Integrated Human Biology Module – 2013/14 Batch (Year 2 Semester II)

Web Copy

Module Coordinator: Dr. KP Maduwage, Dept. of Biochemistry

Topic	Objectives	Time	Department	Responsible Person	T/L activity
2013-2/SBM-13/01	**Student should be able to:**				
Introduction of common signs and symptoms in clinical medicine	1. list and identify the common signs and symptoms which are important in the practice of clinical medicine	8 hr	Medicine Surgery Paediatrics Gyn & Obs	Head/Medicine Head /Surgery Head/Paediatrics Head/ Gyn & Obs	Lecture demonstration - 2 hr Lecture demonstration - 2 hr Lecture demonstration - 2 hr Lecture demonstration - 2 hr
2013-2/SBM-13/02					
Hypovolaemia and shock	1. recall the concepts learned under Cardiac output and venous return & Flow dynamics in the cardiovascular module 2. explain the physiological changes and compensatory mechanisms that occur in the cardiovascular system in varying degrees of blood loss. 3. explain the changes that occur in all body systems in different types of shock. 4. describe the neural, hormonal and metabolic responses to shock	2 hr	Physiology	Head/Physiology	Lecture 2 hrs
2013-2/SBM-13/03					
Heart failure and cardiac shunts	1. recall the concepts learned under heart as a pump in the cardiovascular module 2. explain the haemodynamics and the basis of clinical features in right and left heart failure	2 hrs	Physiology	Head/Physiology	Lecture 2 hrs
2013-2/SBM-13/04					
Cardiac murmurs	1. explain the haemodynamic changes that take place with valvular problems and septal defects of the heart	1 hr	Physiology	Head/Physiology	Lecture 1 hr

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2013-2/SBM-13/05					
Respiratory insufficiencies	1. recall the concepts learned under 2. mechanics of breathing 3. gas exchange, diffusion of gasses and transport of gasses & 4. regulation of respiration in the Respiration module 5. explain the physiological derangement in the dynamic and static lung function tests in restrictive and obstructive respiratory diseases. 6. explain the basis of type 1 and type 2 respiratory failures.	2hrs	Physiology	Head/Physiology	Lecture 2 hrs
2013-2/SBM-13/06					
Bleeding / haemostatic disorders	1. recall the concepts learned under composition of blood & haemostasis in the Blood and Circulation module 2. list the common haemostatic disorders and explain the derangements in each 3. explain the basis of treatment / control of these disorders	2 hrs	Physiology	Head/Physiology	Lecture 2 hrs
2013-2/SBM-13/07					
Dehydration	1. recall the regulatory mechanisms which maintain extracellular fluid (ECF) volume and osmolarity 2. explain the basis of different forms of dehydration and overhydration 3. explain the basis of effects in the conditions listed in 2013-2/SBM-13/07 Obj: 2	2 hrs	Physiology	Head/Physiology	Lecture 2 hrs
2013-2/SBM-13/08					
Derangement of Physiology in acute and chronic kidney disease	1. recall the concepts learned under Functions of the kidneys, formation of urine, tubular functions and the water and electrolyte regulatory mechanisms learned under the excretion and reproduction module 2. describe the physiological derangements seen in kidney disease 3. state the principles of haemodialysis	2 hrs	Physiology	Head/Physiology	Lecture 2 hrs
2013-2/SBM-13/09					
Acid-base and electrolyte disturbances	1. recall the normal regulation of acid base balance in the Respiration and Excretion modules 2. explain the terms respiratory and metabolic acidosis and alkalosis 3. indicate the causes of acid base disorders and explain the basis of the changes in bicarbonate and PCO2 in these conditions 4. state the compensatory changes that occur in the conditions mentioned in 2013-2/SBM-13/09 Obj: 2	2 hrs	Physiology	Head/Physiology	Lecture 2 hrs

