



GOVERNMENT OF JAMMU & KASHMIR
SHER-I-KASHMIR INSTITUTE OF MEDICAL SCIENCES
SOURA SRINAGAR

**Syllabus for Assistant Professor Posts of
the Department of CVTS,
SKIMS, SOURA.**

SYLLABUS FOR THE POST OF ASSISTANT PROFESSOR IN CARDIO VASCULAR AND THORACIC SURGERY

A. CARDIAC SURGERY- GENERAL CONSIDERATIONS

1. Anatomy, Dimensions, Terminology of Cardiac chambers and Major vessels, Atrial septum, Ventricular septum, Conduction system, Cardiac valves, coronary arteries, terminology and classification of heart diseases.
2. Hypothermia, Circulatory arrest and Cardiopulmonary Bypass
Hypothermic circulatory arrest .Whole body perfusion during Cardiopulmonary Bypass Clinical methodology of Cardiopulmonary Bypass, Clinical Methodology of Hypothermic circulatory arrest and its Alternatives.
3. Special considerations after cardiac surgery
Fluid, Electrolyte, and Caloric intake, body temperature, Cardiac tamponade ,Infection, Chylothorax, Postperfusion and post cardiectomy syndrome.

B. ISCHEMIC HEART DISEASE

1. STENOTIC ARTERIOSCLEROTIC CORONARY ARTERY DISEASE
Definition, History, Morphology, Clinical features and Diagnostic criteria, Natural history, indication for operation, Technique of operation, special features of postoperative care, Special situation and controversies
2. LEFT VENTRICULAR ANEURYSM
Definition, History, Morphology, Clinical features and Diagnostic criteria, Natural history, Technique of operation, Special features of Postoperative Care, Results, Indications for Operation, Special Situations and Controversies
3. POSTINFARCTION VENTRICULAR SEPTAL DEFECT
Definition, History, Morphology, Clinical features and Diagnostic criteria, Natural history, Technique of operation, Special features of Postoperative Care, Results, Indications for Operation, Special Situations and Controversies
4. MITRAL REGURGITATION FROM ISCHEMIC HEART DISEASE
Definition, History, Morphology, Clinical features and Diagnostic criteria, Natural history, Technique of operation, Special features of Postoperative Care, Results, Indications for Operation, Special Situations and Controversies

C. ACQUIRED VALVAR HEART DISEASE

1. MITRAL VALVE DISEASE WITH OR WITHOUT TRICUSPID VALVE DISEASE
Definition, History, Morphology, Clinical features and Diagnostic criteria, Natural history, Technique of operation, Special features of Postoperative Care, Results, Indications for Operation, Special Situations and Controversies
2. MITRAL VALVE SURGERY WITH COEXISTING TRICUSPID VALVE DISEASE
3. MITRAL VALVE SURGERY WITH COEXISTING ISCHEMIC HEART DISEASE



4. AORTIC VALVE DISEASE

Definition, History, Morphology, Clinical features and Diagnostic criteria, Natural history, Technique of operation, Special features of Postoperative Care, Results, Indications for Operation, Special Situations and Controversies

5. COMBINED AORTIC AND MITRAL VALVE DISEASE WITH OR WITHOUT TRICUSPID VALVE DISEASE

Definition, History, Morphology, Clinical features and Diagnostic criteria, Natural history, Technique of operation, Special features of Postoperative Care, Results, Indications for Operation, Special Situations and Controversies

6. TRICUSPID VALVE DISEASE

Definition, History, Morphology, Clinical features and Diagnostic criteria, Natural history, Technique of operation, Special features of Postoperative Care, Results, Indications for Operation, Special Situations and Controversies

7. INFECTIVE ENDOCARDITIS

Definition, History, Pathogenesis and Morphology, Clinical features and Diagnostic criteria, Natural history, Therapy and Technique of operation, Special features of Postoperative Care, Results, Indications for Operation, Special Situations and Controversies

