

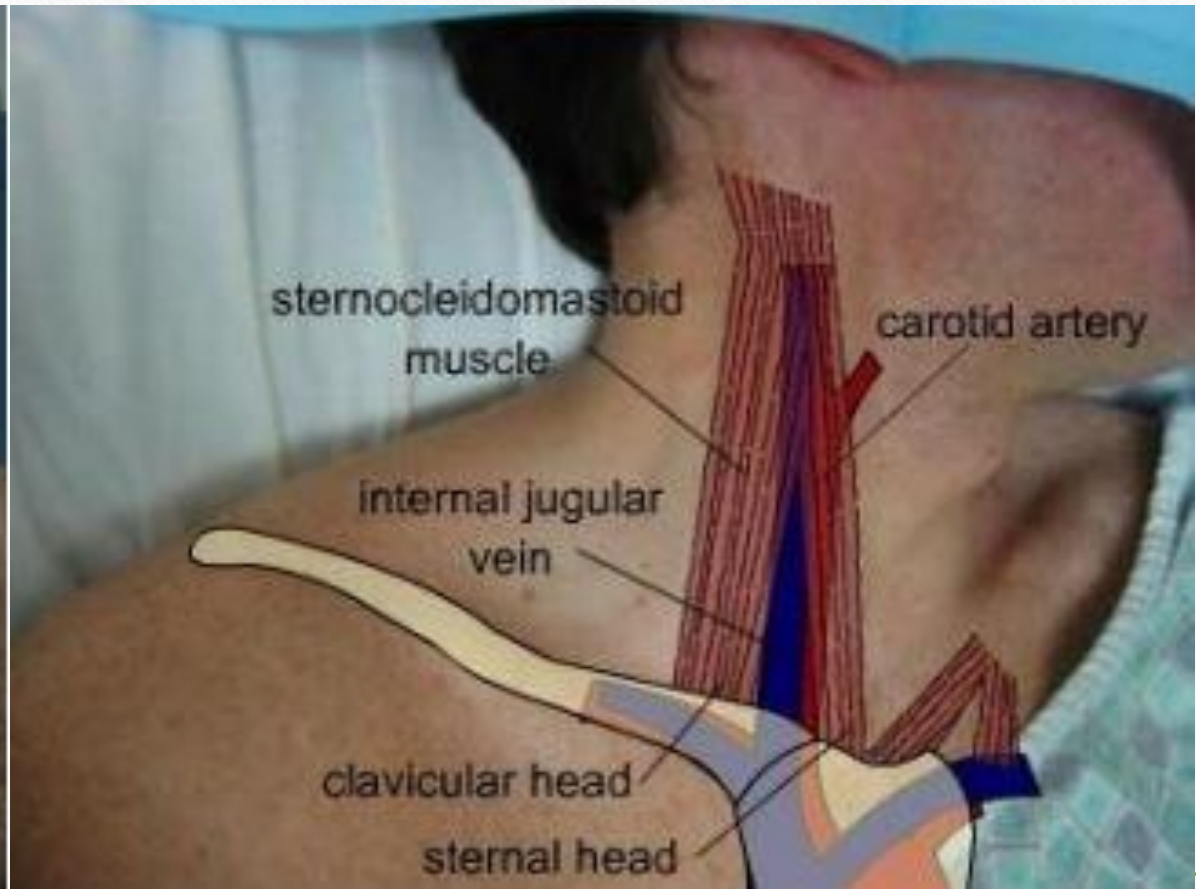
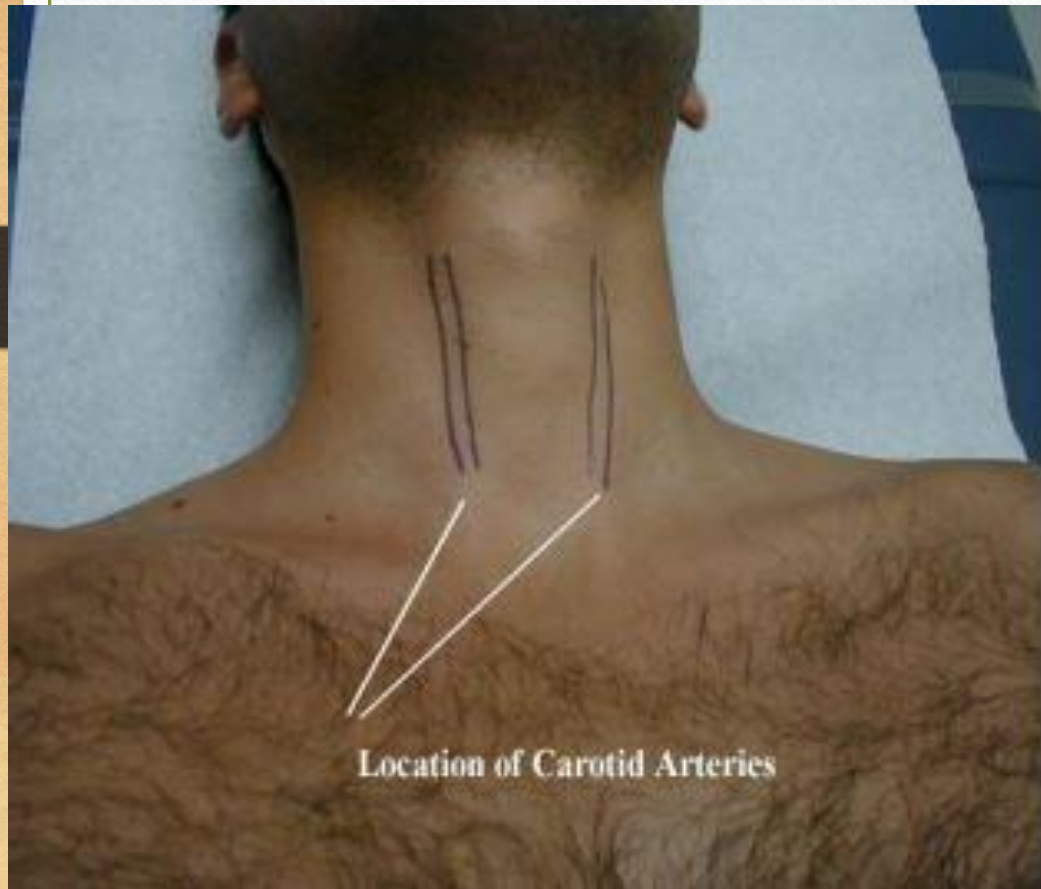
Carotid artery examination

