

**\*Key:**

**K- Knowledge**

**C- Cognitive**

**P-Psychomotor**

**Co-Communication**

## **Module 1: Lectures**

### **Lectures Objectives**

#### **1. Shock**

**1.1. Define shock (K)**

**1.2. List the types and clinical features of shock which are: (C)**

- Hypovolemic
- Septic
- Cardiogenic
- Anaphylactic
- Neurogenic

**1.3. Define the terminology distributive and obstructive shock (K)**

**1.4. Discuss the Pathophysiology of shock (Macrocirculation, Microcirculation, Cellular function) (C)**

**1.5. Discuss the Systemic effects of shock on the following system: (K/C)**

- Cardiovascular system
- Respiratory system
- Renal system
- Nervous system
- Gastrointestinal tract
- Hepatobiliary system

**1.6. Discuss the general principles of management (airway, breathing and circulation) (K/C)**

**1.7. Discuss the Specific treatment of each type of shock (K/C)**

- Hypovolemic
- Septic
- Cardiogenic
- Anaphylactic
- Neurogenic

## **2. Fluid & electrolytes**

- 2.1. Discuss normal water and electrolyte balance and distribution (K/C)**
- 2.2. Identify the fluid loss and gain in healthy individual (K/C)**
- 2.3. Recognize the daily fluid requirement (K/C)**
- 2.4. List the sources of fluid loss in surgical patients which are: (K/C)**
  - **The Kidney**
  - **The gastrointestinal tract**
  - **Insensible fluid losses**
  - **Sensible skin fluid losses (sweating)**
- 2.5. Discuss the effect of surgery on the following: (K/C)**
  - **The stress response**
  - **Third-space losses**
  - **Drains**
  - **Loss from the gastrointestinal tract**
    - **Intestinal obstruction**
    - **Paralytic ileus**
    - **Intestinal fistula**
    - **Diarrhoea**
- 2.6. Discuss the administration of Intravenous fluid on the following: (K/C)**
  - **Types of intravenous fluid (crystalloids or colloids, others)**
  - **Maintenance fluid and electrolytes requirements**
- 2.7. Identify Water and electrolytes abnormalities: (K/C)**
  - **Water (depletion and excess)**
  - **Electrolytes abnormalities –Hyper and Hypo (Sodium, potassium, calcium, magnesium and phosphorous)**
    - **Etiology**
    - **Manifestations**
    - **Treatment**
- 2.8. Discuss the acid base balance abnormalities (causes, manifestations, systemic effects, arterial blood gas analysis, and treatment) on the following: (K/C)**
  - **Metabolic acidosis**
  - **Metabolic alkalosis**
  - **Respiratory acidosis**
  - **Respiratory alkalosis**
  - **Mixed pattern of acid base balance**

### **3. Surgical infection**

- 3.1. Discuss the infection control and prevention (K/c)**
- 3.2. Identify the factors predisposing to surgical infection (K/C)**
- 3.3. Recognize the classification of operations according to the susceptibility to infection (K/c)**
- 3.4. Describe the antibiotic prophylaxis (K)**
- 3.5. Discuss the principles of antibiotics usage (K/C)**
- 3.6. Discuss the management of postoperative infections (k/C)**
- 3.7. Discuss specific infections in surgical patients (etiology, pathophysiology, manifestations, complications, and Management for the following conditions): (K/C)**
  - **Urinary tract infections**
  - **Respiratory tract infections**
  - **Infections of prosthetic devices**
  - **Bacteremia/septicaemia/pyaemia**
  - **Cellulitis**
  - **Lymphangitis**
  - **Lymphadenitis**
  - **Abscess**
  - **Boil (furuncle)**
  - **Carbuncle**
  - **Clostridia infections (tetanus, gas gangrene, pseudomembranous colitis, necrotizing infections)**
  - **Human immunodeficiency virus**
  - **Fungal infections**
  - **Hepatitis B,C,D, non A-E/AIDS**
  - **MRSA infection**

#### **4. Trauma**

- 4.1. Mention the epidemiology of trauma (K)**
- 4.2. Discuss the mechanism of trauma (Penetrating, Blunt trauma) (K/C)**
- 4.3. Explain the prehospital care in trauma (K/C)**
- 4.4. Discuss the triage and scoring for severity in trauma cases (K/C)**
- 4.5. Describe the emergency department management per “ATLS” protocol (K/C)**
- 4.6. Discuss the primary survey (diagnosis of the problems and immediate management): (K/C)**

##### **A. Airway, ventilation and protection of cervical spines**

- **Elective intubation**
- **Emergency intubation**
- **Control of airway:**
  - 1. Chin lift and jaw thrust**
  - 2. Oropharyngeal airway**
  - 3. Nasotracheal intubation**
  - 4. Orotracheal intubation**
  - 5. Cricothyroidotomy**
  - 6. Tracheostomy**

##### **B. Breathing**

- 1. Tension pneumothorax**
- 2. Open pneumothorax**
- 3. Hemothorax**
- 4. Flail chest and lung contusion**

##### **C. Circulating**

- 1. Hemothorax**
- 2. Pericardial tamponade**
- 3. Hemoperitoneum**
- 4. Major pelvic fractures with bleeding**

