

المنهاج الدراسي لفرع الأمراض والطب العدلي بعد الترشيق

٢٠٢٠-٢٠١٩

عدد الساعات النظرية: ٦٨ ساعة

Program of lectures for the third year students in pathology

Reference Books:

- 1-Robbin's Basic Pathology 9th Edition; Kumar, Abbas, Fausto & Mitchell 2007
- 2-Muir's Text Book of Pathology, 13th Edition; Roderick N M MacSween & Keith Whaley 1994
- 3-Stevens: Core pathology, 3ed edition 2010.
- 4- Practical booklet 2010

الفصل الاول

<u>Subject</u>	<u>No. of lectures</u>	<u>Lecturer</u>
<u>General Pathology 32 hours</u>		
Introduction	1	Dr. Suadad Asim
Cell injury, Cell death and Adaptations	4	Dr. Suadad Asim
Inflammation, Healing & Repairs	8	Dr. Swasan salih Alharoon
Microbial Infections	3	Dr. Aseel Hamid
Immunopathology	4	Dr. Aseel Hamid
Disturbnces of blood flow and body fluid	2	Dr. Saad Abdulbaqi
Medical Genetics	4	Dr. Saad Abdulbaqi
Neoplasia	6	Dr. Jasim Al-Diab

Systemic pathology 36 hours		
Blood & lymphatic's vessels, Heart	4	Dr. Saad Abdulbaqi
Respiratory system	5	Dr. Jasim Al-Diab
- Hematopoietic system	4	Dr. Alaa Abdulrazzaq
- Lymphoreticular system	2	Dr. Swasan salih Alharoon
Oral cavity and gastro-intestinal tract	4	Dr. Suadad Asim
Liver, biliary tract & pancreas	4	Dr. Abeer Ali Hussien
Kidney & urinary tract system	3	Dr. Swasan salih Alharoon
Female genital system	3	Dr. Noor Sabeeh
The breast	2	Dr. Aseel Hamid
Male genital system	1	Dr. Jasim Al-Diab
Endocrine system	1	Dr. Noor Sabeeh
Bone, joints and skeletal muscles	1	Dr. Aseel Hamid
Central and peripheral nervous system	2	Dr. Saad Abdulbaqi

	<u>Subject</u>	Number of Lectures
1	<u>Introduction</u>	1
	Introduction -Definition & branches of pathology -Causes and etiology of diseases -Pathogenesis and nature of diseases -Morphological changes of disease	
	<u>Cell injury, cell death and Adaptations</u>	
	Hemostasis Cellular adaptations to stress. -Hypertrophy -Hyperplasia -Atrophy -Metaplasia Causes of cell injury The morphology of cell and tissue injury -Reversible injury	

	<ul style="list-style-type: none"> -Necrosis -Patterns of tissue necrosis Mechanisms of cell injury Examples of necrosis -Coagulative necrosis -Caseous necrosis -Liquefactive necrosis -Fatty necrosis -Fibrinoid necrosis Apoptosis Intracellular accumulations -Fatty change -Pigmentation (Exogenous and endogenous) -Pathological calcification 	
3	<u>Acute And Chronic Inflammation</u>	6
	<p>Overview of Inflammation</p> <ul style="list-style-type: none"> - Definition - Causes <p>Types:</p> <ul style="list-style-type: none"> -Acute Inflammation <ul style="list-style-type: none"> -Vascular changes and exudate formation -Change in vascular blood flow & caliber -Increased vascular permeability -Leukocytes cellular events -Leukocyte recruitment -Margination and rolling -Adhesion and transigrations -Chemotaxis -Leukocytes activation -Phagocytosis -Killing and degradation of microbes -Morphological patterns of acute Inflammation -Catarrhal inflammation 	

