

**Systematic Pathology II (Neuropathology) Module**  
**2010/11 Batch– Year 3 Semester II**

**Web Copy**

Final Document revised on 21<sup>st</sup> May, 2014

Topic/ Concept	Objectives	Time	Dept.	T/L Activity
<b>2010-3/PATH-SBM-4/01</b>	<b>At the end of the module, student should be able to,</b>			
<b>Pathological processes and the effects of such processes on the central and peripheral nervous system (anatomical and functional)</b>	1. recall the principles of general pathological processes discussed in FM3 in relation to the nervous system		Pathology	Recall
<b>Cerebrovascular diseases</b> <b>a. ischaemia and infarction</b> <b>b. haemorrhage</b>	1. describe the pathogenesis of cerebral ischaemia, infarction and haemorrhage and its effects	1h + 1h	Pathology	Lecture/ Museum class
<b>2010-3/PATH-SBM-4/02</b>				
<b>CNS Infections and CSF Analysis</b>	1. describe the etiopathogenesis, morphological changes and clinical effects of common infections of the central nervous system 2. describe the changes in CSF in CNS infections and their pathological basis	1h + 2h	Pathology	Lecture/ Museum class
<b>2010-3/PATH-SBM-4/03</b>				
<b>Increased intra-cranial pressure</b> <b>a. cerebral oedema</b> <b>b. Space occupying lesions</b>	1. Describe the causes of increased intra-cranial pressure 2. describe the pathogenesis of cerebral oedema and its effects 3. describe the morphological changes in the brain and the brain stem in increased intra-cranial pressure and their clinical effects	1h	Pathology	Lecture
<b>2010-3/PATH-SBM-4/04</b>				
<b>Intra-cranial tumours</b>	1. describe the pathology and clinical effects of neoplasms of the brain , spinal cord and peripheral nerves	1h + 1h	Pathology	Lecture/ Museum class
<b>2010-3/PATH-SBM-4/05</b>				
<b>Effects of common poisons on CNS</b>	1. Describe the neurological manifestations of common poisons and their pathological basis	1h	Pathology	Lecture
<b>2010-3/PATH-SBM-4/06</b>				
<b>Pathology of Dementia</b>	1. describe the basic pathological processes involved in demyelination and degenerative diseases of the brain and nerves	1h	Pathology	Lecture

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**Systematic Pathology II (Gastro Intestinal Pathology) Module**  
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Topic/ Concept	Objectives	Time	Dept.	T/L Activity
2010-3/PATH-SBM-4/07				
<b>Alimentation in health</b>	1. recall digestion, absorption and metabolism relating to, carbohydrates, proteins, fat, vitamins, minerals & trace elements 2. recall normal structure and functions of the liver, gut, pancreas and biliary tract 3. recall the neural and hormonal control of the alimentation			recall
2010-3/PATH-SBM-4/08				
<b>The role of nutrients, the requirements &amp; sources</b> a. the concept of a healthy wholesome diet	recall			recall
2010-3/PATH-SBM-4/09				
<b>Normal bowel flora</b>	recall			recall
2010-3/PATH-SBM-4/10				
<b>Diarrhoea</b> a. Mechanisms b. Effects c. Therapies	recall  2010-3/PATH-SBM-4/8			
2010-3/PATH-SBM-4/11				
<b>Vomiting</b> a. Mechanisms b. Effects c. Therapies	recall  2010-3/PATH-SBM-4/8			Self learning
2010-3/PATH-SBM-4/12				
<b>Introduction to GI pathology</b>	1. apply principles of general pathology to the diseases of the gastrointestinal system (acute and chronic inflammation, metaplasia, dysplasia, neoplasia)		Pathology	recall
2010-3/PATH-SBM-4/13				
<b>Infective disease in relation to alimentation</b>	1. describe the pathogenesis, morphological changes and complications of infections in the oesophagus, stomach, duodenum, small intestine, colon and anus. 2. List the opportunistic infections in the gastrointestinal system in immunocompromised hosts.	1h	Pathology	Lecture

