

An anatomical illustration of the human heart and lungs, rendered in a warm, orange-red color palette. The heart is centrally located, showing its four chambers and major vessels. The lungs are positioned on either side, with their branching bronchial structures visible. A red ECG (heart rate) line runs horizontally across the top of the image. The overall style is that of a medical textbook or educational material.

# **Cardiovascular module**

**Phase II**

## **CVS MODULE – PHASE II**

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## **INTRODUCTION**

- Cardiovascular disease is the commonest cause of hospital admission in Sri Lanka.
- This module covers important cardiovascular problems of adults and children.
- This is a five full week module held during term 7.
- A thorough knowledge of the basic sciences learnt in phase 1 will be essential for successful completion of the module.
- Teaching will be done in the form of lectures, tutorials, problem based tutorials, practicals, demonstrations, student seminars and fixed learning modules.
- Teaching will be done by clinical , para clinical, pre clinical staff and the extended faculty staff.
- Assessments will be in the form of an end of term module exam ( MCQ) and an end of year summative assessment.

## **COMMITTEE MEMBERS**

### **Chairman:**

- Dr. J. Indrakumar

### **Convenor:**

- Dr. Bimalka Seneviratne

### **Members**

- Dr. Dr. C. Wanigatunga
- Dr. T.R.S. Seneviratne
- Dr. N. Fernando
- Dr. T. Makuloluwa
- Dr. T. Wijeratne
- Dr. R. Nanayakkara
- Dr. M.C. Dedigama
- Dr. I. Jagoda

## **GENERAL OBJECTIVES**

1. Discuss the causative factors and patho-physiology of cardiovascular diseases.
2. Discuss the epidemiology and prevention of cardiovascular diseases.
3. Describe the pathological changes ( macroscopic and microscopic ) in cardiovascular diseases.
4. Outline the natural history progression and complications of cardiovascular diseases.
5. Obtain a relevant history and perform a physical examination to elicit signs pertaining to cardiovascular diseases.
6. Understand the clinico-pathological correlation of cardiovascular diseases.
7. Determine the appropriate investigations and interpret the results to arrive at a diagnosis.
8. Discuss the pharmacological rationale of drugs used in cardiovascular diseases.
9. Discuss the management of cardiovascular diseases and complications.
10. Recognize and manage cardiovascular emergencies.
11. Understand and critically analyze research publications and conduct a simple research project.

**CARDIOVASCULAR SYSTEM - INTRODUCTORY LECTURES**

Intermediate objectives	Detail content areas	Activity	Duration	Dept.
<p><b>History Taking</b>  <i>Students should be able to:</i></p> <ul style="list-style-type: none"> <li>• Take a comprehensive history from a patient with symptoms of heart disease.</li> <li>• Summarize history and prioritize the problems.</li> <li>• Formulate a rational differential diagnosis.</li> </ul>	<p>History taking from a patient coming with symptoms suggestive of a cardiac problem</p>	<p>Pre requisite knowledge            (Lecture / demonstration in phase 1 CVS)</p>	<p>45 minutes</p>	<p>Medicine</p>
<p><b>Physical Examination.</b>  <i>Students should be able to:</i></p> <ul style="list-style-type: none"> <li>• Perform a methodical complete examination of the cardiovascular system.</li> <li>• Identify important physical signs of cardiovascular disease</li> <li>• Interpret the physical signs.</li> </ul>	<p>Examination of the cardiovascular system</p>	<p>Pre requisite knowledge            (Lecture / demonstration in phase 1 CVS)</p>	<p>45 minutes</p>	<p>Medicine</p>

