been gaining popularity in the last 10 years. Encouraging results has been demonstrated in the treatment of benign disease. More recently the surgical indication has been expanded to the treatment of primary and secondary liver malignancies. The aim of this presentation is to explore the indications, limits and results of the laparoscopic approach in patients with metastasis. Surgical techniques will also be discussed and demonstrated through surgical videos in different clinical scenarios, including two stage hepatectomy with portal vein embolization, resection of lesions near major vessels and management of lesions in the posterior segments.

**327**
**The Management of Oesophageal Cancer: Evidence from Recent Clinical Trials**

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Not Available.

**328**
**Jordan Medical Council**

*Hani Al-Kurdi MD JMC (Jordan)*
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Jordan Medical Council institution dedicated to the training of doctors and rehabilitation specialists and general practitioners through the planning, implementation and supervision of the scientific programs, plans and academic curriculum for various medical specialties accredited by the Medical Council and lead to obtain a certificate of competence Supreme (Jordanian Board) in various medical and dental disciplines. Certificate of Specialization (Board) which issue by the Jordan Medical Council is the highest vocational certificate in the Kingdom; therefore, this institution is a national scientific institution par excellence Academy may not be classified only with institutions of higher education in the Hashemite Kingdom of Jordan.
Briefing of current residency training program in Jordan:
There exist three areas which are accredited by Jordan Medical Council for residency training purposes as follows:

1. Government sector: include
   A. Ministry of Health hospitals and affiliate health centers.
   B. Royal Medical Services (RMS).
2. Public Sector: include
   A. Jordan University Hospital.
   B. Jordan University for Science and Technology.
   C. Hashemite University.
   D. Mutah University.
3. Private Sector: include some of the private hospitals which qualify for hospital accreditation for the purposes of training.

It is to be known that the minimum training period is four years according to specialists.

In Ministry of Health: after hiring one year as general practitioners, the doctor can attend the residency training program after passing the residency acceptance exam.
Jordan Medical Council was established in 1982 for Medicine, Dental Specialties joined Jordan Medical Council in 2002.
Number of medical specialties at Jordan Medical council now for residency purposes =43
Number of dental specialties at Jordan Medical council now for residency purposes=9Specialties:
There exist:

1. Thirty-four medical specialties.
2. Nine dentistry specialties.

Accredited Hospitals for Internship training:

1. Ministry of Health Hospitals.
2. The Military Medical Services Hospitals.
3. Jordan University Hospital.
4. King Abdullah University Hospital.
5. Specialty Hospital
6. Jordan Hospital
7. Istiklal Hospital
8. Islamic Hospital
9. Arab Medical Center Hospital
10. Ibn Alhaitham Hospital
11. Al-Isra'a Hospital
12. Shmeisani Hospital
13. Istishari Hospital
14. Alhayat Hospital
15. Jordan Red Crescent Hospital (الهلال الاحمر)
16. Losmilla Hospital
17. Alkhaldi Hospital
18. Italian Hospital
19. Irbed Specialty Hospital
20. Alhekmah Modern Hospital

Accredited Hospitals for residency training:

1. Ministry of Health Hospitals
2. Prince Hamzah Bin Al-Hussein Hospital
3. The Military Medical Services Hospitals
4. Jordan University Hospital
5. King Abdullah University Hospital
6. Specialty Hospital
7. Jordan Hospital
8. Islamic Hospital
9. National Center for Diabetes, Endocrinology and Genetics.
10. King Hussein Cancer Center
11. Al-Rashid Hospital Center

**329**
**Particularities of Royal Medical Services (RMS) Training Program**

*Mahmoud Alka'abneh MD RMS (Jordan)*
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All the priorities of residents and residency program were directed and modified to achieve the RMS-understanding of competency. The need for modification of residents priorities are usually modified based mainly on the results of national board exam. In most instances it was found a significant discrepancy between those who are considered board eligible and board certified in some disciplines. What is interesting is to guess why results came unexpected? Royal Medical Service is considered as a place with the highest possible offered posts compared with all other educational programs in Jordan. The percentage of who are able to be incorporated is also the highest compared with others. Having said that the RMS has tried always to establish an ideal residency program even with the presence of a lot of obstacles. We establish the GENERAL GOALS AND OBJECTIVES OF THE RESIDENCY PROGRAM. We establish a cycle of training including TEACHING EXPERIENCE AND CURRICULUM at KHMC. These will be discussed in details in my presentation. At the end we in RMS try to cooperate with the well-known CPD with preference of in-situ mode to establish a comprehensive residency program taking into consideration our circumstances not only to improve the number who is board certified but mainly to improve the competency and the patient-quality, evidence-based and cost-effective patient care.

**330**
**What is a Competency Based Core Medical Training Curricul um?**

*David Black MD RCP (UK)*
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On behalf of the Federation of the three Medical Royal Colleges of Physicians in the UK, JRCPTB has designed and operated a competency based Core Medical Training curriculum since 2007. In this presentation, I will discuss how this is structured in the UK, the main elements of the curriculum, as well as methods of assessment including both examinations and workplace-based assessments, such as the Multiple Consultant Report. I will also discuss the challenges that have been faced in implementing such a curriculum and our plans for the next five years to move towards a greater outcome based model centred on Competencies in Practice (CiP).

**331**
**Input from RCS on CPD**

*Derek Alderson MD RCS (UK)*
*d.alderson@bham.ac.uk*

Not Available.

**332**
**What Does Jordan Need?**

*Abedalhameed Najadah MD RMS (Jordan)*
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Royal medical services through the professional training and man-power-rehabilitation department in cooperation with medical departments try every now and then to review the basic infrastructure of the residency training program based upon resident's feedback, department evaluation, exit and national exam to reach to the most ideal program that can be applied taking into account the local facilities and circumstances. This will raised many questions which might find their answers in the fruitful meeting. Once resident is eligible to enter a residency program is it strongly recommended that he participate in observerships rotations in a clinical setting before applying to residency programs. Is it recommended to copy the best residency program without modification and just provide what is critically missed and do the outcome evaluation in consultation with the original founder of this long-time established successful program? In the application process to residency programs. Do we need what is called different tracks within an I medicine residency program: transitional, preliminary, categorical and primary care before resident settlements do we need that all residents register with the National Resident Matching Program all sponsoring institutions participating in the proposed national program? Through unified letter of recommendations and primary evaluation , do we

need the yearly exit exam and is it more useful to be the same in different institutes in timing and inclusions, what is the ideal interview, etct Many and many questions will be raised to help in improving the quality of training program both nationally and institutional.

**333**
**Trainee in Difficulty**

*David Black MD RCP (UK)*
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All medical educators will have had experience at one time or another of a trainee who appeared to be in difficulty with their programme or learning. This short session will provide a basic outline to help educators to understand and identify the different categories of trainee in difficulty. Importantly, how to spot the warning signs of a trainee in difficulty in order to make a diagnosis. Finally, I will discuss some of the approaches to supporting, remediating or resolving trainees in difficulty, particularly within a managed programme of postgraduate education.

**334**
**Difficulties of Implementing CPD for Surgeons**

*Khaldoun Haddadin MD RMS (Jordan)*
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Implementing programs for Continuous Professional Development of Surgeons has its own inherent difficulties. Making the move from the time honored apprenticeship model of training which lacks structure, focus and accountability to a more modern competency based model requires investment in both infrastructure and changes in regulations to allow such a system to flourish and become the norm.
Shifting the emphasis away from set examinations towards structured supervised learning and assessment in the workplace with definable endpoints, where the resident takes responsibility for his or her learning should be done in a gradual way. The aim is to change the mindset of those involved, both trainers and trainees and promote improvement in the working/ learning environment to maintain the highest standards of Post-Graduate Training and ultimately of patient care.
Over the last few months we have started to develop an infrastructure for such a system in the surgery department at RMS including:

- Development of website to include each Resident's Portfolio and eLogbook
- Introduction of syllabus during each surgical rotation with work-based assessments of clinical cases and procedures, to be included in the resident's portfolio
- Appointment of Educational and Clinical Supervisors for each resident to mentor, advise and continually supervise training
- Introduction of Smart Card for automatically calculating the attendance of scientific activities
- Changes in regulations to include discussion of portfolio and logbook within the yearly OSCE exam at RMS
- Mandate for residents to attend predefined established courses such as BSS, ACLS, ATLS etc, during Residency Program
- Progression to 4th year in residency program dependent on passing part 1 of the Jordanian Board of General Surgery

It is hoped this pilot scheme will develop and progress to keep in line with evolving regulations of The Jordanian Medical Council.

**335**
**The NHS - The Public Value & Challenges of a publically Funded Health**

*Service Providing Universal Coverage*
*Nadeem Moghal MD, National Health Services (NHS) (UK)*
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Since its inception in 1948, The NHS has undergone transformations driven by rapidly changing advances in science and medicine and related cost pressures. The challenge has been how to alter the way health care is organised, and re-organised, to effectively deliver the advances in care, whilst ensuring value for money invested by the tax payer, heavily regulated, and overseen by an accountable elected body. The NHS model cannot be wholesale transplanted into other national systems, but there are powerful lessons that deserve scrutiny and adopting where nations are seeking to meet patient and population expectations of care and outcomes. The talk will briefly cover the history of the NHS, describe the reasoning for the cycles of reform and what that

teaches us about the public value of a public service.

**336**

**Leadership is a Bridge to Success: Jordan's Nuclear Energy Program is a Promising Model**

*HE Khaled Toukan Eng. PhD, Chairman of The Jordan Atomic EnergyCommission (Jordan)*
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Jordan's Nuclear Energy Program is composed of three main pillars: The Nuclear Power Plant (NPP) Project, the Uranium Exploration and Mining Project and Human Resources Development (HRD). It is intended that Jordan's Nuclear Energy Program is implemented with a high level of efficiency and transparency, in compliance with the best international standards of safety, security and non-proliferation. Several challenges face Jordan's Nuclear Energy Program. Firstly, there are geopolitical and regional forces that attempt to curtail Jordan's entry into the nuclear age. Secondly, complexity of technical solutions: for the NPP, Jordan is almost a land-locked country with a very limited coastline on the Red Sea, which forced JAEC to focus its NPP site investigation in-land with added resources for devising cooling solution for the NPP, and for uranium mining, Jordan enjoys large deposits of uranium throughout the country, however, its low concentration requires novel process development techniques. Thirdly, the availability of qualified human resources and skilled technicians to manage, construct and safely operate nuclear facilities is another major challenge.Fourthly, financing is a critical challenge given the limited ability of the Government of Jordan (GoJ) tofinance and provide sovereign guarantees to the various nuclear projects. Fifthly, there is public apprehension on the soundness of building an NPP in Jordan given the recent upsets in nuclear power worldwide and political instability in the ME region. Despite all these challenges, JAEC has led the way forward and established the main pillars for a comprehensive, sustainable, and successful nuclear energy program. The GoJ has already signed fourteen Nuclear Cooperation Agreements with major nuclear supplier countries, and JAEC has established a strong and solid working relationship with IAEA, building international support for the country's program based on its transparency and adherence to best international practices and safety standards. On NPP siting, JAEC has succeeded in selecting the Amra low seismicity site while providing cooling water for the two 1000MWe reactors from Alsamra Waste Water Treatment Plant at a total of 50 million m3/annum. As for uranium, the Jordanian Uranium Mining Company (JUMCO) has recently published its first revision of the JORC compliant resource report with a total of 39,300 tons of uranium out of which 8,100 tons are classified as "Indicated Resource". JUMCO's extraction team has already succeeded in extracting uranium in its laboratoriesand is currently working on its pilot-scale uranium extraction and purification process using large columns and boxes. Two major facilities that will serve as main hubs for HRD, namely the Jordan Research and Training Reactor (JRTR) and the Synchrotron-light for Experimental Science and Applications in the Middle East (SESAME), will be commissioned by the end of this year 2016 and early next year 2017, respectively. These two facilities will be the beacon for training scientists and engineers in nuclear disciplines both on the national and regional levels. JAEC has succeeded in soliciting Rosatom as a strategic partner and co-investor in the NPP project. Third Party financing for the Turbine Island and Balance of Plant is currently being sought while maintainingGoJ as the majorityequity share holder in the NPP project. Addressing public acceptance within the Jordanian society is currently pursued by tapping it through opinion polls and launching a media campaign through radio, television and social media to disseminate sound and correct information and highlight the benefits Jordan will reap through implementing the nuclear power program, enabling the country tocircumvent its energy challenge.

**337**

**Military Clinical Leadership Lessons for Civilian Healthcare Practice**

*Brig. Timothy Hodgetts MD, Defence Medical Services (UK)*
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This lecture describes how military clinical leadership experience is being actively sought and applied into the civilian healthcare sector in UK to help resolve complex and 'messy' problems. A description is given of how military campaign planning tools have been applied to help manage

the urgent and emergency care crisis within the UK civilian healthcare sector. The 'toolset for innovation and change' that is being taught is empowering managers within the civilian healthcare sector to lead their own organisations out of crisis and find solutions to their own problems.

**338**
**Managing Complexity in Healthcare - The Case of the Royal Medical Services**

*Brig. Gen. Yassin Al Tawarah PhD, Royal Medical Services (Jordan)*
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The Royal Medical Services established in 1941 and mandated with the delivery of safe, effective, patient-centered, timely, efficient, and equitable care in a contemporary health care setting requires careful, adaptable, flexible and successful strategic integration of the various departments, programs, human resources and procedures of the health care system.Diminishing public healthcare care spending will limit medical accessibility for Jordanian patients and promote further reliance on Military medical services in Jordan. How can we design a system that can provide high-quality, affordable healthcare for everyone? How can we increase the effectiveness of health care services delivery at the RMS for the patient, institution, and community?How to effectively manage across the various operational functions of RMS services delivery without micromanaging and without causing excessive delays or conflicts within these functions all with minimal budget at hand. RMS present emphasis is to measure success by the wellness of patients, not revenue. Two important aspects to consider regarding health status are how service national providers and health systems will reach the population and by what methods the systems will care for the population and under what financial budget cuts. Should it be saved through reducing bureaucracy, ending waste, adopting innovative ways of working and restructuring services? Do we interpret efficiency savings as budget and service cuts while restricting treatments of limited clinical value, Yet if necessity is the mother of invention, The Royal Medical Services started looking far and wide for new models of delivering services that use limited resources more efficiently, while providing better outcomes for those they serve.