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<b>2010-3/PATH-SBM-4/17</b>				
<b>Inflammatory bowel disease</b>	<ol style="list-style-type: none"> <li>recall chronic inflammation.</li> <li>describe the pathogenesis, morphological changes, clinical outcomes and complications of ulcerative colitis and Crohn's disease.</li> <li>compare and contrast the features of ulcerative colitis and Crohn's disease</li> <li>List extra intestinal manifestations of the above.</li> </ol>	2h + 1h	Pathology	Lecture (2h) + Museum Class
<b>2010-3/PATH-SBM-4/18</b>				
<b>Anal and peri anal disease</b>	<ol style="list-style-type: none"> <li>recall acute and chronic inflammation and carcinogenesis.</li> <li>describe the aetiopathogenesis, morphological appearances and complications of -fissures, fistulae, ulcers, haemorrhoids, and tumours.</li> </ol>	1h	Pathology	Lecture
<b>2010-3/PATH-SBM-4/19</b>				
<b>Neoplasms of the colon</b>	<ol style="list-style-type: none"> <li>list the common neoplasms (benign and malignant) in colon.</li> <li>discuss the aetiopathogenesis (emphasising the premalignant lesions), morphology, modes of spread and clinical outcomes of colonic tumours.</li> <li>outlines the polyposis syndromes in the gastrointestinal tract</li> </ol>	1h + 1h	Pathology	Lecture (1h) + Museum class
<b>2010-3/PATH-SBM-4/20</b>				
<b>Introduction to liver Pathology</b>	<ol style="list-style-type: none"> <li>apply the principles of general pathology to the liver diseases</li> </ol>		Pathology	recall
<b>2010-3/PATH-SBM-4/21</b>				
<p><b>a. Hepatitis</b></p> <ol style="list-style-type: none"> <li>list the aetiological agents for a) acute hepatitis b) chronic hepatitis</li> <li>describe the pathogenesis, morphological changes, clinical manifestations and complications of acute hepatitis.</li> <li>describe the pathogenesis, morphological changes, clinical manifestations and complications of chronic hepatitis.</li> <li>outline the investigations performed in suspected acute hepatitis and chronic hepatitis.</li> <li>describe the aetiopathogenesis, morphological changes, clinical manifestations and complications of non alcoholic fatty liver disease (NAFLD)</li> </ol> <p><b>b. Cirrhosis</b></p> <ol style="list-style-type: none"> <li>outline the diseases that can give rise to cirrhosis</li> <li>describe the pathogenesis and complications of cirrhosis</li> <li>describe the clinical manifestations of cirrhosis and their pathological basis</li> <li>describe the clinical manifestations of decompensated cirrhosis</li> <li>outline the investigations performed in cirrhosis with expected results.</li> </ol>		2h + 1h	Pathology	Lecture (2h) + Museum class



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<b>2010-3/PATH-SBM-4/22</b>				
<b>a. Alcoholic liver disease</b> <b>I. Hepatic Steatosis (fatty liver )</b> <b>II. Alcoholic steatohepatitis</b> <b>III. Cirrhosis</b>  <b>b. Inborn errors of metabolism</b>	1. name the different forms of alcoholic liver disease 2. describe the pathogenesis, morphological changes and clinical manifestations of hepatic steatosis and alcoholic steatohepatitis 3. describe the complications of alcoholic liver disease and their clinical manifestations. 4. list the common liver diseases caused by inborn errors of metabolism 5. outline the pathogenesis, morphological changes, clinical manifestations, complications and investigations for each disease mentioned.	1h +1h	Pathology	Lecture (1h) + Museum class
<b>2010-3/PATH-SBM-4/23</b>				
<b>Liver tumours</b>	1. name the common benign and malignant tumours that occur in the liver 2. outline the morphology of each 3. describe the aetiology of hepatocellular carcinoma 4. outline the modes of spread, clinical manifestations and complications of malignant liver tumours. 5. outline the investigations performed in suspected liver tumors	1h	Pathology	Lecture
<b>2010-3/PATH-SBM-4/24</b>				
<b>Clinico-pathological correlation of liver diseases</b> <b>a. Jaundice</b> <b>b. Other clinical manifestations</b>	1. list the types of jaundice caused by liver diseases giving examples. 2. describe the aetiopathogenesis of obstructive jaundice 3. describe the clinical manifestations and their pathological basis in obstructive jaundice. 4. outline the investigations performed in jaundice 5. list the extra hepatic causes of jaundice 6. describe the Pathological basis of other clinical manifestations of liver diseases.	1h	Pathology	Lecture
<b>2010-3/PATH-SBM-4/25</b>				
<b>Interpretation of investigations in liver diseases</b>	1. outline, with interpretations, serum markers of acute and chronic hepatitis. 2. outline the principles and interpretation of investigations of common liver diseases such as acute and chronic hepatitis, cirrhosis, portal hypertension, ascites,NAFLD, alcoholic liver disease and tumours.	1h	Medicine	Lecture