<p><b>Clinical Evaluation of a patient with CV problems.</b></p> <p><i>Students should be able to:</i></p> <ul style="list-style-type: none"> <li>• Describe how to identify a breathless patient.</li> <li>• Define dyspnoea and name the important causes.</li> <li>• Classify dyspnoea in terms of severity</li> <li>• Mention important causes of dyspnoea.</li> </ul>	<p><b>Dyspnoea/ Breathlessness/ Shortness of breath</b></p> <p>Definition Pathophysiology Causes Classification Clinical features Investigations</p>	<p>Lecture</p>	<p>45minutes</p>	<p>Medicine</p>
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Intermediate objectives	Detail content areas	Activity	Duration	Dept.
<p><i>Students should be able to:</i></p> <ul style="list-style-type: none"> <li>• List the causes of chest pain</li> <li>• Describe how to identify a patient having a life threatening cause for chest pain.</li> <li>• Mention important aspects of history taking and examination of such a patient.</li> <li>• List important investigations and explain their usefulness in arriving at a diagnosis.</li> </ul>	<p><b>Chest Pain.</b></p> <p>Causes Clinical analysis of chest pain Investigations used in chest pain.</p>	<p>Problem based tutorial</p>	<p>45 minutes</p>	<p>Medicine</p>
<ul style="list-style-type: none"> <li>• Define oedema</li> <li>• List the causes of oedema</li> <li>• Discuss how to differentiate a cardiac oedema from other types</li> <li>• Mention important aspects of history taking and examination of a patient presenting with ankle oedema .</li> <li>• Name the investigations used in diagnosis discuss the usefulness of such investigations in arriving at a diagnosis.</li> </ul>	<p><b>Oedema</b></p> <p>Causes Definitions Pathogenesis Different types . Tests used in an oedematous patient Conditions that mimic oedema. ( Myxoedema / Lymphoedema)</p>	<p>FiLM</p>	<p>45 minutes</p>	<p>Physiology</p>

<b>Intermediate objectives</b>	<b>Detail content areas</b>	<b>Activity</b>	<b>Duration</b>	<b>Dept.</b>
<ul style="list-style-type: none"> <li>• Define Palpitation.</li> <li>• List important causes.</li> <li>• Mention important aspects of history taking in a patient with palpitation.</li> <li>• Mention important clinical features to look for when examining such patients.</li> <li>• Discuss important points in ECG which are helpful in the diagnosis.</li> </ul>	<p><b>Palpitation</b>  Definition  Causes  Investigations used for diagnosis</p>	Problem based tutorial	45 minutes	Pharmacology

Intermediate objectives	Detail content areas	Activity	Duration	Dept.
<ul style="list-style-type: none"> <li>• Define syncope</li> <li>• Explain different types of syncope</li> <li>• Discuss how to differentiate syncope from other causes of loss of consciousness.</li> <li>• Mention important aspects in history taking.</li> <li>• Mention important physical signs to look for in physical examination.</li> <li>• Discuss investigations used in arriving at a diagnosis.</li> </ul>	<p><b>Syncope</b>  Definition.  Causes  Pathophysiology  Clinical evaluation  Investigation</p>	Problem based tutorial	45 minutes	Medicine

**INVESTIGATIONS AND THERAPEUTIC PROCEDURES.**

<b>Intermediate objectives</b>	<b>Detail content areas</b>	<b>Activity</b>	<b>Duration</b>	<b>Dept.</b>
<p><i>Students should be able to:</i></p> <ul style="list-style-type: none"> <li>Recall physiological (electrical ) basis of normal ECG. ( Prior knowledge is essential)</li> <li>Identify common ECG abnormalities (acute coronary syndrome, common and life threatening arrhythmias. common electrolyte abnormalities.)</li> <li>Explain the use and diagnostic value of exercise ECG in Ischemic heart disease.</li> </ul>	<p><b>Normal ECG</b></p> <p><b>Abnormal ECG</b> ( Common abnormalities) Rhythm disturbances Ischemic syndromes Electrolyte abnormalities Cardiac chamber abnormalities. ( LA/ LV/.RA/ RV ) Drugs – eg. Digoxin</p> <p><b>Exercise ECG</b> Principles Clinical applications</p>	<p>Recall</p> <p>Lecture</p>	<p>45 minutes</p>	<p>Medicine</p>

<ul style="list-style-type: none"> <li>• Explain the principles of ECHO cardiography&amp; indications in clinical medicine.</li> <li>• Explain the use of 24 hour monitoring in clinical practice.</li> <li>• List the indications of coronary angiography and it's value in clinical practice.</li> </ul>	<p><b>Echocardiography</b> Principles Clinical applications</p> <p><b>Holter monitoring</b> Principles Clinical applications.</p> <p><b>Coronary angiography</b> Principles Clinical applications.</p>			
<ul style="list-style-type: none"> <li>• Describe a normal telechest and identify normal structures in terms of a cardiac patient. ( Heart borders etc.)</li> <li>• Identify radiological abnormalities occurring in common important cardiac disorders.</li> </ul>	<p><b>Chest radiograph ( Telechest )</b> Normal chest radiograph.</p> <p>Evaluation of chest radiograph in heart disease.</p>	Lecture	45 minutes	Medicine (Radiologist)

