1.1. Clinical Applied anatomy, Tissue structure and embryology

K.1.1.1. Applied anatomy, ultrastructure and embryology of the cardiovascular system:
   K1.1.1.1. Recall applied anatomy and ultrastructure of the heart, coronary circulation, major and peripheral vessels.
   K.1.1.1.2. Outline the embryologic development of the cardiac septae and aortic arches.

K.1.1.2. Recall applied anatomy of respiratory system (airways, lungs, mediastinum and chest wall).

K.1.1.3. Recall applied anatomy and ultrastructure of oesophagus, stomach, small bowel, colon, rectum and exocrine pancreas.

K.1.1.4. Describe applied anatomy and ultrastructure of the liver, biliary system, gall bladder and portal circulation.

K.1.1.5. Describe applied anatomy, ultrastructure and blood supply of the central, peripheral and autonomic nervous systems.

K.1.1.6. Outline applied anatomy and ultrastructure of the kidneys and genito-urinary tract.

K.1.1.7. Outline the applied anatomy and ultrastructure of the spleen and lymphatic system.

K.1.1.8. Recall applied anatomy and ultrastructure of synovial joints

K.1.1.9. Applied anatomy, ultrastructure and embryology of the endocrine system:
   K1.1.9.1. Recall applied anatomy and ultrastructure of hypothalamus, pituitary, thyroid, adrenals, gonads, parathyroids and endocrine pancreas.
   K.1.1.9.2. Outline the embryologic development of the hypothalamus and pituitary gland.

1.2. Clinical Physiology

K.1.2.1. Physiology of cardiovascular system:
   K1.2.1.1. Recall the physiologic principles of cardiac cycle.
   K.1.2.1.2. Describe physiologic principles of cardiac performance and maintenance of blood pressure.
   K.1.2.1.3. Describe cardiac electrophysiology and cardiac conductive system.

K.1.2.2. Physiology of Respiratory system:
   K1.2.2.1. Recall physiology of ventilation, perfusion, gas exchange and ventilation-perfusion matching.
   K.1.2.2.2. Describe principles of lung function tests.
K.1.2.3. Outline the physiology of alimentary tract: swallowing, motility, secretion, digestion, absorption and defecation.
K.1.2.4. Outline the functions of the liver, biliary system and gall bladder.
K.1.2.5. Physiology of the Neurologic system:
   K.1.2.5.1. Recall physiology of nerve conduction and neurotransmitters.
   K.1.2.5.2. Recall physiology of major tracts and pathways.
   K.1.2.5.3. Recall physiology of balance, coordination and movement.
   K.1.2.5.4. Describe the pathophysiology of pain.
   K.1.2.5.5. Recall the mechanisms of speech.
   K.1.2.5.6. Recognize brain death.
K.1.2.6. Physiology of the Kidneys, electrolytes and acid-base:
   K.1.2.6.1. Describe the principles of kidney functions (glomerular, tubular functions and of urine formation).
   K.1.2.6.2. Outline homeostasis of fluid, electrolytes and acid-base balance (including respiratory part).
K.1.2.7. Physiology of the haematologic system:
   K.1.2.7.1. Describe haemopoiesis.
   K.1.2.7.2. Outline haemostasis.
K.1.2.8. Physiology of the endocrine system:
   K.1.2.8.1. describe the general classification of hormones, hormone receptors, cross-talk among various hormones, hormones synthesis, transport, degradation and hormone resistance.
   K.1.2.8.2. describe the integrative function of several different hormones in growth and differentiation, homeostasis and reproduction.
K.1.2.9. Physiology of ageing: Recall the effects of ageing on the major organ systems.

1.3. Clinical Biochemistry
   K.1.3.1. Outline carbohydrate metabolism.
   K.1.3.2. Outline lipid metabolism.
   K.1.3.3. Outline protein metabolism.
   K.1.3.4. Outline bile metabolism.

1.4. Applied Pathology
   K.1.4.1. Describe pathogenesis and pathology of atherosclerosis.
   K.1.4.2. Outline inflammation and inflammatory response.

1.5 Clinical Pharmacology
K.1.5.1. Identify Principles of pharmacokinetics: absorption, distribution, metabolism and excretion of drugs.
K.1.5.2. Identify Pharmacological principles of drug interaction.
K.1.5.3. Outline the effects of drugs on pregnancy and lactation.
K.1.5.4. Elicit the effect of age, renal and liver impairment on drug prescription.

1.6 Applied Allergy/ Immunology
K1.6.1. Recall mechanisms of allergic sensitization: primary & secondary prophylaxis.
K.1.6.2. describe natural history of hypersensitivity reactions (types I – IV).
K.1.6.3. Identify innate and adaptive immune responses.
K.1.6.4. Describe the complement system: structure and function.
K.1.6.5. Describe immunodeficiency (congenital or acquired): phagocyte defect, complement deficiency, antibody deficiencies, T- and B- cell deficiencies.
K.1.6.6. describe the mechanism of action of anti-allergic drugs and immunosuppressive therapy.

1.7 Genetics and Molecular Biology
K.1.7.1. Recall structure and function of human cells, chromosome, DNA, RNA and cellular proteins.
K.1.7.2. Describe principles of inheritance: Mendelian, sex-linked and mitochondrial.
K.1.7.3. Discuss Apoptosis.
K.1.7.4. describe the applications of molecular genetics: gene therapy.
K.1.7.5. describe principles of genetic testing including metabolic assays, clinical examination and analysis of nucleic acid (e.g. PCR).

2. Cardiovascular

1.1.1. Anatomy, ultra structure and embryology of the cardiovascular system:
K1.1.1.1. Recall anatomy and ultra structure of the heart, coronary circulation, major and peripheral vessels
K.1.1.1.2. Outline the embryologic development of the cardiac septae and aortic arches.

1.2.1. Physiology of cardiovascular system:
K.1.2.1.1. Recall the physiologic principles of cardiac cycle.
K.1.2.1.2. Describe physiologic principles of cardiac performance and maintenance of BP.
K.1.2.1.3. Describe cardiac electrophysiology and cardiac conductive system.

2.1. Investigations and therapeutic procedures:
K.2.1.1. List indications for plain x-ray chest, ECG, echocardiography, Doppler echocardiography, nuclear imaging and cardiac catheterization.
CS.2.1.1. Interpret plain x-ray chest, ECG, echocardiography, Doppler echocardiography, nuclear imaging and cardiac catheterization.

2.2. Congenital heart disease:
K.2.2.1. Recognize classification and various clinical presentations of common congenital heart disease
CS.2.2.1. Conduct clinical examination for a case of congenital heart.
CS.2.2.2. Plan for management of a case of congenital heart including referral to surgery.

2.3. Valvular heart disease:
K.2.3.1. Recognize aetiology and pathophysiology of valvular diseases.
K.2.3.2. Describe clinical presentations of valvular heart disease
CS.2.3.1. Conduct clinical examination for a case suspected to have infective endocarditis.
CS.2.3.2. Request and interpret appropriate investigations for a case with valvular lesions.
CS.2.3.3. Plan comprehensive management for case with valvular lesions including referral to surgery.