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Carotid artery examination

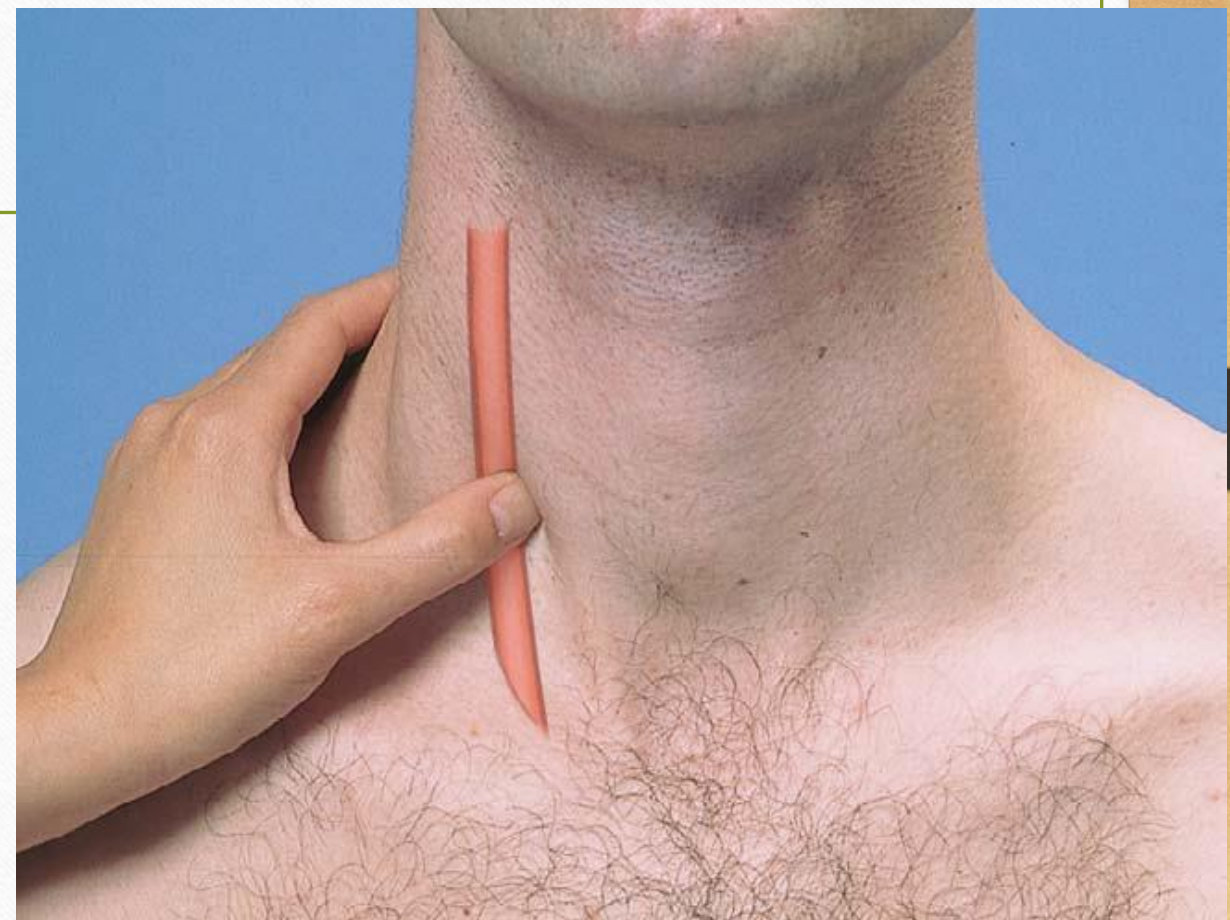
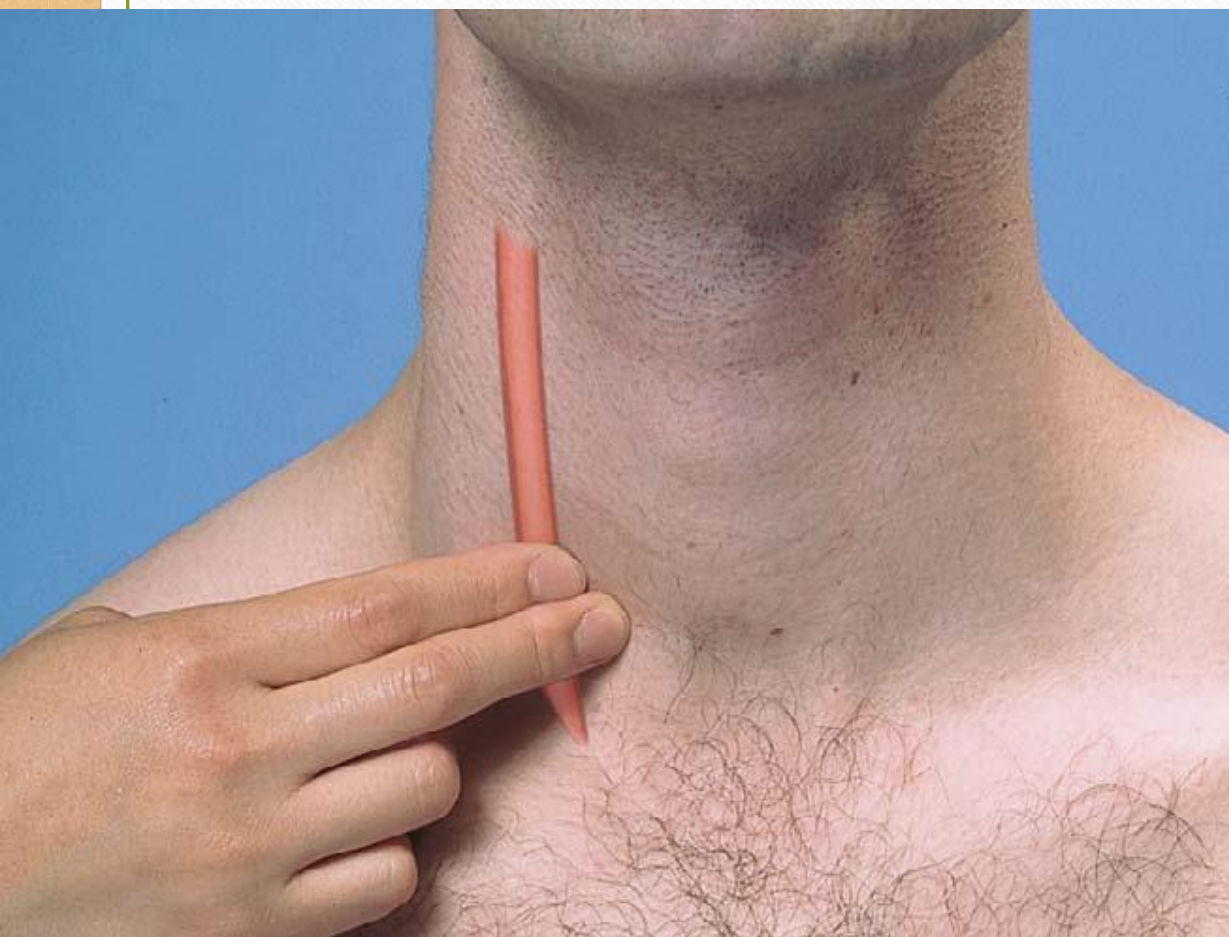
Examine for