	<ul style="list-style-type: none"> -Serous Inflammation -Fibrinous Inflammation -Suppurative (purulent) Inflammation - hemorrhagic inflammation -Ulceration -Gangrenous Inflammation -Pseudomembranous Inflammation -Outcomes of Acute Inflammation -Chemical Mediators -Cell – derived mediators -Plasma protein – derived mediators -Chronic Inflammation; -Definitions and causes -Chronic inflammatory cells and mediators -Morphological pattern of chronic inflammation -Granulomatous inflammation Systemic effects of Inflammation 	
4	<u>Tissue Repair: Regeneration, Healing and Fibrosis</u>	2
	<p>Overview of tissue repair.</p> <ul style="list-style-type: none"> -Regeneration -The control of cell proliferation <ul style="list-style-type: none"> -The cell cycle -Proliferative capacities of tissues -Growth factors <ul style="list-style-type: none"> -Extracellular matrix (ECM) and cell-matrix interactions -Roles of extracellular matrix. -Repair by connective tissue -Angiogenesis -Migration of fibroblasts and ECM deposition (Scar formation) -ECM and Tissue Remodeling Cutaneous wound healing 	

	<ul style="list-style-type: none"> -Healing by first intention -Healing by second intention -Wound strength <p>Pathologic Aspects of Repair</p> <p>Factors Affecting Wound Healing</p> <ul style="list-style-type: none"> -Local Factors -Systemic Factors 	
o	<u>Microbial Infections</u>	3
	<p>Viral infections</p> <ul style="list-style-type: none"> - pathogenesis of new viral infection. -Bird flu viral infection -corona viral infection -SARS -MERS <p>Bacterial infections</p> <ul style="list-style-type: none"> -Common pyogenic bacteria -Gangrene <p>Definition and types(wet gangrene and dry gangrene)</p> <ul style="list-style-type: none"> -Chronic bacterial infections <ul style="list-style-type: none"> - <u>Mycobacterium tuberculosis</u> -Leprosy -Syphilis -Fungal infections 	

6	<u>Immunopathology</u>	4
	<p>Introduction:</p> <p>Innate & adaptive immunity</p> <p>Cell & tissue of immune system</p> <p>Hypersensitivity diseases:</p> <ul style="list-style-type: none"> -Types of Hypersensitivity diseases -Type I HSR...pathogenesis 	

	<ul style="list-style-type: none"> -Type II HSR...pathogenesis -Type III HSR...pathogenesis -Type IV HSR...pathogenesis -Auto-immune disease.. pathogenesis and examples. -Immunodeficiency diseases -Primary Immunodeficiency -Secondary immunodeficiency...AIDS. -Amyloidosis(definition, types, effects) 	
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7	<u>Disturbances of blood flow and body fluid</u>	2
	<p>Shock</p> <ul style="list-style-type: none"> -Cardiogenic shock -Hypovolemic shock -Septic shock -Stages of shock <p>Thrombosis</p> <ul style="list-style-type: none"> -Causes -Fate of thrombi <p>Embolism</p> <ul style="list-style-type: none"> -Pulmonary thromboembolism -Systemic thromboembolism -Types of emboli 	
8	<u>Medical Genetics</u>	4
	<p>Mutations</p> <p>Mendelian disorders (Diseases caused by single-gene defects)</p> <ul style="list-style-type: none"> -Transmission patterns of single-gene disorders -Autosomal dominant disorders -Autosomal recessive disorders -X-linked disorders <p>Cytogenetic disorders</p>	