**Key words:** Royal Medical Services, Healthcare, wellness, budget, service delivery.

**339**
**What Makes A Hospital Successful?**

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Clinical and executive leaders travel the world to explore organisations to learn what defines a successful hospital and healthcare system. Even with access to the right resources, hospitals constantly face the challenges of how to allocate those resources to deliver reliable high quality care delivered consistently. The talk will describe the role of the 21st century consultant, the importance of clinical leadership, clinical engagement and the fundamental learning pillars that constitute the ingredients necessary for a hospital, as part of a wider healthcare system, to become a success at providing outstanding patient and population based care.

**340**
**Leadership in Establishing National Quality Systems**

*Mrs. Salma Jaouni, CEO, Health Care Accreditation Council (Jordan)*
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Health care quality improvement has been on health care reform Agendas for decades. With more and more measurable indicators raising issues on patient safety, medical errors, and quality of care, national and international organizations have developed many tools and programs dedicated to improving quality and patient safety at the national and institutional levels. These systems include basic tools that are disease specific or even accreditation schemes.
Jordan has been working on quality and patient safety for many years, but in 2003, it decided to adopt and adapt the accreditation pathway as a tool for improving quality and patient safety. This was a leadership decision that was taken in a collective manner by the Jordanian Health Care stakeholders from a policy perspective and at the service levels.
The Health Care Accreditation Council (HCAC) commenced its official journey in 2007 to improve the quality of health care and promote patient safety through the development of standards,

providing consultation d education services and awarding accreditation to health care institutions. What was crucial about the success of the accreditation path is the commitment of leadership. The government decided to stick to this tool until it demonstrated its success while finally crowning it with a mandatory law. Health care institution leaders use accreditation as their monitoring, evaluation and planning mechanism to lead their organization to achievement their ultimate goal of providing safe quality health care services. And the healthcare stakeholders private, public and military governed HCAC and supported the accreditation roadmap ensuring continuous quality improvement.

## 341
## Medical Liability in the Jordanian Legislation

*Mansour Al-Maitah MD, Chief of Forensic Medicine, MOH (Jordan)*
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**Aim:** The research aims to gain access to knowledge-based and professional level and legislative concepts related pillars that form the basis of medical liability legally 2. Statement of legal texts in the Jordanian legislation on the subject of medical error

**Methodology:** Search is divided into two parts, namely: First, the concepts and the relevant Titles include: 1 - the meaning of responsibility in the medical work 2. Types of Medical Liability 3.The concept of error in the medical field 4. The concept of damage in the medical field Second, medical accountability in the Jordanian legislation include¨ 1. accountability in the union of Jordanian doctors Act 2. Medical accountability in the Jordanian judicial legislation

**Results and Discussion:** Responsibility defined in general "as the case of the person who committed an order requiring culpability and accountability" (thanks, 1995, p. 34) .. * legislation are determined by the nature of the acts and actions that require accountability and punishable by from Mbda (no crime and no punishment except by law) * Responsibility of the doctor is a form of responsibility in general, despite the fact that the relationship between doctor and patient is a human relationship with a professional before being a legal relationship. * Over the responsibility of the doctor regards breach of the doctor in the implementation of professional obligations or breach of professional duties towards the patient and the consequent damage was caused to the patient in the context of professional medical relationship between doctor and patient * Legal responsibility entails a legal penalty, which is intended to criminal responsibility, or may be limited to compensation which is intended to civil liability - Promote medical liability legally if the following elements are true: 1. occurrence of medication errors by the physician to the patient 2. obtain harm to the patient as a result of this medical error 3 The existence direct causal relationship between the medical error committed and the damage caused to the patient

**Conclusion:** I think it needs to be more study on the subject and listen to all viewpoints relevant to even come up with objective laws adequately balanced to ensure justice for all in terms of ensuring the aggrieved rights by and protect the doctor the other hand, and take into account the specificity and the nature of the work of the doctor so the doctor can be exercised his work without fear, and not even the subject of medical accountability remains a sword hanging over Raeads doctors for the following considerations: 1. because the medical work (surgical or other medical works) could happen without the agreement with the patient or intended by the law, because it may be destined moments require to save the life of the patient or the patient's medical intervention without concluding any deal.

## 342
## Jordan Health Tourism Success Story, Economy and Investment

*Fawzi Al Hammouri MD (Jordan)*
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Jordan is known globally as a role model in the medical tourism industry; Jordan is considered the preferred medical tourism destination in the MENA region. Although Jordan is relatively a small country, it receives more than 250,000 foreign patients annually. Jordan's success as a medical tourism destination was due to many factors, including; Jordan is known for its medical

achievements since the 1970s, it is free of most communicable diseases, high level of security, political stability, easy access, most Jordanians are at least bilingual, Jordanian hospitals are well equipped with latest high tech medical equipment and implement international quality standards and the cost of treatment in Jordan is very competitive. In addition to, the availability of highly qualified Jordanian doctors and healthcare providers and having no waiting time for patients. And in the last few years Jordan played a major role in supporting the neighboring countries during the Arab Spring by receiving hundreds of thousands of patients from these countries. Jordan's success story was crowned by winning "JORDAN AS THE BEST MEDICAL TOURISM DESTINATION OF THE YEAR 2014". The total direct investments in the private hospitals in Jordan reached to 3 billion US$ and more than 60% of the hospitals are private, and there are few under construction, this indicates the importance of the sector as a strong pillar for our economy. Medical Tourism plays a major role in the economy of Jordan since it is an important source of foreign currency, in 2015 the income from medical tourism reached to 1.2 billion US$ which consists of 3.65 % from the GDP.

**343**
**Medical Profession Development Role in Health Tourism**

*HE Abdullah Bashir MD (Jordan)*

Health care excellence meeting international standards is making Jordan an international leader and a destination of choice for medical tourism from all over the world. Jordan Excellence is due to many factors to name but few qualified well trained professionals, accreditation system, medical health facilities equipped with modern technology and techniques, and cost competitiveness. The visionary leadership of Jordan planned and initiated the development of health care Professionals and health care services starting from the Royal Medical Services, Where the first open heart Surgery was performed in 1970, and first kidney transplantation in 1972. Qualified professionals trained in the world reputed centers and certified abroad were the cornerstone of Jordan health care excellence JMC established in 1982 was a great step to train and certify Jordanian specialties , and ensuring at the same time high quality and safety of physicians trained and certified abroad, however , there are many challenges facing Jordan to maintain and keep the high standards of health care services and Jordan competitiveness in Medical Tourism. The most important challenge is to support JMC in its mission and attract the specialized physicians especially those trained abroad.

**344**
**Dental Treatment in Health Tourism**

*Ibrahim Al-Tarawneh BDS (Jordan)*

The reality of Dentistry in Jordan and the progress of the level of offered services in the private sector and contribute in increasing the number of patients from neighboring countries for the dental treatment and contribute in develop the dental treatment tourism .

**345**
**Health Tourism Cost Effectiveness and Competitiveness**

*Nael Al-Masalha MD (Jordan)*

Medical Therapeutic services in Jordan is characterized that it's sensible & realistic, even it was determined that in Jordan the cheapest prices Therapeutic services in region. Despite the excellence Jordanian medical competencies, covering all medical fields and wining the best global certification & experiences & the availability of affordable prices modern medical equipment, necessary supplies & medication. The prices of medical services, whether provided by physicians, that was not increased since 2008, and is officially supported in the private sector prices, as well as the prices approved by the associations representing medical Laboratory and radiology kinds, is fixed since 2006, in addition to prices of medical services set by the ministry of health, which was not being changed since 2010, as well as the prices of education that have been fixed by pharmacist council & the ministry of health. In comparison with the countries of the region, the medical therapeutic services prices in some countries, such as the Gulf States, Sudan & Yemen of up to twice the value of prices of Jordan even in the private sector. I will present to you a table

compares the prices of some surgeries & medical procedures in Jordan & some countries in the region & global, reflecting the effectiveness of the utilization of available resources at the lowest possible cost and best quality in providing medical therapeutic services, based on internationally recognized standard.

**346**
**Psychiatry and Addiction Care in Health Tourism**

*Mr. Refaat Al-Masri (Jordan)*

Alrashid Hospital Centre is a well recognized regional rehabilitation centre for psychiatry and addiction. The hospital gets referrals from many countries all over the Middle East, North Africa and from many European countries and from the United States. More than fifty percent of clients are not Jordanian and this figure has been consistent for many years. During the talk some data will be presented to reveal the consistency of the percentage, and the average hospital stay of clients. The majority of these patients are accompanied by their family who usually stay in hotels or rented flats during part of the treatment period or the whole period. We believe the best promotion of the hospital were the patients themselves who recommend the hospital to their relatives and friends. Other source of referrals was the hospital site where the interested people were able to have good overview of the hospital facilities and the staff.

**347**
**Syrian Refugee Crisis in Jordan**

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Jordan hosts the third largest number of refugees in the world, and the Community globally when compared with the population. The Syrian refugee crisis has evolved into one of the most dramatic human tragedies of our time. The Syrian refugee influx has overwhelmed the capacity of the sector to deliver quality services to all. The number of Syrian refugees seeking primary healthcare outside refugee camps has risen overstretching a struggling medical service delivery system. Refugees management process and how RMS dealing with this crises.

**348**
**Dealing with Humanitarian Crisis: The Syrian Refugee Crisis in Greece**

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As it stands, today, Greece and by extension the eastern borders of the European Continent are in the midst of a geopolitical instability "triangle", comprising by the Black Sea in the North, Libya in the West and Syria in the East. This particular regional instability has led to an unprecedented refugee and migrant crisis that may last for a long time to come.
In the aftermath of World War II, an overwhelming majority of countries agreed to protect refugees by virtue of the 1951 UN Convention and 1967 Protocol related to the status of refugees and through UN agencies like the United Nations High Commissioner for Refugees (UNHCR). Fast forward 65 years later, Europe is called on, to respect the provisions of the UN Convention and Protocol and give solutions to the refugee crisis on the basis of a main principle: ''Life comes first and no one should have to die crossing a border".
The realities of war conflict, violence, persecution and the Syrian Conflict in particular, continue to cause displacement. The protection of the refugees remains a matter of outermost urgency for those who are forced to flee their homeland. Greece, in this particular context, has been called to assist in the relief of the humanitarian crisis caused by the refugee flows due to the civil unrest in Syria and therefore to be a pillar of peace and stability in the troubled area of the Mediterranean.

**349**
**Present Ethical and Legal Challenges for Military Health Care Practitioners**

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What are the challlenges? There are legal and Ethical Challenges that we may be aware of but there are also some very new unexpected challenges for Health Care Practitioners.How do

we effectively deal with all these challenges in times of Peace and in times of Conflict?
Who in Military Health Care environment should have the required knowledge?

**350**
**Military Medical Ethical Dilemma in Recent Conflicts**

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The ethical issues that arise for Armed Forces medical personnel on deployment can be extremely complex. The 'four quadrant approach' (4QA) is the tool directed in Clinical Guidelines for Operations to be used by the British Defence Medical Services to aid their ethical decision making. In 2 recent qualitative studies Bernthal et al have identified that clinicians found it helpful to use this tool to aid their decision-making. The 1st study established that the 4QA provides a valuable check list within an operational setting to ensuring that relevant information has been included to aid ethical decision-making, although amending its diagrammatic presentation could improve its effectiveness. Also, pre-deployment training should include practising using the quadrant. The 2nd study explored ethical dilemmas that senior clinicians had faced when deployed to the British Field Hospital in Afghanistan to elicit the features of an ethical dilemma. It identified the most straightforward and challenging ethical decisions to make. The most challenging dilemmas included working with international clinicians, not knowing team members' ways of working, caring for children, working with limited resources as well the dual conflict of adhering to clinical and military obligations. An ethical dilemma was created when clinicians had to choose between two or more alternatives, each with less than optimal moral outcomes. This study has drawn together examples of anonymous cases to form a depository to aid future training. Recommendations for training included undertaking ethics training together as a team before, during and after deployment which should include all nationalities that are deploying together. A workshop package has been developed to support clinicians to make ethical decisions that arise in a variety of austere environments on deployment.

**351**
**Refugees in Armed Conflict**

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Not available.

**352**
**Military Medical Ethics – Operational and Tactical Needs**

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Military Medical Ethics (MME) extends the field of International Humanitarian Law (IHL) by connecting it with basic moral standards and professional medical ethics. The complexity of modern war theatres results in a growing need of MME education, and has led to recent adaptation and implementation of guidelines. The ICMM Center of Reference (CRef) for Education on IHL and Ethics is analyzing current cases and challenges in MME, and providing training opportunities in MME. Main imminent MME challenges in modern missions include dilemmas caused by scarce resources and mixed obligations, the misuse of medical knowledge, the ill-treatment of detainees, and questions of the use of the protective emblem. On an individual level, the current ethical challenges endanger the professional integrity of health care personnel and may cause posttraumatic stress. On an operational level, ethical misbehavior puts at risk the success of missions in times of globalized communication. Ethical challenges related to modern missions with close contact to civil population and infrastructure, thus require specific education and training on ethics. Hence, there is need for ethical guidelines and guideline-based training in the field of MME. The ICMM CRef is therefore promoting the "ETHICAL PRINCIPLES OF HEALTH CARE IN TIMES OF ARMED CONFLICT AND OTHER EMERGENCIES" that have been shaped by the ICRC, the CRef and the WMA in collaboration with other organizations, and endorsed by the ICMM general assembly in 2015. In order to cope with the current exigencies of modern warfare, these ethical principles should be included into medical doctrine, and training opportunities in MME should be strengthened.

**353**
**Winterization Emergency Vaccination for Syrian Refugees in Hadalat andRuqban, North Eastern-Border**

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Objectives: Prevention of morbidity and mortality of vaccine-preventable diseases – which could potentially cause an outbreak at Al- Rokban and Al-Hadalat. Methods: A cross sectional emergency vaccination campaign (EVC) against Polio, TT, Measles and Vitamin A supplement to Syrian Refugee Children & Child Bearing Age (CBA) Women at Al- Rokban and Al- Hadalat between 13th – 18th February 2016,Results: Regarding oral polio vaccine (OPV) the total number of vaccines is 7991 for both sexes of age group 06-59 months, while for tetanus toxoid (TT) for pregnant and non pregnant women, the number was 454 , vitamin A(Vit A) supplementation , the number of targeted population boys and girls between 6-59 months was 3480 and the total number of Measles vaccines for boys and girls between 06-59 months was7619, Conclusion: Further campaigns are needed for further prevention among refugees.

