

*Tikrit University*

*College of Nursing*

*Basic Nursing Sciences*



**Second Year - 2023-2024**

**Health assessment and physical examination**

**( Cardiovascular Assessment Part 2 )**

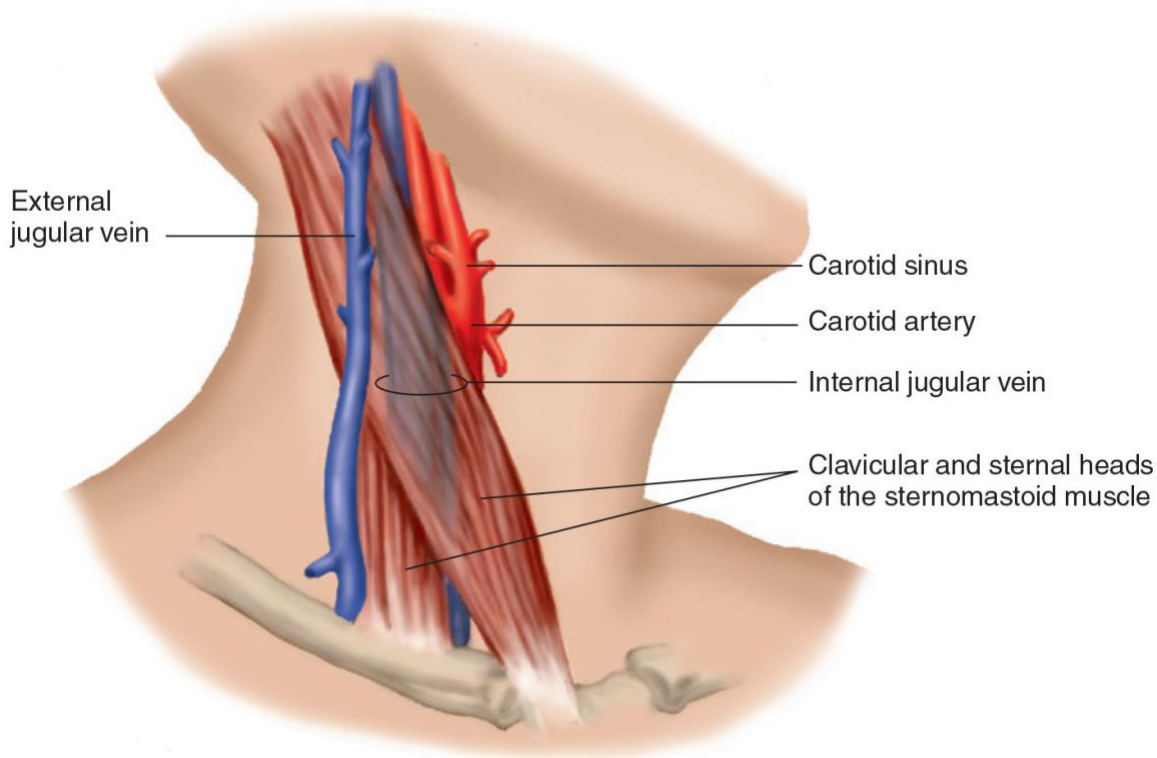
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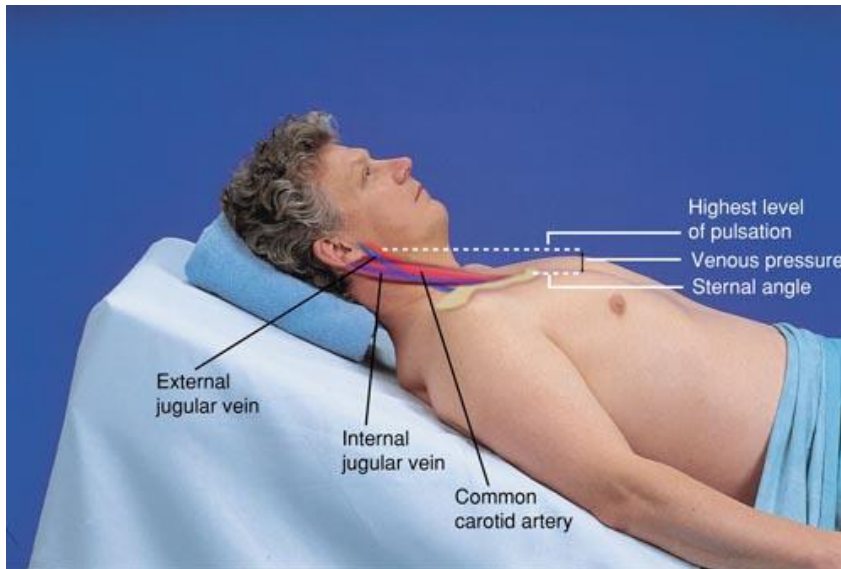
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## II-Objective Data/ Neck Vessels