	<ul style="list-style-type: none"> -Cytogenetic disorders involving autosomes -Trisomy 21(Down syndrome) -Cytogenetic disorders involving sex chromosomes -Klinefelter syndrome -Turner syndrome <p>Single gene disorders with atypical patterns of inheritance</p> <ul style="list-style-type: none"> -Genomic imprinting: Prader-Willi and Angelman syndromes 	
9	<u>Neoplasia</u>	6
	<p>Definition</p> <p>Nomenclature</p> <p>Hamartoma</p> <p>Teratoma</p> <p>Characteristics of benign and malignant neoplasms.</p> <ul style="list-style-type: none"> -Atypia & dysplasia -Tumor grade and stage -Invasion & metastasis -Mechanism of invasion & metastasis -Tumor angiogenesis. -Kinetic of tumor cell growth <p>HOST DEFENSE AGAINST TUMORS:</p> <p>Tumor immunity</p> <p>Tumor-specific antigens -</p> <p>Tumor-associated antigens (TAAs) -</p> <p>Antitumor Effector Mechanisms</p> <p>Tumor & immunosurveillance.</p> <p>THE MOLECULAR BASIS OF CANCER</p> <p>Oncogenes -</p> <p>Genes that regulate APOPTOSIS -</p> <p>Tumor suppressor genes -</p> <p>Function of tumor suppressor genes -</p> <p>Carcinogenesis.-Chemical, radiation and viral</p>	

	Effects of Tumor on Host.	
<u>Systemic Pathology</u>		
10	<u>Cardiovascular system</u>	4
	<p>The Blood Vessels</p> <ul style="list-style-type: none"> - Atherosclerosis - Aneurysms (definition, type, complication) - Tumors <ul style="list-style-type: none"> - <i>Benign tumors</i> <ul style="list-style-type: none"> - <i>Hemangioma(types)</i> - <i>Lymphangioma(types)</i> - <i>Intermediate (Borderline) tumors</i> <ul style="list-style-type: none"> - <i>Kaposi sarcoma</i> - <i>Malignant tumors</i> <ul style="list-style-type: none"> - <i>Angiosarcoma</i> - <i>lymphangiosarcoma</i> <p>The Heart</p> <ul style="list-style-type: none"> - Ischemic heart diseases <ul style="list-style-type: none"> - <i>Myocardial infarction(pathogenesis, events, sequences, complications)</i> - Valvular heart diseases <ul style="list-style-type: none"> - <i>Rheumatic fever and heart disease</i> - <i>Infective Endocarditis</i> - Congenital heart disease <ul style="list-style-type: none"> - <i>Left-to-right shunts</i> <ul style="list-style-type: none"> - <i>Atrial septal defects</i> - <i>Ventricular septal defects</i> - <i>Patent ductus arteriosus</i> - <i>Right-to-left shunts</i> <ul style="list-style-type: none"> - <i>Tetralogy of Fallot</i> - <i>Transposition of great arteries</i> 	

11	<u>Respiratory system</u>	5
	<p>Upper respiratory tract</p> <ul style="list-style-type: none"> - Atelectasis (collapse) - Obstructive Pulmonary Disease <ul style="list-style-type: none"> -<i>Bronchial asthma.</i> -<i>Chronic bronchitis.</i> -<i>Bronchiectasis</i> -<i>Emphysema</i> <ul style="list-style-type: none"> -<i>Centrilobular emphysema</i> -<i>Panacinar emphysema</i> -<i>Pathogenesis</i> -Restrictive defect <ul style="list-style-type: none"> -<i>Interstitial lung diseases</i> -<i>Acute respiratory distress syndrome</i> -<i>Chronic restrictive lung diseases</i> -<i>Pneumoconiosis</i> -<i>Interstitial fibrosis of unknown etiology</i> -<i>infiltrative lesions</i> -Pneumonia <ul style="list-style-type: none"> -<i>Bronchopneumonia</i> -<i>Lobar pneumonia</i> -Pulmonary hypertension. <ul style="list-style-type: none"> -<i>Causes</i> -<i>Pathological changes</i> -Pneumoconiosis. <ul style="list-style-type: none"> -<i>Classification</i> -<i>Pathological changes</i> -<i>Complications</i> -Tumors <ul style="list-style-type: none"> -<i>Bronchial carcinoid.</i> <ul style="list-style-type: none"> -<i>Typical</i> -<i>Atypical</i> -<i>Bronchial carcinoma.</i> <ul style="list-style-type: none"> -<i>Squamous cell carcinoma</i> -<i>Adenocarcinoma</i> 	