##### **D. Disability**

##### **E. Exposure**

- 4.7. Recognize the adjuncts to primary survey for the following (K/C)**
  - **Monitoring**
    - **Pulse, Blood pressure**
    - **ECG**
    - **Continuous pulse oximeter**
  - **X-rays**
    - **Chest, Pelvis, Cervical spine**
  - **Nasogastric tube**
  - **Urinary catheter and monitoring of urine output**
  - **Log roll**
- 4.8. Discuss the secondary survey (K/C)**

## **5. Burn**

- 5.1. Define burn (K)**
- 5.2. Discuss the incidence of burn (K)**
- 5.3. Discuss the pathophysiology of burn (K/C)**
- 5.4. Recognize the calculation (K/C)**
- 5.5. List the types of burn (K)**
- 5.6. Explain the inhalation injury (K)**
- 5.7. Discuss the burn management (K/C)**
  - Non-Surgical: Tetanus, Analgesia, Dressing, Nutrition, Fluid, Foley Catheter**
  - Surgical: Escharotomy, skin grafting**
- 5.8. Identify the complications of burn (K/C)**
- 5.9. Explain the electrical Burn (K/C)**
- 5.10. Explain the chemical Burn (K/C)**

## **6. Wound healing & management**

**6.1. Define the wounds (K)**

**6.2. Discuss the phases of wound healing (K/C)**

**6.3. List the types of wound healing (K/C)**

**6.4. Recognize the factors affecting wound healing: (K/C)**

- **Local**
- **Systemic**

**6.5. Identify the abnormal wound healing which include: (K/C)**

- **Keloid**
- **Hypertrophic scar**

## **7. Metabolic response to injury**

- 7.1. Describe the features of the metabolic response to injury (K/C)**
- **Ebb /flow phase**
  - **Catabolic /anabolic**
- 7.2. Discuss the factors mediating the metabolic response to injury: (K/C)**
- **The acute inflammatory response**
  - **The blood vessels and endothelium**
  - **Afferent nerve impulses and sympathetic activation**
  - **The endocrine response to surgery**
- 7.3. Recognize the consequences of the metabolic response to injury in the following conditions: (K/C)**
- **Hypovolemia**
  - **Increased energy metabolism And substrate cycling**
  - **Catabolism and starvation**
  - **Changes in red blood cell synthesis and coagulation**
- 7.4. Discuss Catabolism: (K/C)**
- **Carbohydrate metabolism**
  - **Fat metabolism**
  - **Protein metabolism**
- 7.5. Describe Starvation (K/C)**
- 7.6. Describe the anabolism (K/C)**

**8. Nutritional support of surgical patients**

**8.1. Discuss the assessment of nutritional status (C/K)**

**8.2. Discuss the assessment of nutritional requirements in health and disease status (K/C)**

**8.3. Identify the causes of inadequate intake (K/C)**

**8.4. Discuss the methods of providing nutritional support on the following aspects: (C/K)**

**1. Enteral nutrition**

**a. Methods of administration**

**b. Complications**

**2. Parenteral nutrition**

**a. Indications**

**b. Calculation**

**c. Administration**

**d. Complications**

**3. Monitoring of nutritional support**

**9. Transfusion of blood and plasma products**

- 9.1. Describe the blood donation (K/C)**
- 9.2. Discuss the blood components (K/C)**
- 9.3. Discuss the plasma products (K/C)**
- 9.4. Discuss the red cell serology (K/C)**
- 9.5. Identify the pre-transfusion testing (K/C)**
- 9.6. Recognize the indications for transfusion (K/C)**
- 9.7. Discuss the blood administration (K/C)**
- 9.8. Identify the adverse effects of transfusion (K/C)**
- 9.9. Describe the autologous transfusion (K/C)**
- 9.10. Recognize the methods to reduce the need for blood transfusion (K/C)**

## **10. Perioperative assessment**

**10.1. Discuss the assessment of operative fitness and perioperative risk (detailed history taking and physical examination) on the following: (K/C)**

- **Cardiovascular system**
- **Respiratory system**
- **Renal system**
- **Hepatic function**
- **Nutritional status**
- **Drug therapy and allergy**
- **Other risk factors (smoking, alcohol, obesity, pregnancy etc.)**

**10.2. Describe the preoperative investigations (Full blood count, coagulation profile, renal profile, liver function test, electrolytes etc.) (K/C)**

**10.3. Discuss the cardiac and respiratory investigations (K/C)**

**10.4. Discuss the cross matching (K/C)**

**10.5. Describe the preoperative ward round (K/C)**

**10.6. Describe the informed consent (K/C)**

**10.7. Explain the preoperative Anxiolytic Medication (K/C)**

**10.8. Explain preoperative Fasting (K/C)**

**10.9. Discuss the antibiotics prophylaxis (K/C)**

**10.10. Discuss the antithrombo-embolic prophylaxis (K/C)**

**10.11. Discuss the perioperative implications of chronic disease (K/C)**

- **Cardiovascular Disease**
- **Respiratory**
- **Chronic renal failure**
- **Jaundice**
- **Diabetes**