**Keywords:** Refugees, Campaign, Morbidity and Mortality.

**354**
**Burden of Disease, Injuries, and Risk Factors in Jordan, 1990–2013**

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Background: We report the burden of disease, injuries and risk factors measured by causes of death, years of life lost attributable to premature mortality(YLLs), years of life lived with disability (YLDs), and disability-adjusted life years (DALYs) for 1990-2013 in Jordan. Methods: We used the Global Burden of Diseases 2013 (GBD 2013) methodology to estimate the country-level burden of disease in Jordan.GBD 2013seeks to bring together all available epidemiological data using a coherent measurement framework, standardized estimation methods, and transparent data sources to allow comparisons of health loss to be made over time and across causes, age-sex groups, and geographies. GBD provides the picture of health loss for 188 countries from 1990 to 2013, and annually thereafter. It covers 306 diseases and injuries, 2,337 sequelae, and 79 risk factors. Our GBD 2013 analyses included the addition of new data through updated systematic reviews and through the contribution of unpublished data sources from many collaborators, an updated version of modeling software (DisMod-MR 2.0), and several improvements in our methodology. Findings: Non-communicable diseases and neonatal disorders became the leading cause of death and disability in Jordan in 2013. High body mass index was the leading risk factor, accounting for 9.6% of disability-adjusted life years (DALYs) formals and 10.9%of total DALYs for females in 2013. High fasting plasma glucose levels were the second leading risk factor for health loss for females (7.8% of total DALYs) and third for males (8.4% of total DALYs) in 2013. The leading cause of DALYs for males was ischemic heart disease (6.3%) and for females was diabetes (5.8%) in 2013. Interpretation: The rapid increase in non-communicable diseases in Jordan is result of a change in health behaviors rather than genetic makeup. The rapid rise in non-communicable disease, coupled with a growth in population and aging will impact already stretched human and financial resources. Our results demonstrate the need for major interventions to reduce leading risk factors for health loss and to engage other sectors of the government and the community in these efforts.

**355**
**Severe Outbreak amongst Soldiers caused by Salmonella**

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Today, human salmonellosis remains to be a considerable, notifiable and communicable disease in any country worldwide. In 2015, during an outbreak of salmonellosis in Pristina, Kosovo, 38 Kosovo Force soldiers fell severely ill, and a much higher number of soldiers were incapacitated due to measures associated with interception, patients' care, and decontamination. The outbreak was caused by Salmonella enterica enterica Serovar Enteritidis, which is known for human pathogenicity. Initial symptoms were

nausea, vomiting, fever, and abdominal cramps. Salmonellosis generalised in most of the patients and the sudden onset of life threatening general condition demanded immediate intensive care of three patients and abdominal surgery. The 17 Salmonella Enteritidis strains isolated during this outbreak from human and food samples revealed differences in phage typing, and pulsed-field gel electrophoresis. Whole genome analysis reveals further trace back and epidemiological context. The described outbreak revealed the incapacitation effect of a foodborne infectious disease for more than three weeks. Salmonella is classified as a Priority Pathogen of Category B by the American Centers for Disease Control and considered as a biological weapon from foodborne sources by the American Borden Institute. Psychological effects may not be underestimated as infectious diseases provoke feelings of horror even if the direct effects are slight. The impact of an invisible, intangible threat may lead to panic and collapse of morale, and finally serious repercussions on a military operation.

**Keywords:** Salmonella, food-borne outbreak, incapacitation.

## 356
## Syrian Crisis

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As estimated by the Office of the High Commissioner for Refugees (UNHCR) in 2016, there are more than four million registered Syrian refugees in the Middle East and North Africa. The health needs of Syrian internally displaced persons, refugees, and the neighboring host communities have strained the national health systems as they face insufficient funds and lack of capacity to meet health needs for all. Unfavorable environmental and economic factors have placed vulnerable refugee andhost community populations at greater risk for communicablediseases and development or complications from non-communicable diseases. Certain communicable diseases morbidities are higher among Syrian refugees both inside and outside of the camps. Furthermore, many of the displaced Syrians in Jordan suffer from poor mental health and psychosocial problems. Regional response efforts, such as the Regional Refugee& Resilience Plan, in cohesion with national responsestrategies, such as the Jordan Response Plan,seek to coordinate response efforts to address immediateneeds of vulnerable populations, while ensuringlong-term development aims of the region are supported. The Eastern Mediterranean Public Health Network (EMPHNET) shares with other health actors the mission tocoordinated efforts to provide quality health services,enhance technical capacity of national systems, andensure protection of at-risk Syrian populations. It isthe goal for all of these efforts to be conducted withconsideration for the resilience of vulnerable individuals,communities, systems, and institutions, andcountries impacted by the conflict in Syria.

## 357
## Communicable Diseases After Man-made Disasters: The Case of Conflicts

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**Objectives:** This review aims to summarise the risk factors, reconsider the severe communicable diseases and to provide recommendations for the prevention of these diseases after man-made disasters.

**Methodology:** Publications were reviewed by using computerized databases such as Science, Elsevier, Wiley, BMJ Journals, Eurosurveillance and JSTOR.

**Results and Discussion:** Statistical analysis of the number of deaths and casualties related to disasters shows that millions of people lose their lives and yet more are in some way affected. War and conflicts are man-made disasters in themselves. In the vicinity of conflicts, the consequences of these events on the health of human life are very severe, presenting huge challenges for medical and health services. The responsibility of public health care services and the magnitude of the health consequences increase with the intensity of the conflicts. One of the major consequences is the prevalence of communicable diseases, which are generated due to the mortality and morbidity following conflicts. Most of these communicable diseases are transferred from one place to another

through the contaminated environment, food and water supplies, displacement of the population, lack of sanitation facilities, absence of public health care systems and over-crowdedness of refugee camps.

**Conclusion:** The risk factors and communicable diseases after disasters can be categorised into vector-borne diseases, water-borne diseases, respiratory infections and infections due to wounds and injuries.

**Keywords:** Disasters, conflicts, communicable diseases.

**358**

## Health in Times of Uncertainty: Burden of Diseases, Injuries, and Risk Factorsin the Eastern Mediterranean Region, 1990-2013

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**Background:** The Eastern Mediterranean Region (EMR) is comprised of 22 countries: Afghanistan, Arab Republic of Egypt, Bahrain, Djibouti, Iraq, Islamic Republic of Iran, Jordan, Kingdom of Saudi Arabia, Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Palestine, Qatar, Republic of Yemen, Somalia, Sudan, Syrian Arab Republic, Tunisia, and the United Arab Emirates. Since our Global Burden of Disease 2010 study, the region has faced more unrest as a result of revolutions and wars, as well as the so-called Arab Uprising. The objective of this study was to present the burden of diseases, injuries, and risk factors in the Eastern Mediterranean Region from 1990 to 2013. Methods: The Global Burden of Disease 2013 (GBD) seeks to bring together all available epidemiological data using a coherent measurement framework, standardized estimation methods, and transparent data sources to allow comparisons of health loss to be made over time and across causes, age-sex groups, and geographies. GBD provides the picture of health loss for 188 countries from 1990 to 2013, and annually thereafter. It covers 306 diseases and injuries, 2,337 squeal, and 79 risk factors. Our GBD 2013 analyses included the addition of new data through updated systematic reviews and through the contribution of unpublished data sources from many collaborators, an updated version of modeling software (Diamond-MR 2.0), and several improvements in our methodology. Findings: The leading cause of death in the region in 2013 was ischemic heart disease (90.3 deaths per 100,000), which increased by 17% since 1990, while diarrheal diseases were the leading cause of death in Somalia (186.7 deaths per 100,000) in 2013 and decreased by 26.9% since 1990. The leading cause of health loss, as indicated by disability-adjusted life years (DALYs) was ischemic heart disease for men and lower respiratory infection for women. High blood pressure was the leading risk factor for DALYs in 2013, with an increase of 14.3% since 1990. Risk factors for DALYs varied by country. In low-income countries, childhood wasting was the leading risk for health loss for Somalia, Afghanistan, and Yemen, while unsafe sex was the leading risk for Djibouti. In contrast, for high- and middle-income countries in the region, non-communicable risk factors were the leading risks for health loss. Risk factors for DALYs varied by age, with child and maternal malnutrition affecting the younger age groups, while high body weight and systolic blood pressure affected the older age groups. High body mass index increased from 3% to 3.8% between 1990 and 2013 and accounted for over 6.7% of the DALYs. There was an increase of the burden due to mental health problems and drug use. The majority of the increases in DALYs, especially from non-communicable diseases, were due to population growth. The crises in Syria, Yemen, Libya, and Egypt have resulted in a decline in life expectancy, with Syria having lost at least 7 years. Interpretation: Our study revealed that the EMR is going through a critical phase for health. The Arab Uprising and the wars that followed, coupled with aging and population growth, will have a major impact on the regions 'health and resources. The region has historically seen improvements in life expectancy and other health indicators, even when under stress. However, the current situation will result in deteriorating health conditions for many countries and for many years and will have an impact on the region and the globe. Our results call for increased investment in health in the region in addition to highlighting the importance of resolving the conflicts.

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## Preventive Care in Family Medicine in Jordan Reality and Aspiration

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We will discuss the definition of "Health as it is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" The goals of medicine are to promote health, to preserve health, to restore health when it is impaired and to minimize suffering and distress. These goals are embodied in the word "prevention". Prevention includes actions aimed at eradicating, eliminating or minimizing the impact of disease and disability, or if none of these are feasible, retarding the progress of the disease and disability. Goal of prevention is to help people live longer or have better quality of life, NOT merely to detect disease early Periodic Health Examination is evaluation of apparently healthy individuals in certain time periods, using a number of standard procedures such as counseling, physical examination, immunization, and laboratory investigations the family physician is the most ideally placed of all physicians to recommend preventive care his or her patients, given the continuous relationships overtime that are developed with patients and families.. We must also recognize that not every health problem can be prevented. An important initial criterion for deciding whether a health problem should be included in routine preventive care is the burden of suffering caused by the problem. Burden of suffering is determined not only by the prevalence of the health problem in the population, but also by the seriousness of the health problem. Many of preventive services were established in our health system and many are waiting to be establishing in our health system.

**360**

## Young People's Health from 1990 to 2013: Global Burden of Diseases,Injuries, and Risk Factors

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**Background:** Young people's health has emerged as a neglected yet pressing issue in global development. Changing patterns of young people's health have the potential to undermine future population health as well as global economic development unless timely and effective strategies are put into place. We report the past, current, and anticipated burden of disease among young people aged 10 to 24 from 1990 to 2013 using data on mortality, disability, injuries, and risk factors from the Global Burden of Disease Study 2013 (GBD 2013).

**Methods:** GBD 2013seeks to bring together all available epidemiological data using a coherent measurement framework, standardized estimation methods, and transparent data sources to allow comparisons of health loss to be made over time and across causes, age-sex groups, and geographies. GBD provides the picture of health loss for 188 countries from 1990 to 2013, and annually thereafter. It covers 306 diseases and injuries, 2,337 sequelae, and 79 risk factors.

**Findings:** The leading causes of death in 2013 for ages 10-14 were HIV/AIDS, road injuries, and drowning (25·2%), while transport injuries were the leading cause for ages 15-19 and 20-24 (14·2% and 15·6%, respectively). Maternal disorders were the highest cause of death for women aged 20-24 (17·1%) and the fourth for ages 15-19 (11·5%) in 2013. Unsafe sex as a risk factor for health loss, as indicated by disability-adjusted life years(DALYs) increased in ranking from 13th to second for both sexes aged 15-19 from 1990 to 2013. Alcohol use was the highest risk factor for DALYs (7·0%, 10·5% for males and 2·7% for females) for ages 20-24, while drug use accounted for 2·7% (3·3% for males and 2·0% for females). The importance of risk factors varied between and within countries. For example, for ages 20-24, drug use was the highest risk in Qatar and accounted for 4·93% of DALYs, followed by 4·8% in the United Arab Emirates, while alcohol use was highest risk in Russia and accounted for 21·4%, followed by 21·0% in Belarus. Alcohol accounted for 9·0% of DALYs (ranging from 4·2% in Hong Kong to 11·3% in Shandong) in China and 11·6% (ranging from 10·1% in Aguascalientes to 14·9% in Chihuahua) of DALYs in Mexico for ages 20-24. Alcohol and drug use among those aged 10-24 had an annualized rate of change of>1·0% from 1990 to 2013, and accounted for over 3·1% of DALYs.

**Interpretation:** Our findings call for increased efforts to improve health and reduce the burden of disease among young people. Moreover, due to the large variations between countries in risks and burden, a global approach to improve health during this important period of life will fail unless the particularities of each country are taken into account. Finally, our results call for a strategy to overcome the financial and technical barriers to adequately capture the risk factors for young people's health and their determinants in health information systems.

## 361
## Royal Medical Services: Healthcare Quality and Patient Safety Projects

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Healthcare quality and patient safety are carrying out interventions correctly according to pre-established standards and procedures, with an aim of satisfying the customers of the healthcare system and maximizing the results without generating health risks or unnecessary costs, so Healthcare Quality is the activities that make it possible to develop standards, to measure and improve the performance of services and health providers so that care is as effective as possible. Royal Medical Services (RMS) are witnessed qualitative developments particularly; in such ways as maintain its position in the forefront of National and International Medical Institution. It seeks not only being quality - excellence, but also having a world – class service to achieve the RMS Mission, Vision and Core values. Health care quality at RMS means: Good and persistent performance in the right way with reasonable cost from the first time and every time. RMS, from its responsibility, is working to move from the quality frame to the quality culture frame, and then continue improving this culture until stabilizing in every work. To achieve that RMS implement a modern methods and projects for performance improvement and outcomes. RMS building and implementing healthcare quality management system in a hospitals and staff qualifying through participating in National and International Projects asking Abdullah II Award for Excellence in Government performance and Transparency. Hospital Accreditation Projects, Primary Health Care Accreditation Projects, Quality Management Systems, ISO 9001, National Quality and Patient Safety Goals.

