

GENERAL OBJECTIVES FOR PRE-CLERCKSHIP YEAR 2 (AS OF MARCH 16, 2010)

1. UNIT 2

Week 1: Oral Health/ENT

1. Describe the functions of the oral cavity, oropharynx and salivary glands and related anatomical structures.
2. Identify the causal factors and manifestations of dental and periodontal diseases.
3. Identify abnormalities in the oral cavity and oropharynx and describe how they may or may not reflect pathology elsewhere in the body.
4. Discuss the multidisciplinary and collaborative approach that may be used in the management (including pharmacological) of diseases of the oral cavity and oropharynx.
5. Appropriately describe a neck mass and using this description create a differential diagnosis of its etiology.
6. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
7. Apply his/her learning of clinical skills.

Week 2: Esophagus/Stomach

1. Illustrate the normal anatomy, histology, embryological development and physiology of the esophagus and stomach.
2. Describe the epidemiology, pathophysiology, clinical presentation, complications, diagnosis and management (including pharmacological) of disorders of the esophagus.
3. Discuss the epidemiology, pathophysiology, clinical presentation, complications, diagnosis and management (including pharmacological) of disorders of the stomach.
4. Demonstrate approaches to common presenting symptoms of patients with disorders of the esophagus and stomach.
5. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
6. Apply his/her learning of clinical skills.

Week 3: Small Intestine and Colon

1. Illustrate the normal anatomy, histology, embryological development and physiology of the small intestine and colon.
2. Describe the epidemiology, pathophysiology, clinical presentation, complications, diagnosis and management (including pharmacological) of disorders of the small intestine and colon.
3. Demonstrate approaches to common presenting symptoms of patients with disorders of the small intestine and colon.
4. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
5. Apply his/her learning of clinical skills.

Week 4: Pancreatic Biliary and Nutrition

1. Illustrate the normal anatomy, histology, embryological development and physiology of the pancreas and biliary system.
2. Describe the normal processes of digestion, absorption and nutrition and their corresponding regulatory mechanisms.
3. Describe the epidemiology, pathophysiology, clinical presentation, complications, diagnosis and management (including pharmacological) of disorders of the biliary system.

4. Describe the epidemiology, pathophysiology, clinical presentation, complications, diagnosis and management (including pharmacological) of disorders of the pancreas.
5. Describe the epidemiology, pathophysiology, clinical presentation, complications, diagnosis and management (including pharmacological) of disorders of malabsorption and malnutrition.
6. Demonstrate an approach to common presenting symptoms of patients with disorders of the pancreas and biliary system and abnormal nutrition.
7. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
8. Apply his/her learning of clinical skills.

Week 5: Liver

1. Illustrate the normal anatomy, histology, embryological development and physiology of the liver.
2. Describe the epidemiology, pathophysiology, clinical presentation, diagnosis, complications and management of disorders of the liver.
3. Demonstrate an approach to common presenting symptoms of patients with disorders of the liver.
4. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
5. Apply his/her learning of clinical skills.

Week 6: Lipids & Fat Metabolism

1. Define the terms lipoprotein, lipid, cholesterol, triglyceride, phospholipid, fatty acid, apoprotein and lipoprotein receptor and demonstrate an understanding of their importance in human physiology and disease.
2. Describe the major pathways of lipoprotein and fat metabolism and describe the role of the apoproteins, receptors and enzymes involved in each step.
3. Describe the known genetic and secondary causes of lipid and lipoprotein disorders, including the molecular and biochemical findings and the clinical effects.
4. Outline how to screen for lipid disorders according to current Canadian guidelines.
5. Interpret the results of biochemical tests of lipids and lipoproteins in the context of risk of disease and optimal target levels for individuals.
6. Describe the lifestyle and pharmacological options for treatment of specific lipid disorders and demonstrate an understanding of their mechanism of action, side effects and expected clinical and biochemical effects.
7. Recognize and describe the clinical findings associated with abnormal lipids including xanthomas and other skin and ophthalmologic findings including corneal arcus and lipemia retinalis.
8. Demonstrate an understanding of the biochemical abnormalities associated with these findings.
9. Recognize and discuss the importance of health promotion and disease prevention and the role of assessing lipid profiles and achieving target levels.
10. Describe the causes of lipodystrophic states.
11. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
12. Apply his/her learning of clinical skills.

Week 7: Diabetes

1. Describe the anatomy of the pancreas, its blood supply and relationship to the liver and small intestines as well as the histology of the hormone producing cells and their molecular signaling pathways.
2. Demonstrate an understanding of the role of insulin and glucagon at the cellular level in the normal and diseased state.
3. Understand the criteria for diagnosis of prediabetes and diabetes mellitus.
4. Compare and contrast the distinguishing characteristics between type 1 and 2 diabetes mellitus (DM1 and DM 2) and other causes of diabetes mellitus with respect to epidemiology, etiology, risk factors, clinical presentation, acute and chronic complications and the treatment of acute and chronic complications of DM 1 and DM 2.