**10.12. Explain the preoperative assessment of patient for emergency surgery (K/C)**

## **11. Surgical complications**

- 11.1. Identify the factors increase surgical complication (K/C)**
- 11.2. Discuss the wound complications (K/C)**
  - Seroma
  - Hematoma
  - Acute wound failure (dehiscence)
  - Surgical site infection (wound infection)
- 11.3. Describe hypothermia (K/C)**
- 11.4. Describe malignant hyperthermia (K/C)**
- 11.5. Identify the postoperative fever (K/C)**
- 11.6. Discuss the respiratory complications (K/C)**
  - Atelectasis
  - Pneumonia
  - Pulmonary edema
- 11.7. Discuss the thrombo-embolic complications (K/C)**
  - Deep vein thrombosis
  - Pulmonary Embolism
- 11.8. Discuss the cardiac complications (K/C)**
  - Postoperative hypertension
  - Perioperative ischemia and infarction
  - Cardiogenic Shock
  - Postoperative cardiac arrhythmias
  - Postoperative heart failure
- 11.9. Discuss the renal complications (K/C)**
  - Urinary retention
  - Acute renal failure
- 11.10. Discuss the endocrine complications (K/C)**
  - Adrenal insufficiency
  - Hyperthyroid crisis
  - Hypothyroidism
- 11.11. Discuss the gastrointestinal complications (K/C)**
  - Ileus and early postoperative bowel obstruction
  - Acute abdominal compartment syndrome
  - Postoperative gastrointestinal bleeding
  - Stomal complications
  - Anastomotic leak
  - Intestinal fistulas
  - Pancreatic fistulas
  - Bile duct injuries/fistula
- 11.12. Discuss the neurological complications (K/C)**
  - Delirium, cognitive disorder, and psychosis
  - Seizure disorders
  - Stroke and transient ischemic attacks
- 11.13. Discuss the head / neck complications (K/C)**
  - Acute hearing loss

- **Nosocomial sinusitis**
- **Parotitis**

## **12. Presentation and approach to common thoracic and lung disease**

- 12.1. Identify the symptoms of common thoracic and lung disease (K/C)**
- 12.2. Discuss the physical examination (K/C)**
- 12.3. Describe the surgical Anatomy, Blood Supply, Airway Anatomy. (K/C)**
- 12.4. Recognize the congenital Diseases of the lungs. (K/C)**
- 12.5. Discuss the assessment of the patient, full history and examination. (K/C)**
- 12.6. Describe bronchogenic Carcinoma: Primary: SCLC, NSCLC. (K/C)**
- 12.7. Discuss the assessment for pulmonary resection (K/C)**
- 12.8. Discuss metastatic Disease (K/C)**
- 12.9. Discuss other lung tumors (K/C)**
- 12.10. Describe the Mediastinum (K/C)**
- 12.11. Recognize pneumothorax (Types, Presentation, and management) (K/C)**
- 12.12. Discuss chest trauma (K/C)**
- 12.13. Discuss the pleuro-pulmonary infections like: (K/C)**
  - Lung abscess,
  - Bronchiectasis,
  - Tuberculosis,
  - Asperigilloma of the Lung,
  - Hydatid cyst
  - Empyema
- 12.14. Recognize the chest wall deformities, like Pectus (K/C)**
- 12.15. Recognize the chest tube indications (K/C)**

**13. Presentation and approach to common esophageal disease**

- 13.1. **Recognize the symptoms of common esophageal disease. (K/C)**
- 13.2. **Discuss the physical examination of the esophagus. (K/C)**
- 13.3. **Describe the surgical anatomy of the esophagus. (K/C)**
- 13.4. **Discuss esophageal motility disorder. (K/C)**
- 13.5. **Describe esophageal diverticulum. (K/C)**
- 13.6. **Describe benign esophageal tumor. (K/C)**
- 13.7. **Describe malignant esophageal tumor. (K/C)**
- 13.8. **Describe GERD and Hiatus Hernia. (K/C)**
- 13.9. **Discuss Esophageal perforation. (K/C)**
- 13.10. **Identify the caustic Injury. (K/C)**
- 13.11. **Describe Barrett's Esophagus. (K/C)**
- 13.12. **Recognize dysphagia. (K/C)**
- 13.13. **Describe Achalasia. (K/C)**

**14. Common urinary tract disorders (pathophysiology, etiology, clinical manifestations, complications, Guide line of managements)**

- 14.1. Discuss the types of lower urinary tract symptoms (LUTS) (K/C)**
- 14.2. Discuss benign prostatic hyperplasia (BPH) (K/C)**
- 14.3. Discuss urinary tract infection (UTI) (K/C)**
- 14.4. Discuss bladder dysfunction and Incontinence (K/C)**

**15. Common genitourinary tract malignancy (pathophysiology, etiology, clinical manifestations, complications, Guide line of managements)**

- 15.1. Discuss the renal tumors (K/C)**
- 15.2. Identify bladder tumor (K/C)**
- 15.3. Discuss the testicular cancer (K/C)**
- 15.4. Recognize prostate cancer (K/C)**

**16. Renal stones, renal colic, UTI (pathophysiology, etiology, clinical manifestations, complications, Guide line of managements)**

