

Cardio-Pulmonary and Nonsystems Syllabus

- 1) Basic anatomy of heart
 - Parasympathetic, Sympathetic, Peripheral circulation
 - Conduction in Heart
 - Coronary arteries
 - Hemodynamics: - Ejection Fraction, RPP, CO, SV,
 - MVO₂, MAP:- and their importance
 - Baroreceptors
 - Chemoreceptors
- 2) Examination
 - Pulse :-Types , Location , Abnormalities
 - Heart Sounds :- S1, S2, S3, S4 and their changes in abnormality
 - Murmurs identification
 - Types of Dyspnea
- 3) Peripheral circulation
 - Tests for Peripheral arterial circulation
 - Tests for Venous circulation
- 4) Cardiovascular diseases
 - Atherosclerosis vs CAD vs MI vs Angina vs Heart failure
 - Myocardial Infarction VS Angina
 - CAD vs Myocardial Infarction Vs Angina
 - Heart Failure, Rt vs Lt Failure
 - Cor Pulmonale
- 5) Peripheral Vascular Disease
 - Peripheral Arterial Diseases VS Thromboanginitis Obliterans vs Raynaud's Disease vs Diabetic Angiopathy
- 6) Venous Diseases
 - Varicose veins vs Superficial Vein Thrombophlebitis vs DVT vs Chronic Venous Stasis
- 7) Exercise Tolerance Test and RPE
 - Continuous vs Discontinuous ETT vs Positive vs Negative ETT
- 8) Exercise Prescription
 - For MI, Ischemia, CAD, CABG
 - Intensity in terms of HR max, VO₂ max, HRR (Karvonen)

- RPE, MET for:- Inpatient Cardiac Rehab, Outpatient Cardiac Rehab
 - Community Exercise Programs
- 9) Rehabilitation
- Peripheral Arterial Disease
 - Rehab for Venous Disease
- 10) BLS, First Aid

Pulmonary

- 1) Ventilation, Perfusion,
- 2) Mechanism of Breathing
- 3) Inspection, Palpation, Auscultation
 - Breath Sounds:- Vesicular ,Bronchial , Bronchovesicular,
 - Crackles, Wheezes, Rhonchi, Stridor
 - Egophony
 - Bronchophony
 - Pectoriloquy
- 4) Conditions
 - Bacterial Pneumonia vs Viral Pneumonia vs Aspiration
 - Pneumonia vs Pneumocystis Pneumonia
 - Tuberculosis
 - COPD (Chronic Bronchitis vs Emphysema vs Asthma vs Cystic Fibrosis vs Bronchiectasis vs Chronic Restrictive Disease
 - Flail Chest vs Pleural effusion vs Pulmonary edema
 - Pulmonary Emboli vs Atelectasis
 - Pneumothorax vs Hemothorax
- 5) Lung clearance technique
 - Postural Drainage
 - Airway Clearance technique: - Coughing, Huffing, Assisted cough, Tracheal Stimulation, Endotracheal Suctioning
- 6) Independent secretion removal technique
 - Active Cycle breathing Technique.
 - Autogenic Drainage
 - Flutter
 - Acapella Device

- Low Pressure PEP
 - High Pressure PEP
- 7) Breathing Exercise
- Diaphragmatic Breathing exercises
 - Segmental Breathing
 - Sustained Maximal Inspirations
 - Pursed Lip Breathing
 - Abdominal Strengthening
 - Energy Conservation
 - Paced breathing

Nonsystems

- 1) Modalities: Precautions, Indications, Contraindications
- US, HOT pack, Paraffin wax, TENS,
 - Iontophoresis
 - Traction
 - CPM
 - Tilt table
 - EMG Biofeedback
 - Electrical Stimulation
- 2) Orthotics
- Crutches
 - Canes
 - Walkers
 - Guarding
 - Transfer Training
 - Wheelchairs
 - Ergonomics
- 3) Research
- 4) Professional Roles, Ethics and Safety & Precautions