<u>Systematic Pathology II (Neuropathology) Module</u> <u>2011/12 Batch– Year 3 Semester II</u>

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Topic/ Concept	Objectives	Time	Department	T/L Activity
2011-3/PATH-SBM-4/01				
Pathological processes and the effects of such processes on the central and peripheral nervous system (anatomical and functional)	recall the anatomy, blood supply and physiological functions of the brain.		Pathology	Recall
Cerebrovascular diseases a. ischaemia and infarction b. haemorrhage	 recall the general pathology of ischaemia, infarction, necrosis and atherosclerosis describe the aetiology, pathogenesis, clinical effects, morphological changes and complications of cerebral ischaemia, infarction and haemorrhage. 	1h	Pathology	Lecture
2011-3/PATH-SBM-4/02				.
CNS Infections and CSF Analysis	 recall the general pathology processes acute inflammation and chronic inflammation recall the normal arrangement of meninges and pathway of CSF flow describe the etiopathogenesis, morphological changes, complications and clinical effects of common infections of the meninges i.e. bacterial, viral, tuberculous and fungal describe the changes in CSF in CNS infections and their pathological basis outline the aetiopathogenesis and clinical manifestations of epidural and subdural abscesses. describe the aetiopathogenesis, morphological changes, complications and clinical manifestations of cerebral abscesses. describe the aetiopathogenesis, morphological changes, complications and clinical manifestations of tuberculosis in the central nervous system describe the aetiopathogenesis, morphological changes, complications and clinical manifestations of tuberculosis in the central nervous system describe the aetiopathogenesis, morphological changes, complications and clinical manifestations of encephalitis outline the effects of syphilis on the central nervous system 	1h	Pathology	Lecture

J.A. Edunun

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2011-3/PATH-SBM-4/03				
Increased intra-cranial pressure a. cerebral oedema b. Space occupying lesions	 describe the causes of increased intra-cranial pressure describe the pathogenesis of cerebral oedema and its effects describe the morphological changes in the brain and the brain stem in increased intra-cranial pressure and their clinical effects 	1h	Pathology	Lecture
2011-3/PATH-SBM-4/04				
Intra-cranial tumours	1. describe the pathology and clinical effects of neoplasms of the brain , spinal cord and peripheral nerves	1h	Pathology	Lecture
2011-3/PATH-SBM-4/05				
CNS diseases and CSF analysis	 identify the morphological changes in CNS infections, infarctions and tumours in specimens interpret CSF analysis results in different clinical settings 	3hrs	Pathology	Museum class (guided self learning activity)
2011-3/PATH-SBM-4/06				
CNS diseases	1. describe the clinico-pathological correlations of CNS diseases using clinical scenarios	1h	Pathology	SGD
2011-3/PATH-SBM-4/07				
Haematological manifestation of systemic diseases	 describe the changes in haematological parameters such as haemoglobin level, total white cell count and differential counts, platelet count, ESR, CRP and coagulation profile in common systemic diseases describe pathogenesis of anaemia in chronic diseases such as chronic renal failure, liver diseases, thyroid disease, chronic infections and other chronic inflammatory diseases and malignancy. describe the aetiology and haematological manifestations of hypersplenism describe the aetiopathogenesis and haematological and clinical manifestations of disseminated intravascular coagulation. 	1 hr	Pathology	Lecture

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<u>Systematic Pathology II (Gastro Intestinal Pathology) Module</u> <u>2011/12 Batch – Year 3 Semester II</u>

	Topic/ Concept	Objectives	Time	Department	T/L Activity
2011-3/	PATH-SBM-4/08				
	ction to GI pathology	1. recall the effects of general pathology processes in GI tract		Pathology	recall
2011-3/1	PATH-SBM-4/09				
b.	agus Gastro-oesphageal reflux disease Other non neoplastic oesophageal diseases Tumours	 describe the oeatiopathogenesis, morphological changes and clinical manifestations and complications of grastro- oesophageal reflux disease describe the oeatiopathogenesis, clinical manifestations and complications of common non neoplastic diseases such as other types of oesophagitis and diseases due to motor dysfunction. describe the aetiology, morphology, spread and clinical manifestations of oesophageal tumours 	2h	Pathology	Lecture
2011-3/	PATH-SBM-4/10				
Stomacl a. b.		 recall the normal histology of gastric mucosa, mechanisms of gastric acid secretion and the concept of gastric mucosal barrier discuss the causes, morphology and complications of acute gastritis discuss the causes, morphology and complications of chronic gastritis describe the aetiopathogenesis, morphology, clinical manifestations and complications of peptic ulcer disease list the causes of gastropathies and their clinical manifestations describe the aetiology, morphology, spread and clinical manifestations of gastric tumours 	2h	Pathology	Lecture