	<ul style="list-style-type: none"> -Small cell carcinoma -Large cell carcinoma -Pleura. -Tumors -Mesothelioma -Benign -Malignant 	
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12	<u>The Hematopoietic system</u>	4
	<p>Red cell Disorders</p> <ul style="list-style-type: none"> - Anemia of blood loss: Hemorrhage - Hemolytic Anemia <ul style="list-style-type: none"> -Hereditary spherocytosis -Sickle cell anemia - Thalassemia -G6PD deficiency -Immuno-hemolytic anemia. -Polycythemia <p>White cell Disorders</p> <ul style="list-style-type: none"> - Neoplastic proliferation of white cells - Leukaemias <p>Plasma cell disorders</p> <ul style="list-style-type: none"> -Multiple myeloma <p>Bleeding disorders</p> <ul style="list-style-type: none"> -Ideopathic thrombocytopenic purpura -Hemophilia -Von-Willbrand disease 	
13	<u>Lymphoreticular system</u>	2
	<p>Reactive lymphadenopathy</p> <ul style="list-style-type: none"> - Chronic non-specific lymphadenitis(follicular and sinus hyperplasia) - Granulomatous lymphadenitis <p>Neoplastic lymphadenopathy</p>	

	<ul style="list-style-type: none"> -Hodgkin's lymphoma - Non-Hodgkin's lymphoma <ul style="list-style-type: none"> -Low-grade B-cell lymphoma -Low-grade T- cell lymphoma -High- grade B- cell lymphoma -High – grade T- cell lymphoma <p>Metastatic lymphadenopathy</p>	
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14	<u>Oral cavity and the Gastrointestinal Tract</u>	4
	<p>Esophagus</p> <ul style="list-style-type: none"> - Barrett's esophagus - Esophageal carcinoma. <p>Stomach</p> <ul style="list-style-type: none"> -Gastritis <ul style="list-style-type: none"> -Acute gastritis -Chronic gastritis -Gastric ulceration <ul style="list-style-type: none"> -Acute gastric ulceration - peptic ulcers -Gastric tumors <ul style="list-style-type: none"> - Gastric polyps - Gastric Carcinoma - Etiology and pathogenesis <p>Small and large intestine</p> <ul style="list-style-type: none"> - Inflammatory bowel disease <ul style="list-style-type: none"> -Crohn's disease -Ulcerative colitis - Tumors of small and large intestines <ul style="list-style-type: none"> -Non- neoplastic polyps -Adenomas -Familial polyposis syndromes -Colorectal carcinoma -Neoplasms of small intestine -Other tumors of gastro-intestinal tract , Gastro- 	

	<i>intestinal lymphoma and Carcinoid</i>	
15	<u>Liver, Gall bladder and pancreas</u>	4
	<p>Liver</p> <ul style="list-style-type: none"> -Hepatitis <ul style="list-style-type: none"> -<i>Viral</i> -<i>Alcoholic</i> -Liver cirrhosis -Tumors <p>Gall bladder</p> <ul style="list-style-type: none"> -Cholelithiasis (pathogenesis and types) <ul style="list-style-type: none"> -<i>Pure stones</i> -<i>Mixed stone</i> -Tumors <p>Pancreas</p> <ul style="list-style-type: none"> -Acute pancreatitis (definition, pathogenesis, and complications) -Chronic pancreatitis (pathogenesis) -Tumors <ul style="list-style-type: none"> -<i>Tumors of exocrine pancreas (classification)</i> -<i>Tumors of endocrine pancreas</i> 	

16	<u>Kidney and Urinary Tract System</u>	4
	<p>Clinical manifestations of renal diseases(definition)</p> <p>Glomerular diseases</p> <ul style="list-style-type: none"> -Pathogenesis of glomerular diseases <ul style="list-style-type: none"> - <i>Circulating Immune complexes</i> - <i>In-situ complexes</i> - <i>Cell-mediated immune glomerulonephritis</i> - <i>Mediators of immune injury</i> - <i>Other mechanisms of glomerular injury</i> -The nephrotic syndrome <ul style="list-style-type: none"> - <i>Minimal – change disease (lipoid nephrosis)</i> 	