- 16.1. Discuss the pathogenesis and epidemiology of renal stones, renal colic and UTI (K/C)**
- 16.2. Recognize the presentation and the symptoms of renal stones, renal colic and UTI (K/C)**
- 16.3. Discuss how to evaluate renal stones, renal colic and UTI (K/C)**
- 16.4. Discuss the treatment options for renal stones, renal colic and UTI (K/C)**

**17. Emergency in urology (pathophysiology, etiology, clinical manifestations, complications, Guide line of managements)**

- 17.1. Discuss testicular torsion (K/C)**
- 17.2. Discuss hematuria (K/C)**
- 17.3. Discuss Renal colic (K/C)**
- 17.4. Discuss Priapism (K/C)**
- 17.5. Discuss Genitourinary trauma (K/C)**
- 17.6. Recognize Fournier's gangrene (K/C)**

**18. GU anomalies (pathophysiology, etiology, clinical manifestations, complications, Guide line of managements)**

- 18.1. Discuss congenital anomalies of kidney (K/C)**
- 18.2. Discuss congenital anomalies of ureter (K/C)**
- 18.3. Discuss congenital anomalies of bladder (K/C)**
- 18.4. Discuss congenital anomalies of urethra (K/C)**
- 18.5. Recognize congenital anomalies of genitalia (K/C)**

## **19. Arterial disease**

**19.1 Discuss the pathophysiology and epidemiology of peripheral arterial disease**

**19.2 Discuss the anatomy and clinical features of peripheral arterial disease**

**19.3 Discuss the diagnosis and managements of peripheral arterial disease**

**19.4 Recognize the difference between the chronic & critical lower limb ischemia**

**19.5 Discuss the etiology and classification of acute limb ischemia**

**19.6 Discuss the clinical features and diagnosis of acute limb ischemia**

**19.7 Discuss the managements and complications of acute limb ischemia**

**19.8 Discuss the pathophysiology and epidemiology of carotid arterial disease**

**19.9 Discuss the anatomy and clinical features of carotid arterial disease**

**19.10 Discuss the diagnosis and managements of carotid arterial disease**

## **20. Venous disease**

**20.1 Discuss the pathophysiology and epidemiology of varicose veins**

**20.2 Discuss the classification and clinical features of varicose veins**

**20.3 Discuss the diagnosis and managements of varicose veins**

**20.4 Discuss the pathophysiology and clinical assessment of chronic venous insufficiency**

**20.5 Discuss the managements of chronic venous insufficiency**

**20.6 Discuss the pathophysiology and epidemiology of venous thromboembolism**

**20.7 Discuss the classification and clinical features of venous thromboembolism**

**20.8 Discuss the diagnosis and management of venous thromboembolism**

## **21. Vascular investigation**

**21.1 Identify the types of vascular investigations including ankle brachial index, duplex ultrasound, CT angiogram, MR angiogram and conventional angiography**

**21.2 Discuss the classification of vascular investigation based on sensitivity, operator dependency, toxicity and if therapeutic or diagnostic.**

# **Module 2: Clinical skills**

At the end of this course, the student is expected to demonstrate or perform the following skills and procedures: (K, C, P, Co.)

**1. General Principles of History Taking and Physical Examination**

1.1 Obtain general history

1.2 Perform general physical examination that includes the following:

- General appearance
- Hand & vital signs
- Head & neck
- Chest & heart
- Abdomen
- Lower limbs

**2. Describe and analyze the important Symptoms in Surgical Patient that are associated with the following systems (gastrointestinal tract, chest, heart, genitourinary, metabolic and endocrine, neurological, musculoskeletal)**

**3. Taking history of Pain**

**4. History and Examination of Lump:**

**4.1 Taking history from a patient with a lump, and focusing on the following points:**

- Duration
- First symptom
- Other symptoms
- Progression
- Persistence
- Reappearance
- Multiplicity
- Causes
- Systemic symptoms
- Recurrence after surgery

**4.2 Examination of the lump**

4.2.1 The student should be able to describe the lump through the following:

- Look (shape, position, size, color and texture of the overlying skin)
- Feel (temperature, tenderness, surface, edge)
- Press (consistency, compressibility, reducibility, fluctuation, Pulsating, fluid thrill)

- Percuss
- Move (mobility and fixation to the overlying skin and underlying structures)
- Listen
- Transillumination
- Regional lymph nodes involvement
- Surrounding structures
- General examination

4.2.2 List the differential diagnosis of the Lump

4.2.3 Identify and explain the required Investigation

## **5. History and Examination of Ulcer:**

### **5.1 Taking history from a patient with ulcer and pay attention to the following points:**

- Duration
- First symptom
- Other symptoms
- Progression
- Persistence
- Multiplicity
- Causes
- Systemic symptoms
- Recurrence after surgery?