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<b>2010-3/PATH-SBM-4/26</b>				
<b>Diseases of the gall bladder and biliary system</b>	<ol style="list-style-type: none"> <li>1. describe the aetiopathogenesis, morphological changes, complications and clinical outcomes acute and chronic cholecystitis.</li> <li>2. describe the aetiopathogenesis, complications and clinical manifestations of biliary stone disease.</li> <li>3. outline the tumours of the the biliary system and discuss their modes of spread</li> </ol>	1h	Pathology	Lecture + Museum class
<b>2010-3/PATH-SBM-4/27</b>				
<b>Pancreatic diseases</b> <b>a. Pancreatitis</b> <b>b. Pancreatic tumours</b>	<ol style="list-style-type: none"> <li>1. describe the aetiopathogenesis, morphology, complications and clinical outcomes of acute and chronic pancreatitis.</li> <li>2. outline the biochemical investigations in acute and chronic pancreatitis</li> <li>3. outline the tumours of pancreas emphasising the modes of spread and clinical outcomes.</li> </ol>	2h	Pathology	Lecture + Museum class
<b>2010-3/PATH-SBM-4/28</b>				
<b>Imaging of GI diseases</b>	<ol style="list-style-type: none"> <li>1. radiological, pathological correlation of gastrointestinal diseases discussed in this module</li> <li>2. radiological pathological correlation of hepatobiliary and pancreatic diseases</li> </ol>	1h	Radiology	Lecture
<b>2010-3/PATH-SBM-4/29</b>				
<b>Round up sessions</b> <b>a. Hepatomegaly</b>  <b>b. Bleeding per rectum</b>  <b>c. GIT ulcers</b>	<p>discuss the causes, clinical manifestations and diagnostic approach in hepatomegaly.</p> <p>discuss the causes and diagnostic approach in bleeding per rectum.</p> <p>discuss the causes, clinical manifestations, complications and investigations in ulcers of the oesophagus, stomach, duodenum, small intestine, colon, rectum and anus.</p>	3h	Pathology	Lecture discussions



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**Systematic Pathology II (Genito Urinary Pathology)**  
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Concepts	Objectives	Time	T/L Activity	Dept.
<b>2010-3/PATH- SBM-4/30</b>				
<b>Kidneys and the urinary tract</b>	recall		recall	
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				
d. Role of the kidney in the maintenance of blood pH				
<b>2010-3/PATH-SBM-4/31</b>				
<b>Mechanisms of dysfunction of the kidneys and the urinary tract</b>	recall		recall	
<b>a. Renal excretory function</b>				
(i). with reduced nephron mass - GFR, Tubular functions, Constituents of urine				
(ii). in disturbed functions of other systems (Circulation, respiration ect.)				
(iii). in disturbed renal blood flow and autoregulation of blood flow				
(iv). in anomalous urine flow & obstruction to the urine flow				
<b>2010-3/PATH-SBM-4/32</b>				
<b>Introduction to GU pathology</b>	1. apply principles of general pathology to the Genito Urinary tract. (acute and chronic inflammation, necrosis, metaplasia, dysplasia, neoplasia)		recall	Pathology
<b>2010-3/PATH-SBM-4/33</b>				
<b>Pathology of kidney and urinary tract</b>				
<b>a. Infections</b>	1. describe the pathology and pathogenesis of infections in the urinary tract to include a) Acute and chronic pyelonephritis b) Urinary Tuberculosis	1h	Lecture	Pathology