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2011-3/PATH-SBM-4/11				
Diseases of small intestine				
a. Malabsorption b. Diseases of duodenum and small intestine	 recall the physiology of digestion and absorption discuss the outcomes in failure in each step in digestion and absorption. list causes of malabsorption. describe the eatiolopathogenesis, morphology, clinical symptoms, investigations and complications of coeliac disease. outlines the eatiolopathogenesis, morphology, clinical symptoms and complications of Whipples disease and tropical sprue Other diseases of small intestine: recall the anatomy of duodenum and small intestine outline the congenital diseases of small intestine outline the causes of duodenitis outline the causes of ulcers in the 1st part and the rest of the duodenum separately. describe the eatiopathogenesis, complications and clinical manifestations of obstructive diseases of the small intestine (eg: Stragulation, Volvulus, Intussusception, Crohn's disease, tumours) describe the morphology and clinical effects of small intestinal tumours 	2h	Pathology	Lecture
2011-3/PATH-SBM-4/12				
Diseases of appendix	 recall the anatomy and histology of appendix list the developmental abnormalities, inflammatory diseases and tumours in the appendix describe the aetiopathogenesis, morphology, complications and clinical outcomes of acute appendicitis. describe aetiopathogenesis, clinical effects and morphology of and the other causes of inflammation of appendix describe the morphology and clinical effects of appendiceal tumours 	1 h	Pathology	Lecture

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2011-3/PATH-SBM-4/13				
Inflammatory bowel disease	 recall general pathology of chronic inflammation. describe the aetiology, pathogenesis, morphological changes, clinical outcomes and complications of ulcerative colitis and Crohn's disease. compare and contrast the features of ulcerative colitis and Crohn's disease list extra intestinal manifestations of the above. 	2h	Pathology	Lecture
2011-3/PATH-SBM-4/14				
Anal and peri anal disease	 recall acute and chronic inflammation and carcinogenesis. describe the aetiopathogenesis, morphological appearances and complications of -fissures, fistulae, ulcers, haemorrhoids, and tumours in the anal and peri anal region 	1h	Pathology	Lecture
2011-3/PATH-SBM-4/15				
Infective disease in relation to alimentation	 describe the pathogenesis, morphological changes and complications of infections in the oesophagus, stomach, duodenum, small intestine, colon and anus. List the opportunistic infections in the gastrointestinal system in immunocompramised hosts. 	1h	Pathology	Lecture
2011-3/PATH-SBM-4/16				
Neoplasms of the colon	 list the common neoplasms (benign and malignant) in the colon. describe the morphology and clinical significance(including clinical effects and complications) of benign and malignant polyps in the colon. outline the polyposis syndromes in the gastrointestinal tract discuss the aetiopathogenesis (emphasising the premalignant lesions), morphology, modes of spread and clinical outcomes of colonic tumours. state the basis of grading and staging of colonic carcinomas 	1h	Pathology	Lecture
2011-3/PATH-SBM-4/17				
Bleeding PR	 outline the differential diagnosis and investigations (i.e. diagnostic approach) in bleeding PR using clinical scenarios outline the aetiopathogenesis and morphology of the causes of bleeding PR 	1hr	Pathology	SGD
2011-3/PATH-SBM-4/18				
Diseases of the GI tract	 identify the morphological changes in diseases of the GI tract using mounted specimens outline the possible clinical manifestations that these changes can produce 	4hrs	Pathology	Museum class Guided self learning

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2011-3/PATH-SBM-4/19				
Introduction to liver Pathology	1. recall the effects of general pathology processes in liver		Pathology	recall
2011-3/PATH-SBM-4/20				
a. Hepatitis b. Cirrhosis	 recall the ways that liver tissue respond to injury list the aetiological agents for a) acute hepatitis b) chronic hepatitis describe the pathonesis, morphological changes, clinical manifestations and complications of acute hepatitis. describe the pathonesis, morphological changes, clinical manifestations and complications of chronic hepatitis. describe the pathonesis, morphological changes, clinical manifestations and complications of chronic hepatitis. outline the investigations performed in suspected acute hepatitis and chronic hepatitis. describe the aetiopathogenesis, morphological changes, clinical manifestations and complications of non alcoholic fatty liver disease (NAFLD) outline the diseases that can give rise to cirrhosis describe the pathogenesis and complications of cirrhosis describe the clinical manifestations of cirrhosis in compensated and decompensated states and their pathological basis outline the investigations performed in cirrhosis with expected results. 	2h	Pathology	Lecture
2011-3/PATH-SBM-4/21		11		T
a. Alcoholic liver disease I. Hepatic Steatosis (fatty liver) II. Alcoholic steatohepatitis III. Cirrhosis	 name the different forms of alcoholic liver disease describe the pathogenesis, morphological changes and clinical manifestations of hepatic steatosis and alcoholic steatohepatitis describe the complications of alcoholic liver disease and their clinical manifestations. list the common liver diseases caused by inborn errors of metabolism outline the pathogenesis, morphological changes, clinical manifestations, complications and investigations for each disease mentioned. 	1h	Pathology	Lecture