### ISCHAEMIC HEART DISEASE

Intermediate Objectives	Detail content areas	Activity	Duration	Dept.
<p><b>Students should be able to:</b></p> <ol style="list-style-type: none"> <li>1. Describe the epidemiology and prevention of IHD.</li> <li>2. List the risk factors of IHD</li> <li>3. Define atherosclerosis</li> <li>4. Discuss pathogenesis and Complications of atherosclerosis.</li> <li>5. Discuss the clinical manifestations of IHD               <ul style="list-style-type: none"> <li>• Asymptomatic</li> <li>• Angina (Stable/ Unstable/Crescendo)</li> <li>• Acute coronary syndrome(ACS)</li> <li>• Sudden cardiac death</li> </ul> </li> <li>6. Define - Stable angina , ACS</li> <li>7. Discuss the pathogenesis of IHD. (Stable angina, ACS)</li> <li>8. Describe the pathology of IHD</li> </ol>	<p>Epidemiology and prevention of IHD Risk factors of IHD</p>	NCD lecture	45 minutes	Community Medicine
	<p>Atherosclerosis</p>	Lecture	45 minutes	Pathology
	<p>Clinical manifestations of IHD</p>	Lecture	45 minutes	Medicine
	<p>Definition and pathogenesis of IHD Pathology of IHD</p>	Lecture Practical Tutorial	45 minutes 45 minutes 45 minutes	Pathology Pathology Pathology

<p>9. Discuss the diagnostic value of the investigations used in IHD.</p>	<p>Investigations used in IHD</p> <ul style="list-style-type: none"> <li>• CXR / ECG / Echo / Angiograms</li> </ul> <p>Interpretation of results and diagnosis of IHD</p>	<p>Lecture</p> <p>Tutorial -1</p>	<p>45 minutes</p> <p>45 minutes</p>	<p>Medicine</p> <p>Medicine / Pharm.</p>
<p>10. Describe the complications of IHD</p>	<p>Complications of IHD ( acute and long term)</p> <p>Heart failure, cardiogenic shock, arrhythmia, embolism</p>			
<p>11. Describe the management of IHD (angina / MI / complications)</p>	<p>Management of IHD (β Blockers / nitrates / antiplatelets / fibrinolytics/ anticoagulents / sympathomimetics)</p>	<p>Lecture -5</p> <p>Tutorial - 1</p>	<p>45 minutes</p> <p>45 minutes</p>	<p>Pharmacology</p> <p>Pharmacology</p>

## ARRHYTHMIAS

Intermediate Objectives	Detail content areas	Activity	Duration	Dept.
<p><i>Students should be able to</i></p> <p>Describe the electrophysiology of the cardiac cycle.</p> <ul style="list-style-type: none"> <li>• Explain the mechanisms of arrhythmias</li> <li>• Describe the clinical manifestations of arrhythmias.</li> <li>• Be able to describe different types of arrhythmias</li> </ul>	<p><b>Pre requisite knowledge</b>  <i>Generation conduction &amp; ionic basis of cardiac impulse.</i>  <i>Normal ECG</i></p> <ul style="list-style-type: none"> <li>• Mechanism of cardiac arrhythmias</li> <li>• Clinical manifestations of cardiac arrhythmias</li> <li>• Diagnosis and causes of the following in clinical practice               <ul style="list-style-type: none"> <li>Sinus Tachycardia</li> <li>Sinus Bradycardia</li> <li>Narrow Complex Tachycardia</li> <li>Broad Complex Tachycardia</li> <li>Bradyarrhythmias - Heart blocks</li> </ul> </li> </ul>	<p>FiLM</p>		<p>Physiology</p>



<ul style="list-style-type: none"> <li>• Discuss the management of a patient with Atrial fibrillation.</li> </ul>	<p>Atrial Fibrillation</p> <ul style="list-style-type: none"> <li>• Presentation common causes</li> <li>• Investigation</li> <li>• Management</li> </ul>	<p>Tutorial</p>	<p>45 minutes</p>	<p>Medicine</p>
<ul style="list-style-type: none"> <li>• Resuscitate a collapsed patient with cardiac arrest</li> </ul>	<p>Causes and detailed management of cardiac arrest</p> <p>Procedures</p> <ul style="list-style-type: none"> <li>• Endotracheal intubation, thoracic compression, mouth to mouth respiration</li> <li>• Applying paddles of the defibrillator to the correct positions.</li> <li>• Knowledge of how to use a defibrillator.</li> </ul>	<p>Practical. Demo. with Mannequin and VCD</p> <p>(Skills lab)</p>	<p>90 minutes</p>	<p>Physiology / Paediatrics/ Medicine / (Anaesthetist)</p>