### ❑ Inspect the Jugular Venous Pulse

- You can assess the Central Venous Pressure (CVP)
- You cannot see the internal jugular vein, but you can see its pulsation.
- Use light to increase visualization.
- Position the Patient supine ( $30^{\circ}$ -  $45^{\circ}$ )
- Remove pillow to avoid flexing of neck.
- Stand on the right side of the patient.
- Ask the client to turn his/her head to another side.
- Inspect the external jugular vein distension.
- Inspect the internal jugular vein pulsation.



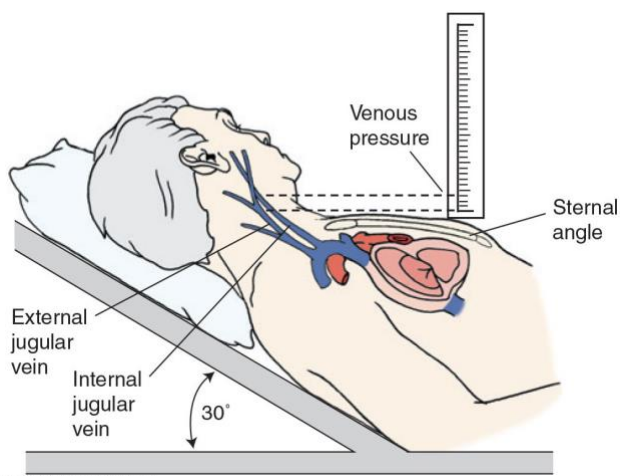
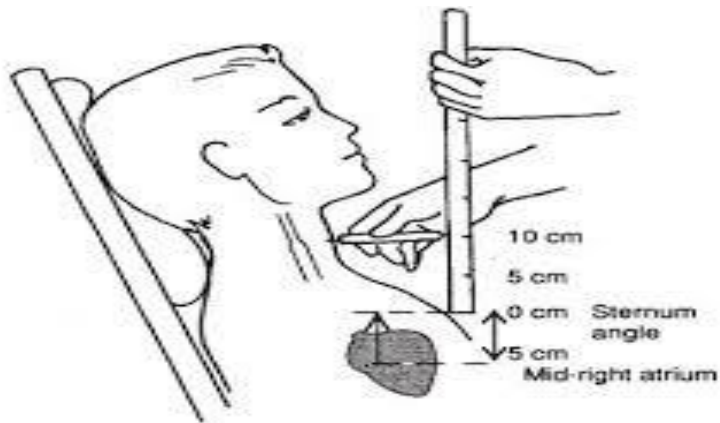


## Inspect the Internal Jugular Vein Pulsation

	Internal Jugular Pulse	Carotid Pulse
Location	Low, lateral to SMM	High, medial to SMM
Quality	Diffuse	localized
Respiration	Affected	Not affected
Palpable	No	Yes
Pressure	Affected	Not affected
Position of person	Affected as person brought to sitting	Not affected

## ❑ Estimate the Jugular Venous Pressure

- Use sternal angle (angle of Louis) as a reference point.
- Hold a vertical ruler on sternal angle.
- Hold a horizontal ruler on the level of pulsation.
- Read the highest level of pulsation.
- Normal Jugular Venous Pulsation is 2cm or less.



## **Estimate the abdominojugular test (Jugular Venous Pressure)**

- ❖ If venous pressure is elevated or suspect heart failure (HF), Perform the Hepatojugular Reflux.
- Supine positing
- Breath quietly through open mouth
- Push against the right upper quadrant (RUQ) just below the rib cage with your right hand
- Watch the level of jugular pulsation as you push in with your hand.
- Exert firm sustained pressure for 30 second
- Check the pulsation level pattern
- Jugular vein will rise for few second, then recede back to previous level.

