

Dow University of Health Sciences



CVS MODULE

5 weeks

Third Year MBBS

5 YEAR CURRICULAR ORGANIZATION

Spiral	year	Modules					
First Spiral	I	FND1- Foundation Cell, Genetics & Cell Death (Basics of Anatomy, Physiology, Biochemistry, Gen. Pathology, Gen. Pharmacology, Community Medicine & Behavioral Sciences) 6 Weeks		Foundation Sub Module Genetics, Microbiology, Bioethics 2 Weeks	HEM1- Blood Module Immunity, Inflammation, Tissue repair, Antimicrobials & Neoplasia 8 Week		
		LCM1- Locomotion Bones, Joints, Nerves & Muscles, 8 weeks		RSP1- Respiratory System 4 weeks	CVS1- Cardiovascular System 4 weeks		
	II	NEU1- Nervous System 8 weeks		HNN1- Head & Neck & Special 4 weeks	END1- Endocrinology 4 weeks		
		GIL 1-GIT and Liver 8 weeks		EXC1- Renal and Excretory System 4 weeks	REP1- Reproductive System 4 weeks		
Second Spiral	III	IDD 1- Infectious diseases 5 weeks	HEM2- Hematology 5 weeks		RSP2- Respiratory System 5 weeks	CVS2- Cardiovascular System 5 weeks	
		GIL 2-GIT and Liver (including Nutritional Disorders) 8weeks		EXC2- Renal & Excretory System 5 weeks	END2- Endocrinology 5 weeks		
		ORT2- Orthopedics, Rheumatology, Trauma 7 weeks		REP2- Reproductive System 8 Weeks	PMR-Physical Medicine & Rehabilitation DPS-Dermatology Plastic Surgery / Burns GEN-Genetics 6 weeks		
		NEU2- Neurosciences and Psychiatry 8 weeks		OPH / ENT* 4 weeks		ENT/OPH * 4 weeks	
		Clinical Rotation 9:30 to 1:00 (with Ambulatory, Emergency, Intensive care) In Medicine, Pediatrics, Cardiology and Neurology units <ul style="list-style-type: none"> ▪ Lecture on problem based approach, twice a week ▪ Ward tutorial twice a week ▪ Student research presentation once a week 		Clinical Rotation 9:30 to 1:00 (Inpatient, Ambulatory, Emergency, Intensive care and Operation Theatres) In Surgery, Gynae & Obstetrics, Orthopedics and Neurosurgery. <ul style="list-style-type: none"> ▪ Lecture on problem based approach, twice a week ▪ Ward tutorial twice a week ▪ Student research presentation once a week 			
		PARALLEL THEMES: The following themes are not part of any individual module but shall run concurrently:Communication Skills, Clinical Skills, Writing and Presentation Skills, Article Writing, Ethics					

RATIONALE:

Diseases of the cardiovascular system are amongst the commonest causes of morbidity and mortality all over the world. With increasing urbanization, their incidence is increasing in Pakistan as well. Hypertension, ischemic heart disease, atherosclerosis and congenital and rheumatic valvular disorders are the diseases which a medical graduate shall be expected to manage after qualification. With the background knowledge of anatomy, physiology, pharmacology and the basics of cardiovascular diseases attained in the cardiovascular module of the first cycle the student shall be able to build on the knowledge of clinical presentation, diagnostic investigations and management of cardiovascular disorders.

TERMINAL OBJECTIVE:

Medical graduate after completion of 5 years training program should be able to:

- Describe pathogenesis & clinical presentations of common cardiovascular disorders
- Take history, perform physical examinations of cardiovascular system and formulate appropriate plan of investigations for making a diagnosis.
- Interpret the investigations for diagnosis.
- Describe the pharmacology of drugs used in the management of cardiovascular disorders.
- Practice basic principles of management of cardiovascular disorders.
- Recognize preventive measures & prognosis for counseling the patients.