## CARDIAC FAILURE

Intermediate objectives	Detail content areas	Activity	Duration	Dept.
<p><b>Student should be able to:</b></p> <ul style="list-style-type: none"> <li>• Describe the cardiac cycle</li>   <li>• Define heart failure List the causes</li>   <li>• Describe the different types of heart failure</li>   <li>• Describe the patho-physiology of heart failure</li>   <li>• Describe the range of clinical manifestations of heart failure.</li> </ul>	<p>Pre requisite knowledge</p> <p>Definition, causes, precipitating and aggravating factors of heart failure</p> <p>Classification of heart failure – right , left, congestive, systolic, diastolic, acute, chronic.</p> <p>Pathophysiological mechanisms involved in the progression of heart failure.</p> <p>Clinical presentations of different types of heart failure.</p>	<p>FiLM</p> <p>Lecture Lecture</p> <p>Tutorial</p>	<p>45 minutes 45 minutes</p> <p>45 minutes</p>	<p>Medicine Paediatrics</p> <p>Medicine</p>

<ul style="list-style-type: none"><li>• Describe a rational management plan for heart failure.</li><li>• Outline the investigations useful in the diagnosis</li></ul>	Investigations Management <ul style="list-style-type: none"><li>• General</li><li>• Pharmacological</li><li>• Surgical aspects.</li></ul>	Lecture	45 minutes	Pharmacology
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## VALVULAR HEART DISEASE

Intermediate objectives	Detail content areas	Activity	Duration	Dept.
<p><i>Students should be able to</i></p> <ul style="list-style-type: none"> <li>• Explain the types and aetiology of valvular heart disease</li> <li>• List the clinical features and explain the pathophysiological basis</li> <li>• Describe the complications</li> <li>• Describe the diagnosis and management of common valvular heart disease.</li> </ul>	<ul style="list-style-type: none"> <li>• Types of common valvular heart disease</li> <li>• Aetiology</li> <li>• Pathophysiology</li> <li>• Clinical manifestations</li> <li>• Diagnosis</li> <li>• Management with special emphasis on               <ul style="list-style-type: none"> <li>Mitral stenosis</li> <li>Mitral regurgitation</li> <li>Aortic stenosis</li> <li>Aortic regurgitation</li> <li>Tricuspid regurgitation</li> <li>Pulmonary stenosis</li> <li>Tricuspid stenosis</li> </ul> </li> <li>• Complications</li> </ul>	<p>Lecture</p> <p>Practical (skills lab)</p> <p>Lecture</p>	<p>45 minutes</p> <p>45 minutes</p> <p>45 minutes</p>	<p>Medicine</p> <p>Medicine</p> <p>Medicine</p>

### INFECTIVE ENDOCARDITIS

Intermediate objectives	Detail content areas	Activity	Duration	Dept.
<p><b>Students should be able to</b></p> <ul style="list-style-type: none"> <li>• Discuss the aetiopathogenesis of infective endocarditis</li> <li>• Describe the clinical manifestations and diagnostic criteria of infective endocarditis.</li> <li>• Describe the pathological changes in infective endocarditis</li> <li>• Describe other disease with vegetations. SLE Non bacterial endocarditis.</li> <li>• Describe the use of investigations in the diagnosis and management of infective endocarditis</li> </ul>	<ul style="list-style-type: none"> <li>• Aetiology.</li> <li>• Pathogenesis</li> <li>• Clinical features &amp; diagnostic criteria.</li> <li>• Pathology- Vegetations, other diseases with vegetations</li> <li>• Investigations Blood culture / Haematological / Chest X- ray / Echo / Urine analysis / Blood urea</li> </ul>	Seminar	1 hour 30 minutes	Medicine Pharmacology Community Medicine Microbiology Pathology

