

## **Royal Medical Services**

## **Professional Training Division**

# Logbook for clinical Pathology/ Hematology Residents

Personal details:		
Full Name in Arabic:		
Full name in English:		
National number:		
Start date of your residency program:		
Your signature:		
Head of the Department:		_
Signature & Stamp:	Date:	

### **Training Posts Held**

Post Number	Division	Residency	Start	Finish	Consultant	Consultant
Number		Year	Date	Date		signature
1 <sup>st</sup>						
2 <sup>nd</sup>						
3 <sup>rd</sup>						
4 <sup>th</sup>						
5 <sup>th</sup>						
6 <sup>th</sup>						
7th						
8th						
9th						
10th						
11th						
12th						
13th						
14th						
15th						
16th						
17th						
18th						
19th						

20th			

This form should only be signed by the consultant or trainer at the end of the post, provided that the trainee has finished the period of the training satisfactorily.

Logbook for hematology residents

Name:

Military number: Level: first year

Duration of training: 3 months

Date	
Two months	1- General overview of all lab tests in the hematology laboratory.
	2- Performing routine tests done in the hematology department like automated CBC and differential with ESR.
Two weeks	3- Performing general coagulation tests in coagulation laboratory.
Two weeks	4- Performing general blood bank tests like blood grouping and coomb's test.

- 2- Scientific lectures inside Princess Iman Research and Lab Sciences Center
- 3-Attending hematology workshops and conferences

Logbook for hematology residents

Name:

Military number: Level: Second year

Duration of training: 6 months

Date	
Twenty weeks	1- Interpretation of peripheral blood smears including cases of anemia, granulocytic disorders, and reactive platelets disorders
Two weeks	3- Performing and interpretation of routine coagulation tests.
Two weeks	5- Performing and interpretation of blood bank testing including cross-matching and coomb's test,

- 2- Scientific lectures inside Princess Iman Research and Lab Sciences Center
- 3-Attending hematology workshops and conferences

Logbook for hematology residents

Name:

Military number: Level: Third year

Duration of training: 9 months

Date	
Eight months	<ul> <li>1- Reading and interpretation of peripheral blood and bone marrow smears and diagnosing different types of anemias, acute and chronic leukemias. Seeing related bone marrow biopsies done at the histopathology department.</li> <li>2- Reading flow cytometry results in correlation with morphology.</li> </ul>
Two weeks	3- Performing and interpretation of blood bank tests including routine tests and certain special tests.
One week	4- Performing simple routine coagulation tests and interpretation of certain special tests.
One week	5- Interpretation of hemoglobin electrophoresis results.

- 2- Scientific lectures inside Princess Iman Research and Lab Sciences Center
- 3-Attending hematology workshops and conferences

Logbook for hematology residents

Name:

Military number: Level: fourth year Duration: 12 month

Date	
Ten months	<ul><li>1- Reading and interpretation of all bone marrow aspirate smears and seeing stained bone marrow biopsies for the same cases done at histopathology department.</li><li>2-Reading and interpretation of all flow cytometry results</li></ul>
Two weeks	3-Reading and interpretation of results related to all types of leukemias and lymphomas at molecular and cytogenetic department.
Two weeks	4- Performing and interpretation of routine and special blood bank tests.
Two weeks	5- Interpretation of hemoglobin electrophoresis results
Two weeks	6- Interpretation special coagulation tests.

- 2- Scientific lectures inside Princess Iman Research and Lab Sciences Center
- 3-Attending hematology workshops and conferences

# Hematology resident program in others clinical pathology departments: clinical chemistry, immunology, microbiology and blood bank.

### First year

**Duration of training: 3 months in each division** 

#### **Immunology department**

Date	
One month	1- General overview of all lab tests in the immunology laboratory.
	2-Performing routine tests and latex agglutination tests( RF, CRP, ASOT, Brucella screening and titer , monospot test for EBV, pregnancy test and Bence- Jones proteins)
	3- interpretation of routine test and latex agglutination tests
One month	1- To learn how to setup, evaluate and interpret clinical immunology procedures
	<ul><li>2- Observe serology tests with attention to methodology principles, QC, safety, troubleshooting problems.</li><li>3-Performing ELISA tests and interpretation of results</li></ul>
One month	1-Interpretation of blood bank results including hepatitis HBsAg, HCV Ab, HIV Ab, RPR.
	2- Performing and reading indirect immunoflourescence slides (ANA, AMA, ASMA, Anti- dsDNA, LKM1, ANCA)
	3-Analysis of SPE and immunofixation results and correlation with clinical picture.
	4- Review the abnormal results daily, check for discrepant results.