2.4. Infective endocarditis:
K.2.4.1. Recognize predisposing factors and aetiology of infective endocarditis
K.2.4.2. Describe clinical presentations of infective endocarditis
CS.2.4.1. Conduct clinical examination for a case suspected to have infective endocarditis.
CS.2.4.2. Request and interpret appropriate investigations for a case with infective endocarditis.
CS.2.4.3. Plan comprehensive management for case with infective endocarditis including referral to surgery.

2.5. Ischemic heart disease:
**K.1.4.1.** Describe pathogenesis and pathology of atherosclerosis
**K.2.5.2.** Recognize aetiology, risk factors and clinical presentations of ischemic heart disease
**CS.2.5.1.** Conduct clinical examination for a case with ischemic heart disease.
**CS.2.5.2.** Order and interpret relevant investigations for case with ischemic heart disease
**CS.2.5.3.** Construct a comprehensive management plan (life style, pharmacological and invasive interventions) for a case with ischemic heart disease

2.6. Systemic hypertension:
**K.1.2.1.2.** Describe physiologic principles of cardiac performance and maintenance of blood pressure
**K.2.6.1.** Define normal blood pressure and grading of hypertension
**K.2.6.2.** Define the aetiology & describe the pathophysiology of essential hypertension
**K.2.6.3.** Outline the causes of secondary hypertension
**K.2.6.4.** Recognize clinical presentations and complications of hypertension
**CS.2.6.1.** Conduct clinical examination of a case with hypertension.
**CS.2.6.2.** Order and interpret relevant investigations for a case of hypertension (including secondary hypertension)
**CS.2.6.3.** Plan comprehensive management; both non pharmacological and pharmacological of a case with hypertension (including secondary hypertension)
**CS.2.6.4.** Practice counseling for life style changes to a case with hypertension.
**CS.2.6.5.** Organize a follow up plan for a case with hypertension

2.7. Cardiac arrhythmias:
**K.1.2.1.3.** Describe cardiac electrophysiology and cardiac conductive system
CS.2.7.1. Order and interpret ECG and other relevant investigations for a case with cardiac arrhythmia
CS.2.7.2. Plan comprehensive management, both non pharmacological and pharmacological, for a case with cardiac arrhythmia

2.8. Myocardial and pericardial disease:
K.2.8.1. Recognize clinical presentations of common myocardial (i.e. cardiomyopathy and myocarditis) and pericardial diseases
CS.2.8.1. Conduct clinical examination of case with myocardial/ pericardial disease.
CS.2.8.2. List management plan for a case with myocardial/ pericardial disease

2.9. Heart failure:
K.2.9.1. Define the aetiology and describe the pathophysiology of heart failure
K.2.9.2. List clinical presentations and complications of heart failure
CS.2.9.1. Conduct clinical examination of case with heart failure.
CS.2.9.2. Order and interpret relevant investigations of case with heart failure
CS.2.9.3. Plan comprehensive management (non pharmacological and pharmacological) of a case with heart failure.
CS.2.9.4. Organize follow up of case with heart failure.

2.10. Cor-pulmonale:
K.2.10.1. Define cor-pulmonale
K.2.10.2. Describe aetiology and clinical presentations of cor-pulmonale
CS.2.10.1. Conduct clinical examination of a case with cor-pulmonale.
CS.2.10.2. Order and interpret relevant investigations of a case with cor-pulmonale.
CS.2.10.3. Plan comprehensive management of a case with cor-pulmonale.

2.11. Peripheral arterial and venous vascular disease:
K.2.11.1. Recognize clinical presentations of:
  • Common peripheral arterial diseases
  • Common venous vascular diseases
CS.2.11.1. Conduct clinical examination of a case of:
- Common peripheral arterial diseases
- Common venous vascular diseases

CS.2.11.2. Plan for management of:
- Common peripheral arterial diseases
- Common venous vascular diseases

2.12. Cardiac emergencies:
2.12.1. Cardiac arrest:
CS.2.12.1.1. Perform effective basic Life support (BLS) in adults
CS.2.12.1.2. Apply competently peripheral venous lines.
CS.2.12.1.3. Apply central venous lines under supervision.

2.12.2. Shock:
K.2.12.2.1. Define shock and outline its pathophysiology.
K.2.12.2.2. List the differential diagnosis and clinical presentations of different types of shock (distributive, hypovolaemic, cardiogenic and obstructive).
K.2.12.2.3. Outline the principles of hemodynamic monitoring.
CS.2.12.2.1. Use fluids appropriately in shocked patients.
CS.2.12.2.2. Stabilize and treat shocked patients including timely referral

2.12.3. Chest Pain:
K.2.12.3.1. List common causes of chest pain and their clinical presentations.
K.2.12.3.2. Recognize causes of life threatening chest pain.
CS.2.12.3.1. Interpret correctly the results of clinical data, ECG and cardiac enzymes to reach proper diagnosis.
CS.2.12.3.2. Initiate emergency treatment for patients presenting with acute chest pain.
CS.2.12.3.3. Recognize the indications for thrombolysis and immediately refer to CCU.

2.12.4. Other cardiac emergencies
K.2.12.4.1. Define syncope, list its common causes and clinical presentations.
K.2.12.4.2. List common and life threatening arrhythmias that present to the emergency room (ER).
K.2.12.4.3. Recognize the principles of management of arrhythmias and mention the indications for pacing.
K.2.12.4.4. Recognize clinical presentations of pulmonary oedema.
CS.2.12.4.1. Investigate and treat patients with syncope.
CS.2.12.4.2. Diagnose and treat Arrhythmias according to guidelines.
CS.2.12.4.3. Recognize patients presenting with hypertensive emergencies to the ER and initiate treatment.
CS.2.12.4.4. Investigate and treat patients with pulmonary oedema.

3. Respiratory System

3.1. General principles of respiratory disease:
K.1.1.2. Recall anatomy of respiratory system (airways, lungs, mediastinum and chest wall).
K.1.2.2. Physiology of Respiratory system
   K.1.2.2.1. Recall physiology of ventilation, perfusion, gas exchange and ventilation-perfusion matching.
   K.1.2.2.2. Describe principles of respiratory function tests.
K.3.1.1. Recognize the main clinical features of respiratory disease.
K.3.1.2. Outline the diagnostic value of commonly used respiratory function tests, imaging, endoscopy and biopsy.

3.2. Bronchial asthma:
K.3.2.1. Define asthma and recognize the aetiology and pathophysiology of asthma.
K.3.2.2. Discuss clinical manifestations, classification, complications and principles of management
CS.3.2.1. Conduct clinical examination for a case of asthma
CS.3.2.2. Order and interpret relevant investigations for a case of asthma
CS.3.2.3. Plan comprehensive management for a case with bronchial asthma (including criteria of admission to hospital care, ICU or safe discharge).

3.3. Chronic obstructive pulmonary disease (COPD):
K.3.3.1. Define COPD and recognize its aetiology and pathophysiology.
K.3.3.2. Discuss clinical manifestations, classification, complications and principles of management of COPD
CS.3.3.1. Conduct clinical examination for a case of COPD
CS.3.3.2. Order and interpret relevant investigations for a case of COPD
CS.3.3.3. Plan comprehensive management for a case with COPD.