## 362
## Integration of Mental Health in Primary Health Care

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Mental health is central to the values and principles of the Alma Ata Declaration; holistic care and universal health coverage will never be achieved until mental health is integrated fully into primary care. Benefits of integrating mental health into primary health care system; easy access to PHC sittings , these sittings are close to their home, low cost, mental health services provided in PHC have the potential to minimize stigma, and remove the risk of human rights violations, Many of patients are at risk of depression as a co-morbid condition. As family doctors, we need to be vigilant in seeking to detect patients with undiagnosed depression; detecting undiagnosed depression among patients is a medical emergency. Family medicine put the patient in the centre of care and have a focus on the whole person, rather than on individual diseases, In fact, mental health problems are part of patients' and families' daily life experience, which is why it is vital that we address such problems in primary care .With integrated primary care, the substantial global burden of untreated mental disorders can be reduced, thereby improving the quality of life for potentially hundreds of millions of people and their families. This is all part of universal health coverage.

**363**
**Insulin on a Pilot, Why Not?**

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Flew the planes is a complex task, required the pilot to the high level of cognitive function and psychomotor so that operations can be run safely and efficiently. Base on BMI worldwide up to 24% overweight and up to 7% obese, incidence of diabetes up to 35%. Over time the prevalence of diabetes increased in the world. In 2012, 29.1 million Americans, or 9.3% of the population, In 2013, population diabetic in Indonesia 8,5 million. Diabetes mellitus if untreated are at risk for serious complications such as hypoglycemia, loss of consciousness, coma ketoacidosis, heart disease and kidney, eyes and nerves. So there aeromedis implications associated with diabetes in flight environments.

Historically pilot with DM repetition disqualification, because an increased risk of disability secar due to hypoglycemia and cardiovascular disease. Pilots with diabetes controlled with diet and exercise alone are eligible for medical certification without requiring a Special Issuance Authorization. They must demonstrate adequate control of their diabetes and the absence of any complications. In a few decades a shift in policy aeromedis worldwide. This causes the pilot DM in some countries such as the USA and Australia provide a certificate to fly a limited basis

The Federal Aviation Administration (FAA) identifies insulin use as an absolutely disqualifying condition to receiving a medical certificate to operate aircraft. The third class pilot are eligible to perform private and recreational operations, fly as a student pilot, flight instructor and as a sport pilot. In April 2015, the FAA revised its policy provide consideration for pilots applying for first and second class certification "on a case by case basis." Internationally, some of the world's major aviation regulators have recognized that pilots who use insulin can be individually assessed and perform aircraft operations consistent with their national safety mandates.

Canada has been allowing pilots with insulin-treated diabetes to fly commercially since 2001. In 2012, the UK also approved a protocol which allows for pilots with insulin-treated diabetes to engage in airline transport and commercial operations. The Chicago Convention is an international civil aviation treaty, signed in 1944, and permits pilots with insulin-treated diabetes from Canada and the UK to fly commercially in US airspace. The CASA policy, diabetes controlled by diet alone may be certified to Class 1, 2 or 3 standards while diabetics controlled with insulin do not satisfy the certification criteria. The Civil Aviation Authority (CAA) has announced that qualified pilots and air traffic controllers with diabetes treated with insulin and other medications can carry out full operation duties including flying commercial aircraft.

**Keyword:** Insulin, diabetic, pilot, certification

**364**
**Knowledge Attitude and Practice of Breast Self-Examination among Graduating Female Students in Princess Aisha Bint Al-Hussein Faculty ofNursing**

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**Objectives:** The aim of our study is to evaluate the knowledge, attitude and practice of breast self examination among graduating female students in Princess Aisha Bint Al-Hussein Faculty of Nursing & Health Sciences

**Methodology:** Using across sectional descriptive design, a self administered questionnaire, was distributed to 276 female students, the questionnaire consisted of four parts comprised 29 items. The first part was to elicit socio-demographic data on age,religion,… Questions related to the knowledge of breast cancer were included in the second part. Participants awareness of breast cancer and early detection methods were asked in the third part. The fourth part of the questionnaire assessed practice of BSE among participants. Data was analyzed SPSS software using frequency distribution and percentages, statistical analysis performed included the Pearson chi-square test, statistical significance was set as p value <0.05.

**Results and Discussion:** The overall response rate was very high (100%).majority of the respondents (89.5%) were from age group (20-22), all of them were single (100%). Knowledge score was excellent in (88.1%)of the participants ,non of them had unsatisfactory knowledge score(0%).despite the excellent knowledge among

the students(9%)admitted that they don't know how to perform BSE . TV was the most common source of information in about (80.4%) of the participants. Around (56.6%) Of the respondents performed BSE irregularly, and only (6.1%) performed it on monthly basis. Nearly half of them preferred to do BSE in the morning and in front of mirror. Most of the participants (84.8%) indicated interest in knowing more about BSE.

**Conclusion:** Regular BSE was found to be inadequate and effort should be made to develop programs that can increase knowledge of breast cancer as well as practice of BSE as good level of knowledge can help to perform BSE correctly but doesn't play role in performing BSE regularly every month.

**Keywords:** BSE; Breast self examination, SPSS; statistical Package for the Social Sciences.

**365**
**Optimizing Antimicrobial Stewardship Initiatives in Health System**

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Antibiotics are among the most frequently prescribed classes of drugs and it is estimated that approximately 50% of antibiotic use, in both the outpatient and inpatient settings, is inappropriate. Furthermore, inappropriate use of antimicrobials has a significant impact on both patients with suboptimal outcomes, on health systems with increased costs of care, and on public health with the emergence of multidrug resistant organisms. Antimicrobial stewardship programs in hospitals seek to optimize antimicrobial prescribing in order to improve individual patient care as well as reduce hospital costs and slow the spread of antimicrobial resistance. The design of antimicrobial stewardship programs should be based on the best current understanding of the relationship between antimicrobial use and resistance. Effective programs should be administered by multidisciplinary teams composed of infectious diseases physicians, clinical pharmacists, clinical microbiologists, and infection control. Strategies for changing antimicrobial prescribing behavior include education of prescribers regarding proper antimicrobial usage, creation of an antimicrobial formulary with restricted prescribing of targeted agents, and review of antimicrobial prescribing with feedback to prescribers. There is growing recognition of the impact of "bundles" of interventions to make significant impact. Clinical decision support systems can aid in the implementation of each of these strategies, especially as expert systems able to provide patient-specific data and suggestions at the point of care. Coupled with rapid diagnostic laboratory testing, significant impact on clinical and economic outcomes can be realized.

**366**
**Clinical Pharmacy Education and Practice: Global Trends and Opportunities**

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In view of the increasing complexities in health systems and the demand for efficient and quality patient care services, pharmacist training around the world has and/or is undergoing reform to better prepare future pharmacists for the evolving interprofessional, team-based clinical roles. This presentation will highlight select global developmentswith national and/or regional implications on clinical pharmacy education, post-graduate training, and practice. The presentation will outline some of the differences that exist among various programs. It will focus on processes available for assurance of the quality of the educational institutions and programs as well as the advancement of the clinical practitioners. The presentation will introduce select accreditation and certification programs, especially those that are applicable and of relevance to the international audience. The presentation will conclude by raising some of the challenges expected during the translational phase, including institutional and human resources critical to the successful implementation of clinical services and the advancement of the profession, and identify key steps and strategies to address the foreseeable challenges. Keywords: clinical pharmacy, education, practice.

**367**
**Clinical Pharmacy: Teamwork in Military Hospitals**

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We are all having the patient in focus. But: each profession has got his own and particular point of view. In many countries, teamwork including a pharmacist in the therapeutic team is daily business.Taking care for the medical supply, giving information about pharmaceutical economic aspects, the manufacturing of pharmaceutical products and taking part in various committees: this is daily business in German (military) hospitals. But being part of the therapeutic team, close to the patient? In Germany, there is still a lot to be done. The presentation will give you an overview about clinical pharmacy in Germanys (military) hospitals and its way ahead. Facts and figures about – a project in 2016 - an intensive collaboration between physician and pharmacist in the Bundeswehr Central Hospital show the impact of pharmaceutical support: the medication of 65 patients have been checked by a pharmacist, afterwards for 7 of them the medication was changed.

**368**
**Jordan Pharmacovigilance Database Analysis 2010-2014**

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**Objectives:** Aim of this analysis is to summarize the last 5 years' experience of pharmacovigilance in Jordan through analyzing the Adverse Drug reactions (ADRs) Database

**Methodology:** All ADRs reports submitted to the Rational Drug Use and Pharmacovigilance department through its five Pharmacovigilance regional centers in Jordan between the periods (2010-2014) were analyzed. System Organ Classes involved in ADRS were classified according to Medical Dictionary for Regulatory Activities terminology. A total number of ADRs reports received were 428 reports; 80 reports were excluded from the analysis as they are related to quality issue. This analysis of ADRs database meant to determine the rate of reporting per year, classes of drugs involved in ADRs, the most common reported drugs, the most common ADRs and system organ classes involved in ADRs
Results and Discussion: The rate of reporting increased markedly between the periods of 2010 to 2014; there was about a 5-fold increase in the number of received reports. Seventeen classes of drugs were involved in causing ADRs, the most common classes were Antineoplastics 37.6%, Immunomodulators 14.1% and Antibiotics 10.3%. The most common systems were skin and subcutaneous with 80 ADRs representing 19.2%, gastrointestinal with 69 ADRs representing 16.5% and nervous system with 48 ADRs representing 11.5%

**Conclusion:** Analyzing the ADRs Database, raise awareness on the magnitude of drug safety problems and increase the rational and safe use of drugs, create an ADR database for the Jordan population, and convince healthcare professionals that reporting of ADRs is part of their professional and moral obligation

**Keywords:** Pharmacovigilance Jordan ADRs

**369**
**Safe and Effective Integration of Biosimilars into the Health System**

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Decisions about inclusion of biosimilars in the health-system formulary require consideration of a wide variety of factors related to their efficacy and safety, the manufacturer and product, and the anticipated patient population. The clinical data submitted to the FDA when the product was approved, indications for use (including extrapolation), availability of a biomarker to assess efficacy and safety, and immunogenicity concerns when switching from the reference product to a biosimilar are among the efficacy and safety considerations in adding a biosimilar

to the formulary. The immunogenicity concerns associated with biosimilars differ in patients for whom use is de novo (i.e., patients who have never received the biosimilar or reference product) and patients who have already begun treatment with the reference product. The extrapolation of data from a clinical trial of a reference biological product in patients with one disease to support use of a biosimilar for patients with other diseases is one of the contentious issues related to biosimilars.Other important considerations exist with regard to naming, substitution, pharmacovigilance, medication reconciliation, and effectively designating biosimilars and other biologics in the electronic medical record in order to prevent inadvertent substitution. Pharmacists can take a leadership role in assuring the safety, efficacy, and effective integration of biosimilars in the medication-use process.

**370**
**Research Expenditure and Advances in Drug Therapy in the Organization ofIslamic Cooperation (OIC)**

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The role of the OIC in drug therapy is very limited, due to so many reasons, of which is the financial issues and resources in those countries, average expenditure on research by OIC countries is about 0.4% of their GDP, while the world average is spending 1.78 %, the share of R&D expenditures by the Private Non-Profit sector is at a negligible level in all of the member countries, involvement of the OIC countries in drug discovery is almost negligible, In most of the OIC member countries, R&D is mainly financed by the government sector. Out of the 17 member countries for which data are available, 11 countries receive more than %50 of R&D funds from the government, High-technology exports are products with high R&D intensity, including aerospace, computers, software and related services, consumer electronics, semiconductors, pharmaceuticals, scientific instruments and electrical machinery, which mostly depend on an advanced technological infrastructure and inward FDI in high-tech industries. World high technology exports are estimated to have reached over $1.7 trillion, around 70% of that amount originated from developed countries, of which 33.3% from the EU members, 13.1% from the United States, 7.0% from Japan, and 6.3% from Republic of Korea, OIC countries is about 4.0%. OIC member countries as a whole published 63,342 articles in journals that are covered by Science Citation Index Expanded (SCIEXPANDED), the amount reached is still below those of some individual countries in the world, such as the United States, China, Germany, Japan, and England. Production of scientific publications in the OIC is heavily concentrated in a few of the member countries. More than half of the articles (52.7%) originate from only two member countries, Turkey (31.6%) and Iran (21.1%), together with Egypt (7.0%), Malaysia (6.2%), and Pakistan (5.3%), these countries account for 71.2% of all published articles.

**371**
**Maintaining Quality: Standards of Practice for Clinical Pharmacists**

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Services provided by pharmacists are shifting to embrace more advanced, patient-centered care. Progress, however, is varied and significant diversions exist between countries and institutions. While some nations have successfully implemented clinical pharmacy services and have recognized clinical pharmacists for the provision of such services, a myriad of others are still struggling with the introduction of meaningful patient-centered services. As transformation of the profession takes place, standards that delineate the qualifications and expectations of clinical pharmacists becomes increasingly crucial for nations to successfully advance clinical pharmacy practice. This presentation will discuss key components of American College of Clinical Pharmacy's Standards of Practice for Clinical Pharmacists, which delineates the qualifications, collaborative, team-based practice and privileging, continuing professional development and maintenance of competence, and processes for the provision of care that patients, other health care professionals, administrators, and policy makers should expect of clinical pharmacists. The standards are intended to set forth the expectations and guide the de¬sign and assessment of clinical pharmacy education and training programs around the world.

**Keywords:** clinical pharmacy, standards, team-based practice.

**372**
**What Makes Biologics Different?**

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Biologics represent a sizable segment of drug industry with growing sales that are still expected to rise. These products are growing at twice the rate of prescription drugs. Health plans, employers and government insurers have concerns about their potential impact, while patients are concerned more about continued access to potentially beneficial therapies.According to the FDA, biologics are defined as a range of products such as vaccines, blood and blood components, allergenics, somatic cells, gene therapy, tissues, and recombinant therapeutic proteins. Biologics can be composed of sugars, proteins, or nucleic acids or complex combinations of these substances, or may be living entities such as cells and tissues. Biologics are isolated from a variety of natural sources - human, animal, or microorganism - and may be produced by biotechnology methods and other cutting-edge technologies. Most if not all biologicals share the criteria of their production in biological/living environment and this imposes the elements of complexity, safety and purity requirements that differ from classical drug molecules.In this presentation, the different categories of biologicals are to be introduced with emphasis on their production techniques. Highlight is shed on monoclonal antibodies, their uses and production. The most recent approvals of monoclonal antibodies and specifically those used in cancer therapy are to be presented.