MODULE OBJECTIVES:

- Re-visit the anatomy of cardiovascular system.
- Perform general physical examination (pulse, BP, cyanosis, clubbing, anemia, edema, JVP), examination of pericardium and interpretation of findings.
- Identify imaging techniques used in the evaluation and its interpretation. Interpret normal and abnormal ECG and can diagnose common Cardiac Arrhythmias / Blocks and their management.
- Define Atherosclerosis, its etiology, pathogenesis, vessels affected, and complications. Define role of lipids and platelets in atherosclerosis, role of lipid lowering drugs (statins) and anti-platelets in primary and secondary prevention.
- Identify causes & risk factors of IHD, pathogenesis, clinical presentation as angina. Enlist and classify drugs used for angina.
- Discuss evaluation of acute coronary syndrome, along with surgical interventions.
- Define pathogenesis of Rheumatic fever, clinical and lab criteria for diagnosis and complications.
- Diagnose Valvular heart diseases on the basis of examination, its complications like infective endocarditis and can manage these diseases along with its prevention.
- Describe the pathophysiology of cardiac hypertrophy and its management
- Describe the pathogenesis of congenital heart diseases and the role of surgery

- Define Hypertension and Prehypertension, its grading, etiology, associated pathological changes, complications, clinical & lab evaluation of secondary causes, complications. Antihypertensive drugs, classification and uses in different clinical situations.
- Discuss the diseases of blood vessels, aneurysm, vasculitis and varicose veins, causes, presentations and complications.
- Discuss the pathogenesis of myocardial and pericardial diseases, their diagnosis and management.
- Describe cardiomyopathy and pericardial diseases.
- Discuss tachyarrhythmia.

MODULE CONTENTS:

PHARMACOLOGY

Cvs 2 Pha 1: Drugs used in the treatment of angina.

Cvs 2 Pha 2: Drugs used in treatment of dyslipidemias

Cvs 2 Pha 3: Anti-platelets drugs, anticoagulants, thrombolytic

Cvs 2 Pha 4: Drugs used in treatment of cardiac failure

Cvs 2 Pha 5: Anti-hypertensive drugs-I

Cvs 2 Pha 6: Anti-hypertensive drugs-II

Cvs 2 Pha 7: Anti-Arrhythmic drugs

Cvs 2 Pha 8: Treatment of angina and Myocardial Infarction

Cvs 2 Pha 9: Treatment of Hypertension (tutorial)

PATHOLOGY

Cvs 2 Pth 1: Arteriosclerosis and Atherosclerosis & congenital anomalies.

Cvs 2 Pth 2: Angina pectoris and Myocardial Infarction

Cvs 2 Pth 3: Cardiac Hypertrophy, pathophysiology and progression to failure

Cvs 2 Pth 4: Rheumatic fever and Rheumatic heart disease.

Cvs 2 Pth 5: Patho-physiology of Congenital heart disease

Cvs 2 Pth 6: Aneurysm and Vasculitis pathogenesis, types and clinical course.

Cvs 2 Pth 7: Hypertensive vascular disease: pathogenesis, and mechanism of essential hypertension. Types and causes of hypertension. Primary & Secondary Hypertension

Cvs 2 Pth 8: Cardiomyopathy: Types, Causes and Pathogenesis

Cvs 2 Pth 9: Pericardial Diseases & tumors of CVS

Cvs 2 Pth 10: Atherosclerosis

Cvs 2 Pth 11: Lab Investigation Interpretation for Hyperlipidemias

Cvs 2 Pth 12: Differentiate various lesions of vascular disorders (tutorial)

FORENSIC MEDICINE

- Cvs 2 For 1:** General Toxicology I
- Cvs 2 For 2:** General Toxicology II
- Cvs 2 For 3:** Corrosive Poisoning I
- Cvs 2 For 4:** Corrosive Poisoning II
- Cvs 2 For 5:** Cardiac poisons (tutorial)

COMMUNITY MEDICINE

- Cvs 2 Com 1:** Methodology with Study design
- Cvs 2 Com 2:** Role of diet and nutrition / lifestyle modification
- Cvs 2 Com 3:** Questionnaire Design & Sampling technique
- Cvs 2 Com 4:** The Self: Learning about the self

PAEDIATRICS

- Cvs 2 Ped 1:** Approach to Patient with Congenital Heart Diseases
- Cvs 2 Ped 2:** Clinical manifestations, diagnosis and management of Rheumatic fever
- Cvs 2 Ped 3:** Infective endocarditis

