

*Tikrit University*

*College of Nursing*

*Basic Nursing Sciences*



**Second Year - 2023-2024**

**Adult Nursing**

**Head-to-Toe Assessment: Cardiovascular Assessment**

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**Jugular Vein Distension (JVD)**



Figure 2.16 Jugular vein distension (JVD)

Jugular vein distension of more than 3 cm above the sternal angle while the patient is sitting at 45 degrees may indicate heart failure.

**Rating of Peripheral Pulses Using an**

Pulse quality may be important to assess following surgery when the patient is at risk for arterial compromise (i.e., graft occlusion). A deterioration in pulse quality might suggest arterial occlusion.

Auscultation of Heart Sounds	• .

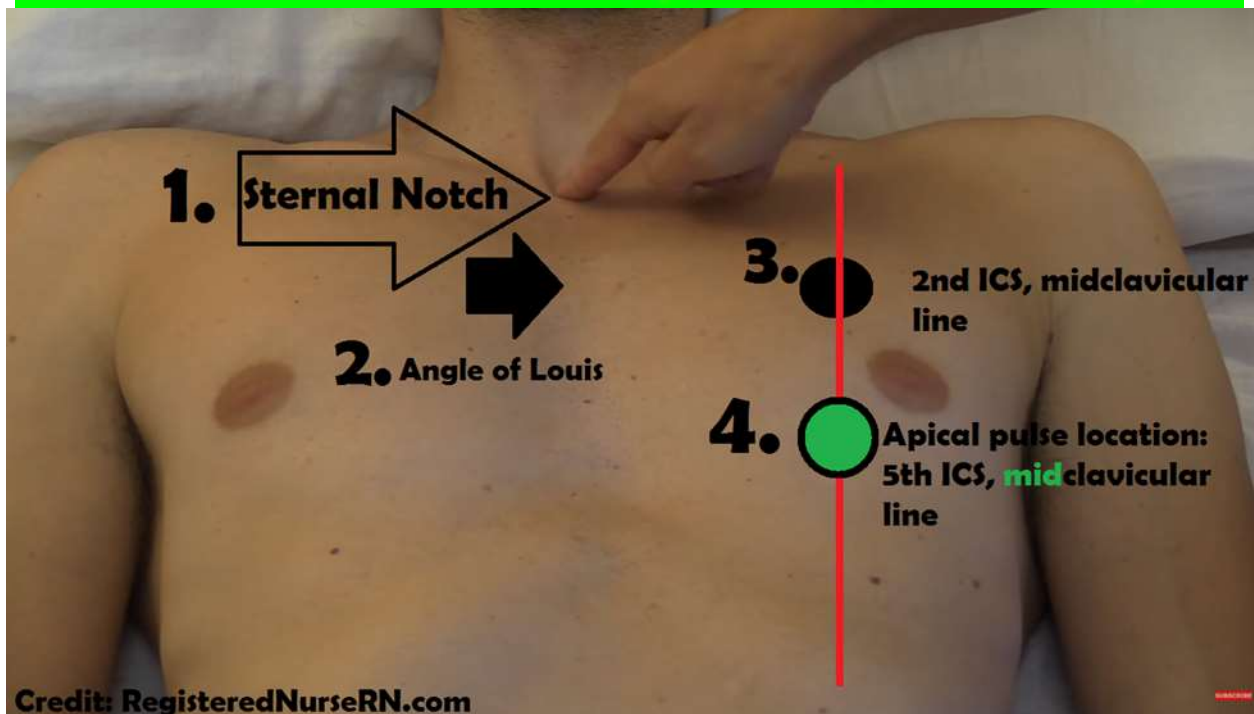
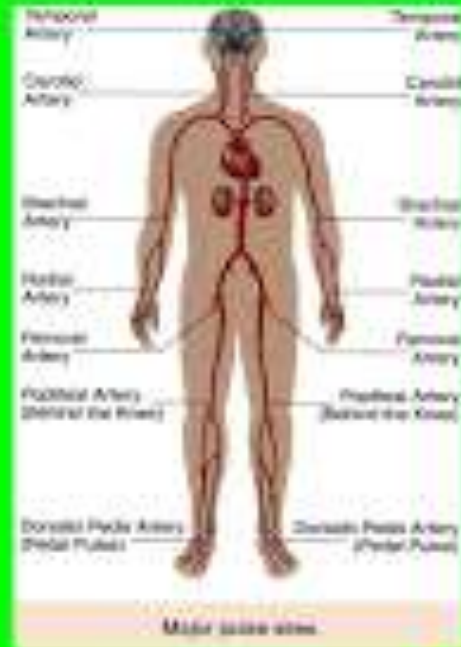
Potential cardiovascular related nursing diagnoses:

- Activity intolerance related to diminished cardiac function.
- Acute chest pain due to increased cardiac workload.
- Ineffective cardiac or peripheral tissue perfusion secondary to heart failure.
- Learning need in relation to risk factors associated with cardiovascular disease.