<ul style="list-style-type: none"> <li>• Describe the management of infective endocarditis</li> <li>• Describe the complications of infective endocarditis</li> <li>• Prevention and epidemiology of infective endocarditis</li> </ul>	<ul style="list-style-type: none"> <li>• Anti microbial therapy for specific organisms, culture negative endocarditis.</li> <li>• Monitoring of therapy</li> <li>• Cardiac complications</li> <li>• Extra cardiac complications and manifestations</li> <li>• Prevention and epidemiology of infective endocarditis</li> </ul>			
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### RHEUMATIC FEVER

Intermediate objectives	Detail content areas	Activity	Duration	Dept.
<p><b>Students should be able to:</b></p> <ul style="list-style-type: none"> <li>• Describe the aetiopathogenesis of Rheumatic fever.</li> <li>• Describe the clinical manifestations and diagnostic criteria of Rheumatic fever.</li> <li>• Describe the pathology of Rheumatic fever</li> <li>• Describe the complications and sequelae of Rheumatic fever</li> <li>• Describe the management of rheumatic fever</li> <li>• Describe the prevention and epidemiology (Primary/ Secondary health education)</li> </ul>	<p>Aetiology&amp; pathogenesis of Rheumatic fever</p> <ul style="list-style-type: none"> <li>• Clinical features</li> <li>• Investigations and diagnosis</li> <li>• Pathology of Rheumatic fever</li> <li>• Complications and sequelae</li> <li>• Management of Rheumatic fever.</li> </ul> <p>Prevention &amp; epidemiology of Rheumatic heart disease.</p>	<p>Lecture</p> <p>Combined practical</p> <p>Lecture</p> <p>NCD lecture</p>	<p>45 minutes</p> <p>45 minutes</p> <p>45 minutes</p> <p>45 minutes</p>	<p>Microbiology</p> <p>Pathology</p> <p>Paediatrics</p> <p>Community Medicine</p>

## ARTERIAL DISEASE

Intermediate objectives	Detail content areas	Activity	Duration	Dept.
<p><i>Student should be able to :</i></p> <p>Recall the anatomical structure</p> <ul style="list-style-type: none"> <li>• <b>List and describe the pathological process of the following arterial disease</b>            Arteriosclerosis            Atherosclerosis- Atheromatous plaque            Diabetic macro and micro angiopathy                Vasculitis – Connective tissue disorders/                Buerger’s disease / Syphilis / Giant cell                arteritis / Reynaud’s/ Polyarteritis nodosa /                Kawasaki’s disease</li> <li>• <b>Describe the effects of the following pathological procedures</b>            Thrombosis            Embolism</li> </ul>	<p>Pre requisite knowledge : Arteries, Veins</p> <p><b>Introduction to Occlusive Arterial disease.</b></p> <ul style="list-style-type: none"> <li>• Pathological process of major arterial diseases / conditions.</li> <li>• Effects of thrombosis and embolism</li> </ul>	<p>Recall</p> <p>Lecture</p>	45 minutes	Pathology

<p><i>Student should be able to :</i></p> <ul style="list-style-type: none"> <li>• Describe the causes of acute limb ischaemia Thrombosis Embolism Trauma ( detailed discussion in the trauma module )</li> <li>• Describe the clinical features of acute limb ischaemia</li> <li>• Describe investigations for acute limb ischaemia – General / Specific / Invasive / Non invasive</li> </ul>	<p>Acute Limb Ischemia</p> <ul style="list-style-type: none"> <li>• Causes</li> <li>• Clinical features</li> <li>• Investigations</li> <li>• Management</li> </ul>			
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<p><i>Student should be able to :</i></p> <ul style="list-style-type: none"> <li>• <b>Describe the common causes of chronic ischaemia of legs.</b> Atheromatous peripheral vascular disease diabetic angiopathy (Buerger's disease / vasculitis )</li> <li>• <b>Describe the clinical features of chronic lower limb ischaemia.</b> Intermittent claudication – differentiate from other causes of claudication. Critical limb Ischaemia / Rest pain Involvement of other systems Arterial ulcer.</li> <li>• <b>Describe the Investigations for a patient with chronic limb Ischaemia</b> General / specific / invasive / non-invasive</li> <li>• <b>Describe the management of chronic lower limb Ischaemia.</b> General / pharmacological / surgical /long term follow- up/ prevention./prophylaxis</li> </ul>	<p>Chronic Limb Ischaemia</p> <ul style="list-style-type: none"> <li>• Causes</li> <li>• Clinical Features</li> <li>• Investigations</li> <li>• Management</li> </ul>	<p>Lecture</p> <p>Practical</p>	<p>45 minutes</p> <p>45 minutes</p>	<p>Surgery</p> <p>Surgery</p>
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## VENOUS DISEASE