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<b>b. Glomerularnephritis, Glomerular lesions, fibrosis</b>	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	13h	Lecture + Tutorial	Pathology
<b>c. Tubular and interstitial</b>	5. describe the pathology and pathogenesis of tubulo interstitial disease including tubular necrosis, cortical necrosis, papillary necrosis and interstitial nephritis		Lecture + Tutorial + Museum Class	Pathology
<b>d. Urolithiasis</b>	6. Urolithiasis, complications and clinical features			
<b>e. Tumours of the kidney and bladder</b>	7. tumours of the kidney and bladder. Be able to describe the macroscopy, microscopy, and clinical features of the common tumours, including spread and metastasis. -Be able to discuss carcinogenic agents associated with these tumours.			
<b>f. Acute and chronic renal failure RPGN Other common conditions Investigations</b>		3h	Lecture	Medicine
<b>g. Imaging of the diseases of the urinary tract</b>	1. list the different imaging modalities used in different disease conditions discussed in this module.	1h	Lecture	Radiology
	2. to know the radiological features of the pathological conditions discussed above.			
<b>Skills</b>				
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			



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<b>2010-3/PATH-SBM-4/34</b>				
<b>Female genital tract</b>				
<b>a. Vulva &amp; vagina</b> <b>b. Uterus</b> <b>c. Fallopian tubes</b> <b>d. Ovaries</b>	1. skin lesions, Bartholian cyst and abscess, vulval dystrophy, vaginitis pathology and clinical features	1h	Lecture	Pathology
	2. Hyperplasia, fibroids, adenomyosis, cervicitis, endometrial carcinoma, cervical carcinoma, tumours associated with gestation. Pathology and clinical features	2h	Lecture	Pathology
	3. Endometriosis, Pelvic Inflammatory Disease, tubal pregnancy and tubal carcinoma. Pathology and clinical features	2h	Lecture + Tutorial	Pathology
	4. Oophoritis, Tuboovarian masses, polycystic ovarian disease, tumours, and tumour markers Touch on imaging and US Scan. Pathology and clinical features	3h	Lecture	Pathology
<b>2010-3/PATH-SBM-4/35</b>				
<b>Common pathological lesions in male genital tract (Urethritis, epididymoorchitis, Hydrocoel, Torsion)</b> <b>a. Pathology of penis</b> <b>b. Pathology of prostate</b> <b>c. Testis/epididymis</b>	1. describe the etio pathogenesis morphology and complications of these conditions	2h	Lecture	Pathology
	2. Xerotica Balanitis Obliterans, Condylomata acuminata, 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
<b>2010-3/PATH-SBM-4/36</b>				
<b>Psychological disorders in sexuality and reproduction</b>	1. discuss common myths regarding sexuality	1h	Lecture	Psychiatry
<b>2010-3/PATH-SBM-4/37</b>				
<b>Breast</b>				
<b>a. Common non malignant diseases</b>	1. Abscess, Mastitis, Duct ectasia, Hyperplastic disease	1h	Lecture	Pathology
<b>b. Neoplasms</b>	2. Duct papilloma, nipple adenoma, fibroadenoma, phylloides tumour, ductal and lobular carcinoma- Grading system DCIS-Low grade Ductal Intraepithelial Lesions. FNA Biopsy, Hook wire guided biopsy, Familial carcinoma etc..	1h	SGD	Pathology

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<b>Medico-legal aspects – Rape, Infanticide, Abortion</b>				Forensic Medicine(DIS)
<b>Clinical Skills</b>				
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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