D. CARDIAC RHYTHM DISTURBANCE

Bradycardia
Tachycardia
Wolff-Parkinsons-White Syndrome
Atrial Fibrillation and Flutter
Ventricular Tachycardia and ventricular Fibrillation in Ischemic Heart Disease
Intractable Ventricular Tachycardia

E. CARDIAC TRAUMA

Penetrating Cardiac Trauma
Non-Penetrating Cardiac Trauma

F. CARDIAC TUMOR

Myxoma
Papillary Fibroelastoma
Rhabdomyoma
Fibroma
Lipoma
Pheochromocytoma
Teratoma
Sarcoma
Carcinoid Heart disease

G. CARDIOMYOPATHY

Cardiomyopathy
Heart Failure
Dilated Cardiomyopathy.
Cardiac Transplantation And Mechanical Circulatory Support



Ischemic Cardiomyopathy
Hypertrophic Cardiomyopathy
Restrictive Cardiomyopathy
Arrhythmogenic Right Ventricular Dysplasia

H. CARDIAC TRANSPLANTATION

Cardiac Transplantation In Adult Without Congenital Heart Disease
Cardiac Transplantation For Congenital Heart Disease And Pediatric Patients
Heart Lung Transplantation
Mechanical Circulatory Support

I. PERICARDIAL DISEASE

Chronic Constrictive Pericarditis
Chronic effusive Pericarditis

J. DISEASE OF THE THORACIC ARTERIES AND VEIN

Acute Traumatic Aortic Disruption
Acute Aortic Dissection
Chronic Aortic And Thoracoabdominal Aortic Disease
Disease Of The Pulmonary Arteries
Acute Massive Pulmonary Embolism
Chronic Pulmonary Thromboembolic Disease
Pulmonary Artery Aneurysm
Pulmonary Artery Dissection
Pulmonary Artery Tumors
Acquired Disease Of The Systemic Veins

K. CONGENITAL HEART DISEASE

Definition, Historical Note, Morphology, Clinical Features And
Diagnostic Criteria, Natural History, Technique Of Operation, Special
Features Of Postoperative Care, Result
Atrial Septal Defect And Partial Anomalous Pulmonary Venous
Connection
Total Anomalous Pulmonary Venous Connection
Cor Triatriatum
Unroofed Coronary Sinus Syndrome
Atrioventricular Septal Defect
Ventricular Septal Defect
Congenital Sinus Of Valsalva Aneurysm And Aortico-Left
Ventricular Tunnel
Patent Ductus Arteriosus
Ventricular Septal Defect With Pulmonary Stenosis Or Atresia
Pulmonary Stenosis And Intact Ventricular Septum
Pulmonary Atresia And Intact Ventricular Septum
Tricuspid Atresia And Single-Ventricle Physiology
Ebstein Anomaly
Truncus Arteriosus
Aortopulmonary Window
Origin Of The Right Or Left Pulmonary Artery From The Ascending
Aorta
Congenital Anomalies Of The Coronary Arteries complete
Congenital Aortic Stenosis
Coarctation Of The Aorta And Interrupted Aortic Arch



Aortic Atresia And Other Forms Of Hypoplastic Left Heart
Physiology
Congenital Mitral Valve Disease
Vascular Ring And Sling
Complete Transposition Of The Great Arteries
Double Outlet Right Ventricle
Double Outlet Left Ventricle
Congenitally Corrected Transposition Of The Great Arteries
Doble Inlet Ventricle And Atretic Atrioventricular Valve
Anatomically Corrected Malposition Of The Great Arteries