<b>Intermediate objectives</b>	<b>Detail content areas</b>	<b>Activity</b>	<b>Duration</b>	<b>Department</b>
<p><i>The student should be able to</i></p> <ul style="list-style-type: none"><li>• Describe the aetiology, clinical features, complications and management of varicose veins including venous ulcer.</li><li>• Describe the technique of sclerotherapy for varicose veins</li><li>• Describe the technique of 4 layer strapping for venous ulcers/ incompetence.</li></ul>	Varicose Veins	Lecture  practical	45 minutes  45 minutes	Surgery  Surgery

Intermediate objectives	Detail content areas	Activity	Duration	Dept.
<p><i>The student should be able to</i></p> <ul style="list-style-type: none"> <li>• Explain the term deep vein thrombosis</li> <li>• List and explain the risk factors for deep vein thrombosis</li> <li>• Describe the investigations of deep vein thrombosis – doppler/ duplex</li> <li>• Describe the clinical features of deep vein thrombosis</li> <li>• Describe the complications of deep vein thrombosis</li> <li>• Describe the management and prevention of deep vein thrombosis.</li> </ul>	<p><b>Deep Vein Thrombosis</b></p> <ul style="list-style-type: none"> <li>• Risk Factors</li> <li>• Clinical Features</li> <li>• Investigations</li> <li>• Complications</li> <li>• Prevention</li> <li>• Management</li> </ul>	Lecture	45 minutes	Medicine

## HYPERTENSION

Intermediate Objectives	Detail content areas	Activity	Duration	Dept.
<p><i>Students should be able to:</i></p> <ol style="list-style-type: none"> <li>1. Define the term hypertension</li> <li>2. Explain the terms               <ul style="list-style-type: none"> <li>Essential hypertension</li> <li>Secondary hypertension</li> <li>Malignant hypertension</li> <li>Benign hypertension</li> </ul> </li> <li>3. Discuss the risk factors of essential hypertension</li> <li>4. List the causes of secondary hypertension</li> <li>5. Describe the pathological changes of hypertension in following organs               <ul style="list-style-type: none"> <li>Heart</li> <li>Blood vessels</li> <li>Target organs</li> </ul> </li> </ol>	<p>Definition, classification and contributing factors of hypertension</p> <p>Causes of secondary hypertension</p> <p>Pathology and pathogenesis of hypertension. Long term effects of hypertension.</p>	<p>Lecture</p> <p>Practical (combined)</p>	<p>45 minutes</p> <p>45 minutes</p>	<p>Pathology</p> <p>Pathology</p>

6. Describe the clinical manifestations/ presentation	Clinical features of hypertension Investigation and complications.	Lecture*2 Tutorial	90 minutes 45 minutes	Medicine Medicine
7. Discuss the sign and symptoms of Hypertension				
8. Describe the investigations and their interpretation (routine & specific)	Management of hypertension	Tutorial Lecture (CCB ACEi, AII RB)	45 min 45 min	Pharmacology Pharmacology
9. Discuss the principles of management				
10. Describe the pharmacological basis and drug management				
11. Discuss the hypertensive emergencies	Hypertensive emergencies	Tutorial	45 min	Medicine
12. Describe the management of emergencies				
13. Epidemiology and prevalence of hypertension	Epidemiology of hypertension	Lecture (NCD)	45 minutes	Community Medicine

**CARDIOVASCULAR DISEASES IN PREGNANCY**

<b>Intermediate Objectives</b>	<b>Detail content areas</b>	<b>Activity</b>	<b>Duration</b>	<b>Dept.</b>
1. Describe the effects of cardiovascular diseases in pregnancy.  2. Discuss counseling for cardiovascular diseases complicating pregnancy	Pathogenesis of cardiovascular diseases in pregnancy and etiological factors  1) Hypertension in pregnancy 2) Valvular heart disease in pregnancy. 3) Congenital heart disease 4) Pulmonary hypertension	Lecture	45 minutes	Obstetrics & Gynaecology
3. Describe the clinical features of cardiovascular diseases in pregnancy 4. Describe the investigations and their interpretation (routine and specific)	Clinical manifestation of cardiovascular diseases in pregnancy	Tutorial	45 minutes	