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b. Liver tumours	 name the common benign and malignant tumours that occur in the liver outline the morphology of each describe the aetiology of hepatocellular carcinoma outline the modes of spread, clinical manifestations and complications of malignant liver tumours. outline the investigations performed in suspected liver tumors 			
2011-3/PATH-SBM-4/22 Liver diseases due to inborn errors of metabolism 2011-3/PATH-SBM-4/23	 name common inherited metabolic diseases presenting as jaundice or liver failure. Eg. Alpha1 antitrypsin deficiency, disorderes of bilirubin metabolism, haemochromatosis and other IMD with liver involvement. outline the genetic abnormality, pathogenesis and clinical manifestations of above diseases. outline the morphologic changes in the liver in the above mentioned diseases describe how to use laboratory tests to diagnose and monitor patients with above conditions 	1hr	Pathology	Lecture
Clinico-pathological correlation of liver diseases a. Jaundice b. Other clinical manifestations	 list the types of jaundice caused by liver diseases giving examples. describe the aetiopathogenesis of obstructive jaundice describe the clinical manifestations and their pathological basis in obstructive jaundice. outline the investigations performed in jaundice list the extra hepatic causes of jaundice describe the pathological basis of other clinical manifestations of liver diseases. discuss how the liver function tests help in the diagnosis of liver diseases 	lh	Pathology	Lecture
2011-3/PATH-SBM-4/24 Investigation and interpretation of liver diseases	 list tests used to assess diseases of the liver. describe common alteration patterns of these tests in parenchymal, cholestatic and mixed type liver injury. describe changes that can occur in liver test profile in hepatitis (acute and chronic), choleststic liver diseases, infiltrations of liver, alcoholic hepatitis, non alecoholic steatohepatitis, cirrhosis and acute liver failure outline common non hepatic diseases that can produce 	lh	Pathology	Lecture

D.A.Edumun

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	alterations in these tests5. interpret a basic report of liver test profile correlating with the clinical scenario.			
2011-3/PATH-SBM-4/25				
Diseases of the gall bladder and biliary system	 describe the aetiopathogenesis, morphological changes, complications and clinical out comes acute and chronic cholecystitis. describe the aetiopathogenesis, complications and clinical manifestations of biliary stone disease. outline the tumours of the biliary system and discuss their modes of spread 	1h	Pathology	Lecture
2011-3/PATH-SBM-4/26				
Pancreatic diseases a. Pancreatitis b. Pancreatic tumours	 describe the aetiopathogenesis, morphology, complications and clinical outcomes of acute and chronic pancreatitis. outline the biochemical investigations in acute and chronic pancreatitis outline the tumours of pancrease emphasising the modes of spread and clinical outcomes. 	1h	Pathology	Lecture
2011-3/PATH-SBM-4/27				
Imaging of GI diseases	 radiological, pathological correlation of gastrointestinal diseases discussed in this module radiological pathological correlation of hepatobiliary and pancreatic diseases 	1h	Radiology	Lecture
2011-3/PATH-SBM-4/28				
Hepatomegaly and jaundice	 discuss the causes, clinical manifestations and diagnostic approach in hepatomegaly. discuss the causes, clinical manifestations and diagnostic approach in Jaundice. 	1h	Pathology	SGD
2011-3/PATH-SBM-4/29		1		
Liver and pancreatico-biliary diseases	1.identify the morphological changes in diseases of the Liver and pancreatico-biliary tract using mounted specimens2.outline the possible clinical manifestations that these changes can produce	2hrs	Pathology	Guided self learning

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D.A.Edmun

<u>Systematic Pathology II (Genito Urinary Pathology)</u> 2011/12 Batch - Year 3 Semester II