- *Focal and segmental glomerulosclerosis*
 - *Membranous nephropathy (Membranous glomerulonephritis)*
 - *Membranoproliferative glomerulonephritis*
 - The nephritic syndrome
 - Acute post infections (post streptococcal)*
 - Glomerulonephritis*
 - IgA nephropathy (Berger disease)*
 - *Rapidly progressive (Crescentic)glomerulonephritis*
 - Chronic glomerulonephritis
- Diseases affecting tubules and interstitium
- Acute pyelonephritis
 - Chronic pyelonephritis and reflux nephropathy
 - Benign nephrosclerosis
 - Malignant hypertension and malignant nephrosclerosis
- Cystic diseases of the kidney
- Simple cysts
 - Autosomal dominant (adult) polycystic kidney diseases
 - Autosomal recessive (childhood) polycystic kidney diseases
- Urinary outflow obstruction
- Renal stones
 - Hydronephrosis
- Tumors
- Renal cell carcinoma
 - Wilm's tumor
 - Tumors of the renal pelvis and calyces
- Diseases of urinary tract**
- Ureter
 - Obstruction*
 - *Tumors*
 - Urinary bladder
 - Tumors*

17	<u>The female genital system</u>	3
	<p>Cervix</p> <ul style="list-style-type: none"> - Tumors of the cervix <ul style="list-style-type: none"> - <i>Cervical Intraepithelial Neoplasia and squamous cell carcinoma.</i> - Endocervical polyp. <p>Body of uterus</p> <ul style="list-style-type: none"> - Adenomyosis - Endometriosis - Endometrial hyperplasia - Tumors of Endometrium and myometrium <ul style="list-style-type: none"> - <i>Endometrial polyp</i> - <i>Leiomyoma</i> - <i>leiomyosarcom</i> - <i>Endometrial carcinoma</i> <p>Ovaries</p> <ul style="list-style-type: none"> - Non- neoplastic cysts <ul style="list-style-type: none"> - <i>Follicular and luteal cyst</i> - <i>Polycystic ovaries</i> - <i>Chocolate cyst.</i> - Tumor of the ovary <ul style="list-style-type: none"> - <i>Surface epithelial stromal tumors</i> <ul style="list-style-type: none"> - <i>Serous tumors</i> - <i>Mucinous tumors</i> - <i>Germ cell tumors</i> <ul style="list-style-type: none"> - <i>Teratomas</i> <ul style="list-style-type: none"> - <i>Benign (mature) cystic teratoma</i> - <i>Immature malignant teratoma</i> - <i>Dysgerminoma</i> - <i>Choriocarcinoma</i> - <i>Yolk sac tumor</i> - <i>Sex cord stromal tumors</i> 	

	<ul style="list-style-type: none"> -<i>Granulosa cell tumor</i> -<i>Thecoma- fibroma</i> -<i>Sertoli- Leydig cell tumors</i> - <i>Metastatic</i> -<i>Krukenberg's tumor.</i> <p>Diseases of placenta (pregnancy)</p> <ul style="list-style-type: none"> - Gestational trophoblastic disease -<i>Hydatidiform mole, complete and partial</i> -<i>Invasive Mole</i> -<i>Choriocarcinoma</i> 	
18	<u>Breast</u>	2
	<p>Non infective inflammatory lesions</p> <ul style="list-style-type: none"> - Mammary ductectasia - Galactocele <p>Fibrocystic disease of the breast</p> <p>Benign tumors of the breast:</p> <ul style="list-style-type: none"> -Fibroadenoma <p>Breast carcinoma</p> <ul style="list-style-type: none"> -Classification -<i>In situ carcinoma : ductal, lobular</i> -<i>Invasive carcinoma</i> -<i>Ductal carcinoma(classical) and invasive lobular</i> <p>Miscellaneous tumors of the breast : Phyllodes tumor</p> <p>Tumors of male breast</p>	