3.4. Respiratory tract infections.
K.3.4.1. Discuss the aetiology and epidemiology of:
  • Acute upper respiratory tract infections
  • Pneumonia
K.3.4.2. Discuss clinical presentations, diagnosis, differential diagnosis and treatment of:
  • Acute upper respiratory tract infections
  • Pneumonia
CS.3.4.1. Conduct clinical examination of a case with respiratory tract infection
CS.3.4.2. Order and interpret relevant investigations for a case of respiratory tract infection
CS.3.4.3. Plan a comprehensive management for case with respiratory tract infection (including criteria of admission to hospital care, ICU or safe discharge).

3.5. Obstructive sleep apnea.
K.3.5.1. Recognize causes, clinical presentations, diagnosis and treatment of obstructive sleep apnoea.
CS.3.5.1. Conduct clinical examination and management of case with obstructive sleep apnoea.

3.6. Suppurative lung disease
K.3.6.1. Discuss the aetiology and epidemiology of:
  • Bronchiectasis
  • Lung abscess
  • Others e.g. cystic fibrosis
K.3.6.2. Discuss clinical presentations, diagnosis, differential diagnosis and treatment of:
  • Bronchiectasis
  • Lung abscess
  • Others e.g. cystic fibrosis
CS.3.6.1. Conduct clinical examination of cases with suppurative lung disease
CS.3.6.2. Order and interpret relevant investigations for cases of suppurative lung disease
CS.3.6.3. Plan a comprehensive management for cases of suppurative lung disease (including criteria of admission to hospital care or referral to surgery)

3.7. Pleural disease and effusion.
K.3.7.1. Recognize causes, clinical presentations, diagnosis, differential diagnosis and treatment of:
• Pleurisy
• Pleural effusion

**CS.3.7.1.** Conduct clinical examination, interpret relevant investigations and manage a case with:
• Pleurisy
• Pleural effusion

**3.8. Interstitial lung disease.**

**K.3.8.1.** Recognize causes, clinical presentations, diagnosis, differential diagnosis and treatment of interstitial lung disease (including pneumoconiosis).

**CS.3.8.1.** Conduct clinical examination, interpret relevant investigations and manage a case with interstitial lung disease.

**3.9. Mediastinal syndrome.**

**K.3.9.1.** List causes and recognize clinical presentations, diagnosis, differential diagnosis and treatment of mediastinal syndrome

**CS.3.9.1.** Conduct clinical examination, interpret relevant investigations and manage a case with mediastinal syndrome

**3.10. Tumors of the lung & pleura.**

**K.3.10.1.** Recognize causes, predisposing factors, clinical presentations, diagnosis, differential diagnosis and treatment of:
• Bronchogenic carcinoma
• Mesothelioma

**CS.3.10.1.** Conduct clinical examination, interpret relevant investigations and manage (including referral to other specialities) a case with:
• Bronchogenic carcinoma
• Mesothelioma

**3.11. Pulmonary hypertension:**

**K.3.11.1.** Discuss the aetiology, pathophysiology and classification of pulmonary hypertension

**CS.3.11.1.** Conduct clinical examination, interpret relevant investigations and manage a case with pulmonary hypertension.

**3.12. Respiratory emergencies:**

**K.3.12.1.** Recognize causes, predisposing factors, clinical presentations, diagnosis, differential diagnosis and treatment of:
• Haemoptysis
• Acute severe asthma
• Pneumothorax
• Pulmonary embolism and DVT
• Adult respiratory distress syndrome (ARDS)
• Respiratory failure

**K.3.12.2.** List the indications for mechanical ventilation
CS.3.12.1. Conduct clinical examination, interpret relevant investigations and manage (including referral to other specialities) cases of:
- Haemoptysis
- Acute severe asthma
- Pneumothorax
- Pulmonary embolism and DVT
- Adult respiratory distress syndrome (ARDS)
- Respiratory failure

CS.3.12.2. Have high index of suspicion & Initiate investigations in suspected respiratory emergency cases

4. Gastroenterology

4.1. General principles of gastrointestinal disease
K.1.1.3. Recall applied anatomy and ultrastructure of oesophagus, stomach, small bowel, colon, rectum and exocrine pancreas.
K.1.2.3. Outline the physiology of alimentary tract: swallowing, motility, secretion, digestion, absorption and defecation.
K.4.1.1. Recognize the main clinical features of gastrointestinal disease.
K.4.1.2. Outline the diagnostic value of commonly used gastrointestinal function tests, imaging and endoscopic procedures

4.2. Oesophagus
K.4.2.1. Discuss aetiology and pathogenesis of:
- Gastroesophageal reflux disease
- Motility disorders of esophagus
- Cancer esophagus
CS.4.2.1. Recognize clinical manifestations, diagnosis, differential diagnosis and management of:
- Gastroesophageal reflux disease
- Motility disorders of oesophagus
- Cancer oesophagus
CS.4.2.2. Construct an approach to a patient with heart burn/ dysphagia

4.3. Stomach & duodenum
K.4.3.1. Discuss aetiology and pathogenesis of:
- Gastritis
- Peptic ulcer (including Zollinger-Ellison syndrome).
• Abnormalities of gastric emptying
• Cancer stomach

CS.4.3.1. Recognize clinical manifestations, diagnosis and management of:
• Gastritis
• Peptic ulcer (including Zollinger-Ellison syndrome).
• Abnormalities of gastric emptying
• Cancer stomach

CS.4.3.2. Construct an approach to a patient with dyspepsia

4.4. Small intestine

K.4.4.1. Discuss aetiology and pathogenesis of malabsorption syndrome


4.5. Colon

K.4.5.1. Define and recognize classification and pathophysiology of:
• Acute and chronic diarrhoea
• Constipation

K.4.5.2. Discuss aetiology and pathogenesis of:
• Inflammatory bowel disease
• Diverticulitis
• Irritable bowel syndrome
• Colonic polyps
• Cancer colon

CS.4.5.1. Construct an approach to a patient with:
• Acute and chronic diarrhoea
• Constipation

CS.4.5.2. Conduct clinical examination, diagnosis and management of:
• Inflammatory bowel disease
• Diverticulitis
• Irritable bowel syndrome
• Colonic polyps
• Cancer colon

4.6. Pancreas

K.4.6.1. Discuss aetiology, predisposing factors and pathogenesis of:
• Acute and chronic pancreatitis.
• Cancer pancreas

CS.4.6.1. Recognize clinical manifestations, diagnosis and management of:
• Acute and chronic pancreatitis.
• Cancer pancreas

4.7. Gastroenterology emergencies

K.4.7.1. List causes of:
• Gastrointestinal bleeding
• Acute abdominal pain (stress on medical causes)

CS.4.7.1. Construct approach to a patient with:
• Gastrointestinal bleeding
• Acute abdominal pain (stress on medical causes)

5. Liver, biliary system & gall bladder

5.1. General principles of liver disease

K.1.1.4. Describe applied anatomy and ultrastructure of the liver, biliary system, gall bladder and portal circulation.
K.1.2.4. Outline the functions of the liver, biliary system and gall bladder.
K.1.3.4. Outline bile metabolism.
K.5.1.1. Recognize the main clinical features of liver disease.
K.5.1.2. Outline the diagnostic value of commonly used liver function tests, imaging, endoscopy and liver biopsy
5.2. **Hepatitis**

**K.5.2.1.** Define acute and chronic hepatitis

**K.5.2.2.** Recognize epidemiology, aetiology, predisposing factors, clinical presentations, diagnosis and differential diagnosis of acute/chronic hepatitis.