#### **Microbiology**

**Basic Bacteriology** Culture Media ,Sterilization and Disinfection-(The Autoclave) Handling of specimens, Microscopy, Bacterial Morphology (Gram,ZN and Albert staining), Cultivation of Bacteria (The growth Curve),Bacterial Identification Methods, Antibiotic Sensitivity Testing.

#### **Identification of microorganisms**:

- 1-Select appropriate media and methods for identification
- 2-Intrepret results
- 3- Distinguish between normal flora and pathogens
- 4- Perform susceptibility tests and interpret results

#### Clinical chemistry

- 1- Reception and specimen separation
  - Identify all types of tests and the nature of the sample required for each test
  - Identify all kinds of tubes and components and what tests can work for each type
  - Identify all kinds of specimen separation and distribution of samples on different Sections
  - Identify errors associated with the samples (errors pre-analysis) and ways to Dispose of the samples violation.
- 2- Division of Special tests
  - Identify all the chemical methods of analysis and its applications and advantages of each method
  - Identifying the special tests and methods of work
  - Identify the available devices and the principle of its work
  - Follow-up errors that may occur in the patient samples or their results
  - The study of diseases that require these tests.
  - Supervising the test results.
- 3- Automated tests Division
- Identify the available devices and ways of working and calibrated

- Identify the different working methods of the tests
- Identify errors that may occur for different samples and methods of solution.
- Recognize the results of various medical tests and their suitability for the diagnosis of patients.
- 4- Division of hormonal tests
  - Identify the available devices and ways of working and calibrated
  - Identify ways the work of the various tests and errors that may get the Samples and methods of solution.
  - Identify the tumor markers and drugs and appropriateness of the results
    With diagnosis.
- 5- Division of genetic tests
  - Identify the available devices and ways of working and calibrated.
  - Identify errors that may get the samples and methods of solution.

#### Second year

#### Duration of training: 2 months in each division

### **Immunology department**

Date	
One month	1- General overview of all lab tests in the immunology laboratory.  2-Performing routine tests and latex agglutination tests( RF, CRP, ASOT, Brucella screening and titer, monospot test for EBV, pregnancy test and Bence- Jones proteins)  3- interpretation of routine test and latex agglutination tests  4- Observe serology tests with attention to methodology principles, QC, safety, troubleshooting problems.
One month	1- To learn how to setup, evaluate and interpret clinical immunology procedures  2- Performing and reading indirect immunoflourescence slides (ANA, AMA, ASMA, Anti- dsDNA, LKM1, ANCA)  3-Analysis of SPE and immunofixation results and correlation with

clinical picture.
4-Performing ELISA tests and interpretation of results
5- Review the abnormal results daily, check for discrepant results.
6- Analysis of SPE and immunofixation results and correlation with clinical picture.

#### **Microbiology**

**Basic Bacteriology** Culture Media ,Sterilization and Disinfection-(The Autoclave) Handling of specimens, Microscopy, Bacterial Morphology (Gram,ZN and Albert staining), Cultivation of Bacteria (The growth Curve),Bacterial Identification Methods, Antibiotic Sensitivity Testing.

#### **Identification of microorganisms**:

- 1-Select appropriate media and methods for identification
- 2-Intrepret results
- 3- Distinguish between normal flora and pathogens
- 4- Perform susceptibility tests and interpret results

#### Clinical chemistry

- 1- Automated tests division
- Study of the working methods of automated analysis equipment, review and work on these devices.
- Study of the working methods of the laboratory tests.
- Study results of the tests and work to confirm it.
- 2- Special tests division
- study devices used in manual analysis and principles of work and work on it.
- Study the required tests and their suitability for the diagnosis of patients.
- Study tests for organ transplant patients and their applications (cyclosporine, prograf, rapamune, methotrexate)
- 3- Division of hormonal tests
- Study of the working methods of automated analysis equipment and reviewed and work on these devices.
- Interpretation results of hormonal tests and confirmation.

- 4- Division of genetic chemistry tests
- Identify how to work on these devices.
- Identify the different ways to prepare the tests.