19	<u>Male genital System</u>	1
	<p>Testicular neoplasm</p> <ul style="list-style-type: none"> -Germ cell tumor <ul style="list-style-type: none"> - <i>Seminoma - Variants</i> - <i>Non seminomatous</i> <ul style="list-style-type: none"> -<i>Teratomas</i> -<i>Embryonal carcinoma</i> -<i>Yolk sac tumor</i> -<i>Choriocarcinoma</i> - <i>Mixed germ cell tumor</i> - Sex cord stromal tumor <ul style="list-style-type: none"> - <i>Sertoli-Leydig cell tumor</i> -Mixed testicular tumor - Testicular lymphoma <p>Prostate</p> <ul style="list-style-type: none"> -Prostatic Hyperplasia -Prostatic carcinoma 	

20	<u>Bones, Joints, and skeletal muscles</u>	1
	<ul style="list-style-type: none"> - Bone tumors <ul style="list-style-type: none"> -<i>Bone forming tumors: osteoma, osteoid osteoma, osteogenicsarcom</i> - <i>Cartilage forming tumors:</i> <ul style="list-style-type: none"> -<i>Osteochondroma</i> -<i>Chondroblastoma</i> -<i>Miscellaneous tumors</i> <ul style="list-style-type: none"> -<i>Ewing sarcoma</i> -<i>Giant cell tumor</i> -<i>Metastatic tumors of bone</i> 	

21	<u>The Endocrine System</u>	1
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	<p>Thyroid</p> <ul style="list-style-type: none"> -Hyperthyroidism -Hypothyroidism -Thyroiditis -Chronic lymphocytic (Hashimoto) thyroiditis -Sub acute granulomatous (de Quervain) -Sub acute lymphocytic thyroiditis -Other forms of thyroiditis -Graves diseases -Diffuse and multinodular goiter -Neoplasms of the Thyroid <ul style="list-style-type: none"> -<i>Adenomas</i> -<i>Carcinomas</i> <ul style="list-style-type: none"> -<i>Papillary Carcinoma</i> -<i>Follicular Carcinoma</i> -<i>Medullary Carcinoma</i> -<i>Anaplastic Carcinoma</i> 	
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22	<u>The central and peripheral nervous system</u>	2
	<p>Cells of the nervous system</p> <ul style="list-style-type: none"> -Neurons -Astrocytes -Oligodendrocytes -Ependymal cells -Microglia <p>Edema and hydrocephalus</p> <ul style="list-style-type: none"> -Cerebral edema -Hydrocephalus <p>Vascular diseases</p> <ul style="list-style-type: none"> -Global hypoxic-ischemic encephalopathy 	

	<ul style="list-style-type: none"> -Infarcts -Intracranial hemorrhage <ul style="list-style-type: none"> -<i>Primary brain parenchymal hemorrhage</i> -<i>Saccular aneurysm and subarachnoidal hemorrhage</i> <p>Central nervous system trauma</p> <ul style="list-style-type: none"> -Epidural hematoma -Subdural hematoma <p>Infections of the nervous system</p> <ul style="list-style-type: none"> -Leptomeningitis <ul style="list-style-type: none"> -<i>Acute purulent leptomeningitis</i> -<i>Acute lymphocytic (viral)meningitis</i> -<i>Chronic meningitis</i> -Parenchymal infections (encephalitis) <ul style="list-style-type: none"> -<i>Brain abscess</i> -<i>Viral encephalitis</i> <p>Neoplasms of the central nervous system</p> <ul style="list-style-type: none"> -Primary neuroglial tumors(Gliomas) <ul style="list-style-type: none"> -<i>Astrocytomas</i> -<i>Oligodendrogliomas</i> -<i>Ependymomas</i> -Primitive neuroepithelial neoplasms -Meningiomas -Metastatic neoplasms 	
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ا.د.جاسم محمد الذياب

رئيس فرع الامراض و الطب العدلي