**CS.5.2.1.** Conduct clinical examination for a case with acute/chronic hepatitis.

**CS.5.2.2.** Order and interpret relevant investigations for a case with acute/chronic hepatitis

**CS.5.2.3.** Construct a comprehensive management plan for a case with acute/chronic hepatitis

**CS.5.2.4.** Construct an approach to diagnose a patient with elevated liver enzymes or positive viral markers.

5.3. **Cirrhosis**

**K.5.3.1.** Define cirrhosis and its prevalence.

**K.5.3.2.** Recognize aetiology, predisposing factors, clinical presentations, diagnosis and differential diagnosis of cirrhosis (including portal hypertension, ascites and hepatocellular failure).

**CS.5.3.1.** Conduct clinical examination for a case with cirrhosis

**CS.5.3.2.** Order and interpret relevant investigations for a case cirrhosis

**CS.5.3.3.** Plan a comprehensive management for a case with cirrhosis and its complications.

5.4. **Hepatic focal lesions**

**K.5.4.1.** List types and predisposing factors of hepatic focal lesions (including neoplasms)

**CS.5.4.1.** Construct an approach to a patient with hepatic focal lesions (including neoplasms)

5.6. **Liver damage induced by drugs, chemicals and other agents**

**K.1.5.6.** Elicit the effect of age, renal and LIVER impairment on drug prescription.

**K.5.6.1.** Recognize different aspects of drug-induced liver injury.
5.7. Liver infections
K.5.7.1. List types and aetiology of liver abscess (amoebic, pyogenic and others)
CS.5.7.1. Recognize clinical presentations, investigations and treatment of liver abscess

5.8. Liver in pregnancy
K.5.8.1. Elicit types of liver diseases associated with pregnancy
CS.5.8.1. Recognize clinical presentations, investigations and treatment of liver diseases during pregnancy

5.9. Surgery in patient with liver diseases
CS.5.9.1. Outline perioperative management of a patient with liver disease

5.10. Liver transplantation
K.5.10.1. Outline indications, contraindications, complications and prognosis of liver transplantation

5.11. Disorders of the biliary tract & gall bladder
K.1.2.4. Outline the functions of the liver, biliary system and gall bladder.
K.1.3.4. Outline bile metabolism.
K.5.11.1. Describe pathophysiology of gallstone formation
CS.5.11.1. Recognize clinical presentations, complications, investigations and treatment of gall bladder disease.

5.12. Jaundice
K.5.12.1. Define jaundice and outline its classification
CS.5.12.1. Construct an approach to a patient with jaundice

5.13. Liver emergencies
K.5.13.1. Recognize types, pathogenesis and precipitating factors of:
- Hepatic encephalopathy
- Fulminant hepatitis.
CS.13.3.1. Recognize the clinical features, differential diagnosis and treatment of:
- Hepatic encephalopathy
• Fulminant hepatitis

Neurology

6.1. Cerebrovascular Disease
K.1.1.5. Describe applied anatomy, ultrastructure and Blood Supply of the central, peripheral and autonomic nervous systems.
K.6.1.1. Recognize aetiology, risk factors and clinical presentations of cerebrovascular diseases:
• Cerebrovascular occlusion.
• TIA
• Lacunar infarct
• Cerebral haemorrhage.
• Subarachnoid haemorrhage (SAH) and subdural haematoma.
CS.6.1.1. Conduct clinical examination for a case with cerebrovascular disease
CS.6.1.2. Order and interpret relevant investigations for case with cerebrovascular disease
CS.6.1.3. Construct a comprehensive management plan for a case with cerebrovascular disease

6.2. Convulsive disorders (including epilepsy)
CS.6.2.1. Conduct clinical examination for a case with convulsive disorder.
CS.6.2.2. Order and interpret relevant investigations for case with convulsive disorders.
CS.6.2.3. Construct a comprehensive management plan for a case with convulsive disorders.

6.3. Headache and facial Pain
K.6.3.1. Recognize pain sensitive areas and pain pathways of the head and neck.
K.6.3.2. Outline common causes and differential diagnosis of headache and facial pain
CS.6.3.1. Conduct clinical examination for a case with headache or facial pain.
CS.6.3.2. Order and interpret relevant investigations for case with headache or facial pain
CS.6.3.3. Construct a comprehensive management plan for a case with headache or facial pain
6.4. Disorders of Cranial Nerves
K.6.4.1. Outline applied anatomy of the cranial nerves.
CS.6.4.1. Conduct clinical examination for all cranial nerves.
CS.6.4.2. Evaluate, localize and manage patients with facial nerve affection.

6.5. Movement Disorders
K.6.5.1. List causes and differential diagnosis of various movement disorders:
- Parkinsonism
- Chorea
- Other causes of tremors
CS.6.5.1. Conduct clinical examination for a case with movement disorder.
CS.6.5.2. Plan management for a case with movement disorder.

6.6. Motor and Sensory Abnormalities
K.6.6.1. Outline applied anatomy of the spine, spinal cord and its roots
K.6.6.2. Recognize the aetiology and clinical presentations of spondylosis (cervical and lumbar).
K.6.6.3. Recognize the aetiology and clinical presentations of motor neurone disease.
K.6.6.4. Recognize the aetiology and clinical presentations of spinal cord diseases.
K.6.6.5. Recognize the aetiology and clinical presentations of muscle diseases (myopathy, myasthenia and myotonia).
K.6.6.6. Recognize the aetiology and clinical presentations of peripheral neuropathy.

CS.6.6.2. Order and interpret relevant investigations for case with motor/ sensory disorder.
CS.6.6.3. Plan management for a case with motor/ sensory disorder.

6.7. Multiple Sclerosis (MS)
K.6.7.1. Recognize aetiology, pathophysiology, clinical presentations and differential diagnosis of MS.
CS.6.7.1. Conduct clinical examination for a case with MS.
CS.6.7.2. Order and interpret relevant investigations for case with MS.
CS.6.7.3. Construct a comprehensive management plan for a case with MS (including prophylaxis).
6.8. Dementia
K.6.8.1. Recognize causes and clinical presentations of dementia.

6.9. Neurologic emergencies:
K.6.9.1. Recognize the key features of these neurologic emergencies:
- Coma
- Status epilepticus
- Acute spinal cord dysfunction.
- Neuromuscular Disorders in Clinical Practice (including Guillane Barre)
- Ischemic and Hemorrhagic Stroke
- CNS Infections

CS.6.9.1. Perform physical examination of the comatose patient.
CS.6.9.2. Plan initial management of these neurologic emergencies:
- Coma
- Status epilepticus
- Acute spinal cord dysfunction.
- Neuromuscular Disorders in Clinical Practice (including Guillane Barre)
- Ischemic and Hemorrhagic Stroke
- CNS Infections

7. Nephrology

1. Basic science:
K.1.1.7. Outline anatomy and ultrastructure of the kidneys and genitourinary tract.
K.1.2.7. Physiology of the Kidneys, electrolytes and acid-base:
   K.1.2.7.1. Describe the principles of kidney functions (glomerular, tubular functions and of urine formation).
   K.1.2.7.2. Outline homeostasis of fluid, electrolytes and acid-base balance (including respiratory part).
K.1.5.6. Elicit the effect of age, **RENAL** and liver impairment on drug prescription.