### Third year

### Duration of training: 1 month in each division

#### IMMUNOLOGY DEPARTMENT

Date	
One month	1- General overview of all lab tests in the immunology laboratory.
	2- To learn how to setup, evaluate and interpret clinical immunology procedures
	3-Performing routine tests and latex agglutination tests( RF, CRP, ASOT, Brucella screening and titer , monospot test for EBV, pregnancy test and Bence- Jones proteins)
	4- interpretation of routine test and latex agglutination tests
	5- Observe serology tests with attention to methodology principles, QC, safety, troubleshooting problems.
	6 Performing and reading indirect immunoflourescence slides (ANA, AMA, ASMA, Anti- dsDNA, LKM1, ANCA)
	7- Performing ELISA tests and interpretation of results
	8- Review the abnormal results daily, check for discrepant results.
	9- Analysis of SPE and immunofixation results and correlation with clinical picture.
	10- Observe HLA typing and interpretation

#### Microbiology department

ROTATION	DURATION
Reading and processing of culture and antibiotic susceptibility	
Blood and CSF culture	1 week
Urine ,genitourinary and gastrointestinal specimens	1 week
Wound ,respiratory specimens, mycology	1 week
Isolation and identification of mycobacteria	1 week

#### Clinical chemistry

- 1- Reading and interpretation of results: automated general test, special tests, hormonal tests, genetic chemistry test.
- 2- Confirmation of the results

### **Hematology Department**

### Routine tests

Year of residency Hematolo gy	CBC and peripheral blood film		Bone marrow aspirate smears		Bone marrow trephine biopsy Observation		Flow cytometry	
	Perform	Interpret	Perform	Interpret			reading	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

### **Coagulation tests**

Year of residency	PT		PTT		Fibronigen and FDP		D-D	imer
hematolo gy	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

Year of residency	Platelets function test		Factor assay					
	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

NOTES:	 	 

### BLOOD BANK TESTS

Year of residency (forward and reverse)		RH D Testing		Test for weak D (Du)		Cross match		
gy	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

Year of	Direct		Indi	irect	Cross	match	Anti	body
residency	Antig	lobulin	Antiglobulin				Scre	ening
hematolo gy	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

NOTES:		

### Hemoglobin variant analysis and special hematology

Year of residency hematolo gy	variant	oglobin s analysis HPLC	lysis mutations by		NBT and LAB score (upon request)		Osmotic fragility test (upon request)	
	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

NOTES:	

### IMMUNOLOGY DEPARTMENT

### Routine tests

Year of residency			CRP (NUMBER)		ASOT (NUMBER)		Brucella(Rose Bengal) (NUMBER)	
	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

Year of residency		Brucella Bence-Jones (Wright)- (N) protein- (N)		Monos	pot test	Early pregnancy test		
	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

NO	TES:							
BL	OOD BA	NK TES	<u>TS</u>					
Year of	HE	BsAg	НВ	cAb	HC	V-Ab	HIV-	Ab
residency	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								
				1		I	l	
Year of residency	CM	V-Ab	VDRL(RPR)					
	Perform	Interpret	Perform	Interpret				
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								
			l		<b>J</b>			
NO	TES: :							

### IMMUNOGLOBULIN CLASSES AND COMPLEMENT

Year of residency	I	gA	Ig	M	IgG		IgD	
residency	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

Year of residency	IgE		C 3		C	C4 CH 100 complement		
	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

Year of residency		H 50 dement		terase bitor	C1q in lev			
	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

TOTES.	
NOTES:	

### ALLERGY RELATED TESTS

Year of residency	Total IgE			RAST RESPIRATORY		RAST RAST FOOD PEDIATRIC PANE		
	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

NOTES:	

### **VIRAL HEPATITIS PROFILE TESTS**

Year of residency	нс	V-Ab		AV , IgG	HBsAg		HbsAb	
	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

Year of	Hb	cIgM	Hbc	<b>Fotal</b>	HbeAg		HbeAb	
residency	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

Year of	Hepatit	is E IgM	HDV	V Ag	HDV Ab			
residency	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

NOTES:	

# CONECTIVE TISSUE DISEASE TESTS AND VASCULITIS SCREEN

Year of residency	ANA		dsD	NA	ENA		ANCA	
residency	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

NOTES:

### LIVER AUTOIMMUNITY RELATED TESTS

Year of residency	ASMA		AMA		LKM1		SLA	
residency	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