L. GENERAL THORACIOC SURGERY

The Lung, Pleura, Diaphragm, And Chest Wall
Structure And Function Of The Chest Wall And Lungs
Anatomy Of The Thorax, Surface Anatomy Of The Thorax, Cutaneous
Innervation, Superficial Chest Wall Musculature, The Intercostal Space, The
Intercostal Muscles, Neurovascular Bundle, Intercostal Vessels, Interactions
Between The Components Of The Chest Wall During Respiration,
Embryology Of The Lung
Ultrastructure And Morphometry Of The Human Lung
Cellular And Molecular Biology Of The Lung
Surgical Anatomy Of The Lungs, Lymphatics Of The Lungs
Mechanics Of Breathing And Pulmonary Gas Exchange
Thoracic Imaging – Standard Radiographic Evaluation, Computed
Tomography, Magnetic Resonance Imaging, Radionucleotide Studies Of The
Lung, Thoracic Pet Ct
Diagnostic Procedures
Laboratory Investigations In The Diagnosis Of Pulmonary Disease
Molecular Diagnostic Studies And Genomic Studies In Pulmonary Disease
Bronchoscopic Evaluation Of The Lung And Tracheobronchial Tree
Ultrasound And Endoscopic Bronchoscopic Ultrasound In The Evaluation Of The
Lungs , Mediastinum And Pleura
Mediastinoscopy
Invasive Diagnostic Procedures
Preoperative Assessment Of The Thoracic Surgical Patients
Pulmonary Resections
Technical Aspect Of Lobectomy
Pneumonectomy And Its Modifications
Sleeve Lobectomy
Tracheal Sleeve Pneumonectomy
Segmentectomy And Lesser Pulmonary Resections
Robotic -Assisted Surgery In Pulmonary Diseases
Video-Assisted Thoracoscopic Surgery
Uniport Vats Lobectomy
Awake, Non-Intubated Trans Pleural Surgery
Post Operative Management Of The General Thoracic Surgery Patient
Complications Of Thoracic Surgical Patients

M. THE CHEST CAGE

Chest Wall Deformities
Hernias Of The Chest Wall
Infections Of The Chest Wall
Thoracic Outlet Syndrome
Chest Wall Tumors



Chest Wall Reconstruction

N. THE DIAPHRAGM

Embryology And Anatomy Of The Diaphragm
Physiology Of The Diaphragm And Surgical Approaches To The Paralyzed Diaphragm
Diaphragmatic Hernia
Primary Tumors Of The Diaphragm

O. THE PLEURA

Anatomy Of The Pleura
Absorption Of Gases In The Pleural Space
Pneumothorax
Mechanics And Fluid Dynamics Of Lung And Pleural Space
Benign Pleural Effusion
Parapneumonic Effusion, Empyema And Fibrothorax
Post Surgical Empyema
Tuberculous And Fungal Infections Of The Pleura
Thoracoplasty. Indications And Surgical Considerations
Anatomy Of The Thoracic Duct And Chylothorax
Pleural Neoplasm – Surgical Approaches For Malignant Pleural Mesothelioma, Chemotherapy
Malignant Pleural Effusion

P. THE TRACHEA AND BRONCHI

Tracheostomy
Therapeutic Bronchoscopic Procedures
Surgical Anatomy Of The Trachea And Techniques Of Resection And Reconstruction
Benign And Malignant Tumors Of The Trachea
Compression Of The Trachea By Vascular Rings

Q. CONGENITAL, STRUCTURAL, AND INFLAMMATORY DISEASES OF THE LUNG

Congenital Parenchymal Lesions Of The Lung
Pulmonary Complication Of Cystic Fibrosis
Congenital Vascular Lesions Of The Lung
Chronic Pulmonary Emboli
COPD For CT Surgery
Bullous And Bleb Diseases Of The Lung
Bacterial Infections Of The Lungs And Bronchial Compressive Disorders
Surgical Management Of Tuberculous And Non-Tuberculous Mycobacterial Infections Of The Lung
Thoracic Mycotic And Actinomycotic Infections Of The Lung