**Keywords:** biologicals, biotechnology products, monoclonal antibodies, recent FDA approvals.

**373**
**Scope of Clinical Pharmacy Practice Within Intensive Care Unit**

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Intensive care unit (ICU) continues to be a major focus of decentralized clinical pharmacy activities in health systems that care for critically ill patients. The purpose of this presentation is to identify and describe the scope of practice that characterizes the critical care pharmacist and to highlight important issues to consider when introducing or developing critical care pharmacy services. This is not surprising, given the need for rapid decision-making involving unstable patients, the large number of powerful medications typically used per patient, the high cost of many drugs used in the ICUand, most importantly, the evidence demonstrating the benefits of having a clinical pharmacist as part of an interdisciplinary team. Specifically, the goals were to define the level of clinical practice and specialized skills characterizing the critical care pharmacist as clinician, educator, researcher, and manager; and to recommend fundamental, desirable, and optimal pharmacy services and personnel requirements for the provision of pharmaceutical care to critically ill patients. Despite few studies have assessed their effect on patient outcomes in the ICU, Clinical pharmacy services have been shown to reduce adverse drug events and health care costs.

**Keywords:** clinical pharmacy, intensive care unit, pharmacy services, patient outcomes, interventions, mortality.

**374**
**The Clinical Pharmacist in Community Setting: Shooting for the Moon!**

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The profession of pharmacy is well positioned to meet the primary care needs of patients, and the community pharmacist is the most accessible healthcare professional who can provide a professional, walk-in, free of charge pharmaceutical care service to patients. The definition of clinical pharmacy or the so-called Pharmaceutical Care focuses on drug therapy and recognizes the pharmacist as a health care provider who can actively participate in illness prevention and health promotion along with other members of the health care team.1 Until recently, community practice has been focused towards volume dispensing rather than the extent or quality of pharmaceutical care to the patient. However, the dispensing process does include a check on the safety and efficacy of each prescribed therapy and on many occasions this cannot be clarified without

consultations with the prescriber.2 Community pharmacy practice settings (e.g. traditional independent or chain) incorporate some other aspects of clinical pharmacy services (e.g., patient counseling) that research has documented as a catalyst to improve disease control and thus quality of life, and to reduce adverse drug reactions and non-compliance among patients. This talk mainly aims to review guidelines for clinical pharmacy practice in community setting, highlight barriers to the provision of clinical pharmacy services in this setting and to make recommendations designed to promote the growth of clinical practice in community setting.

**Keywords:** Clinical Pharmacist, Community setting, Patient Counseling, Treatment Related Problems (TRPs).

## 375
## Guidelines for Effective Leadership Management Performance

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The world is rapidly changing and requires those in leadership and management positions to assume constantly changing roles and responsibilities. Competition constantly demands that we find better, more efficient, more productive, and more profitable ways to produce products and deliver services. These demands are not limited to our competition, the expectations of our people, our internal and external customers, our suppliers, distributors, and business partners are increasing. Leadership and management, what's important is how to create a shared vision, the influence of values of our organizations, and how to communicate effectively with our teams, how to get people to step outside the box created by job descriptions and a minimalistic approach to the work world-an approach that allows the companies to grow and prosper in today's world. It is critical that we cultivate people who are helping us more our organization to the next levels because people support a world they help create. Leadership begins finding its own level in the organization. Clearly focused outcomes allow people to become more self-managed and to handle resources without senior level assistance. Our purpose is to create the management system by which our organization functions and continually demonstrate leadership that allows those systems to achieve their objectives. In leadership we focus on building skills in five interrelated areas, self direction, people skills, process skills, communication, and accountability. The experience of successful managers, and indeed, effective leaders in organizations of all types and sizes, has made it clear that certain functions, concepts and principles must be understood and performed consistently to ensure continued success and effectiveness in dealing with people.

**Keywords:** Leadership, organization, management.

## 376
## Creating A search Strategy Pattern for A Successful Results

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Creating a strategy is an important part of the search process in medicine information centre. This presentation will focus on the key elements to conduct a successful search for medication. Therefore the most important step is to understand the posted question, by asking the right questions that will be found to be useful to ask an enquirer in different clinical situations besides general questions that you ask regardless the question to cover more background information, specific fact and tips for search may help also for a successful research and evaluation. In addition to that, when standard resources and specialist resources are used in different categories in the right orderalong with using appropriate key words of the enquiry can help in finding the relevant information that you need. Search strategies would vary depending on personal preferences and the available resources at your centre, but good knowledge about information resources and search strategies will bring the search to a successful conclusion, even when you are not familiar with the enquiry's topic.

**377**
**Pharmacoeconomics, Economic Evaluation and Resources Scarcity in PubliclyFunded Healthcare Organizations in Jordan: Theories and Applications**

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One of the most vital issues that may face decision makers in publicly funded healthcare organizations is resources scarcity. Main contributors to resources scarcity are introduction of new health technologies and population aging. These factors require an increase in the budget or, in the other hand, prioritizing budget allocation. Many theories were placed to help decision makers in allocating scarce resources among different alternatives. Economic evaluations one of these theories; it provides a powerful and transparent tool in assessing possible alternatives. Pharmacoeconomics is the branch of economics that uses economic evaluation theory to compare pharmaceutical products and treatment strategies in order to assist the decision of prioritizing budget allocation. In Jordan, many health organizations are attempting to put pharmacoeconomics in their practice in order to get the maximum benefit of resources consumed in the system; however, many constraints raised. This presentation is an attempt to address the underlying theory, trials and limitations of applying pharmacoeconomics in our systems practice.

**378**
**Costs of Hospital Services in Jordan**

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**Objectives:** The purpose of this study was to estimate the direct cost of hospital services in one of the biggest public hospitals in Amman, Jordan.

**Methodology:** A retrospective analysis forms a 400-bed public urban hospital. Costs were estimated in Jordanian dinars (JD) (exchange rate was US$1.41).

**Results and Discussion:** Inpatient costs contributed to 50% of all costs whilst outpatient clinics consumed 17%. Average cost per admission was JD 481.6 (US$674.2), JD 106.7 (US$149.3) per inpatient day and JD 63.1 (US$88.3) per bed day. The average cost per visit to emergency room was JD 14.1s (US$19.7). Cost per visit to ambulatory care services ranged between JD 37.3 and 473 (US$52.6-662.2). The average cost per surgery was JD 322.1 (US$454.2).
Conclusion:ith high health costs, areas for improvements in efficiency and cost savings must be identified and discussed with managers and policy makers. A larger-scale study is advocated to understand the costs of various health providers such as military, teaching and private hospitals.

**Keywords:** hospital costs; Jordan; cost analysis; unit costs

**379**
**Rational Use of Antibiotics in the Management of Urinary Tract Infections inGovernmental Healthcare Centers**

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**Objectives:** The objective of this study was to investigate the degree of compliance with clinical practice guidelines recommendations in prescribing antibiotics for the management of urinary tract infections in governmental comprehensive healthcare centers in Amman, Jordan.

**Methodology:** Methods: The data was collected prospectively from four governmental comprehensive centers over the period 24/8/2014 to 2/10/2014. All encountered prescriptions were surveyed and those with the diagnosis of urinary tract infection were included. Actual prescribed antibiotic regimens were compared against those recommended by selected clinical practice guidelines to evaluate their degree of compliance.

**Results and Discussion:** Results: The total number of prescriptions surveyed was 8202. There were 3698 (45%) prescriptions that contained antibiotics out of the total number of prescriptions.

Among antibiotics containing prescriptions 350 (9.5%) were diagnosed as urinary tract infection. Results showed that 335 prescriptions out of 350 (95.7%) were compliant with guidelines recommendations in antibiotic selection. These were compliant prescriptions in terms of total daily dose (172 (51.3%)), dosing interval (309 (92.2%)), duration (131 (39.1%)), and whole regimen (111 (33.1%)).

**Conclusion:** Conclusion: Results showed a high degree of adherence to clinical practice guidelines recommendations in terms of antibiotic selection. However, the compliance in terms of duration of treatment and total daily dose were much lower. These findings highlight the importance for interventions to implement clinical practice guidelines recommendations in practice and promote rational and judicious antibiotic prescribing.

**Keywords:** Antibiotics, Clinical practice guidelines,Adherence.

**380**
**Assessment of Microvascular Environment in Breast Cancer Patients**

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**Objectives:** Angiogenesis is the process of formation of new blood vessels from pre-existing ones. Currently, angiogenesis inhibitors lack considerable activity and did not result in survival advantage in breast cancer. The goal of this study is to evaluate vasculature in terms of vascularity and vascular maturity among breast cancer subtypes.

**Methodology:** Archived tumor sections for patients were stained for laminin using immunohistochemical analysis. Endothelial cell and pericyte nuclei were stained with DAPI.

**Results and Discussion:** A total of 59 breast cancer patients were enrolled in this study. A significant difference for the mean number of blood vessels and endothelial cell to pericyte ratio among the different molecular subtypes of breast cancer ($p < 0.05$) was observed. Ratio of endothelial cells to pericytes was significantly different between hormone-dependent cases and each of HER2-positive and triple-negative cases (p=.000 and .001, respectively). Size of tumor at presentation was significantly correlated to both number of blood vessels and endothelial cell to pericyte ratio (r=.279, p=.035 and r=.398, p=.002, respectively). A significant correlation was shown between number of blood vessels and ratio of endothelial cell to pericyte in population studied (r=.427, p=.001). Degree of vessel immaturity was different in hormone-dependent tumors based on presence of lymphovascular invasion.

**Conclusion:** In conclusion, tumor vascularity and vascular maturity are not uniform among breast cancer subtypes. Careful assessment of tumor vasculature in breast cancer patients is needed to determine responsiveness to chemotherapy and anti-angiogenic treatment.

**Keywords:** Breast cancer, Vascularity, Vascular maturity

**381**
**Evaluation of Venous Thromboembolism Prophylaxis in Al-Basheer Hospital**

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**Objectives:** To evaluate VTE prophylaxis in Al-Basheer hospital and assess the extent of agreement of physician practice with the guidelines

**Methodology:** The study was a cross-sectional observational study that was conducted in Al-basheer governmental hospital in Jorden from January 2016 till June 2016. The patients were randomly selected from medical and surgical wards. The need for VTE prophylaxis was assessed according to the American College of Chest Physicians guideline (ACCP 9th edition) for men and non-pregnant females, and the American

Congress of Obstetricians and Gynecologists (ACOG) guidelines for pregnant women.

**Results and Discussion:** The total number of patients was 1030, the percentage of female patients was significantly higher than male patients, 584 (56.7%) compared to 446 (43.3%) with a p value < 0.001. Patients in the medical wards constituted most of the participants, 737 (71.6%) in the medical wards and 293 (28.4%) patients were in the surgical ward. According to the guidelines 455(44.2%) of the patients should receive prophylaxis, but only159 (34.9%) of these 455 patients were provided VTE prophylaxis. The degree of agreement of physicians practice of VTE prophylaxis with the guidelines was higher in the medical wards than the surgical wards, 541(73.4%) compared to 176(60.1%) with a p value <0.001.

**Conclusion:** VTE prophylaxis in Al-basheer hospital is not appropriate; this might be attributed to the absence of an institutional guideline that might aid physicians in the provision of appropriate VTE prophylaxis.

**Keywords:** Venousthromboembolism, Prophylaxis, American College of Chest Physicians (ACCP).

**382**
**Angiotensin II Receptors and Stroke Outcome: the Yin and Yang of Brain**

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**Objectives:** Stroke is considered as the leading cause of disability worldwide. A plethora of preclinical evidence supports a beneficial effect of blocking angiotensin II receptor type I (AT1) in ameliorating stroke outcome. Unfortunately their use is limited by concerns over their hypotensive effect during the acute stage of stroke. Angiotensin II has different receptors that are involved in stroke pathophysiology. We hypothesize that AT1 blockade mediated unopposed stimulation of AT2 receptor improves stroke outcome through up regulation of endogenous recovery mechanisms.

**Methodology:** The effect of unopposed AT2 stimulation on brain vasculature was assessed using in vitro angiogenesis assays. Brain cells were co-treated with angiotensin II and candesartan (AT1 blocker) and the involvement of both AT2 and growth factors was assessed using their cognate inhibitors. Cerebral ischemia was mode led using 3 hours and 90min middle cerebral artery occlusion (MCAO). At the time of reperfusion animals were randomized to receive either saline or compound 21 (a selective AT2 agonist). Recovery was assessed at both functional and molecular levels.

**Results and Discussion:** AT1 blockade induced the expression of BDNF a major pro-survival protein in the brain booth in vivo and in vitro. Additionally, AT1 blockade induced a proangiogenic response that was 2 and BDNF dependent. AT2 stimulation reduced infarct size and improved functional recovery after stroke. Furthermore, it has increased the formation of new blood vessels in the brain and upregulated survival pathways in the brain.

**Conclusion:** AT2 stimulation can be considered as a plausible target to reduce the extent of CNS damage after stroke and improve stroke outcome.

**Keywords:** stroke, neurotrophins, compound 21, AT2 receptor, recovery, functional outcome

**383**
**A Different Prospective for Treating Chronic Suppurative Otitis Media (CSOM)**

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Although Chronic Suppurative Otitis Media CSOM is relatively common treatment protocols more often than not concentrate at the ear not adequately addressing co morbidities especially nasal disease.Current practice at the department will address both the presenting complaint as well as co morbidities which are often neglected by the patient.
I will share department practice which has much improved outcome in treating patients with chronically discharging.

## 384
## Combined Endoscopic and Microscopic Surgery of the Nasal Sinuses

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The development of Functional Endoscopic Sinus Surgery (FESS)is closely related to the achievements of Messerklinger and Stammberger from Graz, Austria. During a period of almost 30 years FESS changedtheapproach to sinunasal diseases from radical to functional. Wiegand and coworkers realized that healingwasimproved after endoscopic surgery and refined the endoscopic approach. During the same time periodothernose surgeons realized that also the operating microscope allowed to reduce accidental trauma to thesinuses.Heermann was one of the first to propagate the use of the microscope for surgery of the paranasalsinuses.Slowly, but steadily functional sinus surgery replaced radical sinus surgery. Most sur8eons either usedthemicroscope or the endoscope. Rudert from Kiel was one of the first to use both instruments duringsurgery, realizing that he could use the advantages of the best of both worlds to further increase the outcome forsinussurgery patients. In the 1990ies image guided systems and powered instruments further changed theapproachto sinus surgery. In the years 2000 and following we saw improvements in nasal packing and theballoontechnology emerged. The presentation reviews the development of sinus surgery since the 1950ies, reflectingon the pros and cons of the respective developments. The anatomic principles and operative techniquesarereviewed emphasizing the value of various instruments and technologies, which have changed the field ofsinussurgery (newly designed sinus instruments, self-retaining nasal specula systems, navigation, balloons, resorbable packing materials, ahercare). Recommendations are given according to the authors 22 year experience in combined endoscopicandmicroscopic surgery of the nose and the paranasalsinuses.