7.1. Glomerular disease:
K.7.1.1. List causes and define types of glomerulonephritis (GN)
K.7.1.2. Recognize various clinical presentations of GN
CS.7.1.1. Conduct clinical examination for a case with GN
CS.7.1.2. Order and interpret relevant investigations for case with GN
CS.7.1.3. Plan comprehensive management for case with GN

7.2. Acute nephritic syndrome:
K.7.2.1. Recognize causes and various clinical presentations of nephritic syndrome
CS.7.2.1. Order and interpret relevant investigations for case with nephritic syndrome
CS.7.2.2. Plan comprehensive management for case with nephritic syndrome

7.3. Nephrotic syndrome:
K.7.3.1. List causes and recognize various clinical presentations and differential diagnosis of nephrotic syndrome.
CS.7.3.1. Conduct clinical examination for case with nephrotic syndrome
CS.7.3.2. Order and interpret relevant investigations for case with nephrotic syndrome
CS.7.3.3. Plan comprehensive management for case with nephrotic syndrome and its complications.

7.4. Urinary tract infection (UTI):
K.7.4.1. List predisposing factors & different causative organisms for UTI
K.7.4.2. Recognize various clinical presentations (upper, lower, uncomplicated and complicated) of UTI
CS.7.4.1. Conduct clinical examination for a case with UTI
CS.7.4.2. Order and interpret relevant investigations for case with UTI
CS.7.4.3. Plan management for a case with UTI (including prophylaxis) and its complications

7.5. Renal stones
K.7.5.1. List predisposing factors for different types of renal stones.
K.7.5.2. Recognize various clinical presentations of renal stones.
CS.7.5.1. Conduct clinical examination for a case with renal stone
CS.7.5.2. Order and interpret relevant investigations for a case with renal stone
CS.7.5.3. Plan comprehensive management for case with renal stones including prevention of recurrence

7.6. Acute renal failure
K.7.6.1. Define acute renal failure
K.7.6.2. List causes and predisposing factors for acute renal failure
K.7.6.3. Recognize clinical presentations of acute renal failure
CS.7.6.1. Conduct clinical examination for a case with acute renal failure
CS.7.6.2. Order and interpret relevant investigations for case with acute renal failure
CS.7.6.3. Plan comprehensive management for case with acute renal failure

7.7. Chronic renal failure
K.7.7.1. Define chronic renal failure
K.7.7.2. List causes of chronic renal failure
K.7.7.3. Recognize clinical presentations of chronic renal failure
K.7.7.4. Describe renal replacement therapy
K.7.7.5. List complications of chronic renal failure
CS.7.7.1. Conduct clinical examination for a case with chronic renal failure
CS.7.7.2. Order and interpret relevant investigations for case with chronic renal failure
CS.7.7.3. Plan management for a case with chronic renal failure

7.8. Renal emergencies:
K.7.8.1. Identify indications for dialysis and liaise with nephrologists.
K.7.8.2. List the most important causes for emergency presentations to patients on dialysis or renal transplant recipient.
K.7.8.3. List cause and differential diagnosis of gross haematuria.
CS.7.8.1. Plan comprehensive management for case that needs dialysis
CS.7.8.2. Diagnose and plan for management of a case of haematuria.

7.9. Kidney in systemic diseases:
K.7.9.1. Outline the effect of systemic diseases on the kidney
7.10. Urine abnormalities:
K.7.10.1. List causes and differential diagnosis of:
- Haematuria.
- Proteinuria.
- Crystalluria.
- Pyuria.
- Urinary casts.

CS.7.10.1. Order and interpret different investigative modalities regarding:
- Haematuria.
- Proteinuria.
- Crystalluria.
- Pyuria.
- Urinary casts.

7.11. Water, electrolytes and acid base balance:
K.7.11.1. List disorders of sodium concentration
K.7.11.2. List disorders of potassium concentration
K.7.11.3. Describe disorders of acid base disorders; respiratory and metabolic acidosis and alkalosis

8. Haematology

8.1. Anaemia
K.1.2.7.1. Describe hemopoisis
K.8.1.1. Discuss classification, aetiology and pathogenesis of anaemias.
CS.8.1.1. Recognize clinical presentations, diagnosis, differential diagnosis and management of anaemias.
CS.8.1.2. Construct an approach to a patient with anaemia/ pancytopenia.

8.2. Leukocyte disorders
K.8.2.1. List causes of neutropenia and different types of leukocytosis.
8.3. Haemostasis and bleeding disorders
K.8.3.1. Outline haemostasis.
K.8.3.2. Recognize types and causes of purpura and coagulation disorders.
K.8.3.3. Recognize clinical presentations, diagnosis, differential diagnosis and management of purpura and coagulation disorders.
K.8.3.4. Discuss the use of antithrombotic therapy in clinical practice.
CS.8.3.1. Construct an approach to a patient with:
- Bleeding disorders
- Thrombophilia

8.4. Transfusion therapy
K.8.4.1. Recognize blood compatibility testing
K.8.4.2. List blood component therapy
K.8.4.3. Recognize indications and hazards of blood transfusion and blood substitutes.

8.5. Haematologic malignancies
K.8.5.1. Discuss classification and aetiology of hematologic malignancies (Myelo-proliferative disorders, leukemia, lymphomas and plasma cell disorders).
CS.8.5.1. Recognize clinical presentations, diagnosis, differential diagnosis and management of hematologic malignancies.
CS.8.5.2. Conduct an approach to a case of:
- Lymphadenopathy
- Splenomegaly

9. Disorders of the immune system, connective tissue and joints.

9.1. Introduction:
K.9.1.1. Define immune system and major histocompatibility gene complex.

9.2. Primary immune deficiency diseases:
CS.9.2.1. Recognize common clinical presentations and treatment of cellular and humoral immunodeficiencies.
9.3. **Systemic lupus erythematosi**s (SLE):  
**K.9.3.1.** Define SLE, its prevalence, aetiology and pathogenesis.  
**K.9.3.2.** Recognize clinical presentations of and criteria of diagnosis of SLE.  
**CS.9.3.1.** Conduct clinical examination of case suspected to have SLE.  
**CS.9.3.2.** Identify and request appropriate investigations for a case SLE.  
**CS.9.3.3.** Plan comprehensive management for a case with SLE.

9.4. **Rheumatoid arthritis** (RA):  
**K.9.4.1.** Identify epidemiology and genetic basis of RA.  
**K.9.4.2.** Recall aetiology, pathogenesis and pathology of RA.  
**K.9.4.3.** Outline clinical presentations of RA (articular and extra-articular) and criteria for diagnosis.  
**CS.9.4.1.** Conduct clinical examination of case suspected to have RA.  
**CS.9.4.2.** Identify and request appropriate investigations for a case RA.  
**CS.9.4.3.** Plan comprehensive management for case with RA.

9.5. **Vasculitides:**  
**K.9.5.1.** Discuss classification, aetiology and pathogenesis of different types of vasculitides.  
**CS.9.5.1.** Recognize clinical manifestations, diagnosis, differential diagnosis and management of vasculitides.

