



# Cardiorespiratory Module

## Final Year MBBS

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**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
<b>Total</b>		<b>61hours</b>

\*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
<b>Cardiology</b>	Cardiac intervention techniques	1	14	Cognitive	Explain the different types, methods, and indications of cardiac interventions in cardiology practices
<b>Pediatrics</b>	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
<b>Surgery</b>	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
<b>Pulmonology</b>	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
<b>Pediatrics</b>	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
<b>Pediatrics</b>	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
<b>Family medicine</b>	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
<b>Pediatrics</b>	Rheumatic fever	<b>1</b>	<b>102</b>	Cognitive	Discuss the clinical presentation and the diagnostic workup needed for Rheumatic fever in Pediatric patients.
			<b>103</b>	Cognitive	Discuss the management of an infant and child with Rheumatic fever.
			<b>104</b>	Psychomotor skills	Perform physical examination of a neonate, infant with Rheumatic fever.
			<b>105</b>	Affective domain	Counsel a parent of a neonate, infant and child with Rheumatic fever.
	Infective endocarditis	<b>1</b>	<b>106</b>	Cognitive	Discuss the clinical presentation and the diagnostic workup needed for Infective endocarditis in Pediatric patients
			<b>107</b>	Cognitive	Discuss the management of an infant and child with Infective endocarditis.
			<b>108</b>	Psychomotor skills	Perform physical examination of a neonate, infant with Infective endocarditis.
			<b>109</b>	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.
<b>Theme-4: Painful leg and Blood pressure</b>					
<b>Subject</b>	<b>Topic</b>	<b>Hours</b>	<b>S. No</b>	<b>Domain of learning</b>	<b>Learning objectives</b>
<b>Medicine</b>	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.
		1	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