R. LUNG TRANSPLANTATION

S. CARCINOMA OF THE LUNG

Epidemiology And Carcinogenesis, Lung Cancer Screening, Investigation And Management Of Indeterminate Pulmonary Nodule, Pathology Of Carcinoma Of The Lung, Ex Vivo Diagnosis Of Lung Cancer, Staging Of Lung Cancer, Results Of Surgical Treatment Of Non-Small Cell Lung Cancer, Mediastinal Lymph Node Dissection, Adjuvant Chemotherapy For Lung Cancer, Radiation For Lung Cancer, Multimodality Therapy For Non-Small Cell Lung Cancer, Novel Therapeutic Strategy For Non-Small Cell Lung Cancer, Small Cell Lung Cancer



T. THORACIC TRAUMA

Blunt And Penetrating Injuries Of The Chest Wall, Pleura, Diaphragm, And Lungs
Barotrauma And Inhalation Injuries
Acute Respiratory Distress Syndrome
Managements Of Foreign Bodies Of The Aerodigestive Track
Blunt And Penetrating Injuries Of The Esophagus
Esophageal Perforation

U. THE ESOPHAGUS

Structure Of The Esophagus, Physiology Of The Esophagus
Diagnostic Studies Of The Esophagus.
Operative Procedures In The Management Of Esophageal Disease
Malignant Lesions Of The Esophagus
MEDIASTINUM
Structure And Function Of The Mediastinal Contents
Noninvasive Investigations
Invasive Diagnostic Investigations And Surgical Approaches
Mediastinal Infections, Mass Lesion In The Mediastinum, Control Of Vascular Obstructing Symptomatology
Primary Mediastinal Tumors And Syndromes Associated With Mediastinal Lesions
Mediastinal Cysts

V. VASCULAR SURGERY AND ENDOVASCULAR THERAPY

Embryology and Developmental Anatomy, Vessel wall Biology, Atherosclerosis
Intimal hyperplasia, ischemia reperfusion, Alterio genesis and Angio genesis, Arterial hemodynamics, Venous Pathophysiology, Lymphatic Pathophysiology,
Atherosclerotic risk factors
Clinical and Vascular laboratory evaluation
Vascular imaging- Arteriography, Venography, Computed Tomography, Magnetic Resonance Imaging and Arteriography, Vascular PET/CT and SPECT/CT, Intra Vascular Ultra sound,
Preoperative evaluation and management
Intraoperative management
Post operative management
Hospital Readmission in Vascular Surgery
Normal coagulation, coagulopathy and hemorrhage, Hypercoagulable state
Anticoagulant drugs, Antiplatelet agents, Thrombolytic agent,
Graft thrombosis, Graft infection Anastomotic aneurysms
Local endovascular complication and their management
Venous complications
Thoracic and Thoracoabdominal vascular exposure, abdominal vascular exposure,
Cerebrovascular exposure, Lower extremity vascular exposure, Upper extremity vascular exposure, Spinal operative exposure
Endovascular diagnostic technique
Endovascular Therapeutic technique
Laparoscopic and Robotic Aortic Surgery
Grafts and Devices- Autogenous grafts, Prosthetic grafts, Biological Grafts, Bioengineered vascular grafts, Nonaortic Stents and Stent grafts,
Novel and Evolving Aortic Endovascular devices



Abdominal Aortic and Iliac Aneurysm
Endovascular Aneurysm repair technique
Ruptured Aortoiliac aneurysm and their Management
Thoracic and Thoracoabdominal Aortic aneurysm and Dissection
Fenestrated and Branched Endograft treatment of Juxta renal, Para visceral,
Thoracoabdominal and Aortic arch Aneurysm
Peripheral and splanchnic aneurysm
Cerebrovascular disease
Acute limb ischemia
Lower extremity Chronic arterial disease
Thoracic outlet syndrome
Renovascular disease
Thrombo angiitis obliterans
Venous thromboembolic disease
Pulmonary embolism
Vascular malformation
Vascular trauma

A handwritten signature in black ink, consisting of stylized, overlapping letters, possibly reading 'HAW' or similar, followed by a horizontal line.