Peripheral Pulse Rating Scale	
Rating	Description
0	No pulse
+1	Faint but detectable
+2	Slightly diminished compared to normal
+3	Normal
+4	Bounding

# Pulse Sites

- Temporal – forehead
- Carotid – neck
- Brachial – inner, upper arm
- Radial – wrist
- Femoral – groin
- Popliteal – behind knee
- Dorsalis pedis – top of foot

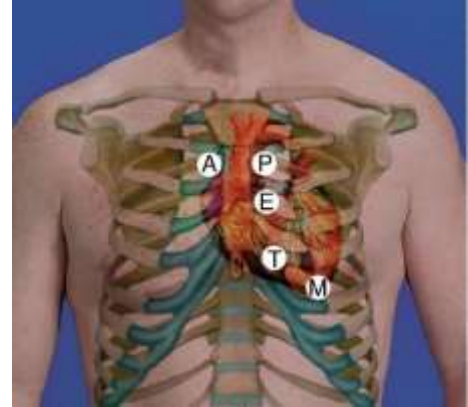



Auscultate: Apical Heart Rate for Rate and Rhythm

## Examination of the Heart

### Cardiac landmarks

- **Aortic area:** 2nd intercostal space (ICS) to the right of the sternum.
- **Pulmonic area:** 2nd ICS to the left of the sternum.
- **Midprecordial area (Erb's point):** 3<sup>rd</sup> ICS to the left of the sternum.
- **Tricuspid area:** 5<sup>th</sup> ICS to the left of the sternum.
- **Mitral area:** 5<sup>th</sup> ICS at the left midclavicular line.



Palpation of Cardiac landmarks	
Assessment	Abnormal findings
<p>Palpate the cardiac landmarks for <b>thrills</b>: Using the palmar surface of the hand at the base of the fingers (also known as the ball of the hand)</p> 	<p>Presence of <b>thrill (vibration)</b> in:</p> <ul style="list-style-type: none"> <li>• Aortic area → Aortic stenosis or Aortic regurgitation</li> <li>• Pulmonic area → Pulmonary stenosis or Pulmonary regurgitation</li> <li>• Tricuspid area → Tricuspid stenosis or Tricuspid regurgitation</li> <li>• Mitral area → Mitral stenosis or Mitral regurgitation</li> </ul> <p>Also may indicate ASD or VSD</p>

# Heart Sound Auscultation

## Auscultation

### Stethoscope

- **Diaphragm:** transmits high-pitched sounds (e.g. Breath sounds and normal heart sounds)
- **Bell:** transmits low-pitched sounds (e.g. Bruits and some heart murmurs)



### Heart Sounds

#### S1

#### S2

- Caused by closure of semilunar valves (Aortic & Pulmonary) valves.
- Corresponds to the '**dub**' sound in the phonetic 'lub-dub'.
- Heard in the Aortic & Pulmonary areas.

#### S3

- Low-pitched sound caused by  $\uparrow$  ventricular filling.
- It often indicates fluid overload.
- Physiological: in children, young adults & pregnancy
- Pathological: ASD, VSD, AR, MR
- Early diastolic (heard after S2)

#### S4

- Low-pitched sound caused by forced atrial contraction.
- Abnormal heart sound.
- Occurs in HTN, IHD, AS
- Late diastolic (heard before S1)

- Caused by closure of Tricuspid & Mitral valves.
- Corresponds to the ‘**lub**’ sound in the phonetic ‘lub-dub’.
- Heard in the Tricuspid & Mitral areas.

## Heart Murmurs

- Refers to turbulent blood flow due to the passage of blood through stenosis, shunt, dilated chamber or regurgitant flow across incompetent valves.
- Assess & analyze murmurs

according to the following characteristics:

- 1. Location:** in which cardiac landmark murmur is heard
- 2. Radiation:**
  - MS → axilla
  - AS → apex, carotid artery
- 3. Quality:**
  - Harsh → AS
  - Soft blowing → AR
  - Rumbling MS
- 4. Timing:**
  - Systolic: AS (ejection click), MR, VSD
  - Diastolic: AR, MR
- 5. Pattern:** crescendo, decrescendo, crescendo-decrescendo, plateau
- 6. Intensity (grading)**

Grade	Description
<b>I</b>	Very faint (heard only after a period of concentration)
<b>II</b>	Faint (heard immediately)
<b>III</b>	Loud (easily heard)
<b>IV</b>	Loud with thrill
<b>V</b>	Very loud with thrill (heard over wide area)
<b>VI</b>	Extremely loud with thrill (heard without stethoscope)