9.6. **Rheumatic fever** (RF):  
**K.9.6.1.** Identify epidemiology of rheumatic fever.  
**K.9.6.2.** Recall aetiology, pathogenesis and pathology of RF.  
**K.9.6.3.** Outline clinical presentations and criteria for diagnosis of RF.  
**CS.9.6.1.** Conduct clinical examination of case suspected to have RF.  
**CS.9.6.2.** Request appropriate investigations for a case RF.  
**CS.9.6.3.** Plan comprehensive management for case with RF.  
**CS.9.6.4.** Construct an approach of a patient with arthritis.

9.7. **Scleroderma:**  
**K.9.7.1.** Discuss aetiology and pathogenesis of scleroderma.  
**CS.9.7.1.** Recognize clinical manifestations, diagnosis, differential diagnosis and management of scleroderma.
9.8. Mixed connective tissue disorders (MCTD):
K.9.8.1. Discuss aetiology and pathogenesis of MCTD.
CS.9.8.1. Recognize clinical manifestations, diagnosis, differential diagnosis and management of MCTD.

9.9. Sjogren's syndrome:
K.9.9.1. Discuss aetiology and pathogenesis of Sjogren's syndrome.

9.10. Spondylo-arthritis:
K.9.10.1. Discuss aetiology and pathogenesis of Spondylo-arthritis:
  • Ankylosing spondylitis (AS).
  • Reactive arthritis
  • Others: psoriasis and juvenile onset spondyloarthritis.
CS.9.10.1. Recognize clinical manifestations, diagnosis, differential diagnosis and management of Spondylo-arthritis:
  • Ankylosing spondylitis (AS).
  • Reactive arthritis
  • Others: psoriasis and juvenile onset spondyloarthritis.

9.11. Osteoarthritis (OA):
K.9.11.1. Discuss aetiology and pathogenesis of OA.
CS.9.11.1. Recognize clinical manifestations, diagnosis, differential diagnosis and management of OA.

9.12. Gout:
K.9.12.1. Discuss aetiology and pathogenesis of gout.

9.13. Rheumatologic emergencies:
CS.9.13.1. Recognize clinical presentations and management of:
  • Life-threatening SLE.
  • Acute gouty arthritis.
10. Infectious Diseases

10.1. Basic principles of infection and infectious diseases
K.10.1.1. Recall sources of infection, routes of transmission, and risk factors for the development of an infectious disease.
K.10.1.2. Outline the basic principles of prevention and control.

10.2. Approach to a patient with suspected infection
CS.10.2.1. Construct a clinical approach for a case with suspected infection

10.3. Fever of unknown origin (FUO)
K.10.3.1. Define FUO and Recognize its various causes.
CS.10.3.1. Conduct clinical examination for a case with FUO.
CS.10.3.2. Request and interpret appropriate investigations for a case with FUO.
CS.10.3.3. Plan comprehensive management for case with FUO.

10.4. Antimicrobial chemotherapy
K.10.4.1. Outline spectrum of cover of common anti-microbials, recognizing complications of inappropriate use
K.10.4.2. Recognize the pharmacokinetics and pharmacodynamics of antimicrobial agents
K.10.4.3. Recognize antibiotic chemoprophylaxis: when, what and how?
K.10.4.4. Recall major antimicrobial drugs in use: penicillins, cephalosporins, tetracyclines, aminoglycosides, macrolides, sulphonamides, quinolones, metronidazole, anti-tuberculous drugs, anti-fungal, anti-malarial, anti-helminthic and anti-viral drugs.

1.5 Viral infections
K.1.5.1. Recognize different classes of viral infections.
K.1.5.2. Identify clinical features, diagnosis and treatment of some common viral infections: influenza, herpes zoster (HZV), cytomegalovirus (CMV), Ebstein-Barr virus (EBV), poliovirus and viral encephalitis.

10.6. Bacterial infections
10.6.1. Tuberculosis (TB):
K.10.6.1. Discuss the aetiology, epidemiology and pathology of TB.

K.10.6.1.2. Recognize clinical presentations and complications of TB.

CS.10.6.1.1. Conduct clinical examination for a case with TB.

CS.10.6.1.2. Order and interpret appropriate investigations for a case with TB.

CS.10.6.1.3. Plan comprehensive management for case with TB (also including referral to surgery, counseling and follow up).

10.6.2. Meningitis:

K.10.6.2.1. Discuss the aetiology, epidemiology and pathology of meningitis.

K.10.6.2.2. Recognize clinical presentations and complications of meningitis.

CS.10.6.2.1. Conduct clinical examination for a case with meningitis.

CS.10.6.2.2. Order and interpret appropriate investigations for a case with meningitis (with special concern about precautions, indications and interpretation of lumbar puncture).

CS.10.6.2.3. Plan comprehensive management for case with meningitis (including chemoprophylaxis).

10.6.3. Enteric fever (typhoid and paratyphoid):

K.10.6.3.1. Discuss the aetiology, epidemiology and pathology of enteric fever.

K.10.6.3.2. Recognize clinical presentations and complications of enteric fever.

CS.10.6.3.1. Conduct clinical examination for a case with enteric fever.

CS.10.6.3.2. Order and interpret appropriate investigations for a case with enteric fever.

CS.10.6.3. Plan comprehensive management for case with enteric fever (including carriers).

10.6.4. Other common bacterial infections:

K.10.6.4.1. Outline clinical features, diagnosis and treatment of some common bacterial infections including:

- Brucellosis
- Cholera
- Leptospirosis
- Lyme disease

### 10.7 Fungal infections

**K.10.7.1.** Outline clinical features, diagnosis and treatment of candidiasis.

**K.10.7.2.** Outline clinical features, diagnosis and treatment of aspergillosis.

### 10.8 Protozoal infections

**K.10.8.1.** Outline epidemiology, different types, life cycle, pathogenesis, clinical features, diagnosis, management of Malaria. Recognize means of malaria prophylaxis for adult travelers.

**K.10.8.2.** Recognize epidemiology, pathogenesis, different clinical presentations, diagnosis and management of amoebiasis.

**K.10.8.3.** Recall epidemiology, clinical features, diagnosis and treatment of giardiasis.

### 10.9. Helminthic infections

**K.10.9.1.** Outline epidemiology, different types, life cycle, pathogenesis, clinical features, diagnosis, management and prevention of Bilharziasis.

**K.10.9.2.** Recognize epidemiology, pathogenesis, different clinical presentations, diagnosis and management of filariasis.

**K.10.9.3.** Recall epidemiology, clinical features, diagnosis and treatment of some common parasites:

- Ascariasis (roundworm infection)
- Enterobius vermicularis (threadworm infection)
- Trichuris trichura (whipworm infection)
- Hookworm infections (Ancylostoma duodenale and Necator americanus)
- Strogyloides stercoralis.
- Echinococcus infection (hydatid disease)

### 10.10. HIV and AIDS

**K.10.10.1.** Describe the epidemiology, pathogenesis, diagnosis and natural history of human immunodeficiency virus (HIV).

**K.10.10.2.** Outline different clinical features of HIV and acquired immunodeficiency syndrome AIDS.
K.10.10.3. Recognize management plans of HIV-infected patients including antiretroviral drugs (ARVs) and highly active antiretroviral therapy (HAART).