## **II-Objective Data/ Precordium**

### **❖ Inspect the Anterior Chest**

- Apical Impulse: may or may not see
- Abnormal Findings: Heave (raise) or lift- ventricular hypertrophy.

### **❖ Palpate the Apical Impulse (Point of Maximal Impulse [PMI])**

- Localize apical impulse by using one finger pad
- Exhale and hold. ? need to turn to the Lt
- Location: Fourth or Fifth interspace, medial to MCL
- Size: 1 Interspace, 1 cm x 2 cm
- Duration: Short occupies first half of systole
- Amplitude: short gentle tap.

### **❖ Palpate across the Precordium**

- Use palmar aspect of four fingers
- Gentle palpate apex, Lt sternal border, and base.
- Note pulsation, thrills (palpable vibration, usually accompany murmurs).
- Normally non occur.
- Abnormal Findings: pulsation, thrills- turbulent blood flow.

## **Percussion of the Precordium**

- Percussion to outline the borders of the heart has been replaced by the chest x-ray image or echocardiogram. Evidence shows that these are ore NOT accurate in detecting heart enlargement.

## **Auscultate the Precordium**

- Second Rt interspace (Rt sternal border) = Aortic valve area.
- Second Lt interspace (Lt sternal border) = Pulmonic valve area.
- Lt lower sternal border= Triscupid valve area.
- Fifth interspace at Lt midclavicular line= Mitral valve area.

## **With diaphragm assess:**

- Rate & Rhythm, pulse deficit if needed
- Identify S1 & S2
- Assess S1 & S2 separately
- Listen for extra heart sounds
- Listen for Murmurs

### **❖ Rate & Rhythm**

- The rate ranges normally from 60 to 100 beats / minute.
- Rhythm normally regular.
- If there any irregularity check for pulse deficit, by auscultating the apical beat while palpating the radial pulse.

### **❖ Identify S1**

- Closure of the AV valve
- Beginning of Systole
- “lup” of the “lup-dup” sound
- Louder than S2 at Apex
- Coincides (during the same time) with carotid pulse

### **❖ Identify S2**

- Closure of Semilunar valves
- End of Systole

- “dup” of the “lup-dup” sound
- Louder than S1 at Base
- ❖ Listen to S1 & S2 separately
- Note whether each heart sound is normal, increased, diminished, or split.

#### ❖ **Split S1**

- Means hearing the Mitral and Tricuspid components of S1 separately. (M1T1)
- Audible in the Tricuspid area ( the left lower sternal border)
- Normal but uncommon

#### ❖ **Split S2**

- Means hearing the Aortic and Pulmonic components of S2 separately (A2P2).
- May be normally heard with inspiration
- Heard only in pulmonic valve area

#### ❖ **Focus on systole, diastole, and listen for any extra heart sounds**

- Use diaphragm and bell of the stethoscope
- Usually there are silent periods
- **During Systole**, listen midsystolic click (most common extra sound, occurs with mitral valve prolapse) is the most common extra sound; (best heard with the diaphragm at the apex).
- **During Diastole**, listen for S3 & S4, could be normal or abnormal; (best heard with the bell at the apex , lt lateral position).

#### ❖ **Listen for Murmurs** (reflect turbulent blood flow in the heart or great vessels); could be normal (innocent) or abnormal (valvular defects)

- Timing: in systole or diastole
- Pitch (high, medium, or low)
- Pattern (Crescendo, Decrescendo )
- Quality (musical, blowing, harsh, rumbling)
- Location ( where best heard)
- Radiation (neck, back, axilla)
- **Posture**- disappear or enhanced by change of position
- **Loudness**:
  - = Barely audible, quiet room

- = Clearly audible but faint
- = Moderately loud
- = Loud, associated with a thrill palpable on chest wall
- = Very loud, heard with one corner of
- stethoscope lifted off chest wall
- = Loudest, still heard with entire steth. lifted just off the chest wall

### ❖ **Change Position**

- Lateral Lt Side, listen with the bell at the apex for S3 & S4 (diastolic filling sounds)
  - **Sitting Position** with leaning forward and exhale.
  - listen with the diaphragm at the base, right, and left sides.
  - Check for murmurs for aortic & pulmonic regurgitation, or pericardial friction rub.