Concepts	Objectives	Time	T/L Activity	Department
2011-3/PATH- SBM-4/30				
Kidneys and the urinary tract				
a. Auto regulation of renal blood flow				
b. The basic functional unit of the kidney (nephron) - structural and functional aspects				
c. Role of the kidney in regulation of ECF volume & tonicity	recall		recall	
d. Role of the kidney in the maintenance of blood pH				
2011-3/PATH-SBM-4/31				
Mechanisms of dysfunction of the kidneys and the urinary tract				
a. Renal excretory function				
(i). with reduced nephron mass - GFR, Tubular functions, Constituents of urine				
(ii). in disturbed functions of other systems (Circulation, respiration ect.)	recall		recall	
(iii). in disturbed renal blood flow and autoregulation of blood flow				
(iv). in anomalous urine flow & obstruction to the urine flow				
2011-3/PATH-SBM-4/32				
Introduction to GU pathology	1. apply principles of general pathology to the Genito Urinary tract. (acute and chronic inflammation, necrosis, metaplasia, dysplasia, neoplasia)		recall	Pathology

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2011-3/PATH-SBM-4/33				
Pathology of kidney and urinary tract				
a. Infections	 describe the pathogenesis, morphological changes, clinical manifestations and urine analysis results of infections in the urinary tract to include a)Acute and chronic pyelonephritis b) Urinary Tuberculosis C) Lower urinary tract infections 	1h	Lecture	Pathology
b. Glomerular diseases	2. describe the pathology (macro & micro) & pathogenesis of glomerular nephritis with special reference to immune complex mediated disease 3. describe the glomerular pathology associated with systemic vasculitides and other systemic diseases. SLE and Goodpasture's syndrome etc 4. describe the pathology and pathogenesis of diabetic nephropathy renal amyloidosis describe the features of the nephritic syndrome and nephrotic syndrome and correlate with the above topics	2hrs	Lecture	Pathology
c. Tubular and interstitial	1. describe the pathology and pathogenesis of tubulo interstitial disease including tubular necrosis, cortical necrosis, papillary necrosis and interstitial nephritis	1 h	Lecture	Pathology
d. Urolithiasis	 outline the places in the urinary tract where calculi can be formed. describe the aetiopathogenesis, complications and clinical features of urinary stones 	1h	Lecture	Pathology
e. Tumours of the kidney and bladder	 describe the morphology, spread andclincal features of the common tumours. describe the carcinogenic agents associated with these tumours. 	1h	Lecture	Pathology

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f. Diabetic and hypertensive nephropathy	 recall the pathogenesis and pathological changes of hypertension and diabetes mellitus describe the renal vascular changes in benign hypertension, malignant hypertension and diabetes describe the pathogenesis, morphology, clinical effects and complications of nephrosclerosis in benign and malignant hypertension define diabetic nephropathy list the renal lesions seen in diabetes mellitus describe the pathogenesis, morphology and clinical effects of the renal lesions seen in diabetes mellitus 	1hr	Lecture	Pathology
g. Renal Manifestations of other common systemic diseases	 describe the pathology, clinical manifestations and investigations of renal manifestations in systemic diseases such as SLE,vasculitis, HUS/TTP, bacterial endocarditis, 	1 hr	Lecture	Pathology
2011-3/PATH-SBM-4/34				
Clinico-pathological correlations of renal diseases	 outline the common clinical presentation patterns of renal diseases and name common casues describe the clinical syndromes, nephrotic syndrome and nephritic syndrome and list the common primary renal and systemic diseases that can casue these syndromes describe the pathogenesis of oedema, proteinuria, haematuria and hypertension in renal diseases describe the laboratory indicators of renal diseases and how to measure the degree of renal dysfunction 	1hr	Lecture	Pathology
2011-3/PATH-SBM-4/35				
Clinical aspects of renal failure		1hr	Lecture	Medicine
2011-3/PATH-SBM-4/36				
Acute and chronic renal failure		1h	Lecture	Medicine

