---1. Basic Sciences

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:
      K.1.1.9.1. Recall applied anatomy and ultrastructure of hypothalamus, pituitary, thyroid, adrenals, gonads, parathyroids and endocrine pancreas.

1.2. Clinical Physiology
   K.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 blood pressure.
      K.1.2.1.3. Describe cardiac electrophysiology and cardiac conductive system.
   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 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

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: (not included)

2.3. Valvular heart disease:
K.2.3.2. Describe clinical presentations of valvular heart disease
CS.2.3.1. Conduct clinical examination for a case with valvular lesions.
CS.2.3.2. Request and interpret appropriate investigations for a case with valvular lesions.

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.2.4.3. Plan comprehensive management for case with infective endocarditis (including referral to surgery).

2.5. Ischemic heart disease:
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: (not included)

2.8. Myocardial and pericardial disease: (not included)

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.

2.10. Cor-pulmonale: (not included)

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
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).
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 a proper diagnosis.
CS.2.12.3.2. Initiate emergency treatment for patients presenting with acute chest pain.

2.12.4. Other cardiac emergencies
K.2.12.4.1. Define syncope, list its common causes and clinical presentations.
K.2.12.4.4. Recognize clinical presentations of pulmonary oedema.
CS.2.12.4.1. Investigate and treat patients with syncope.
CS.2.12.4.3. 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.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.3.1.1.** Conduct clinical examination for a case of asthma  
**CS.3.1.3.** 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.3.3.3.** Plan comprehensive management for a case with COPD.

**3.4.** **Respiratory tract infections:**  
**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.3.4.3.** 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: (not included)**

**3.6.** **Suppurative lung disease: (not included)**

**3.7.** **Pleural disease and effusion: (not included)**

**3.8.** **Interstitial lung disease: (not included)**

**3.9.** **Mediastinal syndrome: (not included)**

**3.10.** **Tumors of the lung & pleura: (not included)**

**3.12.** **Pulmonary hypertension: (not included)**

**3.13.** **Respiratory emergencies:**  
**K.3.13.1.** 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

CS.3.8.1. 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.

4. Gastroenterology

4.1. General principles of gastrointestinal disease
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
CS.4.2.1. Recognize clinical manifestations, diagnosis, differential diagnosis and management of:
• Gastroesophageal reflux disease
• Motility disorders of oesophagus
• Cancer oesophagus

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
4.4. Small intestine: (not included)

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: (not included)

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

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

5.4. Hepatic focal lesions: (not included)

5.6. Liver damage induced by drugs, chemicals and other agents: (not included)

5.7. Liver infections: (not included)

5.8. Liver in pregnancy: (not included)

5.9. Surgery in patient with liver diseases: (not included)

5.10. Liver transplantation: (not included)

5.11. Disorders of the biliary tract & gall bladder: (not included)

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.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 (not included)

6.3. Headache and facial Pain:

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.6.3.3. Construct a comprehensive management plan for a case with headache or facial pain

6.4. Disorders of Cranial Nerves: (not included)

6.5. Movement Disorders: (not included)

6.6. Motor and Sensory Abnormalities

K.6.6.6. Recognize the aetiology and clinical presentations of peripheral neuropathy.

CS.6.6.1. Conduct clinical examination for a case with (motor)/sensory disorder.
6.7. Multiple Sclerosis (MS): (not included)

6.8. Dementia: (not included)

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

7.1. Glomerular disease: (not included)

7.2. Acute nephritic syndrome: (not included)

7.3. Nephrotic syndrome: (not included)

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: (not included)
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.7.6.3. 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. 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.7.8.3. List causes and differential diagnosis of gross haematuria.
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:
  - Haemtauria.
  - Proteinuria.
  - Crystalluria.
  - Pyuria.
  - Urinary casts.
CS.7.10.1. Order and interpret different investigative modalities regarding:
  - Haemtauria.
• 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.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. Recognize types and causes of purpura and coagulation disorders.
K.8.3.2. Recognize clinical presentations, diagnosis, differential diagnosis and management of purpura and coagulation disorders.
K.8.3.3. Discuss the use of antithrombotic therapy in clinical practice.

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: (not included)

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 erythematosus (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 of SLE.
CS.9.3.3. Plan comprehensive management for a case with SLE

9.4. Rheumatoid arthritis (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.

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): (not included)
9.7. Scleroderma: (not included)
9.8. Mixed connective tissue disorders (MCTD): (not included)
9.9. Sjogren's syndrome: (not included)
9.10. Spondylo-arthritis: (not included)
9.11. Osteoarthritis (OA): (not included)

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, 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): (not included)

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: (not included)

10.6 Bacterial infections:

10.6.1. Tuberculosis (TB):
K.10.6.1.1. 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: (not included)

10.8. Protozoal infections
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.

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.10.10.4. 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.

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: (not included)

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.

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.11.3.3. Discuss causes, clinical manifestations and differential diagnosis of Cushing's syndromes.

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: (not included)

11.5. Diabetes mellitus:

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.

11.6. Parathyroid gland:


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.11.7.3. 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.

11.8. Endocrine emergencies:

K.11.8.1. Recognize causes, precipitating factors, pathogenesis and key features of common endocrinial 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 endocrinological emergencies

CS.11.8.2. Counsel patients regarding: the precipitating factors, early signs, emergency home maneuvers and prevention of such emergencies.

12. Geriatric medicine (not included)

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)

13.2. Depression

K.13.2.1. Recognize diagnostic criteria of common major depression and other depressive disorders

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)

13.4. Drug dependence: (not included)

13.5. Psychiatric emergencies: (not included)

14. Dermatology: (not included)

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 (not included)

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.