<p>5. Describe the management of cardio vascular diseases (During pregnancy/ delivery / pueperium)</p> <p>6. Describe the drug treatment of the cardio vascular diseases in pregnancy</p>	<p>Principles of management :          Diagnosis          Investigations          Management</p>	Lecture	45 minutes	Obstetrics & Gynaecology
<p>7. Discuss the complications (maternal/foetal) of the cardio-vascular diseases</p> <p>8. List the cardiovascular emergencies in pregnancy.</p> <p>9. Describe the management of the emergencies in pregnancy</p>	<p>Complications of cardiovascular diseases          Emergencies and the principles of management of the emergencies</p>	Tutorial	45 minutes	

**CONGENITAL HEART DISEASES**

<b>Intermediate Objectives</b>	<b>Detail content areas</b>	<b>Activity</b>	<b>Duration</b>	<b>Dept.</b>
<i>Students should be able to</i> 1. Recall the embryological development of the heart in order to understand congenital heart diseases 2. Describe the normal changes that occur after birth in the cardiovascular system	Embryology of the circulatory system	Recall		



**MYOCARDIAL DISEASE ( MYOCARDITIS AND CARDIOMYOPATHY )**

<b>Intermediate objectives</b>	<b>Detail content areas</b>	<b>Activity</b>	<b>Duration</b>	<b>Dept.</b>
<p><b>Student should be able to</b></p> <ol style="list-style-type: none"> <li>1. List the causes of myocarditis</li> <li>2. Describe the clinical manifestations of myocarditis</li> <li>3. Briefly describe the pathology of myocarditis</li> <li>4. Discuss the diagnosis of myocarditis</li> <li>5. Discuss the complications and management of myocarditis.</li> <li>6. Define the term cardiomyopathy</li> <li>7. List the types and causes of cardiomyopathy</li> <li>8. Discuss the clinical features of cardiomyopathy</li> </ol>	<p>Causes of myocarditis</p> <p>Clinical manifestations of myocarditis</p> <p>Pathology of myocarditis</p> <p>Diagnosis of myocarditis</p> <p>Complications and management of myocarditis. Definition of cardiomyopathy</p> <p>Types and causes of cardiomyopathy</p> <p>Clinical features</p>	<p>Lecture</p>	<p>45 minutes</p>	<p>Pathology</p>

<p>9. Briefly describe the pathology of cardiomyopathy.</p> <p>10. Discuss the diagnosis and management of cardiomyopathy.</p>	<p>Pathology of cardiomyopathy</p> <p>Diagnosis and treatment of cardiomyopathy.</p>			
<p><b><u>Tumours of the Heart</u></b></p> <p><b>Students should be able to</b></p> <p>1) List the primary and secondary tumours of the heart</p>	<p>Tumours of the heart</p> <ul style="list-style-type: none"> <li>• Primary</li> <li>• Secondary</li> </ul>	<p>FiLM</p>		<p>Pathology</p>

## PERICARDIAL DISEASE

Intermediate objectives	Detail content areas	Activity	Duration	Dept.
<p><b>Students should be able to</b></p> <ol style="list-style-type: none"> <li>1) Discuss the clinical manifestations of pericardial disease.</li> <li>2) Describe the types and causes of pericarditis / pericardial effusion</li> <li>3) Discuss the diagnostic value of investigations in pericardial disease.</li> <li>4) Discuss the clinical features and causes of cardiac tamponade.</li> <li>5) Discuss the management of cardiac tamponade.</li> </ol>	<p>Clinical manifestations of pericardial disease</p> <p>Types and causes of pericarditis and pericardial effusion.</p> <p>Investigations of pericardial disease.</p> <p>Clinical features and causes of cardiac tamponade.</p>	Lecture	45 minutes	Pathology

## **Cardiovascular skills that need to be acquired:**

**Students should be able to perform the following:**

- Ability to take a comprehensive appropriate history and perform a methodical and accurate examination.
- Cardiopulmonary resuscitation.
- Obtain an ECG
- Arterial puncture for blood gas analysis.

## **Abbreviations used:**

**ECG** : Electrocardiogram

**IHD** : Ischaemic heart disease

**CXR** : chest X ray

**Echo**: Echocardiogram

**MI**: Myocardial Infarction.

**ACS** : Acute coronary syndrome