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2013-2/SBM-13/10					
Metabolic response to trauma	1. describe the neural, hormonal and metabolic responses to stress and trauma 2. state the beneficial effects of the stress response in coping with trauma and other emergency situations	1 hr	Physiology	Head/Physiology	Lecture 1 hrs
2013-2/SBM-13/11					
Applied Physiology of neurological disorders	1. recall the basic concepts of physiology learned under the central and peripheral nervous systems 2. describe the applied physiology of central and peripheral nervous system disorders	2 hrs	Physiology	Head/Physiology	Lecture 2 hrs
2013-2/SBM-13/12					
Physiological derangements in overweight and obesity	1. define overweight, obesity, central obesity and metabolic syndrome 2. recall the roles of adipose tissue, gut and hypothalamus in the regulation of energy balance 3. describe the role of adipose tissue dysfunction in the onset of insulin resistance in obesity	1 hr	Physiology	Head/Physiology	Lecture 1 hrs
2013-2/SBM-13/13					
Metabolic changes in diabetes	1. list the types of diabetes mellitus and outline the causes for each 2. recall the physiology of blood glucose homeostasis 3. explain how insulin resistance can lead to type-2 diabetes 4. describe the metabolic changes which occur in uncontrolled diabetes mellitus	1 hr	Physiology	Head/Physiology	Lecture 1 hrs
2013-2/SBM-13/14					
Applied Physiology concepts mentioned above (Topics 2013-2/SBM-13/02 – 13)	[All applied physiology concepts mentioned above]	2 hrs	Physiology	Head/Physiology	SGD 2 hrs
2013-2/SBM-13/15					
Applied anatomy in relation to common surgical procedures / instrumentation	1. explain the tissue planes in relation to common lumps/growths & surgical procedures 2. identify and explain the common procedures such as a. Venepuncture & venous catheterization b. Accessing peripheral veins c. Accessing femoral vein for catheterization d. Suprapubic puncture e. Insertion of intercostal tubes	5 hrs	Surgery	Head/Surgery Head/Surgery to organize with Head/Anatomy to demonstrate performing these procedures	Lecture 2 hrs Practical Demonstration 3 hrs

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2013-2/SBM-13/16					
Concept of multi - planar /cross sectional imaging	1. identify anatomical structures on cross sectional imaging. 2. apply the knowledge of cross sectional imaging in localizing structural abnormalities of various organs of body	2 hrs	Radiology	Head/Radiology	Lecture demo 2 hrs
2013-2/SBM-13/17					
Alcoholism, Diet Therapy and Antioxidents	1. explain the metabolic changes in alcoholism (glucose and lipid homeostasis) 2. explain the expected organ failure and related dietary advice in relation to alcoholism 3. explain the importance of dietary antioxidants as preventive measures for many diseases	5 hrs	Biochemistry	Head / Biochemistry	Lectures 5 hrs
2013-2/SBM-13/18					
DNA & the cancer cell	1. list the factors that could cause damage to DNA. 2. describe the repair mechanisms available for damaged DNA. 3. recall that DNA repair mechanisms lead to oncogenesis. 4. list the other factors that cause transformation of normal cells into cancer cells. 5. state how normal cells differ from cancer cells in energy metabolism, DNA synthesis & cell division	2 hrs	Biochemistry	Head/ Biochemistry	Lectures 2 hrs
2013-2/SBM-13/19					
Revising System Examination	1. successfully perform examination of all systems learned during the first three semesters	6 hrs	Medicine/ Surgery	Head/Medicine and Head/Surgery	Independent practice sessions in the skills lab 2 x 3hr sessions
2013-2/SBM-13/20					
Student Presentations	1. to revise/recall, to refer and give a summary description of the anatomy and the physiological basis of common symptoms, signs, conditions and diagnoses encountered in primary care clinical practice 2. to lay the foundation of understanding of the core concepts of pathology, to start learning about deranged anatomy and physiology using common clinical situations 3. to be able to explain the anatomical and physiological basis of common diseases to a target population – ideally an 'educated' patient or relative – at a primary care setting 4. to illustrate key issues using written descriptions, printed hand-outs, line diagrams as relevant to the situation	42 hrs	Surgery	Head/ Surgery	

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