## 385
## Hereditary Haemorrhagic Telangiectasia (HHT, M. Osler), Update 2016

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**Introduction:** Hereditary Hemorrhagic Telangiectasia (HHT, Morbus-Rendu-Osler-Weber) is a disorder of the entire vascular system. Typical findings of the disease are telangiectases of the skin and mucous membranes and arteriovenous malformations of the inner organs. Due to the systemic character of the disorder hemorrhages and other complications may occur everywhere in the body. Typical manifestations of HHT are Epistaxis, hemorrhages, stroke, abscesses, heart and liver failure and anemia. It is not clear, whether HHT patients suffer from a typical spectrum of comorbidities.

**Method:** The charts of 61 HHT patients from a 9 year period (2006-2016) were prospectively analyzed for age, gender, signs and symptoms at presentation and comorbidities. The investigation was performed with standardized evaluation protocol.

**Results:** All patients suffered from recurrent epistaxis. Our current protocol for treatment of HHT-related epistaxis is given in the presentation. During hospitalization HHT patients are screened for occult visceral AVMs and a history of comorbidities is taken. A total of 51 cases with comorbidities could be evaluated from a pool of 61 patients. In 31% of the cases multiple comorbidities could be found. The most frequent comorbidity was arterial hypertension (18/51). Further common diagnoses were: anemia (11/51), cardiac arrythmia (10/51), congestive heart disease (7/51), diseases of the cardiac valves (5/51) and coronary heart disease (6/51). Two patients had a history of stroke, 4 patients had suffered from a malignoma. Diabetes was evident in 6 patients; deep vein thrombosis was seen in 2 patients. Chronic renal failure was diagnosed in 2 patients; one patient each had a history of the following diagnoses: Depression, Gastritis, Morbus Meniere, Cushing Syndrome, Hepatitis B, Dementia, OSAS, Asthma and Allergies.

**Conclusion:** HHT is a very complex disease and

patients suffer from epistaxis and multiple other disorders. It comes to no surprise, that the majority of comorbidities concern the cardio-vascular system. HHT patients with cardiac arrythmia are difficult to treat, because anticoagulant therapy may lead to deleterious nosebleeds. In this regard factor Xa inhibitors may become an alternative to Warfarin. The presentation sums up all the current knowledge of this systemic disease.

**386**
**Endoscopic Sphenoidotomy: Bulla Down Technique**

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Endoscopic transnasalsphenoidotomy is a well-described approach to access sphenoid sinus for different sinus and skull base pathologies management. Although this approach is the least invasive physiological route to sphenoid sinus, it usually required trimming the superior or the middle turbinate which might lead to intra or postoperative complications.
In the bulla down technique, the uncinate process and ethmoid bulla removed. This allowed easily lateralized the middle turbinate to fully expose the sphenoethmoid recess and the superior turbinate. It also creates an enough posterior space for handling the instruments without affecting middle turbinate structural integrity. We have been used this technique for 10 years without reported any major surgical complications.
Bulla down technique is safe, easy to follow and effective method to approach sphenoid sinus to treat different medical conditions in the sinus and surrounding skull base structures.

**387**
**Narrow Band Imaging Endoscopy for Diseases of the Head and Heck**

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Narrow Band imaging uses two light frequency bands with a wave length maximum of 415 nm and 540 nm, respectively. Visible is a higher proportion of blue light. The absorption features of haemoglobin are supposed to reveal an exact depiction of capillary mucosal vessels and venous vessels of the submucosa. We have used this new technology for over 200 cases of various head and neck diseases to assess its value for Otorhinolaryngology. All patients underwent endoscopy with white light (WL) as well as Narrow Band Imaging (NBI). Images were stored digitally and were evaluated by two independent investigators with regard to overall visibility, contrast and diagnostic accuracy. NBI-mode showed a more pronounced contrast of vessels and capillaries and allowed an assignment of the respective vessels to superficial and deeper layers of the mucous membranes. Smaller vessels which could not be seen on WL imaging were detectable by NBI. This was of diagnostic value for several diseases, especially in malignancies and vascular disorders. Inflammatory diseases also showed an increase of vascularity compared to normal mucous membranes of the upper aerodigestive tract.

**Conclusion:** NBI renders optimized contrast imaging of mucosal vessels as compared WL imaging. This feature may be useful for various diseases of the head and neck, especially for the differentiation between benign and malignant diseases. NBI may also be helpful to detect occult sources of hemorrhages in cases of unclear hemoptysis.

**388**
**How to Avoid Complications in Sinus Surgery**

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Functional endoscopic sinus surgery (FESS) is an effective technique in management chronic rhinosinusitis (CRS) resistant to medical treatment. Serious surgical complications and persistent symptoms are still however being reported, especially in revision surgery. The primary goal of this presentation will be to discuss techniques aimed at avoiding serious complication. We will also examine the impact of technological advances on serious complications of sinus surgery.
Extensive clinical experience and evidence-based medical information from peer-reviewed journals will be used in a multimedia presentation to demonstrate fundamental points. Case and video presentations will be used to discuss and

emphasize important elements in performing safe FESS procedures. Audience participation will also be employed at multiple points throughout the seminar to explore important issues and controversies in management.

**389**
**Fungal Rhinosinusitis, Increased Awareness**

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Although fungal rhinosinusitis is an important differential diagnosis of chronic rhinosinusitis with polyposis, we have noticed delay and missed diagnosis in many cases, especially in young adults. In this lecture; we will present clinical presentation, radiological evaluation, diagnostic dilemmas, endoscopic management, and clinical outcome of such cases. This presentation will be supported by radiological images and endoscopic videos of cases of our work at the Royal Medical Services.

**390**
**Extra Middle Turbinate Lamellas: A New Classification**

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**Purpose:** Proper knowledge of sinonasal configurations and anatomical structural variations is essential to perform safe endoscopic sinus surgery. Although common middle turbinate variations have been well described in literature, rare variations have not. The aims of this study are to revise the nomenclature of extra middle turbinate lamellas variations and suggest an easy classification system of these lamellas.

**Method:** Charts and medical records review was performed for consecutive cases that were diagnosed with extra lamella middle turbinate based on endoscopic and stander three-dimensional reconstruction computer tomography scan at a tertiary academic center. After extensive literature review, these lamellas were classified into four types depending on the presence or absence of uncinate process and their morphological configuration.

**Result:** Twenty-two subjects (mean age 35 years; 8 men and 14 women) were identified who had thirty extra middle turbinate lamellas. Nasal obstruction and discharge were the most common presenting symptoms. Accessory middle turbinate was the most common extra lamella been observed and bifid inferior turbinate was the least common. Ten patients (45 %) had an accompanied middle turbinate anatomical variations, 9 (41 %) had nasal septum deviation, 11 (50 %) had associated maxillary or ethmoid sinusitis and 5 (23 %) had hypoplastic maxillary sinus.

**Conclusion:** Extra middle turbinate lamella is a rare type of middle turbinate anatomical variation that can be diagnosed by careful endoscopic examination and a precise computer tomography scan review. These lamellas may have a significant association with mucosa pathologies and are commonly seen with other common middle turbinate variations. Correct description and the use of common terminology can help to further evaluate the incidence of lamellas, their pathophysiological role, and to avoid any intraoperative landmark confusion.

**Keywords:** Accessory; Anatomical variation; CT scan; Endoscopy; middle turbinate; Secondary; Sinus surgery

**391**
**Hearing Readiness of Soldiers in Multinational Missions**

*Col. Roland Jacob MD (Germany)*
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**Objectives:** Acoustic communication is of great importance in international missions. In multinational set-up English is the key language, but most participant are non-native speakers and non-native listeners in English. The hearing ability has influence on survivability in combat situation; the transmission of information is endangered by misunderstanding. Therefore the effect of non-native language skills on readiness should be analyzed.

**Results and Discussion:** Increased hearing effort in foreign language communication reduces survival in combat situation (from 75% to 25%). The speech understanding in loud

surroundings drops to dangerous levels (<40%). Misunderstanding among soldiers in multinational operations sharply raises, when language skills are not sufficient for the individual tasks. Standards are needed, to identify hearing readiness in English for each soldier and his specific duty.
The results underline the need for future studies in this field.

**Conclusion:** In international and multinational missions, hearing readiness in English language need to investigate and minimal standards need to be defined, to minimize risks to the soldiers.

**Keywords:** Hearing readiness, acoustic communication, hearing quality, fitness for duty

**392**
**Tricks in Trans-Sphenoidal Surgery for Pituitary Tumors at King HusseinMedical Center (KHMC)**

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**Objectives:** 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.

**Methodology:** Analysis of our 570 cases of pituitary tumors that were operated from November 2003 till October 2015 by a single surgeon at KHMC, using direct microscopic endonasal transsphenoidal, endoscopic endonasal transsphenoidal, and frontolateral approaches.

**Results and Discussion:** Data obtained by radiological and endocrinological assessment showed ninety percent cure in Cushing disease, fifty five percent in acromegaly, and total resection of non functioning tumors in seventy five percent of cases. Mortality in three cases, morbidity in five percent of cases . 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 teamwork, and should be managed at special centers with good experience to deal with these tumors, their follow up and complications.

**Keywords:** pituitary, endoscopic, transsphenoidal

**393**
**Tips on Optimizing Success in Tympanoplasty and Ossicular Reconstruction**

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There are many factors that are known to improve success with tympanoplasty using a transcanal approach. Techniques that have been refined over the years at the Hough Ear Institute will be reviewed and potential pitfalls to avoid during chronic ear surgery will be discussed.

**394**
**Maximizing Facial Nerve Outcomes in Cerebellopontine Angle Surgery**

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Facial nerve preservation rates for small to medium-sized tumors of the cerebellopontine angle are approaching 90% with current techniques. However, maintaining facial nerve function following removal of large tumors greater than 3 cm is more challenging. Methods for maximizing facial nerve identification as well as minimizing surgical related morbidity will be discussed including subtotal and near total excision of CPA tumors. Facial nerve reanimation techniques will be discussed.

**395**
**Cochlear Implant in Single-Sided Deafness (SSD) and Tinnitus**

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**Objectives:** Introduction: In recent years, cochlear implants (CI) have been successfully used in the treatment of patients suffering from single-sided deafness with or without tinnitus. Eleven patients with single-sided deafness and tinnitus received cochlear implants at the Department of Otolaryngology of the Federal Armed Forces Hospital in Ulm over the past twelve months. We conducted this study in order to investigate the effects of cochlear implants on speech perception, sound localisation, the level of tinnitus, and general patient satisfaction.

**Methodology:** Eleven patients with single-sided deafness and tinnitus were included in the study and underwent the Freiburg speech perception test in quiet, the Oldenburg sentence test, the Hochmair-Schulz-Moser (HSM) sentence test, and a test of localisation under free-field conditions. Furthermore, general patient satisfaction was assessed. Tinnitus was evaluated using a visual analogue scale (VAS) and a structured tinnitus interview (STI).

**Results and Discussion:** All eleven patients showed an improvement in hearing with the CI. Preoperative tinnitus decreased to a minimum level in almost all subjects. This was the most important result of the study.

**Conclusion:** In nearly all patients with single-sided deafness, the cochlear implant led to an almost complete reduction of coexisting tinnitus. Speech perception in background noise and localisation performance also improved after cochlear implantation in almost all patients with single-sided deafness.

**Keywords:** cochlear implant, tinnitus, single-sided deafness (SSD)

**396**
**Hybrid Cochlear Implant Surgery**

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Hybrid cochlear implant technology has greatly expanded the number of patients with sensorineural hearing loss who are able to benefit from electrical stimulation of the cochlea while retaining residual low frequency hearing. We will discuss the principles of minimally traumatic cochlear implantation technique and review the HEI experience with hybrid cochlear implant surgery

**397**
**Challenging Cases of Fungal Keratitis**

*Wafa Asfour MD (Jordan)*
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Fungal Keratitis is a very common cause of corneal infection in developing countries. It's well known that the incidence of fungal keratitis has been increased worldwide, Farm injuries had been the most common important cause It should be diagnosed and treated promptly and effectively or else a significant damage can occur The early stage of fungal keratitis remains a diagnostic and therapeutic challenge to the ophthalmologist, beside it's difficult in isolating the etiologic fungal organism in the laboratory as well as the challenge in treating the infection effectively with topical anti fungal agents. Being at KHMC which is a tertiary referral center; patients with fungal keratitis are often seen late, they are referred from other less experienced centers or from private practice where patients are both difficult to be treated and followed up easily. Fungal keratitis can extend from the cornea onto the sclera and intra-ocular structures and can cause severe infection usually very difficult to treat and result in severe visual loss and even loss of the eye. We are reporting challenging cases of fungal keratitis were presentation was late, the treatment was challenging and where corneal perforation occurred and the patients' eyes and vision were only saved by therapeutic keratoplasty.

## 398
## Blepharokeratoconjunctivitis (BKC) in Children

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The syndrome of childhood blepharokeratoconjunctivits (BKC) is frequently underestimated. Total control of the disease is not possible in many cases. Measuring success has been based on clinical experience only. We are implementing a new classification of BKC to define the degree of activity and damage at any stage of the disease and hence measuring success of disease management. It will objectively measure success of our BKCmanagement Protocol. Methods: The study reviewed all children with BKC treated during the last 10 years. We collected data from 42 children. We graded the severity of the disease on two scales: Level of active disease (activity score – A0-A3), Level of damage caused from disease (damage score – D0 – D3). These scales were used at presentation (i.e. pre-treatment) and post-treatment to quantify success of treatment. The scales are measured from grade 0 (no activity/damage) to grade 3 (severe activity/damage). Results: Activity scores post treatment were lower than the activity scores pre-treatment sowing success intreatment.There was a reduction in activity score post treatment in 88% of the patients.None of the patients had a higher activity score post treatment. We classified total success of treatment as resulting in an activity score of 0 post- treatments. Partial success was defined as a reduction in activity score post-treatment. Complete success was achieved in 21 patients (50%).Partial success was achieved in 16 patients (38%). We would expect the damage score to remain the same post treatment as damage is difficult to reverse. If the disease takes a while to get under control, damage may get worse. 11 patients (26%) showed some improvement indamage post-treatment. 27 patients (64%) showed no change in damage scorepre- and post-treatment. Unfortunately 4 (10%) of patients showed a worsedamage score post-treatment. Mean follow up 3.2 years (3 months – 10 years). Conclusions:Current protocol is successful in treating patients with blepharokeratoconjunctivitis.The protocol is being followed in 90% of cases. Total control of the disease is not always possible. The protocol resulted in full control of the disease in 50% of cases, and partial control in 38% of cases. 50% of children required a general anaesthetic for insertion of punctual plugs or steroid injections. Topical steroids and following a strict regime of treatment is vital for disease control.