5. Describe the conditions associated with insulin resistance and the relationship to the prediabetic and diabetic state.
6. Outline the available treatments used in the management (including pharmacological), of DM1 and DM2 including, lifestyle, behaviour modification and pharmacological options.
7. Demonstrate an understanding of the pharmacotherapeutic agents used in the management of diabetes including their class, mechanism of action, important side effects and contraindications (including drugs specifically for management of glycemia and those used to reduce the risk or in the treatment of associated complications).
8. Discuss the anticipated complications of diabetes mellitus (DM1 and 2) including the pathophysiology, clinical effects, preventive strategies and treatment. Distinguish between the effects of acute severe hyperglycemia and the commonly seen complications related to chronic hyperglycemia.
9. Recognize the broad impact of diabetes mellitus on an individual, their family relationships, and possible social consequences for example ability to qualify for insurance, possible need to inform the ministry of transport if using a special class driver's license.
10. Discuss the social and economic impact of diabetes mellitus considering the current and expected prevalence of diabetes mellitus both locally and globally.
11. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
12. Apply his/her learning of clinical skills.

Week 8: Thyroid/Bone/Parathyroid

1. Discuss in detail phosphocalcic metabolism and common bone disease.
2. Explain thyroid hormone physiology and common thyroid diseases.
3. Describe psychosocial aspects of bone disorders and thyroid disorder.
4. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
5. Apply his/her learning of clinical skills.

Week 9: Hypothalamic/Pituitary/Adrenal

1. Explain the hypothalamic-pituitary-adrenal axis.
2. Discuss the diseases of the pituitary gland and adrenal glands.
3. Explain normal and abnormal growth and puberty.
4. Recognize the psychosocial aspects of abnormal growth and puberty.
5. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
6. Apply his/her learning of clinical skills.

Week 10: Physiology of Reproduction

1. Describe the normal physiology of the female reproductive system.
2. Describe the normal physiology of the male reproductive system.
3. Describe the normal function of the reproductive endocrine system from puberty to menopause/andropause.
4. Identify and explain the pathological mechanisms which cause dysregulation of normal female reproductive physiology.
5. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
6. Apply his/her learning of clinical skills.

Week 11: Pregnancy

1. Describe the normal physiology of pregnancy from an embryonic, fetal, and maternal perspective.
2. Identify the potential complications of pregnancy from fetal and a maternal perspective.
3. List the standard antenatal care and prenatal screening tests available.
4. Discuss the potential effect of teratogens in pregnancy.
5. Define the process of labor.
6. Identify the various modalities for pain control during labor (including pharmacological).
7. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
8. Apply his/her learning of clinical skills.

Week 12: Pathology of Reproductive Organs

1. Classify pelvic pathological tumors, benign vs. cancerous, according to organ of origin.
2. Prepare a differential diagnosis for pelvic pain.
3. Describe clinical presentation, appropriate investigations and treatment options (including pharmacological) for pelvic pathology.
4. Discuss risk factors and prevention of pelvic pathology.
5. Classify scrotal masses and describe clinical presentation, appropriate investigations and treatment options (including pharmacological).
6. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
7. Apply his/her learning of clinical skills.

Week 13: The Breast and the Rest (Sexuality and STI's)

1. Classify breast pathology according to cellular origin, benign vs. cancerous.
2. Examine breast cancer risks, preventative measures, and treatment approach.
3. Compare and contrast male and female sexual health, dysfunction, diagnostic tools and treatment options.
4. Compare and contrast male and female sexually transmitted infections.
5. Describe contraceptive methods, their mechanism, indications/contraindications, health benefits/risks, and potential sideeffects.
6. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
7. Apply his/her learning of clinical skills.

Week 14: Obesity

1. List the causes of obesity including genetic, metabolic, pharmacologic, lifestyle, environmental factors.
2. Describe the obesity related comorbidities specific to adults, pediatrics and pregnancy..
3. Discuss the medical, surgical and lifestyle interventions available to obese individuals that will ameliorate the obesity related comorbidities.
4. Describe the criteria for the diagnosis of obesity in adults and children.
5. Discuss how physicians as professionals can lessen the social stigma of obesity through their actions.
6. Outline specific recommendations to individuals and families regarding the prevention of obesity.
7. Describe societal changes over the past century that have contributed to the obesity epidemic.
8. Propose strategies for physicians as leaders can advocate for social changes that can promote the achievement of a healthy weight.
9. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
10. Apply his/her learning of clinical skills.