	TES:							
ELI	ECTRO1	PHORES	<u>IS</u>					
Year of		protein	CSF electrophoresis		URINE electrophoresis		Immunofixation	
residency	electro	phoresis						
	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
1 <sup>st</sup> year 2d year								
_								
2d year								
2d year 3d year								
2d year  3d year  4 <sup>th</sup> year	TES:							
2d year  3d year  4 <sup>th</sup> year	TES:							
2d year  3d year  4 <sup>th</sup> year	TES:							
2d year  3d year  4 <sup>th</sup> year	TES:							

# HUMAN LEUKOCYTE ANTIGEN TYPING AND CYTOTOXIC ANTIBODIES.

Year of residency	HLA-TYPING A-B-C		HLA-TYPING B5- B27		CYTOTOXIC ANTIBODIES		PANEL REACTIVE ANTIBODIES	
1 0.210.0110.5								
	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

NOTES:	

### **Microbiology department rotation**

# Stain techniques:

Year of residency	Wet mount preparation		,		Methylene blue stain		Ziehl–Neelsen stain	
	Perform	Interpret	Perform	Interpret	Perform	Interpret	Perform	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

NOTES:
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# **Media preparation:**

Year of residency	Blood medium prepared	Chocolate medium prepared	MacConkey media prepared	Sabouraud medium prepared
1 <sup>st</sup> year				
2d year				
3d year				
4 <sup>th</sup> year				

NOTES:		
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# <u> Urine culture :</u>

Year of residency	specimen processing performed	negative growth cultures seen	Positive Growth cultures seen	Identification and sensitivity performed	
				identification	sensitivity
1 <sup>st</sup> year					
2d year					
3d year					
4 <sup>th</sup> year					

NOTES:	

## <u>Stool culture :</u>

Year of residency	specimen processing performed	negative growth cultures seen	Positive Growth cultures seen	Identification and sensitivity performed	
				identification	sensitivity
1 <sup>st</sup> year					
2d year					
3d year					
4 <sup>th</sup> year					

NOTES:	 	

# Cerebrospinal fluid culture:

Year of residency	specimen processing performed	negative growth cultures seen	Positive Growth cultures seen	Identification and sensitivity performed	
				identification	sensitivity
1 <sup>st</sup> year					
2d year					
3d year					
4 <sup>th</sup> year					

## **Blood culture:**

Year of residency	specimen processing performed	Wet mount preparation seen	Negative cultures seen	Positive Growth cultures seen	Identification and sensitivity performed	
					identification	sensitivity
1 <sup>st</sup> year						
2d year						
3d year						
4 <sup>th</sup> year						

NOTES:		 
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# <u>Swab culture:</u>

Year of residency	Throat swab		Nasal swab		Ear swab		Wound swab	
	processed	Interpret	Processed	Interpret	Processed	Interpret	processed	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

NOTES:	
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Year of residency	Axillary's swab		High vagi	High vaginal swab Eye swab		swab	Miscellaneous swabs	
	processed	Interpret	Processed	Interpret	Processed	Interpret	processed	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

NOTES:	 	
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# **Effusions culture:**

Year of residency	Ascitic fluid		Pericardial fluid		Peritoneal fluid		Pleural fluid	
residency	processed	Interpret	Processed	Interpret	Processed	Interpret	processed	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

Year of residency	Synovial fluid		Pericardial fluid		Peritoneal fluid		Pleural fluid	
residency	processed	Interpret	Processed	Interpret	Processed	Interpret	processed	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

NOTES:		

# <u>Pus culture:</u>

Year of residency	Urethral discharge				Brain	abscess		
	Microscopy	cultivation	interpretatio n	reporting	Microscopy	cultivation	interpretation	reporting
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

Year of residency	Liver abscess				Miscelland	eous abscess		
	Microscopy	cultivation	interpretatio n	reporting	Microscopy	cultivation	interpretation	reporting
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

NOTES:	 	

# **Lower respiratory specimens:**

Year of residency	Sputum specimens			Brochoalveolar lavage specimens			ens	
	Microscopy	cultivation	interpretatio n	reporting	Microscopy	cultivation	interpretation	reporting
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								
NO	TFS:							

NOTES:	

# **Mycobacterium:**

Year of	Sample		ain for	Auramine stain		Positive cultures	
residency	processing	scree	ening				
		prepared	positive	Prepared	positive	z-n stain	reporting
1 <sup>st</sup> year							
2d year							
3d year							
4 <sup>th</sup> year							

_NOTES:	 	 