## 399
## Optimising Outcomes of Paediatric Keratoplasty

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Paediatric Keratoplasty is a high risk keratoplasty. Retaining graft clarity, preventing graft rejection, addressing adnexal abnormalities and visual rehabilitation are key to improve outcomes and can be challenging. Challenges, Diagnosis, Surgical Postoperative, Visual rehabilitation, MDT, Parents education.

**Objectives:** To discuss various innovations in pediatric keratoplasty to address ocular surface inflammation, reduce rejection, and address adnexal and eyelids abnormalities.

**Methods:** We will present various cases to discuss multiple approaches to rehabilitate eye surface and optimising outcomes of paediatric keratoplasty. Ocular surface optimisation, Inflammation control/ Immunosuppression, Neovascularisation control, Co-morbidity management, Suture removal.

**Results:** Outcomes of paediatric keratoplasty are dictated by carefully minimising risk factors preoperatively, intraoperative consideration, and early management of post operative risk factors of graft failure. We will discuss the use of intraoperative OCT, endoscopic approach in diagnosis and treatment, use of Anti-VEGF, use of dermal fillers, and wise use of anti-inflammatories topically and systemically. Designing a tool to measure QoL in those children remains one of the objectives of our work.

**Conclusion:** Paediatric Keratoplasty: Challenging. Optimising outcomes is a key, Diagnostic, Medical, Surgical, New instrument to measure outcomes.

**400**
**One Cornea, Two Recipients. Latest Innovations in Corneal Transplantation(DSAEK and ALTK)**

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**Objectives:** To present the latest innovations in corneal transplantation (DSAEK and ALTK) and how we can use one cornea to benefit two or more patients through lamellar keratoplasty techniques.

**Methodology:** Patients and methods: Sixteen patients underwent different types of lamellar corneal transplantation for various corneal diseases. Patients with diseased endothelium and bollous keratopathy underwent endothelial keratoplasty (DSAEK) from a locally prepared fresh cornea using a specialized device (Moria CBM/ ALTK system). The same same cornea was then harvested and prepared so that the anterior part could be used for anterior lamellar keratoplasty (ALTK) in patients who suffered from pathology in the anterior part of the cornea. Both the anterior and posterior lamellar keratoplasty were performed under local anesthesia

**Results and Discussion:** All patients showed improvement in visual acuity within short period of time. Results will be demonstrated during the presentation

**Conclusion:** DSAEK and ALTK are both new techniques introduced for the first time in Jordan through the Royal Medical Services to benefit a larger number of patients. These procedures avoid opening the eye as opposed to conventional keratoplasty

**Keywords:** cornea, lamellar, endothelium, keratoplasty.

**401**
**Descemt Stripping Automated Endothelial Keratoplasty: Experience at King Hussein Medical Center (KHMC)**

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**Objectives:** TO DESCRIBE the latest advances of endothelial keratoplasty: DSAEK, Descemet stripping automated endothelial keratoplasty. DSAEK has became the standard of care for the surgical treatment of endothelial diseases of the cornea.

**Methodology:** the lecture will present a comprehensive overview of the advantages of DSAEK surgery, the donor tissue selection criteria, indications and the detailed surgical techniques of the procedure.

**Results and Discussion:** DSAEK surgery proved to have many advantages over traditional penetrating keratoplasty including Faster visual rehabilitation,Small incision,Astigmatic neutral surgery,Maintains globe integrity,has a Lower rejection rates and Less wound dehiscence,

**Conclusion:** DSAEK surgery is considered a breakthrough in corneal surgery. PK is no longer the gold standard.

**Keywords:** DSAEK, Endothelial keratoplasty

**402**
**Keratoconus in Children**

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Keratoconus (KCN) in children can be missed in its early stages and progression could be rapid and relentless. This could lead to failure of visual maturation, failure to reach developmental and social milestones, and premature surgical intervention. Early detection of KCN in children is there vital, and more tools are becoming available to allow for this. CXL is an established and safe treatment to stabilise KCN in adults, and the evidence for its effectiveness in children is mounting. It may however have a higher failure rate in children, requiring repeated treatments. Delaying or even obviating the need for keratoplasty would be an ideal goal at this stage in life. As a result of these newly available treatment tools for KCN, there is increasing pressure for health professionals to diagnose at an earlier stage. Epithelium-off CXL is the current gold standard, but epithelial disruption also provides a viable alternative which is safer and more

tolerable. Trans-epithelial techniques need to be further developed to reach the same effectiveness, but this would be a preferable method especially in children due to better tolerance and better safety.

**403**
**Photopsia: Positive Visual Symptoms in Eye and Brain Disorders**

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Many patients complain of positive symptoms arising from disorders of the retina, optic nerve or visual cortex. Some phosphenes occur normally such as those seen when the globe is deformed by digital pressure. Ophthalmologists tend to be more familiar with retinal phosphenes such as arise in retinal detachment or posterior vitreous detachment but are not confident in the diagnosis of phosphenes arising in migraine and occipital epilepsy. Optic nerve disorders, particularly optic neuritis can also give rise to the perception of flashes of "light". The aim of the talk is to explain how the characteristics of spontaneously induced sensations of light can give clues as to the anatomical and pathological basis of the generation of these phenomena.

**404**
**Congenital Anomalies of the Optic Disc**

*Suha AL Ea'jailat MD (Jordan)*
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Congenital anomalies of the optic discs are a group of malformations of the optic nerve head and the surrounding tissues, whether unilateral or asymmetrical, in size or shape, disc anomalies can result in congenital visual impairment and sometimes blindness. However visual impairment may be not the only problem with these patients, other aspects should be correlated including ophthalmic, neurologic and systemic features in order to predict the possible outcome in these patients. Accurate diagnosis and good management are of the utmost importance. Herein some important aspects will be discussed including classification, presentation, associations, and management.

**405**
**Involuntary Eye Movement Disorders**

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Ocular motor disorders can be either due to under-action (paresis) or over-action (spasm) of the extraocular muscles. Disorders due to spasm and other forms of involuntary activity are rare but the diagnosis is usually straightforward because the clinical syndromes are so characteristic. In this talk; I will discuss the following, together with video illustrations: Neuromyotonia, Superior oblique myokymia, Paroxysmal ocular tilt phenomenon, Tullio phenomenon, Paroxysmal symptoms in multiple sclerosis and cavernoma of the brain stem, Oculogyric crises, and Opsoclonus.

**406**
**How to Restore Lost Vision in Ophthalmological and Neurological Disease using Brain Plasticit**

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**Objectives:** Vision loss due to glaucoma, diabetic retinopathy, optic nerve or brain damage is considered irreversible. But new research shows that the brain "amplifier" of residual vision can be re-tuned to improve visual fields. In a new prospective, randomized, multi-center clinical trial significant vision improvements were achieved in partially blind patients after 10 days of noninvasive, transorbital alternating current stimulation (ACS).

**Methodology:** 82 patients were enrolled in a double-blind, randomized, sham-controlled clinical trial; 33 patients had visual deficits caused by glaucoma and 32 with optic neuropathy caused by inflammation, optic nerve compression (due to tumors or intracranial hemorrhage), congenital anomalies, or Leber's hereditary optic neuropathy. Eight patients had more than one cause of optic nerve atrophy. ACS was applied with electrodes on the skin near the eyes (video showing the procedure: http://www.youtube.com/watch?v=g8p3mWsLvAI). Vision was tested before and 48 hours after completion of treatment,

and then again two months later to check if any changes were long-lasting.

**Results and Discussion:** Patients receiving ACS showed significantly greater improvements in perceiving objects in the whole visual field than individuals in the sham-treated group. Specifically, when measuring the visual field, a 24% improvement was noted after treatment in the ACS group compared to a 2.5% improvement in the sham group. This was due to significant improvements in the defective visual field sector of 59% in the ACS group and 34% in the sham group which received a minimal stimulation protocol. The benefits of stimulation were found to be stable two months later, as the ACS group showed a 25% improvement in the visual field compared to negligible changes (0.28%) in the sham group. In addition to activation of their residual vision, patients also experienced improvement in vision-related quality of life such as acuity, reading, mobility or orientation ACS treatment is a safe and effective means to partially restore vision after optic nerve damage probably by modulating brain plasticity, re-synchronizing brain networks, which were desynchronized by vision loss.
In prior studies it was already shown that well-synchronized dynamic brain functional networks are critical for vision restoration and these neural networks can be re-synchronized by ACS via rhythmic firing of the ganglion cells of the retina, activating or "amplifying" residual vision. While additional studies are needed to further explore the mechanisms of action, these results warrant the use of ACS treatment in a clinical setting to activate residual vision by brain network re-synchronization. This can partially restore vision in patients with stable vision loss caused by optic nerve damage.

**Conclusion:** Vision impairment and loss, long considered to be irreversible, can now be partially reversed. There is now more light at the end of the tunnel for rehabilitation of patients with low vision or blindness following low vision and blindness. The treatment is being offered only in Germany (www.savir-center.com).

**Reference:** PLOS ONE, 29 June 2016: http://dx.doi.org/10.1371/journal.pone.0156134).

**407**

## The Role of Optical Coherence Tomography (OCT) and Humphrey Automated Perimetry in the Assessment of Optic Nerve Damage in Primary Open Angle Glaucoma

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**Objectives:** to compare two techniques used for assessment of optic nerve damage in glaucoma patients and to find whether those methods are complementary or can substitute each other

**Methodology:** this is a prospective study conducted at king Hussein Medical Centre between April 2014 and July 2014. All patients diagnosed to have primary open angle glaucoma were enrolled in this study. Patients with unreliable automated perimetry and patients with past history of retinal or optic nerve diseases were excluded from the study. Optical coherence tomography and Humphrey automated perimetry will be performed to all patients on each visit. The data obtained was analyzed and compared

**Results and Discussion:** 250 patients (410 eyes) with galuacoma aged between 37 and 75 years. OCT was able to detect glaucomatous damage in 94.6% of glaucoma patients. It detected the damage in 93.6%, 96.1% and 97.6% of eyes with mild, moderate and severe cases respectively. The agreement between the two instruments was 91.9%, 94.2% and 97.6% in mild, moderate and severe cases respectively

**Conclusion:** OCT proved to have a very good agreement with Humphrey automated perimetry and it can be used instead of HAP for assessment the wellness of optic nerve fibers especially when there is any limitation in interpretation of HAP images

**Keywords:** glaucoma.humphrey visual field, OCT

## 408
## Visual Evoked Potential in Functional Visual Loss

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**Objectives:** To investigate the Role of pattern reversal visual evoked potential in detecting functional visual loss

**Methodology:** Patients with visual acuity of an unknown cause were referred to neuro-ophthalmology clinic at King Hussein Medical Center. Further examination was conducted in order to determine patients with functional visual loss. Malingerer test was done for all patients.

**Results and Discussion:** Sixteen patients were enrolled. Malingerer test was positive in half of them. Pattern reversal visual evoked potential was detected in smallest checker pattern of 5 minutes arc in 14 patients. The remaining two patients, the response were detected in larger pattern

**Conclusion:** Pattern reversal visual evoked potential is a sensitive test in detecting patients with functional visual loss. It is advised to be done in patients with negative malingerer test

**Keywords:** Pattern reversal, visual evoked potential, functional

## 409
## Diplopia

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Both Neurologists and Ophthalmologists need to be competent in assessing a patient with diplopia however they are taught from different standpoints - Neurologists are looking for cranial nerve palsies, central lesions or myasthenia while the Ophthalmologists are more competent in assessing congenital strabismus. The aim of this talk is to provide a scheme for the assessment of a patient with diplopia. This will enable the Neurologist to recognise a congenital problem and the Ophthalmologist not to miss a neurological disorder.

## 410
## Introduction to Retinopathy of Prematurity (ROP)

*Janet Hina MD (Jordan)*
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Retinopathy of prematurity (ROP) is a complex disease process caused mainly by a lack of complete retinal vascularization in premature infants. Typically, it progresses, but my regress spontaneously specially at early stages of the disease. The ischemia resulting from avascularity leads to growth factors release promoting new vessels formation. Vitreous hemorrhage and retinal detachment can occur in a progressive disease ending in a complete retinal detachment and fibrovascular plaque behind the lens. The classification of the disease can guide the treatment and prognosis. It depends on the location (zone), severity(stage), extent (clock-hours of involvement) and presence or absence of plus disease.

## 411
## Retinopathy of Prematurity Management Outcomes

*Mustafa Mehyar MD (Jordan)*
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Retinopathy of prematurity is a leading cause of childhood blindness in developed countries. Timely screening and treatment is essential for good visual outcomes. In this presentation we review the profiles and outcomes of all infants referred to rule out Retinopathy of prematurity between January 2006 and December 2011, including the gestational age, birth weigh, age at presentation and visual outcomes. We also review the long term complications of Retinopathy of prematurity and its treatment.

**412**
**Long Term Follow-Up of Visual Functions in Premature Infants**

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Prematurely born children have an increased risk of ophthalmologic problems. The mode of how these children should be followed is still debatable. The purpose of this study is to identify the visual problems that face these children at six years. The risk factors for repeated follow up were treated ROP, neurological complications, and anisometropia. Repeated follow-up provides an opportunity to identify various ophthalmologic problems in premature infants.

**413**
**Role of Anti-Vascular Endothelial Growth Factor Injections in Retinopathy of Prematurity Management**

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Retinopathy of prematurity (ROP) is a neovascular retinal disorder of preterm infant that may lead to poor visual acuity or blindness by means of macular dragging and retinal detachment. Incidence of ROP has increased due to increased survival of premature infants with very low birth weight. In the late 1990s treatment modality of ROP is changed from cryoretinopexy to laser photoablation. Recently, there have been studies that show success in using anti-vascular endothelial growth factor injections for some stages of ROP. This new modality of treatment will be elaborated in my presentation.