J. A Edunun

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2011-3/PATH-SBM-4/37				
Heamaturia	 outline the causes of haematuria and describe the pathogenesis in each cause. discuss the diagnostic approach in heamaturia 	1hr	SGD	Pathology
2011-3/PATH-SBM-4/38				
Renal diseases	 identify the morphological changes in diseases of the excretory system using mounted specimens outline the possible clinical manifestations that these changes can produce 	3hrs	Guided self learning	Pathology
Skills				
Collection of urine samples for urinalysis & microbiology	During clinical appointment			
Identification of abnormal constituents of urine	During clinical appointment			
Examination of the abdomen and external genitalia	During clinical appointment			
Giving instructions to the patients on how to collect a 24 hour urine sample	During clinical appointment			
Interpretation of X-rays (Normal/Abnormal)	During clinical appointment			
2011-3/PATH-SBM-4/39				
Female genital tract				
a. Diseases of vulva, vagina and cervix	 recall the anatomy and histology of vulva, vagina and cervix. recall general pathology of inflammation and neoplasia list the developmental abnormalities, inflammatory diseases and neoplasms of the vulva and vagina describe the aetiopathogenesis, clinical features, complications and macroscopic appearance of inflammatory diseases of the vulvo-vagina. list the inflammatory, non neoplastic and neoplastic diseases of the cervix describe the clinical effects and morphology of the inflammatory and non neoplastic diseases of the cervix describe the aetiopathogenesis(including risk factors and premalignant lesions) clinical 	1h	Lecture	Pathology

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	features, complications, spread and diagnosis of cervical carcinoma			
b. Uterine and gestation related dieases	 describe the benign diseases of the endometrium, e.g. Hyperplasia, endometritis, adenomyosis, describe the malignant and premalignant lesions of the endometrium describe the pathogenesis, natural history and complications of gestation associated uterine diseases, e.g. hyaditidiform mole, partial mole and choriocarcinoma 	1h	Lecture	Pathology
c. Diseases of fallopian tubes and ovaries	 describe the pathogenesis and manifestations of endometriosis describe the pathogenesis and morphology and clinical manifestations of pelvic inflammatory disease outline the classification of ovarian tumours describe the benign and malignant tumours of the ovary describe the non neoplastic cystic lesions of the ovary describe the causes of tubo-ovarain masses 	2h	Lecture	Pathology
2011-3/PATH-SBM-4/40				
Common pathological lesions in male genital tract (Urethritis, epididymoorchitis, Hydrocoel, Torsion) a. Pathology of penis b. Pathology of prostate c. Testis/epididymis	1. describe the etio pathogenesis morphology and complications of these conditions	2h	Lecture	Pathology
	2. Xerotica Balanitis Obliterans,Condylomataacuminata, carcinoma	1h	Lecture	Pathology
	3. benign hyperplasia, prostatitis, abscess and carcinoma and prostatic tumour markers.	1h	Lecture + Tutorial	Pathology
	4. infections, tumours. Be able to describe the pathology of a scrotal lump.	1h	Lecture	Pathology
2011-3/PATH-SBM-4/41				
Psychological disorders in sexuality and reproduction	(part of a lecture series)1. discuss common myths regarding sexuality	1h	Lecture	Psychiatry
2011-3/PATH-SBM-4/42				
Breast				
a. Non neoplastic diseases of breast	1. describe the common non neoplastic diseases of breast, e.g. abscess, Mastitis, Duct ectasia, fibrocystic change	1h	Lecture	Pathology

J.A.Edmmun

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b. Neoplasms	 list the benign and malignant neoplasms of the breast describe the clinical presentation, and morphology of common benign neoplasms of the breast (Duct papilloma, nipple adenoma, fibroadenoma, phylloides tumour) describe the aetiopathogenesis, risk factors, clinical presentation, morphology, prognosis and spread of breast carcinoma list the investigations used to diagnose breast carcinoma state the clinical significance of grading and staging of breast carcinoma 	lh	Lecture	Pathology
2011-3/PATH-SBM-4/43				
Common skin diseases		1h	Lecture	Pathology
2011-3/PATH-SBM-4/44				
Diseases of uterus cervix and breast	 identify the morphological changes in diseases of uterus cervix and breast using mounted specimens outline the possible clinical manifestations that these changes can produce 	3hrs	Guided self learning	Pathology
2011-3/PATH-SBM-4/45				
Diseases of ovary and testis	 identify the morphological changes in diseases of ovary and testis using mounted specimens outline the possible clinical manifestations that these changes can produce 	3hrs	Guided self learning	Pathology
2011-3/PATH-SBM-4/46				
Bleeding PV	 discuss the causes and diagnostic approach of bleeding PV describe the pathological changes and other clinical manifestations of causes mentioned 	1h	SGD	Pathology
Clinical Skills				
PV Examination	During clinical appointment			
Speculum Examination	During clinical appointment			
Examination of breasts	During clinical appointment			
Maintain a partogram	During clinical appointment			
Starting and maintaining an oxytocin infusion	During clinical appointment			

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