### **5.2 Examination of ulcer**

The student should be able to describe the lump through the following:

- Look (site, shape, size, floor, base, edge, and depth)
- Feel (tenderness and temperature)
- Discharges
- Surrounding tissues ( induration, pigmentation, scarring, edema, vascular assessment, neurological assessment, fixation to deep structures)
- Regional lymph nodes

## **6. History and Physical Examination of Neck Swellings**

### **6.1 Take general history of the lump**

### **6.2 Perform general examination of the lump**

**6.3 Obtain and perform specific history and examination of the following:**

- a. Cervical lymphadenopathy
- b. Branchial cyst and fistula
- c. Carotid body tumor
- d. Cystic hygroma
- e. Pharyngeal pouch
- f. Sternomastoid tumors
- g. Cervical rib
- h. Thyroglossal cyst
- i. Thyroid gland
- j. Salivary glands swellings

**7. History and Physical Examination of Thyroid Swellings**

The student is expected to recognize, explain and differentiate the following:

- a. Simple hyperplastic goiter
- b. Multinodular goiter
- c. Solitary nodule
- d. Thyrotoxicosis and myxedema
- e. Carcinoma of thyroid glands
- f. Thyroiditis

**8. History and Physical Examination of patients with haemoptysis, Dyspnea, dysphagia, hematemesis**

The student is expected to recognize, explain and differentiate the clinical features of the following:

- a. Lung abscess
- b. Bronchitis
- c. Tuberculosis
- d. Aspergilloma
- e. Hydatid cyst

- f. Empyema
- g. Lung cancer
- h. Esophageal tumors, (Benign and malignant)
- i. Achalasia
- j. GERD and Hiatus Hernia
- k. Barrett's Esophagus

## **9. History and Physical Examination of the Breast and Breast Lump**

### **9.1 History of breast diseases**

- General history
- Breast problems (lump, pain, discharges, nipple changes, hormonal history)

### **9.2 Examination of the breast**

- Examination of the breast and axillae
- General examination

### **9.3 Differentiate between:**

- Benign breast diseases
- Malignant breast neoplasms

## **10. History Taking of Gastrointestinal Tract and Abdomen**

### **10.1 History of gastrointestinal tract and abdominal disorders**

- Detailed history taking
- Analysis of all gastrointestinal symptoms

## **11. Physical Examination of Gastrointestinal Tract and Abdomen**

### **11.1 Physical examination of the gastrointestinal tract and the abdomen which include examining the following:**

- General appearance
- Vital signs, hand, head, neck, chest, and anorectal examination
- Complete Abdominal examination

## **12. Surgical Physical Signs of the Abdomen**

The student is expected to recognize and explain the following signs:

- a. Scars
- b. Fistula and Sinus
- c. Prominent Veins of Abdominal Wall
- d. Stomas
- e. Abdominal Distention
- f. Abdominal Tenderness
- g. Abdominal Masses
- h. Organomegaly

## **13. Anorectal Disorders History and Physical Examination**

### **13.1 History of anorectal disorders**

### **13.2 Examination of anorectum by performing the following:**

- Digital examination
- Proctoscopy
- Sigmoidoscopy

## **14. History and Physical Examination of Abdominal Wall Herniae**

### **14.1 The student is expected to recognize and differentiate between:**

- a. Inguinal Herniae
- b. Non-Inguinal Herniae

### **14.2 General history of hernia**

- History of lump
- History of pain
- History of possible hernial complications

### **14.3 Examination of hernia**

- Examination of groin hernia
- Examination of other hernia

**15. History and Physical Examination of patients with headache:**

- 15.1 Take history from a patient complaining from headache
- 15.2 Differentiate between headaches and other causes of facial pain
- 15.3 List the Differential diagnosis for headache
- 15.4 Perform a clinical examination on a patient presenting with headache
- 15.5 Describe the pathophysiology of meningitis and the clinical evaluation

**16. History and Physical Examination of patients with back pain:**

- 16.1 Take history from a patient complaining from back pain/neck pain
- 16.2 List the Differential diagnosis for back pain/neck pain
- 16.3 Differentiate between the causes of back pain/neck pain from history and examination
- 16.4 Perform a clinical examination on a patient presenting with back pain/neck pain

**17. History and Physical Examination of patient with limb weakness:**

- 17.1 Take history from a patient complaining from Limb weakness
- 17.2 List the Differential diagnosis for limb weakness
- 17.3 Perform a clinical examination on a patient presenting with limb weakness

**18. Approach to Hematuria:**

- 18.1 Take full history from a patient presenting with hematuria and identify the causes of hematuria.
- 18.2 Perform a full clinical examination on a patient presenting with hematuria
- 18.3 Differentiate between the causes of hematuria

- **This topic should cover: upper and lower tract malignancies, BPH, Urolithiasis and renal stones**

## **19. Approach to flank pain and renal colic:**

- 19.1 Take a full history and perform physical examination on a patient presenting with renal colic
- 19.2 Diagnose the renal colic and explain the different types of stones.
- 19.3 Describe the basic Renal colic management and workup.