ANATOMY

- Cvs 2 Ana 1:** Topographical anatomy of the heart, blood supply of the heart

CARDIOLOGY

- Cvs 2 Car 1:** Clinical examination of precordium along with relevant general physical examination
- Cvs 2 Car 2:** Approach to patient with chest pain dyspnea, palpitation and its clinical evaluation with differentials
- Cvs 2 Car 3:** Clinical evaluation of IHD and its complications with management (Stable Angina).
- Cvs 2 Car 4:** Dyslipidemias and its clinical value
- Cvs 2 Car 5:** Cardiac imaging techniques and ETT
- Cvs 2 Car 6:** Clinical evaluation of Acute Coronary Syndrome and its complications with management
- Cvs 2 Car 7:** Interpretation of Arrhythmias
- Cvs 2 Car 8:** Normal and non-arrhythmias ECG interpretation
- Cvs 2 Car 9:** Valvular Heart Diseases Mitral Valve disease
- Cvs 2 Car 10:** PCI, CABG
- Cvs 2 Car 11:** Aortic valve diseases
- Cvs 2 Car 12:** Cardiomyopathy & pericardial diseases
- Cvs 2 Car 13:** Role of Cardiac Surgery in congenital and acquired heart disease

SURGERY

Cvs 2 Sur 1: Varicose veins and DVTs

SKILL LAB

Cvs 2 SL 1: Clinical Examination of CVS

TEACHING STRATEGIES

LARGE CLASS FORMATS

- Lectures

SMALL GROUP DISCUSSION

- Demonstrations
- Tutorial
- Practical
- Skill labs
- Case based learning sessions

LEARNING OBJECTIVES OF SKILL LAB

1. CARDIOVASCULAR SYSTEM EXAMINATION

- ❖ Enumerate the steps of examination of cardiovascular system (CVS).
- ❖ To demonstrate correct technique of auscultation of heart.
- ❖ Describe the different parts of stethoscope and its uses.
- ❖ Demonstrate the correct method of auscultation of heart.
- ❖ Identify different components of normal heart sounds viz.
 - S1
 - S2
- ❖ Identify common abnormalities of heart sounds viz.
 - Murmur of
 - Mitral stenosis
 - Mitral regurgitation
 - Aortic stenosis
 - Aortic regurgitation
 - VSD
 - Pericardial rub

ASSESSMENT PLAN

HEMATOLOGY MODULE

	WEIGHTAGE
ANNUAL EXAM	80%
MODULE EXAM INTERNAL EVALUATION	
THEORY	10%
PRACTICAL	10%

CONTACT HOURS (DISCIPLINE WISE)	
Discipline	Contact Hours
Pathology	13.5
Pharmacology	10
Forensic Medicine	5
Community Medicine	4
Pediatrics	3
Skill Lab	1.5
Medicine	13

CREDIT HOURS	
Respiratory-2	3+ 1.5

BOOKS

PATHOLOGY

- Robbins Basic Pathology Kumar & Abbas 9th Edition
- Robbins & Cotran Pathologic Basis Of Disease Kumar & Abbas & Aster 9th Edition

COMMUNITY MEDICINE

- Public Health And Community Medicine Shah, Ilyas, Ansari 7th Edition

PHARMACOLOGY

- Lippincott's Illustrated Review Pharmacology Karen Whalen 6th Or Latest Edition
- Basic And Clinical Pharmacology Bertram G. Katzung 11th Edition

FORENSIC MEDICINE

- Principles And Practice Of Forensic Medicine Nasib R. Awan, 1st Edition

MEDICINE

- Principles & Practice Of Medicine Davidson's 22nd Or Latest Edition
- Essentials Of Kumar And Clark's Clinical Medicine Kumar & Clark 9th Or Latest Edition
- Macleod's Clinical Examination Douglas & Nicol & Robertson 13th Or Latest Edition
- Hutchison's Clinical Methods William M Drake & Michael Glynn 23rd Or Latest Edition

PAEDIATRICS

Nelsons's Essentials of Pediatrics Marcdante & Kliegman 7th Or Latest Edition

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