# **Mycology culture:**

Year of residency	Specimens processed		Wet mount preparation		reporting	
	Perform	Interpret	Perform	Interpret	identify	sensitivity
1 <sup>st</sup> year						
2d year						
3d year						
4 <sup>th</sup> year						

NOTES:	

# <u>Parasitology:</u>

Year of residency	_	imens essed		Il saline tration		dine aration	Reporting
	Stool	genital	Perform	Interpret	Perform	Interpret	
1 <sup>st</sup> year							
2d year							
3d year							
4 <sup>th</sup> year							

NOTES:	
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## **Commercial systems:**

Year of residency	ВАСТЕС		VIT	ГЕК
	process	interpret	Process	Interpret
1 <sup>st</sup> year				
2d year				
3d year				
4 <sup>th</sup> year				

NOTES:	

# Serology tests:

Year of residency	Salmonella typing							
residency			Shigella		Rotazyme		Streptococcus grouping	
	process	interpret	Process	Interpret	Process	Interpret	Process	interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

NOTES:	 	

# Virology:

Year of residency		Cytomegalovirus Cytomegalovirus  In urine In blood			Barr Virus lood	Herpes sim 1	•	
	processed	Interpret	Processed	Interpret	Processed	Interpret	processed	Interpret
1 <sup>st</sup> year								
2d year								
3d year								
4 <sup>th</sup> year								

# Other tests:

Year of residency	Catalase test				ase test	Oxidase test	
	process	interpret	Process	Perform	Perform	Interpret	
1 <sup>st</sup> year							
2d year							
3d year							
4 <sup>th</sup> year							

NOT	·ES:			
			·	
Ser	minars and l	lectures :		
Year of	Discussions	Lectures		
residency	attendance	presentation		
-				
1 <sup>st</sup> year			_	
ı yeai				
2d year				
2.1			_	
3d year				
4 <sup>th</sup> year				
NOT	ES:			
		,		

#### Clinical chemistry rotation

Practical		
skills		
	centrifugation& Specimen	Specimen collection
year of	separation	
residency		
First year (number)		
Second year (number)		
Third year (number)		
Fourth year (number)		
Notes		

#### Kidney function panel

Test  year of  residency	Na	К	Creatinine	Urea
First year (number)				
Second year (number)				
Third year (number)				
Fourth year(number)				

Notes

## **Hepatic Function Panel**

Test year of residency	Albumin	total Bilirubin	direct Bilirubin	total Protein	ALP	AST	ALT
First year (number)							
Second year							
(number)							
Third year							
(number)							
Fourth							
year(number)							

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## Cardiac markers panel

Test year of	Total CK	СК-МВ	Troponin I	LDH
residency				
First year (number)				
Second year				
(number)				
Third year				
(number)				
Fourth				
year(number)				
Notes				

Notes

## Lipid profile panel

Test	Triglycerides	Cholesterol	HDL	LDL
year of				
residency				
First year (number)				
Second year				
(number)				
Third year				
(number)				
(namber)				
Fourth				
year(number)				
Notes	<u>.</u>			

Notes	

#### Chemical analysis of

Test year of residency	Glucose	Calcium	Phosphorous	GGT	Uric acid	HbA1C	
First year							
(number)							
Second year							
(number)							
Third year							
(number)							
Fourth							
year(number)							

Notes

#### Hormonal assay panel

Test  year of  residency	Т3	Т4	TSH	РТН	Testosterone	Progesterone	Estrogen
First year							
(number)							
Second year							
(number)							
Third year							
(number)							
Fourth							
year(number)							

Notes

Test year of residency	Insulin	Cortisol	GH	АСТН	LH	FSH	Prolactin	B-HCG
First year (number)								
Second year								
(number)								
Third year								
(number)								
Fourth								
year(number)								

Notes

Test year of residency	Aldosterone	Calcitonin	Catecholamines	Glucagon	IGF-1	
First year (number)						
Second year (number)						
Third year (number)						
Fourth year(number)						

Notes

#### Tumor markers panel

Test year of residency	CEA	Free PSA	Total PSA	α- Fetoprotein	CA125	CA19.9	CA15.3
First year							
(number)							
Second year							
(number)							
Third year							
(number)							
Fourth							
year(number)							

Test	CA 242	CA 72-4	
year of residency			
First year (number)			
Second year (number)			
Third year (number)			
Fourth year(number)			

Notes
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#### Special test panel