K.10.10.4. Recall different means of prevention and control of HIV transmission.

10.11. Acute infections and sepsis
K.10.11.1. Outline clinical manifestations, complications, methods of diagnosis and principles of management of life threatening and common acute infections.

K.10.11.2. Define sepsis, acute inflammatory response syndrome and septic shock.

K.10.11.3. Outline clinical presentation and principles of management of sepsis and septic shock.

K.10.11.4. Recall the causes and manifestations of infections in immuno-compromised hosts.

CS.10.11.1. Stabilize, initiate treatment and refer patients presenting with acute infections when appropriate.

CS.10.11.2. In case of needle stick injury, select appropriate investigations and treatment according to local/national policy.

11. Endocrinology and Diabetes

11.1. Anterior pituitary and hypothalamus:

K.11.1.1. Recall the hormones secreted by various pituitary cells and its regulatory mechanisms.

K.11.1.2. Recognize the causes, pathophysiology and clinical presentation of hypopituitarism/ pituitary, hypothalamic and other sellar masses.

K.11.1.3. Recognize aetiology and clinical presentation of hyperprolactinaemia and galactorrhea.

K.11.1.4. Discuss causes, clinical features and differential diagnosis of disturbed growth and development.

K.11.1.5. Discuss aetiology, clinical features and differential diagnosis of growth hormone excess.

K.11.1.6. Discuss clinical presentations of gonadotrophin deficiencies.

K.11.1.7. Discuss clinical presentations of ACTH producing tumours (Cushing's disease).
K.11.1.8. Neurohypophysis:
K.11.1.8.1. Discuss aetiology and clinical features of diabetes insipidus.
K.11.1.8.2. Outline causes and differential diagnosis of polyuria.
CS.11.1.1. Conduct clinical examination, diagnosis and treatment of a case of:
- Hypopituitarism.
- Hyperprolactinaemia and galactorrhea.
- Disturbed growth and development.
- Growth hormone excess.
- Gonadotrophin deficiencies.
- Cushing's disease.
- Diabetes insipidus.

11.2. Thyroid Gland:
K.11.2.1. Discuss causes, classification, pathogenesis and clinical manifestations of hypothyroidism.
K.11.2.2. Discuss classification, aetiology, pathogenesis and clinical manifestations of hyperthyroidism.
K.11.2.3. Discuss causes, classification and clinical presentation of thyroiditis.
K.11.2.4. Discuss causes, classification and clinical presentation of goiter/thyroid nodules.
CS.11.2.1. Conduct clinical examination, diagnosis (including subclinical cases with subtle symptoms and signs) and treatment of a case of:
- Hypothyroidism.
- Hyperthyroidism.
- Thyroiditis,
- Goiter/thyroid nodules.

11.3. Adrenal cortex:
K.11.3.1. Recall classification, secretion, metabolism and actions of rennin-angiotensin system.
K.11.3.2. Discuss causes, clinical manifestations and differential diagnosis of cushing's syndromes.
K.11.3.3. Discuss classification (primary and secondary), causes and clinical features of hyperaldosteronism.
K.11.3.4. List syndromes of androgen excess. Recognize causes, differential diagnosis and clinical presentation of hirsutism and virilization.
K.11.3.5. Discuss classification (primary and secondary), causes and clinical features of hypofunction of adrenal cortex.
CS. 11.3.1. Conduct clinical examination, diagnosis and treatment of a case of:
- Cushing's syndrome.
- Hyperaldosteronism.
- Hirsutism and virilization.
- Hypofunction of the adrenal cortex.

11.4. Adrenal medulla:
K.11.4.1. Discuss clinical manifestations of pheochromocytoma.
CS. 11.4.1. Conduct clinical examination, diagnosis and treatment of a case of pheochromocytoma (including peri-operative management).

11.5. Diabetes mellitus:
K.1.5.1. Outline carbohydrate metabolism.
K.1.5.2. Outline lipid metabolism.
K.1.5.3. Outline protein metabolism.

K.11.5.1. Recognize ultrastructure and physiology of endocrine pancreas.
K.11.5.2. Recognize aetiology, epidemiology and pathogenesis of DM.
K.11.5.3. Discuss clinical presentations: Classic picture, acute complications and chronic complications.

CS.11.5.1. Recognize lab diagnosis and management of a case of DM: initial management – long term management.
CS.11.5.2. Diagnose and plan management of diabetic complications:
- Microvascular complications: retinal, renal and neuropathy.
- Macrovascular complications: CAD, CVD, PAD, skin, Gut.
CS.11.5.3. Council a patient regarding diabetes education: medical nutrition, therapy, exercise (management before, during and after exercise), self monitoring of blood glucose, urine ketone monitoring, insulin administration, diabetes management during illness, foot and skin care, risk-factor modifying activities.

11.6. Parathyroid gland:
K.11.6.2. Discuss causes and clinical features of:
- Hypophosphataemia and hyperphosphataemia.
- Hypomagnesaemia and hypermagnesaemia.
- Hypocalcaemia and hypercalcaemia.
K.11.6.3. Discuss aetiology, classification, pathogenesis, pathology and clinical presentations of hypo/hyperparathyroidism.
K.11.6.4. Define osteoporosis and discuss its aetiology, pathogenesis and clinical presentation.

CS. 11.6.1. Conduct clinical examination, diagnosis and treatment of a case of:
- Hyperparathyroidism.
- Osteoporosis.

11.7. Obesity:
K.11.7.1. Recall the physiology of regulation of body energy balance.
K.11.7.2. Recall the adipocyte endocrine function.
K.11.7.3. Define obesity and recognize its measurement and prevalence.
K.11.7.4. Recognize causes and pathogenesis of obesity.
K.11.7.5. Recognize clinical presentations, complications, diagnosis and differential diagnosis of overweight/obesity.

CS 11.7.1. Conduct clinical examination for a case with obesity.
CS 11.7.2. Order and interpret relevant investigations for case with obesity.
CS 11.7.3. Construct a comprehensive management plan for a case with obesity (including diet, behavior modification, motivation and other lines of treatment e.g. drugs and surgery).

11.8. Endocrine emergencies:
K.11.8.1. Recognize causes, precipitating factors, pathogenesis and key features of common endocrinal emergencies including: DKA, hypoglycaemia, hyperosmolar coma, thyroid storm, myxoedema coma, addisonian crisis, pituitary failure and hypertensive emergencies (in pheochromocytoma).

CS.11.8.1. Plan initial management of these endocrinal emergencies
CS.11.8.2. Council patients regarding: the precipitating factors, early signs, emergency home maneuvers and prevention of such emergencies.

12. Geriatric medicine

K1.2.9. Physiology of ageing; Recall the effects of ageing on the major organ systems, including diminished homeostatic abilities, altered metabolism & effects of drugs & other changes.
K.12.1. Describe the normal psychological, social & environmental changes of aging, including reactions to common stresses & changes such as retirement, bereavement, relocation & ill health, & the changes in family relationships that affect health care of the elderly.
K.12.2. List the unique modes of presentation of elderly patients for care, including altered & nonspecific presentations of specific diseases.
K.12.3. Recognize the tendency of elderly patients toward iatrogenic disease, immobilization & its consequences, dependency or long-term institutionalization while in the process of receiving medical care.

