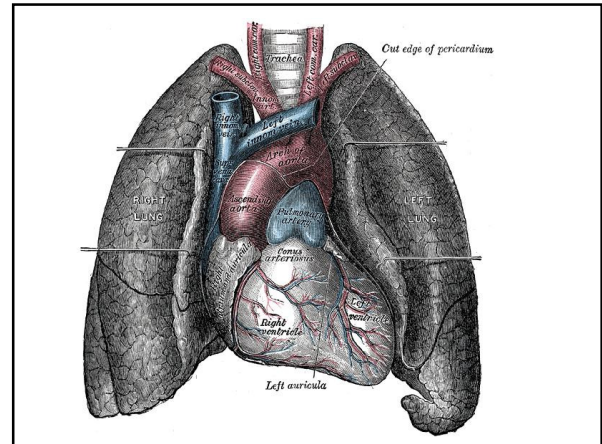
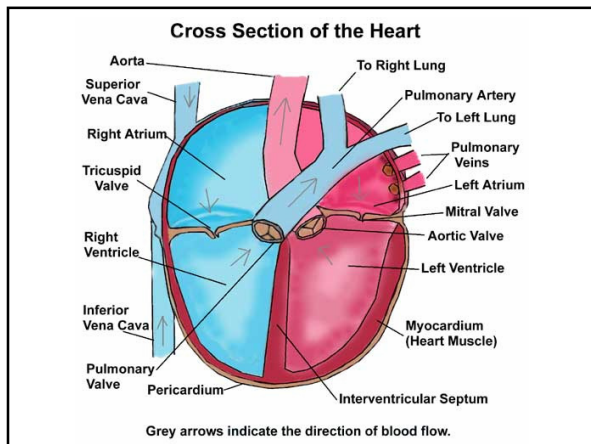
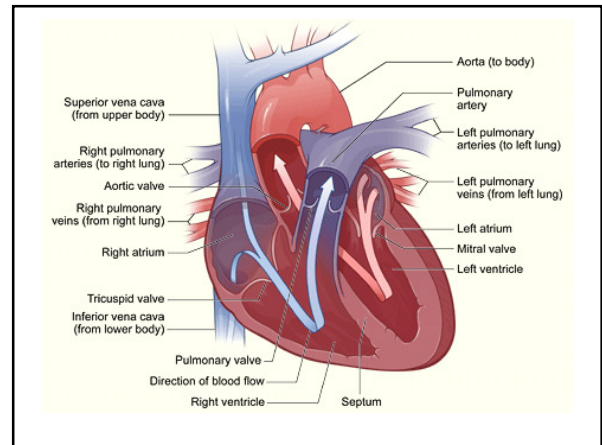


Cardiovascular Assessment



Heart and Circulation

- Location and Shape
 - Precordium
 - Base
 - Apex
- Great Vessels of the Heart
 - Superior and Inferior Vena Cava
 - Pulmonary Artery
 - Pulmonary Veins
 - Aorta



Heart Structure

- Layers
 - Pericardium
 - Myocardium (subendocardium)
 - Endocardium
- Valves
 - Semilunar
 - Aortic, Pulmonic
 - Atriventricular
 - Bicuspid (Mitral), Tricuspid

Conductance System

- SA node
- AV node
- Bundle of HIS
- Purkinje fibers
- Myocardium

Cardiac Cycle

- Diastole
 - Early filling (passive)
 - Presystole (Atrial kick) – 25% of stroke volume
- Systole
 - AV valves shut (S1)
 - Pressure builds, shoots through SL valves
 - SL valves shut (S2)

Heart Sounds

- Normal
 - S1
 - S2
 - Splitting
- Extra
 - S3
 - S4
- Murmur

Murmur

- Causes
 - Increased blood velocity
 - Decreased blood viscosity
 - Structural defects, especially valve and septal
- Grading: 1 – 6

Pumping action

- Preload – volume of blood in heart before systole; also end-diastolic volume (EDV)
- Afterload – diastolic blood pressure; pressure that the heart must overcome to pump blood
- Stroke Volume (SV) – volume of blood pumped in one heartbeat
- Ejection Fraction – SV/EDV

Developmental Concerns

- Infants – foramen ovale, ductus arteriosus
- Pregnant – Increase in blood volume
- Aging adult
 - Systolic pressure increases
 - Myocardial thickening
 - Decreased exercise augmentation

History

- Chest Pain
 - Acute
 - Angina pectoris
 - Stable
 - Unstable
- Dyspnea
 - Paroxysmal
- Orthopnea

History

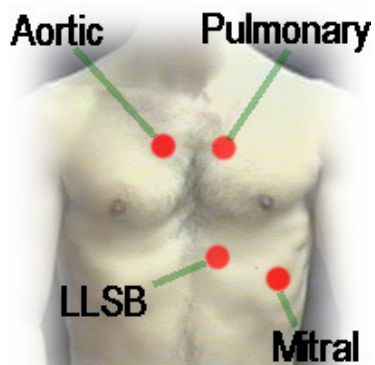
- Cough
 - Hemoptysis
 - Frothy pink sputum
- Fatigue
- Cyanosis, pallor
- Edema
- Nocturia

History

- Past cardiac history
 - MI, HTN, cholesterol, murmur, congenital disease, rheumatic fever, valve problem, DM
- Family history
 - HTN, cholesterol, CAD, DM, CVA
- Personal habits
 - Nutrition, Smoking, ETOH, Exercise, Drugs

Physical Exam

- Inspect chest
- Palpate Apical pulse
- Palpate precordium for thrills
- Percussion for heart size
- Auscultation
 - Rate
 - Rhythm
 - Murmurs, Rubs



Lub Dub

- S1 heard first
- S2 heard second
 - Exception - Tachycardia
 - Splitting
- Abnormal
 - S3 – fluid overload: HF
 - S4 – ventricular resistance (hardened ventricle)

Heart Failure Findings

- Daily weight
- BP
- HR
- Orthopnea, PND
- S3
- Breath Sounds
- DOE → Stages 1 – 4

Peripheral Vascular System

Peripheral Vascular System

- Inspect: JVD
- Auscultate
 - Temporal
 - Carotid
 - Aorta
 - Renal
 - Iliac
 - Femoral
- Palpate
 - Carotid
 - Brachial
 - Radial
 - Ulnar
 - Femoral
 - Popliteal
 - Posterior Tibial
 - Dorsalis Pedis

Other

- Veins
 - Know difference between deep and superficial veins in arms and legs. Know what perforators do.
 - Homan's sign
- Skin
 - Color, warmth
 - Edema

Vocabulary

- Doppler ultrasound
- Peripheral lymph nodes to palpate
 - Epitrochlear, axillary, femoral
- Raynaud
- Lymphedema
- Ischemic ulcer
- Venous stasis ulcer
- Varicose veins
- DVT
- PAD, PVD