2. UNIT 3

Week 1: Eye

1. Discuss the overall anatomic and physiologic organization of the eye.
2. Formulate a clinical examination, differential diagnosis, and basic management plan for common and important ophthalmic emergencies, including: Red eye, Loss of red reflex and Acute visual loss.
3. Describe the clinical assessment and basic management of common visual problems, including: Strabismus and amblyopia, Chronic visual loss and Refractive errors.
4. Evaluate the impact of vision loss on an individual and population level.
5. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
6. Apply his/her learning of clinical skills.

Week 2: Introduction to neuroscience, neurooncology (Neuro 1)

1. Describe the gross anatomical features of the CNS
2. Discuss the anatomical/functional correlations of the cerebral cortex, with special emphasis on vision, language and memory
3. Discuss the anatomical and key clinical features of motor and sensory pathways
4. Describe the classification of nervous system tumors, with special emphasis on glial and metastatic tumors.
5. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
6. Apply his/her learning of clinical skills.

Week 3: Stroke & Trauma (Neuro 2)

1. Explain the pathophysiology and key management principles of stroke including: clinical definitions for ischemic and hemorrhagic stroke subtypes, arterial circulation, pathophysiology of acute ischemia, prevention and management (including pharmacological) of acute stroke.
2. Describe the various clinical presentations of head and spinal trauma and outline their management.
3. Detail the electrophysiological and chemical mechanisms involved in neuronal signalling.
4. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
5. Apply his/her learning of clinical skills.

Week 4: Neuromuscular, Degenerative and Developmental Disorders (Neuro 3)

1. Discuss the anatomical basis, clinical manifestations and neurotransmission abnormalities in hypokinetic and hyperkinetic movement disorders
2. Discuss the pathophysiology, classification and key clinical manifestations of neuromuscular disorders (myopathies, neuropathies and neuromuscular junction diseases).
3. Describe key steps in CNS development and correlate this sequence to acquired and genetic developmental disorders of the brain and spinal cord.
4. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
5. Apply his/her learning of clinical skills.

Week 5: Infectious, Inflammatory and Demyelinating Disorders (Neuro 4)

1. Distinguish the different forms of CNS infection, with special emphasis on bacterial and viral forms for meningitis and encephalitis.
2. Discuss the pathological process of inflammatory demyelination as it affects both the central and peripheral nervous systems.
3. Describe the anatomical organization and functions of the autonomic nervous system and outline clinical presentations of autonomic disease affecting the pupil and the bladder.
4. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
5. Apply his/her learning of clinical skills.

Week 6: Paroxysmal Disorders (Neuro 5)

1. Discuss the relevant anatomical structures and pathways involved in pain perception, the pathophysiology, clinical classification and pharmacologic treatment principles for different headache syndromes, and the clinical manifestations and treatment of common pain syndromes.
2. Apply the principles of electrical and chemical transmission to the classification and treatment of epilepsy including: synaptic transmission and electrical spread of seizure activity, clinical classification of epileptic seizures and epileptic syndromes and principles of pharmacological management of epilepsy.
3. Classify and discuss the major disorders of sleep.
4. Utilize the knowledge obtained throughout this unit including anatomy, the neurological exam and about specific disease processes to localize a lesion depicted by a case presentation and then to formulate a reasonable differential diagnosis for the lesion.
5. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
6. Apply his/her learning of clinical skills.

Week 7: Mood Disorders (MIND 1)

1. Define the essential elements of a psychiatric assessment, including mental status exam, and make a psychiatric diagnosis using the DSM IV classification system.
2. Discuss etiology, assessment and diagnosis of mood and cognitive disorders.
3. Describe a biopsychosocial treatment plan for mood and cognitive disorders.
4. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
5. Apply his/her learning of clinical skills.

Week 8: Psychosis (MIND 2)

1. Describe a biopsychosocial approach to etiology, assessment and treatment (including pharmacological) of psychosis.
2. Demonstrate an understanding of substance use disorders.
3. Review and evaluate the health acts influencing the practice of medicine, including psychiatry.
4. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
5. Apply his/her learning of clinical skills.

Week 9: Anxiety & Stress (MIND 3)

1. Recognize signs and symptoms of anxiety disorders across the lifespan.
2. Describe normal development of the person.
3. Discuss the overall features of Pervasive Developmental Disorder.
4. Describe and differentiate the Disruptive Behaviour Disorders.
5. Outline the components of a suicide risk assessment.
6. Recognize different presentations of sleep disorders.
7. Discuss the components of an assessment of a child and adolescent.
8. Describe the different personality disorders.
9. Differentiate between anorexia nervosa and bulimia, and describe a treatment strategy for both disorders.
10. Describe the difference between somatization disorder, hypochondriasis and conversion disorder.
11. Recognize different types of psychotherapy and when to prescribe them.
12. Recognize the Social, Individual and Medical System dimensions of the clinical problems discussed during the theme.
13. Apply his/her learning of clinical skills.