CS.12.1. Conduct clinical examination for elderly patients presented with various complaints.
CS.12.2. Manage common elderly medical problems & refer appropriately to specialist care when indicated.
CS.12.3. Identify the various types of long-term care facilities & alternative housings available to the elderly.
CS.12.4. Evaluate the functional status of the elderly patient.

13. Psychiatry

13.1. Psychosomatic disorders
   K.13.1.1. List diagnosis and differential diagnosis of Psychosomatic disorders: (somatisation disorders, malingering, dissociative disorders, hypochondriasis, psychogenic (or somatoform) pain disorders and factitious disorders)
   CS.13.1.1. Safely determine after appropriate work up that a patient is likely to have a non-organic cause for their presentation
   CS.13.1.2. conduct clinical examination and formulate a management plan for a patient with psychosomatic disorder

13.2. Depression
   K.13.2.1. Recognize diagnostic criteria of common major depression and other depressive disorders
   CS.13.2.1. Safely determine after appropriate work up that a patient is likely to have a depressive disorder
   CS.13.2.2. conduct clinical examination and formulate a management plan for a patient with depressive disorder
13.3. Anxiety
   K.13.3.1. Recognize diagnostic criteria of common anxiety disorders (Generalized anxiety, panic disorders, obsessive compulsive disorders and post-traumatic stress disorder)
   CS.13.3.1. Safely determine after appropriate work up that a patient is likely to have an anxiety disorder
   CS.13.3.2. Conduct clinical examination and formulate a management plan for a patient with an anxiety disorder

13.4. Drug dependence
   K.13.4.1. Recall the different presentations of alcoholism and substance misuse
   CS.13.4.1. Recognize the co-existence of psychiatric disease
   CS.13.4.2. Order proper investigations and formulate a management plan for a patient with drug dependence

13.5. Psychiatric emergencies
   K.13.5.1. List life threatening & important psychiatric conditions that present to the emergency internal medicine service
   K.13.5.2. Highlight medical life threatening conditions that could be presented by psychiatric symptoms to the ER (delirium & acute psychosis)
   CS.13.5.1. Perform a rapid focused clinical examination and apply management of psychiatric emergencies including referral to specialists

14. Dermatology

14.1. General dermatology
   K.14.1.1. Describe morphology and patterns of common skin lesions
   K.14.1.2. List the common skin manifestations of systemic diseases

14.2. Hyperpigmented lesions
   K.14.2.1. Discuss clinical presentations, diagnosis, differential diagnosis and treatment of hyperpigmented lesions
14.3. Cellulitis
   K.14.3.1. List causes, diagnosis, and differential diagnosis of cellulitis
   CS.14.3.1. Conduct clinical examination and management of cellulitis

14.4. Cutaneous drug eruptions, urticaria & angioedema
   K.14.4.1. Describe the pathophysiology and clinical manifestations of the most common drug eruptions, urticaria and angioedema lesions
   CS.14.4.1. Conduct clinical examination and management for cases with drug eruptions, urticaria or angioedema lesions

14.5. Dermatological emergencies
   CS.14.5.1. Manage a case of anaphylaxis.

15. Medical Ethics and medico-legal aspect

15.1. Introduction
   K.15.1.1. List the primary principles thought to be central in medical decision making, and explain their meaning (Beneficence, Non-maleficence, Autonomy, Justice)
   K.15.1.2. Explain the relevance of physicians taking Hippocratic and other modern oaths
   K.15.1.3. Express understanding of the meaning and significance of medicine as a profession

15.2. Confidentiality
   K.15.2.1. Outline the importance of medical confidentiality and its practical implications in a number of situations.
   K.15.2.2. Outline the major professional guidelines and legal approaches to confidentiality.

15.3. Consent
   K.15.3.1. Outline common law, the Mental Capacity and guidelines, relating to consent to medical treatment.
   K.15.3.2. Outline Consent and Decision-Making
   CS.15.3.1. apply the law, and ethical reasoning about consent, to a range of practical situations that arise in clinical practice.
   CS.15.3.2. Obtain an informed consent from a patient or a simulated patient in a clinical situation
15.4. Ethical and legal issues at the end of life

S.15.4.1. Apply ethical principles, government laws and regulations to specific patient care scenarios
- End of Life care
- “Do not resuscitate” (DNR) orders
- Heart-lung death
- Brain death
- Persistent vegetative state
- Medical futility and inappropriate care requests
- Autopsy
- Organ Donation
- Euthanasia and physician-assisted suicide

15.5. Ethics in Genetics

K.15.5.1. Identify the key ethical issues arising in cases in clinical genetics concerning the use of prenatal testing;
K.15.5.2. Describe the ethical implications of two areas of practice in clinical genetics:
- the use of prenatal diagnosis (PND) with particular reference to disability
- the sharing of genetic information with families
S.15.5.1. Apply the skills of reasoning and argument learned (e.g. case comparison and constructing an argument) to the ethical issues they have identified

15.6. Pregnancy and assisted reproduction

K.15.6.1. Outline Human reproductive issues
- Contraception and abortion
- Genetic testing and counseling
- Perinatal ethics
- Sterilization

15.7. Medico-legal issues

K.15.7.1. Outline the legal criteria for malpractice and negligence and describe their application
S.15.7.1. Write up a death certificate
S.15.7.2. Write a well structured medical report, covering medical and legal aspects of a patient

15.8. Medical research with human participants
K.15.8.1. Discuss the role and importance of research ethics committees and the national and international guidelines in the regulation of research with humans.

S.15.8.1. Identify the risk of harm in a given research protocol

16. Alternative & Complementary Medicine

K.16.1. Define alternative, complementary and unconventional medicine
K.16.2. List principles of alternative and complementary and unconventional medicine
K.16.3. List indications and limitations of homeopathy, herbal medicine, acupuncture, meditation and others

Attitudes & Behavior

AB.1. Good clinical care
All trainees must be patient centered with application of ethical codes:

AB.1.1. History taking: Show empathy with patients with appreciation of psycho-social factors.

AB.1.2. Physical Examination: Respect patients’ dignity and confidentiality, acknowledge cultural issues, and appropriately involve relatives. Appreciate situations where there is the need for a chaperone.

AB.1.3. Investigations: Use the diagnostic system in a cost-effective way.

AB.1.4. Treatment: Explain treatments options and their cost-benefits.

AB.1.5. Patient’s safety: Be aware of patient safety in different practical situations.

AB.1.6. Providing treatment in emergencies: Be able to deal with emergency and crisis situations in timely and effective fashion.

AB.1.7. Responding to complaints: Respond professionally to any complaint in different aspects of clinical practice.
AB.2. Maintaining continuous professional development
AB.2.1. Maintain, improve and update their practice.

AB.3. Teaching and Training, Appraising and Assessing
AB.3.1. Demonstrate willingness, enthusiasm and ability to teach and train different healthcare personnel.
AB.3.2. Be honest and objective in appraising and/ or assessing the performance of different healthcare personnel.
AB.3.3. Accept constructive appraisal and/ or assessment from other health care personnel.

AB.4 Fitness to practice:
AB.4.1. Be able and honest to deal with their limitations in fitness to practice.

AB.5. Conflict of interest:
AB.5.1. Manage properly any relevant issues related to different aspects of conflict of interest.