## **20. Approach to lower urinary tract symptoms ( UTI, BPH , Incontinence assessment):**

- 20.1 Take a full history and perform physical examination on a patient presenting with LUTS
- 20.2 Differentiate the causes and types of incontinence
- 20.3 Describe the Management and workup of LUTS

## **21. Approach to Scrotal swelling and pain**

- 21.1 Take a full history and perform physical examination on a patient presenting with a swollen scrotum
- **This topic should cover: varicocele, hydrocele, hematocele, epididymo-orchitis, malignancies, trauma and torsion**

## **22 . Approach to hand fracture and nerve compression history and physical examination:**

The student should be able to describe and explain the following:

- 22.1 Anatomy
- 22.2 History taking
- 22.3 Radiology
- 22.4 Fracture
  - 22.4.1 Location which bone
  - 22.4.2 Pattern
  - 22.4.3 Deformity
  - 22.4.4 Complications
- 22.5 Treatment
  - 22.5.1 Close
  - 22.5.2 Splint

- 22.5.3 Surgery
  - 22.5.3.1 Close
  - 22.5.3.2 Open
- 22.6 Splinting
- 22.7 Flexor tendon injury
  - 22.7.1 Anatomy
  - 22.7.2 History
  - 22.7.3 Examination
  - 22.7.4 Types
  - 22.7.5 Flexor tendon zones
  - 22.7.6 Repair
  - 22.7.7 Splinting
- 22.8 Nerve compression
  - 22.8.1 Median nerve
    - 22.8.1.1 Carpal tunnel syndrome
    - 22.8.1.2 AIN syndrome
  - 22.8.2 Ulnar nerve
    - 22.8.2.1 Gynon cannale compression
    - 22.8.2.2 Cubital tunnel syndrome

## **23 Hand Infections history, Physical Examination, & Differential diagnosis**

The student should be able to describe the following:

- 23.1 Anatomy
  - 23.1.1 Hand spaces
  - 23.1.2 Nerve and blood supply
- 23.2 Finger tip infection
- 23.3 Herpes infection
- 23.4 Collar abscess
- 23.5 Web space infection
- 23.6 Hand abscess
- 23.7 Flexor tenosynovitis
- 23.8 Necrotizing fasciitis
- 23.9 Human and animal bites

## **24. Upper and lower limb vascular examination skills**

### **24.1 Clinical Assessment of the Venous Circulation of the Upper and Lower Limbs**

24.1.1 the student should be able to take a detailed history including the presenting complaint and predisposing causes

24.1.2 perform local and general examination of the venous system in the upper and lower limbs

### **24.2 Clinical Assessment of the Arterial Circulation of the Upper and Lower Limb**

**24.2.1** The student should be able to take a detailed history including the presenting Symptoms, Risk Factors of arterial diseases, systemic review, past history, family history

**24.2.2** Perform local and general examination of the arterial system in the upper and lower limbs

## **Module 3: Tutorials**

### **1. Approach to wound healing**

The students should be able to:

1.1 List and explain the phases of Normal Wound Healing (K,C)

1. The hemostatic phase
2. The inflammatory phase
3. The proliferative phase
4. The remodeling (maturing) phase

1.2 List and describe the types of Wound Healing (K,C, P)

1. Healing by primary intention (first intention)
2. Healing by secondary intention
3. Healing by tertiary intention (delayed primary closure)

1.3 Identify and differentiate between the factors Affecting Wound Healing (K,C)

1.3.1 Local factors

- a) Wound site
- b) Wound contamination
- c) Infection
- d) Mechanism of wounding
- e) Tissue loss
- f) Hematoma formation in the wound
- g) Vascular insufficiency
- h) Previous radiation of wounded area
- i) A pressure in the wounded area

1.3.2 Systemic Factors

- a) Malnutrition
- b) Uncontrolled diabetes
- c) Medications
- d) Chronic diseases
- e) Immunosuppression
- f) Smoking

1.4 List and discuss the types of wounds (K, C,P)

- a. Acute Wound
- b. Chronic

1.5 Classify Wounds According to the Mechanism of Wounding (K,C,P)

- a. Clean
- b. Avulsion
- c. Abrasion
- d. Puncture
- e. Crushing

1.6 Explain the Management plan of Acute Wound (K,C,P)

1.7 Explain the Management plan of Chronic Wound (K,C,P)

1.8 Explain the mechanism of Compartment Syndrome (K,C,P)

1.9 Describe Degloving Injury (K,C, P)

1.10 Demonstrate the following points regarding leg ulcer:

A. List the different types of leg ulcer including: (K,C,P)

- a. Venous Ulcer
- b. Ischemic Ulcer
- c. Traumatic Ulcer
- d. Chronic Infection
- e. Neoplastic Ulcer
- f. Pressure ulcer
- g. Venous ulcer
- h. Ischemic ulcer
- i. Diabetic Ulcers

B. List and explain the Risk factors, and the prevention mechanisms of Different Leg Ulcer (K,C,P)

1.11 Abnormal scars: (K, C,P)

1.11.1 Explain how scars are formed

1.11.2 Explain the different abnormal scars and how they are formed

- Atrophic scar
- Hypertrophic scar
- Keloid scar
- Contracture scar

1.11.3 Explain the Management plan of abnormal scar

2. Burn- case scenario (K,C,P)

The student is expected to describe and perform the following:

**2.1 Calculation**

**2.2 Management**

- ii. Surgical options
- iii. Non surgical options

### 3. Neck swellings: (K, C, P)

**3.1 The student is expected to describe and explain the pathogenesis and clinical features of the following:**

- a. Thyroid swelling (physiology, diffuse, multinodular and solitary)
- b. Lymphadenopathy (infectious and neoplastic)
- c. Salivary glands swellings
- d. Others (branchial cyst and fistula, thyroglossal cyst, pharyngeal pouch, carotid body tumor, sternomastoid tumor, cystic hygroma, cervical rib, other tumors)
- e. Parathyroid disease (hormone and calcium metabolism, types of hyperparathyroidism, causes of hypoparathyroidism- transient and permanent)

**3.2 List the differential diagnosis by neck triangles**

### 4. Breast disease: (K,C,P)

**4.1 The student is expected to describe and explain the pathogenesis and clinical features of the following conditions:**

- Lump and nodularity
- Pain
- Nipple discharges
- Nipple changes
- Breast enlargement
- Breast skin changes and ulceration

**4.2 List the differential diagnosis of breast diseases**

### 5. Surgical physical signs of the abdomen: (K,C,P)

**5.1 The student is expected to describe and explain the etiology, pathogenesis and clinical features of the following conditions:**

- Tenderness by abdominal quadrant
- Masses by abdominal quadrant
- Distension
- Organomegaly
- Stomas
- Scars

- Fistula
- Sinus
- Prominent veins of abdominal wall

**5.2 list the differential diagnosis of the surgical physical signs**

**6. Abdominal wall, umbilicus and hernia (types, surgical anatomy, predisposing factors, clinical features and complications): (K,C,P)**

**6.1 The student is expected to describe and explain the different types, surgical anatomy, predisposing factors, clinical features and the complications of the following**

- Groin hernias (inguinal and femoral)
- Other hernias (umbilical, paraumbilical, epigastric, divarication, incisional, obturator, Spigelian, perineal and lumbar)
- Abdominal wall (hematoma, tumours)
- Umbilicus ( fistulae, granuloma, adenoma, omphalitis, secondary deposits, endometrioma, and discoloration)

**7. Upper abdominal pain (K,C,P)**

7.1 The student is expected to describe and explain the pathogenesis, etiology, and the clinical features of each of the following conditions:

| <b>Acute</b>                   | <b>Chronic</b>                   |
|--------------------------------|----------------------------------|
| <b>Oesophagitis</b>            | <b>Chronic peptic ulceration</b> |
| <b>Boerhaave's syndrome</b>    | <b>Carcinoma of the stomach</b>  |
| <b>Acute gastritis</b>         | <b>Chronic cholecystitis</b>     |
| <b>Perforated peptic ulcer</b> | <b>Chronic pancreatitis</b>      |

|                                    |                         |
|------------------------------------|-------------------------|
| <b>Acute cholecystitis</b>         | <b>Liver metastases</b> |
| <b>Gallstone and biliary colic</b> | <b>Splenomegaly</b>     |
| <b>Acute pancreatitis</b>          |                         |

### 8. Central abdominal pain: (K,C,P)

8.1 The student is expected to describe and explain the pathogenesis, etiology, and the clinical features of each of the following conditions:

| <b>Acute</b>  | <b>Chronic</b>   |
|---|--|
| <b>Meckel's diverticulitis</b><br><b>Acute gastroenteritis</b><br><b>Inflammatory bowel disease</b><br><b>-Acute Crohn's disease</b><br><b>-Acute ulcerative colitis</b><br><b>Yersinia ileitis</b><br><b>Typhoid</b><br><b>Tuberculosis</b><br><b>Urinary tract infection</b><br><b>Ischaemia of the small bowel</b> | <b>Crohn's disease</b><br><b>Tuberculosis</b><br><b>Radiation bowel damage</b><br><b>Tumours of the small bowel</b><br><b>Recurrent adhesive obstruction/malrotation</b><br><b>Endometriosis</b>   |
| <b>Acute</b>  | <b>Chronic</b>   |
| <b>Acute appendicitis</b><br><b>Crohn's disease</b><br><b>Carcinoma of the cecum and right colon</b><br><b>Acute diverticular disease</b><br><b>Carcinoma of the left colon/rectum</b><br><b>Bladder outflow obstruction</b><br><b>Interstitial/irradiation cystitis</b><br><b>Pelvic inflammatory disease</b>        | <b>Chronic appendicitis</b><br><b>Crohn's disease</b><br><b>Carcinoma of the cecum and right colon</b><br><b>Diverticular disease</b><br><b>Carcinoma of the left colon/rectum</b><br><b>Bladder outflow obstruction</b><br><b>Pelvic inflammatory disease</b> |

### 9. Lower abdominal pain (K,C,P)

9.1 The student is expected to describe and explain the pathogenesis, etiology, and the clinical features of each of the following conditions:

| Acute  | Chronic   |
|--|---|
| <ol style="list-style-type: none"> <li>1. Acute appendicitis</li> <li>2. Meckel's diverticulitis</li> <li>3. Mesenteric adenitis</li> <li>4. Crohn's disease</li> <li>5. Diverticulitis</li> <li>6. Salpingitis/pelvic inflammatory disease</li> <li>7. Ectopic pregnancy</li> <li>8. Twisting or degenerating fibroid</li> <li>9. Acute urinary retention</li> <li>10. Cystitis/pyelonephritis/renal colic</li> <li>11. Colonic carcinoma/diverticulitis/perforation</li> </ol> | <ol style="list-style-type: none"> <li>1. Diverticular disease</li> <li>2. Crohn's disease</li> <li>3. Carcinoma of the colon</li> <li>4. Gynecological malignancy</li> <li>5. Chronic infections</li> <li>6. Chronic appendicitis</li> <li>7. Chronic pelvic sepsis</li> <li>8. Endometriosis</li> <li>9. Degenerating fibroid</li> <li>10. Urological causes (Urinary retention, cystitis, bladder colic, ureteric colic)</li> <li>11. Uterine colic</li> </ol> |

## 10. **Generalized abdominal pain: (K,C,P)**

10.1 The student is expected to describe and explain the pathogenesis, etiology, and the clinical features of each of the following conditions:

- **Irritable bowel syndrome**
- **Recurrent adhesive bowel obstruction**
- **Mesenteric vascular ischemia**
- **Diffuse carcinomatosis**
- **Chronic constipation**
- **Radiation visceral damage**
- **Retroperitoneal neoplasms**
- **Diffuse endometriosis**
- **Lumbar spinal pain**
- **Extensive retroperitoneal fibrosis**
- **Psychosomatic**

## 11. **Gastric outlet, small and large bowel obstruction (K,C,P)**

11.1 The student is expected to describe and explain the pathogenesis, etiology, clinical features and complications of each of the following conditions:

- **Mechanical**
- **Non-mechanical**
- **Adhesive**

- **Non-adhesive**
- **Gastric outlet obstruction**

**12. Extra-abdominal and medical causes of abdominal pain (K,C,P)**

12.1 The student is expected to describe and explain the pathogenesis, etiology, clinical features and complications of each of the following conditions:

- **Pneumonia**
- **Pleurisy**
- **Pulmonary infarction**
- **Inferior myocardial infarction**
- **Spinal cord disorders**
- **Hematoma of inferior epigastric artery**
- **Acute porphyria**
- **Mesenteric lymphadenitis**
- **Infectious hepatitis**
- **Curtis-Fritz-Hugh's syndrome**
- **Herpes zoster infection**
- **Diabetic keto-acidosis**
- **Syphilis (lightening pains)**
- **Henoch Schönlein purpura**
- **Acquired immunodeficiency syndrome (AIDS)**
- **Sickle-cell crisis**
- **Non-specific abdominal pain**

**13. Intra-abdominal hemorrhage (K,C,P)**

13.1 The student is expected to describe and explain the etiology and clinical features of the following conditions:

- **Ruptured abdominal aortic aneurysm**
- **Ruptured spleen**
- **Ruptured ectopic pregnancy**
- **Ruptured ovarian cyst**
- **Ruptured liver adenoma**
- **Ruptured hepatocellular carcinoma**
- **Ruptured visceral aneurysm (splenic, hepatic and mesenteric)**
- **Retroperitoneal hemorrhage (over anticoagulation)**

**14. Perforation of viscus (K,C,P)**

- The student is expected to describe and explain the etiology, clinical features and complications of the following conditions:
- **Peptic ulceration**
- **Boerhaave's syndrome**
- **Gangrenous appendicitis**

- Perforated gallbladder
- Acute diverticulitis
- Small bowel (Crohn's, typhoid, strangulation, tumour and foreign body)
- Ulcerative colitis (toxic megacolon)
- Ischemia
- Radiation necrosis
- Carcinoma colon
- Ruptured bladder

### **15. Gastrointestinal hemorrhage (K,C,P)**

15.1 The student is expected to describe and explain the etiology, clinical features and complications of the following conditions:

**a- Upper gastrointestinal bleeding**

- Peptic ulcer disease
- Gastroesophageal varices
- Portal hypertensive gastropathy
- Gastroduodenal tumors
- Dieulafoy's lesion
- Mallory Weiss syndrome
- Others

**b- Lower gastrointestinal bleeding**

- Angiodysplasia
- Diverticulosis
- Inflammatory bowel diseases
- Anorectal conditions
- Colitis (infectious and ischemic)
- Colorectal tumors
- Colorectal polyps
- Meckel's diverticulum

### **16. Jaundice: (K,C,P)**

16.1 The student is expected to describe and explain the pathogenesis, etiology, clinical features and complications of each of the following conditions:

**a. Prehepatic**

- Hemolysis
- Transfusion reaction

**b. Hepatic**

- Infectious Hepatitis
- Cirrhosis
- Drugs
- Alcohol

### c. Posthepatic

- *Intraluminal*
  - Stones
  - Polyps
  
- *Intramural*
  - Benign biliary stricture (ischemic, Mirizzi's syndrome, iatrogenic, inflammatory, sclerosing cholangitis)
  - Primary cancer (cholangiocarcinoma)
  
- *Extramural*
  - Secondary carcinoma (porta hepatic LN metastasis)
  - Carcinoma in the head of pancreas
  - Chronic pancreatitis

## 17. Infarction of viscus (etiology, clinical features and complications) (K,C,P)

17.1 The student is expected to describe and explain the etiology, clinical features and complications of each of the following conditions:

- a. **Small and large bowel infarction:**
  - **Strangulation**
  - **Volvulus**
  - **Arterial thrombosis**
  - **Arterial embolism**
  - **Venous thrombosis**
  - **Dissecting aneurysm**
  
- b. **Stomach (volvulus)**
- c. **Spleen, liver and kidney (arterial occlusion)**
- d. **Ovary (torsion of pedicles)**
- e. **Omentum/appendix epiploica (strangulation)**