**414**
**Surgical Management of Retinopathy of Prematurity (ROP)**

*Bassam Nawayseh MD (Jordan)*
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Retinopathy of prematurity is a preventable but potentially blinding condition. The initial vasoproliferative manifestations of the disease are managed with peripheral laser ablation. Despite improvement in screening protocols, laser ablation, intravitreal bevacizumab (Avastin), ROP still progresses to retinal detachment and blindness in 10% to 20% of all involved eyes. Advanced stages of ROP (4 and 5) usually require surgical intervention. Several procedures have been described to treat ROP-associated RDs, including scleral buckling, opensky vitrectomy, and closed vitrectomy with or without lensectomy. In this lecture I will present a review on the options and techniques for surgical management of advanced stages of ROP

**415**
**Efficacy of Treatment of Uveitis Among Jordanian Patients with Behcet's Disease**

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**Objectives:** To investigate the effect of azathioprine, ciclosporine, oral Prednisolone and infliximab on uveitis patients with Behçet's disease.

**Methodology:** A retrospective study conducted at King Hussein Medical City between Nov. 2015 and June 2016. All patients attended to the uveitis clinic and had attacks of uveitis as manifestation of Behcet's disease were enrolled in the study. The patients were evaluated regarding type of uveitis, number of attacks per year, last episode of uveitis and treatment of uveitis.

**Results and Discussion:** Thirty five patients were enrolled in the study and twenty four of them were males. The most common form of uveitis was vitritis (51%) followed by anterior uveitis (42%) and retinal vasculitis (35%). The mean duration of Behcet's disease was 6.5 years. 6 patients (17%) had recurrent infrequent attacks with no use of systemic treatment. 10 patients (29%) were controlled with the use of azathioprine and low dose oral Prednisolone.15 patients (34%) were controlled with the use of combined azathioprine, ciclosporine and low dose oral Prednisolone. 3 patients (9%) were controlled with the use of infliximab in addition to combined azathioprine, ciclosporine and low dose oral Prednisolone. One patient (3%) failed all the previous treatment.

**Conclusion:** Uveitis in Behcet's disease is usually

mild to moderate in severity with relatively good control with combined azathioprine, ciclosporine and low dose oral Prednisolone. Few patients needed the addition of infliximab to control uveitis.

**Keywords:** Behcet's disease, Uveitis

**416**

## Changes in HbA1c Following Consultation with Diabetes Specialist Nurse in Medical Retina Clinics

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**Objectives:** To explore whether a change in HbA1c is discernible in patients seen by the diabetes specialist nurse in the medical retina service

**Methodology:** 1) Database kept of all patients seen by diabetic nurse - Patient ID; Gender; D.O.B. - Type 1 or Type 2 diabetes - HbA1c reading
2) Retrospective review: ** Inclusion criteria --- All patients seen on more than one occasion ---Comparison between HbA1c measurement on 1st and 2nd visit **Exclusion criteria ---Patients seen <3 months apart

**Results and Discussion:** *1479 patient reviews logged on database between early 2014 and July 2015 * 166 patients with consecutive visits and HbA1c readings 3 months or more apart (the results will be discussed) - There was a statistically significant drop in HbA1c seen following intervention with a trend to greater drop over longer time intervals, suggesting cumulative improvement and similar to magnitude seen following interventions in published

**Conclusion:** Data shows significant drop in average HbA1c following referral to DM specialist nurse which suggest the service should continue data collection and attempts to establish comparison data and longitudinal data at multiple visits - Considering expanding service by providing on-site ("zero-delay") access to DM nurse in additional clinics

**Keywords:** Diabetes, HbA1c, Diabetes nurse, Medical retina, Diabetic control, Education

**417**

## Comparison of Transcutaneous and Transconjunctival Lower Blepharoplasty at King Hussein Medical Center

*Thabit Odat MD, Ameen Husni Al-Khateeb MD, Montaser Faouri RN, Tahani Abdel-kareem RN, Asma Jaradat RN*
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**Objectives:** To compare the surgical outcome of transcutaneous and transconjunctival lower blepharoplasty at King Hussein Medical Center.

**Methodology:** A retrospective chart and patients' photographs review was done at King Hussein Medical center between January 2010 and June 2016. All patients who underwent transcutaneous or transconjunctival lower blepharoplasty with or without adjunct procedures by the first author were included. Extracted data include patient's age, gender, surgical procedure (s), complications, and follow up duration. Patients with incomplete data were excluded.

**Results and Discussion:** Twenty-four patients (48 eyes), 12 transcutaneous and 12 transconjunctival were included, 1 male (transconjunctival) and 23 females. The average was 47.2 years (range 28-72 years). All patients with transconjunctival approach had fat repositioning to efface the Naso-jugal groove and all were satisfied with the results. All patient of transcutaneous technique had subciliary incision. Periorbital ecchymosis was found in all patients of both groups. Eighty percent of transcutaneous approach patients and 44% of transconjunctival approach had lower eyelid tightening either lateral tarsal strip or canthopexy. Mild scleral show was seen in less than 10% of transcutaneous patients and none of transconjunctival patients. Lateral canthal deformity was seen in 2 transcutaneous patients. Skin scar was noticeable in 4 patients with transcutaneous approach. Redo was needed in 2 transcutaneous patients. Follow up period ranged between 2 weeks and 2 years.

**Conclusion:** Transconjunctival with fat repositioning technique was more effective, had more pleasing results, and associated with less complications in comparison with transcutaneous technique

**Keywords:** Transcutaneous, Transconjunctival, Blepharoplasty, Fat Repositioning

**418**
**Challenges in Phaco Surgery. Tips for a Successful Outcome**

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**Objectives:** Aim; to present difficult cases of cataract and how to overcome challenges during phacoemulsification surgery to decrease the rate of complications and improve outcome.

**Methodology:** Five clinical cases and scenarios including: a patient with high myope, tremulous lens and iris, dense cataract and weak zonules. Case no 2: a patient with clear corneal graft, cataract, and loss of zonules nasally post old ruptured globe repair. Case no 3: a patient with central corneal scar, cataract, and loss of iris segment. Case no 4: patients with keratoconus, thin cornea and cataract, case no five: patients with tear out rehxis during phaco surgery.

**Results and Discussion:** Every case will be discussed regarding intra-operative challenges and tips to avoid complications including precautions to take, maneuvers to adopt, special instruments to use and the control of phacomachine settings.

**Conclusion:** Cataract surgery can be very challenging in certain types of patients; intra operative complications can be avoided and dealt with if equipped with knowledge and experience to come out with a successful result.

**Keywords:** cataract, cornea, phacoemulsification

**419**
**Restrictive Fibrous Bands Originating From the Oculomotor Nerve (CN3) inFamilial Duane Retraction Syndrome (DRS)**

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**Objectives:** Fibrous bands cause restrictive strabismus, yet their pathogenesis is mysterious. We studied a familial case suggest neural origin of bands.

**Methodology:** We employed high resolution, T2 weighted, surface coil orbital MRI to investigate the anatomy of incomitant strabismus in a father and son with DRS, correlating with clinical motility.

**Results and Discussion:** The 2 year old son had right enophthalmos with markedly limited abduction, supraduction, and infraduction, and mildly limited adduction accompanied by palpebral fissure narrowing. Forced duction testing under anesthesia revealed diffuse restriction. The 30 year old father was orthotropic in central gaze but had limited right eye abduction and palpebral fissure narrowing in adduction. In unilaterally affected right orbits of both patients, no abducens nerve was visible. The inferior division of CN3 both entered the inferior compartment of the lateral rectus muscle (LR), and was contiguous with dense bands running anteriorly to the inferolateral scleral entry of the short posterior ciliary nerves. In the son, another short band inserted on the posterior sclera inferior to the optic nerve. In these cases, the inferior division of CN3 was both the source of mis-innervation and of fibrous bands targeting sites of normal ciliary nerve perforation of the sclera. Recognizing that familial Duane retraction syndrome is caused by mutation in nerve pathfinding molecules such as ?2-chimaerin, we speculate that fibrous bands may represent abortive nerves mis-targeted to scleral emissary canals.

**Conclusion:** Occurrence of fibrous bands in familial DRS suggests that bands are caused by aberrant axons pathfinding by CN3.

**Keywords:** DRS Fibrous band CN3

**420**
**Etiology of Neovascular Glaucoma**

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**Objectives:** To investigate the causes of neovascular glaucoma at King Hussein Medical Center

**Methodology:** A retrospective analytic study that was conducted at King Hussein Medical Center during the period between August 2015 and February 2016. File review was done for patients diagnosed to have neovascular glaucoma. Data collected was cause of neoavascularization. Patients' work up and management were also recorded

**Results and Discussion:** Thirty eight patients were enrolled in the study. Males slightly outnumbered females. Mean age was 64.8 years. The main cause of neoavscularization was advanced proliferative diabetic retinopathy followed by central retinal vein occlusion. Other causes were intraocular inflammation, post surgery and trauma. The majority of cases were unilateral. Almost half of patients maintained good vision with treatment

**Conclusion:** Neovascular glaucoma can lead to blindness if not promptly treated. The best method of treatment is prevention

**Keywords:** Neovascular, glaucoma, proliferative diabetic retinopathy

**421**
**Exposure Keratopathy after Ptosis Surgery**

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**Objectives:** To evaluate the occurrence of exposure keratopathy after ptosis surgery in children and to compare that between frontalis brow suspension and anterior levator resection.

**Methodology:** A prospective study that was conducted at King Hussein Medical Center during the period between January 2015 and February 2016. Patients of ptosis undergoing frontalis brow suspension or anterior levator resection with full correction were enrolled in the study. Exclusion criteria: 1- Patients older than 14 years of age. 2- Previous history of lid surgery. 3- Negative Bell's phenomena. 4- Presence of exposure keratopathy preoperatively. Patients were followed up for 3 months after surgery. Ocular examination included anterior segment examination looking for exposure keratopathy. Results were compared between the group who underwent frontalis brow suspension and the group who underwent anterior levator resection.

**Results and Discussion:** Forty two patients underwent brow suspension (group 1), and thirty nine patients underwent anterior levator resection (group 2). 29 patients (69%) in group 1 had bilateral surgery, compared Exposure keratopathy occurred in 7 patients (16.7%) of group 1; 5 patients (11.9%) had bilateral surgery and 2 patients (4.8%) had a unilateral surgery, 6 patients (14.3%) had simple corneal erosions and 1 patient (2.4%) developed corneal ulcers. In group 2, exposure keratopathy occurred in 4 patients (10.3%) all of them had simple corneal erosions; 3 patients (7.7%) had a bilateral surgery and only 1 patient (2.6%) had a unilateral surgery.

**Conclusion:** It is important to examine for exposure keratopathy in patients undergoing ptosis surgery. Exposure keratopathy is more frequent to occur after frontalis brow suspension than after anterior levator resection, and more after a bilateral surgery compared to a unilateral surgery.

**Keywords:** exposure kertopathy, frontalis brow suspension, anterior levator resection

**422**
**The Effect of using Tetracaine, Ketorolac 0.5% or Nothing on Post-StrabismusSurgery Vomiting and Pain in Children**

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**Objectives:** This study aims to focus more on the effect of using topical Tetracaine 1.0%, Ketorolac 0.5% or using nothing on the post-strabismus surgery vomiting and pain in pediatrics age group. The study is only for Horizontal Extraocular muscles namely (Medial Rectus and Lateral

Rectus) recession. My study is a pure experience in Queen Rania Hospital for Children / Royal Medical Services / Jordan conducted from December 2014 till May 2015.

**Methodology:** A Prospective Randomized Controlled Triple-armed clinical study comparing the use of topical Tetracaine 1.0%, Ketorolac 0.5% eye drops or nothing at all immediately after strabismus surgery on the postoperative pain and vomiting. Five hundred and forty muscles (540) were operated from two hundreds and eighty patients (280) who aged between 1 and 11 years, they underwent elective squint surgeries on the horizontal muscles (Medial and Lateral Recti) by recession, the subjects received the eye drops immediately after the surgery and before recovering from the anesthesia. The parents were masked to the eye drop used but informed about the study and a consent has been taken, they have been asked on the first day post-operation about the vomiting (onset, number) and the pain using three Pain Assessment Tools according to the age (FLACC, Wong Baker, Numeric) which are the Pain Score used in Queen Rania Hospital for Children where my study took place.

**Results and Discussion:**

1. Less post-operative vomiting was noticed among the Ketorolac 0.5% group.
2. Most post-operative vomiting was noticed among those who receive nothing.
3. Those who treated with Tetracaine lies between the two groups in terms of vomiting.
4. Most vomiting attacks started after two hours of the surgery.
5. Mild post-operative pain was associated more with the Ketorolac 0.5% group and less in those who received nothing.
6. Moderate pain was found more among those who received nothing and less in the Ketorolac 0.5% group.
7. Severe pain was experienced more in the group who were not treated by drops and less in the Ketorolac 0.5% group which is not far from the Tetracaine groups.

**Conclusion:**

1. Using Ketorolac 0.5% eye drop post-strabismus surgery is associated with less vomiting than using Tetracaine 1.0% eye drops or using nothing.
2. Using Ketorolac 0.5% eye drop post-strabismus surgery is associated with less pain than using nothing at all.
3. No significant difference is noticed regarding post-operative pain when using Ketorolac 0.5% eye drop or Tetracaine 1.0% eye drop, although Ketorolac 0.5% is associated with less pain.
4. The experience of the anesthetist somehow affects the post-operative pain and vomiting but not included in this study, so it is worthy to establish a study to dig deep in this area.

**Keywords:** strabismus, pain, vomiting, Tetracaine, Ketorolac

**423**
**Traumatic Anterior Globe Avulsion**

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**Objectives:** Few ocular globe avulsion case reports were reported in the literature. All of them were associated with direct periorbital or facial trauma that led to anterior globe subluxation or avulsion. No similar case report was reported in Jordan.

**Methodology:** In this case we report a rare case of anterior globe avulsion due to trauma to the back of the head and its surgical management.

**Results and Discussion:** Full-thickness upper lid laceration, 360 conjunctival laceration, anterior globe avulsion with lateral, inferior, and partial medial rectus muscles avulsion. The vision was no perception of light, mid dilated nonreactive pupil (optic nerve avulsion), and there was no corneal sensation. Muscles reinsertion, conjunctival and lid laceration and upper lid horizontal shortening after evacuating the retrobulbar hemorrhage were done.

**Conclusion:** Although visual acuity could not be restored but good and satisfactory cosmetic results and good range of ocular motility were achieved, which encourages primary repair instead of ablative surgical intervention.

**Keywords:** Globe, Avulsion, Subluxation

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