


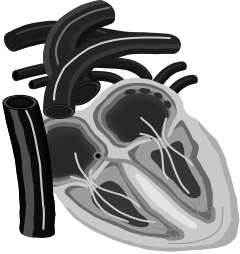
Physical Assessment


Cardiovascular System
Peripheral Vascular System



Cardiovascular System

- Heart
 - Endocardium
 - Myocardium
 - Epicardium
- Peripheral Vascular system
 - Arteries
 - Arterioles
 - Capillaries
 - Venules
 - Veins





Inspection

Inspect: obvious abnormality of the precordium (anterior of chest)

- Asymmetry of shape
- Asymmetry of movement, lungs & diaphragm
- Sternum
- Intercostal spaces - between the ribs
 - Dyspnea: retraction of these muscles
- Clavicle

Landmarks of the Heart

- Insert Craven 878 at right
- Base: where great vessels attach
- Apex: point furthest away from base
- AV valves: tricuspid, mitral
- SL valves: pulmonic, aortic

Auscultation... Lub-Dub

The Lub

- S1 - 1st ht sound Closure of AV valves (beginning of systole)
- Heard loudest at the apex: LUB-Dub
- Tricuspid valve sound: Left lower sternal border @ 4th Intercostal space (ICS)
- Mitral valve sound: Mid-clavicular line (MCL) @ 5th ICS

Auscultation...Lub-Dub

The Dub

- S2 – 2nd ht sound Closure semi-lunar valves, (end of systole, beginning of diastole)
- Heard loudest at base Lub-DUB
- Pulmonic valve sound: 2nd left ICS – beyond sternum
- Aortic valve sound: 2nd right ICS – beyond sternum

Systole - Diastole

- Systole – contraction phase (of ventricles)
 - Starts with closure of A/V valves, after S1
 - Shorter than diastole
- Diastole – filling phase (of ventricles)
 - Starts with closure of SL valves
 - Ventricles are resting and refilling

Other Heart Sounds

- **S3:** rapid ventricular filling, abnormal in adults >30 yrs
Lub-DUB-Dub (Ken-TUCK-y)
- **S4:** atrial contraction, abnormal in adults - reportable
Lub-Lub-DUB (Ten-nes-SEE)
Normal – children, healthy elderly, athletes
- **Murmurs:** an abnormal sound during auscultation
Diastolic – during diastole
Systolic – during systole
Physiologic or functional – no pathology
- **Friction Rub:** pericarditis – inflamm. around ht.

Cardiac Assessment
1st Semester Expectations

- Inspect for obvious abnormalities
- Auscultate:
 - Identify and assess S₁ and S₂
 - Auscultate all 4 sites for cardiac sounds
 - Identify rate and rhythm
- Document apical rate and rhythm (regular, irregular)
- The following are fun!!
 - Listen for extra sounds
 - Listen for murmurs

Terms to Know

- **Perfusion:** blood moving through vessels to/from tissues
Problems w/ perfusion
 - Coolness, cyanosis, cap refill >3 sec
- **Ischemia:** deficiency of blood (**O2**) to an organ making it unable to meet metabolic needs
Problems w/ ischemia
 - Same as above
- **Insufficiency,** arterial or venous: unable to supply adequate blood flow
Problems w/ insufficiency
 - Varicosities: prominent, bulging, soft, non-tender veins

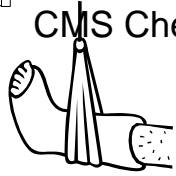
**Peripheral Pulses:
Locate and palpate**

- **Upper Extremities:**
 - Radial
 - Brachial
- **Lower Extremities:**
 - Dorsalis pedis (pedal)
 - Posterior tibial
 - Popliteal
 - Femoral
- **Head/Neck:**
 - Carotid
 - Temporal

Documentation of Pulses

- Can be graded on 4 point scale:
 - 4+ - "bounding" may be used
 - 3+ - (increased over normal)
 - 2+ - (normal)
 - 1+ - "weak or thready" may be used
 - 0 - (absent) "unable to palpate"
- Use of Doppler

CMS Check



- Circulation-Motion-Sensation: a neuro-vascular check
- Performed: any extremity affected by injury, surgery or other risk factors for compromise to neurovascular integrity.
- Compare to unaffected extremity (better idea of baseline)
- Assess: capillary refill, sensation & movement of fingers/toes
- Abnormals: Cap refill - sluggish or absent, Pulse - weak or absent, Numbness, Tingling, Inability to initiate motion.


Antiembotic Stockings

Rationale: Promote venous return, prevent deep vein thrombosis (DVT)

- Pulsatile Antiembotic Stockings (PAS) (pneumatic compression stockings) sequentially compress the calf muscles – alternating inflation and deflation of a cuff applied to the calf
- Indications:
 - venous insufficiency with "pooling" or edema
 - prolonged bed rest
 - post-operatively for surgeries that carry increased risk for DVT
- Contraindications:
 - arterial insufficiency
 - presence of DVT

Elastic Compression Stockings

- Elastic compression stockings (TEDS): provide continuous compression in varying degrees from ankles to knee or thigh
- Often used Post-Op for Knee Surgery
- Antiembotism stockings should:
 - Be properly fitted
 - Be applied without wrinkles or bunching
 - Be applied BEFORE the client gets out of bed in the morning
 - Be removed for 30 minutes q 8 hrs while in bed
 - CMS of client's toes should be intact



The Leg