- the carotid upstroke, its amplitude and contour, and
- the presence or absence of *thrills* or *bruits*

provides valuable information about cardiac function, especially aortic valve stenosis and regurgitation.

Amplitude and Contour

- the patient should be supine with the head of the bed elevated to about 30°.
- **First** inspect the neck for carotid pulsations, often visible just medial to the SCM muscles.
- **Then** place your index and middle fingers or left thumb on the right carotid artery in the lower third of the neck and palpate for pulsations.



Amplitude and Contour

- Press just inside the medial border of a relaxed SCM muscle, roughly at the level of the cricoid cartilage.
- For the left carotid artery, use your right fingers or thumb.
- **Avoid** pressing on the carotid sinus, which lies adjacent to the top of the thyroid cartilage.
- **Never** palpate both carotid arteries at the same time. This may decrease blood flow to the brain and induce syncope.

Amplitude and Contour

- Slowly increase pressure until you feel a maximal pulsation; **then** slowly decrease pressure until you best sense the arterial pressure and contour.
- Assess the pulse following characteristics :

Assessment Characteristics of the Carotid Pulse

- The *amplitude of the pulse*. This correlates reasonably well with the pulse pressure.
- The *contour of the pulse wave*, namely the speed of the upstroke, the duration of its summit, and the speed of the downstroke. The normal upstroke is *brisk*; it is smooth, rapid, and follows S_1 almost immediately. The summit is smooth, rounded, and roughly midsystolic. The downstroke is less abrupt than the upstroke.

Assessment Characteristics of the Carotid Pulse *(continued)*

- Any *variations in amplitude*, either from beat to beat or with respiration.
- *The timing of the carotid upstroke in relation to S_1 and S_2 .* Note that the normal carotid upstroke follows S_1 and precedes S_2 . This relationship is very helpful in correctly identifying S_1 and S_2 , especially when the heart rate is increased and the duration of diastole, normally longer than systole, is shortened and approaches the duration of systole.

Carotid Artery Thrills and Bruits

- As you palpate the carotid artery, you may detect vibrations, or *thrills*, like the throat vibrations of a cat when it purrs.
- Proceed to auscultation.

Carotid Artery Thrills and Bruits

- Auscultate both the carotid arteries to listen for a *bruit*, a murmur-like sound arising from turbulent arterial blood flow. Ask the patient to stop breathing for ~15 seconds, then listen with the diaphragm of the stethoscope, which generally detects the higher frequency sounds of arterial bruits better than the bell.
- Place the diaphragm near the upper end of the thyroid cartilage below the angle of the jaw, which overlies the bifurcation of the common carotid artery into the external and internal carotid arteries. A bruit in this location is less likely to be confused with a transmitted murmur from the heart or subclavian or vertebral artery bruits.

Thank You