Test year of residency	Zinc	Magnesium	Ammonia	G6PD	Copper	SEROTONIN	Histamine
First year							
(number)							
Second year							
(number)							
Third year							
(number)							
Fourth							
year(number)							

Notes

Test year of residency	METANEPHRINES	METHYLMALONIC ACID	Norepinephrine	Osmolality	Phosphate
First year					
(number)					
Second year					
(number)					
Third year					
(number)					
Fourth					
year(number)					

Notes
<sub>-</sub>

Test year of residency	Stone Analysis	Uroporphyrins	Valproic Acid	VMA Urine 24 Hrs	Acetone	Acid Phosphatase	Amino Acids
First year							
(number)							
Second year (number)							
Third year							
(number)							
Fourth							
year(number)							

Notes


#### Drugs and toxic materials

Test year of residency	Acetaminophen	Amikacin	ANTICONVALESANTS	BARBITURATES	BENZODIAZEPINE
First year					
(number)					
Second year					
(number)					
Third year					
(number)					
Fourth					
year(number)					

Test year of residency	Cyclosporine	Digoxin	Gentamicin	Heparin	Methotrexate	OPIATES
First year						
(number)						
Second year						
(number)						
Third year						
(number)						
Fourth year(number)						

Test year of residency	Phenobarbital	Phenytoin	Prograf	Salicylate	Theophylline	Tobramycin
First year						
(number)						
Second year						
(number)						
Third year						
(number)						
Fourth						
year(number)						

Notes
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Test year of residency	ALCOHOL	COCAINE	LEAD	Lithium	Nicotine	Vancomycin
First year						
(number)						
Second year						
(number)						
Third year						
(number)						
Fourth						
year(number)						

Notes

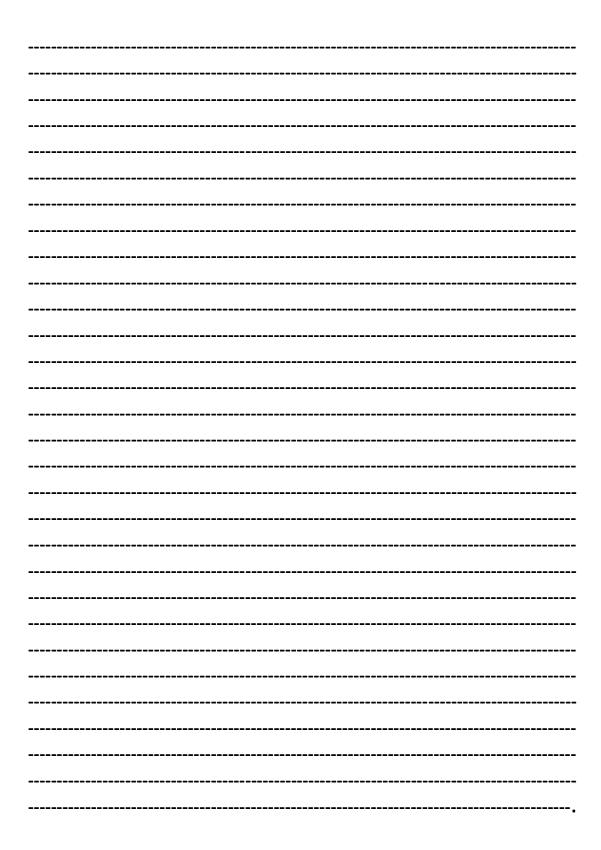

#### **Vitamins**

Test year of residency	Vitamin B 1	Vitamin B 6	Vitamin B12	Vitamin B2	Vitamin D, 1,25 Dihydroxy	Vitamin D3
First year						
(number)						
Second year						
(number)						
Third year						
(number)						
Fourth						
year(number)						

Test year of residency	Vitamin E	Vitamin K1	Folate	Ferritin	Iron	
First year						
(number)						
Second year						
(number)						
Third year						
(number)						
Fourth year(number)						

Notes

Other tests	
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Supervisor name and signature
First year: Immunology department:
Microbiology department:
Hematology department:
Clinical chemistry department:
Second year: Immunology department:
Microbiology department:
Hematology department:
Clinical chemistry department:
Third year: Immunology department:
Microbiology department:
Hematology department:
Clinical chemistry department:
Fourth year: Hematology department:
Program director name and signature
First year:
Second year:
Third year:
Fourth year:

Chief of department name and signature
First year:
Second year:
Third year:
Fourth year: