



Cardiorespiratory Module

Final Year MBBS

Table of Contents

| | |
|---|---|
| Khyber Medical University (KMU) Vision: | 3 |
| Khyber Medical University (KMU) Mission:..... | 3 |
| Institute of Health Professions Education & Research (IHPER) Mission: | 3 |
| Themes | 4 |
| Learning Objectives | 5 |
| Specific Learning Objectives..... | 6 |

Khyber Medical University (KMU) Vision:

Khyber Medical University will be the global leader in health sciences academics and research for efficient and compassionate health care.

Khyber Medical University (KMU) Mission:

Khyber Medical University aims to promote professional competence through learning and innovation for providing comprehensive quality health care to the nation.

Institute of Health Professions Education & Research (IHPER) Mission:

To produce leaders, innovators and researchers in health professions education who can apply global knowledge to resolve local issues.

Themes

Table 1: Themes and Duration

| S. No | Themes | Duration in Hours |
|--------------|--------------------------------|-------------------|
| 1 | Chest Pain and Palpitations | 10 hours |
| 2 | Shortness of Breath | 27 hours |
| 3 | Fever and Cough | 19 hours |
| 4. | Painful leg and Blood Pressure | 5 hours |
| Total | | 61hours |

*A minimum of 4 hours apart from above hours daily must be allocated for clinical teaching and training at bedside in different units.

Learning Objectives

By the end of Cardiorespiratory Module, Final year MBBS students will be able to:

1. Discuss the management of a patient with chest pain
2. Explain the management of patients with different types of ischemic heart diseases
3. Explain the management of patients with different types of arrhythmias
4. Discuss the management of traumatic chest injuries as a primary care physician
5. Explain the management of a patient with heart failure
6. Explain the management of patients with different types of Obstructive lung diseases
7. Discuss the management of pleural and pericardial diseases
8. Explain the diagnostic criteria and management of Bacterial endocarditis and Rheumatic fever and their complications
9. Explain the clinical features and management of cyanotic and acyanotic congenital and Valvular heart diseases
10. Discuss the management of cardiomyopathies and myocarditis
11. Explain the diagnostic workup and management of patients with different types of Pneumonias
12. Explain the management approach of a patient with Hypertension
13. Discuss the diagnostic approach and management of DVT and its prevention.

Specific Learning Objectives

Table 2: Theme Wise Learning objectives

| Theme 1: Chest Pain and Palpitations | | | | | |
|--------------------------------------|---------------------------------------|-------|-----------|--|---|
| Subject | Topic | Hours | S. No | Domain of learning | Learning objectives |
| Medicine | Approach to a patient with chest pain | 1 | 1 | Cognitive | Discuss the diagnostic workup and management approach for a patient with chest pain |
| | | 1 | 2 | Psychomotor | Take history and perform physical examination of patient with chest pain |
| | Ischemic heart diseases | 0.5 | 3 | Cognitive | Classify IHD |
| | | | 4 | Cognitive | Explain the management approach to a patient with stable angina pectoris |
| | | 0.5 | 5 | Cognitive | Explain the management approach to a patient with unstable angina pectoris |
| | | 1 | 6 | Cognitive | Explain the management approach to a patient with acute MI. |
| | 7 | | Cognitive | Discuss the risk stratification strategies in post-MI patients | |
| | Disorders of Rhythm | 1 | 8 | Cognitive | Classify arrhythmias and heart block and discuss their ECG abnormalities |

| | | | | | |
|-------------------|---------------------------------|-----|----|------------------|---|
| | | | 9 | Cognitive | Explain the diagnostic and management approach to a patient with irregularly irregular pulse |
| | | 0.5 | 10 | Cognitive | Discuss the management approach to a patient with SVT |
| | | 0.5 | 11 | Cognitive | Discuss the management approach to a patient with Ventricular tachycardia |
| | | | 12 | Cognitive | Explain the management of a patient with different types of heart blocks |
| | | 0.5 | 13 | Affective domain | Counsel a patient with recent onset acute MI |
| Cardiology | Cardiac intervention techniques | 1 | 14 | Cognitive | Explain the different types, methods, and indications of cardiac interventions in cardiology practices |
| Pediatrics | Supraventricular tachycardia | 1 | 15 | Cognitive | Discuss the clinical presentation and the diagnostic workup needed for Supraventricular tachycardia in Pediatric patients |
| | | | 16 | Affective domain | Counsel a parent of a neonate, infant and child with Supraventricular tachycardia |
| Surgery | Chest trauma Hemothorax | 0.5 | 17 | Cognitive | Discuss the diagnostic workup for Chest trauma |
| | | 1 | 18 | Cognitive | Discuss the management options for a patient with Chest trauma |
| | | | 19 | Psychomotor | Perform ABC in a case presenting with chest trauma |
| | | 0.5 | 20 | Psychomotor | Observe chest intubation of a patient presenting with chest trauma |

Theme 2: Shortness of breath

| Subject | Topic | Hours | S. No | Domain of learning | Learning objectives |
|---------------------------|---------------------------------------|-------|-------|--------------------|---|
| Medicine (CVS) | Congestive cardiac failure | 1 | 21 | Cognitive | Explain the types, etiology, clinical features, investigations, prognosis, and management of a patient with CCF. |
| | | | 22 | Cognitive | classify cardiomyopathies |
| | | | 23 | Cognitive | Explain the etiology, clinical features, and management of a patient with myocarditis |
| | Pericarditis and pericardial effusion | 1 | 24 | Cognitive | Explain the etiology, clinical features, and management of a patient pericarditis and pericardial effusion |
| Medicine (Respiratory) | Bronchial asthma (Wheezy chest) | 1 | 25 | Cognitive | Explain the diagnostic and management approach for a patient with chronic wheezy chest |
| | | | 26 | Cognitive | Differentiate between bronchial asthma and cardiac asthma |
| | COPD | 1 | 27 | Cognitive | Explain the diagnostic and management approach for a patient with COPD |
| | | | 28 | Cognitive | Interpret Pulmonary Function test results |
| | | | 29 | Cognitive | Interpret a report of Arterial blood gases |
| | Interstitial lung disease (ILD) | 1 | 30 | Cognitive | Discuss the types, etiology, clinical and radiological presentation, investigations, and management of a patient with ILD |

| | | | | | |
|--------------------|---------------------------------|---|----|-------------|---|
| | Pleural effusion | 1 | 31 | Cognitive | Explain the diagnostic and management strategies in a patient with pleural effusion |
| | | | 32 | Psychomotor | Assist in pleural fluid aspiration |
| | Pneumothorax | 1 | 33 | Cognitive | Explain the diagnostic and management strategies in a patient with Pneumothorax |
| | Pulmonary embolism | 1 | 34 | Cognitive | Discuss the risk factors diagnostic criteria, complications, and treatment of a patient with suspected pulmonary embolism |
| Pulmonology | Respiratory Failure | 1 | 35 | Cognitive | Explain the types, etiology, and pathogenesis of Respiratory Failure |
| | | | 36 | Cognitive | Discuss the diagnostic workup and management for Respiratory Failure |
| | | | 37 | Cognitive | Discuss the types, indications, and approaches to Oxygen therapy |
| Pediatrics | Acyanotic heart disease | 1 | 38 | Cognitive | Discuss the clinical presentation and the diagnostic workup needed for Acyanotic heart disease in Pediatric patients |
| | | | 39 | Cognitive | Discuss the management of an infant and child with Acyanotic heart disease |
| | Ventricular Septal Defect (VSD) | 1 | 40 | Cognitive | Discuss the diagnostic workup and management for Ventricular Septal Defect. |
| | Atrial Septal Defect (ASD) | | 41 | Cognitive | Discuss the diagnostic workup and management for Atrial Septal Defect |

| | | | | | |
|--|---------------------------------------|---|----|--------------------|---|
| | Aortic stenosis | 1 | 42 | Cognitive | Discuss the diagnostic and management workup for Aortic stenosis |
| | Coarctation of aorta | 1 | 43 | Cognitive | Explain the etiology clinical presentation of Coarctation of aorta |
| | | | 44 | Cognitive | Discuss the diagnostic workup and management for Coarctation of aorta |
| | Cyanotic heart disease | 1 | 45 | Cognitive | Discuss the clinical presentation and the diagnostic workup needed for Cyanotic heart disease in Pediatric patients |
| | | | 46 | Cognitive | Discuss the management of an infant and child with Cyanotic heart disease |
| | | | 47 | Psychomotor skills | Perform physical examination of a neonate and infant with Cyanotic heart disease |
| | | | 48 | Affective domain | Counsel a parent of a neonate, infant and child with Cyanotic heart disease |
| | Tetralogy of Fallot (TOF) | 1 | 49 | Cognitive | Explain the etiology and clinical presentation of Tetralogy of Fallot |
| | | | 50 | Cognitive | Discuss the diagnostic workup and management for Tetralogy of Fallot |
| | Transposition of Great Arteries (TGA) | 1 | 51 | Cognitive | Explain the etiology and clinical presentation of Transposition of Great Arteries |
| | | | 52 | Cognitive | Discuss the diagnostic workup and management for Transposition of Great Arteries |

| | | | | | |
|--|--|---|----|--------------------|--|
| | Ebstein anomaly | 1 | 53 | Cognitive | Explain the etiology and clinical presentation of Ebstein anomaly |
| | | | 54 | Cognitive | Discuss the diagnostic workup and management for Ebstein anomaly |
| | Total Anomalous Pulmonary Venous Drainage or Connections (TAPVC) | 1 | 55 | Cognitive | Explain the etiology and clinical presentation of TAPVC |
| | | | 56 | Cognitive | Discuss the diagnostic workup and management for TAPVC |
| | Truncus arteriosus | 1 | 57 | Cognitive | Explain the etiology and clinical presentation of Truncus arteriosus |
| | | | 58 | Cognitive | Discuss the diagnostic workup and management for Truncus arteriosus |
| | Tricuspid atresia | 1 | 59 | Cognitive | Explain the etiology and clinical presentation of Tricuspid atresia |
| | | | 60 | Cognitive | Discuss the diagnostic workup and management for Tricuspid atresia |
| | Congestive Cardiac Failure (CCF) | 1 | 61 | Cognitive | Discuss the clinical presentation and the diagnostic workup and management needed for Congestive Cardiac Failure in Pediatric patients |
| | | | 62 | Psychomotor skills | Take history and perform physical examination of a neonate, infant and child with Congestive Cardiac Failure |

| | | | | | | |
|-----------------|-----------------------------------|---|-----|------------------|--|---|
| | | | 63 | Affective domain | Counsel the parents of a neonate, infant and child with Congestive Cardiac Failure | |
| | Cardio-myopathy | 1 | 64 | Cognitive | Discuss the management algorithm of an infant and child with Cardiomyopathy | |
| | Cystic fibrosis | 1 | 65 | Cognitive | Explain the etiology and clinical presentation of Cystic fibrosis | |
| | | | 66 | Cognitive | Discuss the diagnostic workup and management for Cystic fibrosis | |
| Family medicine | IHD/CCF | 1 | 67 | Cognitive | Explain the management strategies of a patient with IHD and heart failure in general practice including the psychosocial impact of disease on patient and their families | |
| | | | 0.5 | 68 | Cognitive | Describe the strategies for prevention of IHD and CCF |
| | | | 0.5 | 69 | Cognitive | Identify the red-flags in a patient with IHD/CCF and appropriately refer to speciality care when required |
| Surgery | Thoracostomy and chest intubation | 1 | 70 | Cognitive | Explain the indications for Thoracostomy and chest intubation. | |
| | | | 71 | Psychomotor | Observe the procedure of Thoracostomy and chest intubation | |
| | | | 72 | Affective | Counsel a patient for the procedure of Thoracostomy and chest intubation | |

Theme-3: Fever and Cough

| Subject | Topic | Hours | S. No | Domain of learning | Learning objectives |
|----------|------------------------|-------|-------|--------------------|---|
| Medicine | Bacterial endocarditis | 1 | 73 | Cognitive | Explain the risk factors, etiology, clinical features, diagnostic criteria, management, and prevention of Bacterial endocarditis. |
| | Pneumonias | 1 | 74 | Cognitive | Discuss the etiology and classification of pneumonias |
| | | | 75 | Cognitive | Explain the etiology, risk factors clinical features, diagnosis, and management of patients with different types of pneumonias. |
| | | | 76 | Psychomotor | Examine a patient with features of pneumonia |
| | Pulmonary Tuberculosis | 1 | 77 | Cognitive | Explain the diagnostic workup, management, and complications of a suspected case of pulmonary TB |
| | Bronchiectasis | 1 | 78 | Cognitive | Develop a management algorithm for a patient with bronchiectasis |
| | Lung abscess | 1 | 79 | Cognitive | Explain the etiology, clinical and radiological features, complications, and management of a patient with lung abscess. |
| | Lung tumors | 1 | 80 | Cognitive | Classify lung tumors |
| | | | 81 | Cognitive | Explain the diagnostic workup and management and complications of a patient with suspected Bronchogenic carcinoma |

| | | | | | |
|-------------------|---|-----|----|--------------------|---|
| | | 0.5 | 82 | Cognitive | Explain the diagnostic workup and management and complications of a patient with suspected pleural mesothelioma |
| | Cardiovascular involvement in systemic diseases | 1 | 83 | Cognitive | Discuss the cardiovascular manifestations of systemic diseases, their clinical features, investigations, prognosis, and relevant management |
| | Pulmonary involvement in systemic diseases | 1 | 84 | Cognitive | Discuss the pulmonary manifestations of systemic diseases, their clinical features, investigations, prognosis, and relevant management |
| Pediatrics | Rheumatic fever | 1 | 85 | Cognitive | Discuss the clinical presentation and the diagnostic workup needed for Rheumatic fever in Pediatric patients |
| | | | 86 | Cognitive | Discuss the management of an infant and child with Rheumatic fever |
| | | 1 | 87 | Psychomotor skills | Perform physical examination of a neonate, infant with Rheumatic fever |
| | | | 88 | Affective domain | Counsel a parent of a neonate, infant and child with Rheumatic fever |
| | Acute Respiratory Infections (ARI) | 1 | 89 | Cognitive | Explain the clinical presentation and diagnostic workup needed for Acute Respiratory Infections |

| | | | | | |
|------------------------|--|---|----|--------------------|---|
| | | | 90 | Cognitive | Discuss the management of an infant and child with Acute Respiratory Infections |
| | | | 91 | Psychomotor skills | Perform physical examination of a neonate, infant with Acute Respiratory Infections |
| | | | 92 | Affective domain | Counsel a parent of a neonate, infant and child with Acute Respiratory Infections |
| | Croup | 1 | 93 | Cognitive | Explain the clinical presentation and diagnostic workup needed for Croup |
| | Croup | 1 | 94 | Cognitive | Discuss the management of an infant and child with Croup |
| | Pneumonia | 1 | 95 | Cognitive | Explain the clinical presentation and diagnostic workup needed for Pneumonia |
| | Pneumonia | 1 | 96 | Cognitive | Discuss the management of an infant and child with Pneumonia |
| Family medicine | Acute respiratory presentations- primary care management and Red flags | 1 | 97 | Cognitive | Explain the approach to a patient with cough or shortness of breath in a primary health care setting. |
| | | | 98 | Cognitive | Discuss the differential diagnosis of a patient with cough or shortness of breath |

| | | | | | |
|-------------------|------------------------|----------|------------|--------------------|---|
| | | | 99 | Cognitive | Discuss the investigations for a patient with cough or shortness of breath in a primary health care setting |
| | | | 100 | Cognitive | Identify common red-flags |
| | | | 101 | Cognitive | Identify patients that need urgent and proper referral for specialist care |
| Pediatrics | Rheumatic fever | 1 | 102 | Cognitive | Discuss the clinical presentation and the diagnostic workup needed for Rheumatic fever in Pediatric patients. |
| | | | 103 | Cognitive | Discuss the management of an infant and child with Rheumatic fever. |
| | | | 104 | Psychomotor skills | Perform physical examination of a neonate, infant with Rheumatic fever. |
| | | | 105 | Affective domain | Counsel a parent of a neonate, infant and child with Rheumatic fever. |
| | Infective endocarditis | 1 | 106 | Cognitive | Discuss the clinical presentation and the diagnostic workup needed for Infective endocarditis in Pediatric patients |
| | | | 107 | Cognitive | Discuss the management of an infant and child with Infective endocarditis. |
| | | | 108 | Psychomotor skills | Perform physical examination of a neonate, infant with Infective endocarditis. |
| | | | 109 | Affective domain | Counsel a parent of a neonate, infant and child with Infective endocarditis. |

| | | | | | |
|--|----------------------------|--------------|--------------|---------------------------|--|
| | Myocarditis | 1 | 110 | Cognitive | Discuss the clinical presentation and the diagnostic workup needed for Myocarditis. |
| | | | 111 | Cognitive | Discuss the management of an infant and child with Myocarditis. |
| | | | 112 | Psychomotor skills | Perform physical examination of a neonate, infant with Myocarditis. |
| | | | 113 | Affective domain | Counsel a parent of a neonate, infant and child with Myocarditis. |
| Theme-4: Painful leg and Blood pressure | | | | | |
| Subject | Topic | Hours | S. No | Domain of learning | Learning objectives |
| Medicine | Deep vein thrombosis (DVT) | 1 | 117 | Cognitive | Discuss the diagnostic algorithm for an elderly patient with a sudden swollen and painful limb. |
| | | | 118 | Cognitive | Discuss the diagnosis and management strategies for a patient with DVT. |
| | Coarctation of Aorta | 0.5 | 119 | Cognitive | Explain the types, clinical features, investigations, complications, and management of Coarctation of the Aorta. |
| | Systemic Hypertension | 1 | 120 | Cognitive | Discuss the management approach to a patient who is newly diagnosed hypertensive. |
| | | 0.5 | 121 | Psychomotor skills | Take history from a hypertensive patient |

| | | | | | |
|-----------------|----------------------------------|-----|-----|--------------------|---|
| | | | 122 | Psychomotor skills | Perform a physical examination of a hypertensive patient |
| | | 0.5 | 123 | Affective domain | Counsel a newly diagnosed hypertensive patient |
| Family medicine | Hypertension in general practice | 1 | 124 | Cognitive | Explain the management strategies of a hypertensive patient in general practice including the psychosocial impact of disease on patient and their families. |
| | | | 125 | Cognitive | Describe the strategies for prevention of hypertension and its complications. |
| | | | 126 | Cognitive | Identify the red flags in a hypertensive patient and appropriately refer to speciality care when required |