

HEART EXAM DETAILS FROM HEART VIDEO

WASH HANDS

- 1. Name the four principal factors that influence arterial blood pressure.**
 - A. *LV stroke volume*
 - B. *Distensibility of Aorta and large arteries*
 - C. *Peripheral Vascular Resistance*
 - D. *Blood volume*
- 2. Locate, count, and describe the patient's radial pulse.**

Technique = student should use finger pads (not tips) and describe beats/min and rhythm, e.g., is the rhythm regular or irregular? If the rhythm is irregular, is there any pattern to the irregularity, or is the rhythm irregularly irregular? If you cannot identify the radial pulse, then extend the elbow and check for the brachial artery pulse in the antecubital fossa.
- 3. Locate, count, and describe the patient's carotid pulse.**

Technique = student should only check for ONE carotid pulse at a time and should have finger pads in lower half to lower third of neck, usually medial to sternocleidomastoid muscle, about at the level of the cricoid cartilage.
- 4. Demonstrate how to determine the correct BP cuff size for their patient, and demonstrate.**

Answer = width of cuff should be about 40% of the circumference of patient's arm. Length of bladder (not entire cuff) should be about 80% of circumference of patient's arm. If the cuff is too small, blood pressure will be falsely elevated.

There are four different cuff sizes:

 - *A thigh cuff: 18 cm width*
 - *Large adult cuff: 15 cm width*
 - *Normal adult cuff: 12-13 cm width*
 - *Pediatric or small adult cuff: 10 cm width*
- 5. First, correctly measure the patient's BP by palpation in one arm.**

Technique:

 - *Patient's arm can be resting at their side, does not have to be elevated at heart level.*
 - *Patient should have been sitting calmly for at least 5 minutes*
 - *Use appropriate size cuff*
 - *Place BP cuff on SKIN (not over gown) about 2-3 cm above antecubital fossa.*
 - *Locate and palpate radial pulse with one hand and at the same time, with the other hand, blow up cuff until pulse disappears and to about 20 mm Hg higher*
 - *Slowly release the air in the cuff (about 3 mm Hg per second).*
 - *At the return of the radial pulse = estimate of SYSTOLIC BP.*
- 6. Correctly measure (auscultate) BP in both extremities.**

Technique is same as above, except that the student elevates the patient's relaxed arm so that the brachial artery is elevated to about heart level. Student should only blow up the cuff about 20 – 30 mm Hg above their systolic BP by palpation. Air should be released from the cuff slowly (about 3 mmHg per second). Repeat on other arm.

7. **Describe what the maximal height of the internal jugular vein represents.**

Answer = reflection or indication of right atrial pressure, which reflects hydration or volume status of patient.

8. **Identify the point of maximal height of pulsation of the right internal jugular vein on the patient and measure the JVP.**

Technique = student is on patient's right side, student should have pt. lay back and should adjust the exam table between 30 – 45 degrees, and should be able to point out the height of maximum pulsation of the right internal jugular neck vein, turn patient's head slightly to their left. To measure, student places a ruler on sternal angle and uses a horizontal surface from the point of maximal height of the right int. jugular vein. Student adds 5 cm to their measurement to get the patient's JVP.

9. **Identify and locate the apex and base of the heart.**

Answer = base is the junction between the heart and the great vessels; lies just below sternal angle

10. **Identify and locate the apex of the heart.**

Answer = apex is the tip of the LV; normally found in midclavicular line, about 5th intercostal space

11. **Identify and locate the surface projection on the precordium of the right atrium.**

Answer = right heart border, from right 2nd ICS (intercostal space) to about 3rd or 4th Right ICS

12. **Identify and locate the surface projection on the precordium of the right ventricle.**

Answer = RV occupies most of the anterior cardiac surface; RV is a wedge-like structure deep and to the left of the sternum with the inferior border just below the junction of the sternum and xiphoid process. The RV narrows superiorly and meets the pulmonary artery at left 3rd ICS near the sternum.

13. **Identify and locate the surface projection on the precordium of the left ventricle.**

Answer = LV is the left lateral border of the anterior cardiac surface.

14. **Inspect the precordium.**

Notice any scars, deformities, lifts or heaves.

15. Palpate the precordium in five areas, identify the PMI (apical impulse).

Technique = exam done on skin (not over a gown), patient lying flat, student on patient's right side. Student tries to inspect for PMI. If the PMI is not visible while the patient is supine, you may ask the patient to roll 45 degrees to the left and also ask the patient to exhale fully and hold their breath while the student looks for and palpates for PMI. (These maneuvers bring the heart closer to the chest wall.) Student uses palmar surface of their hand, gently placing the ball of their hand (metacarpal-phalangeal joints) on the precordium.

Five locations on the precordium are palpated (any order is acceptable):

- A. *Apex (PMI: normally 2.5 cm or less in size and located in only one intercostal space)*
- B. *Left parasternal area (left 3rd to 5th intercostal space)*
- C. *Left 2nd ICS (Pulmonic area)*
- D. *Right 2nd ICS (aortic area)*
- E. *Epigastrium*

16. If you cannot locate the apex by palpation, you can locate the left heart border by percussion.

Technique = Patient is supine; percussion is done on skin (not over a gown); student is on patient's right side; percussion begins laterally in 4th or 5th ICS in about the anterior axillary line. The student percusses lateral to medial along an ICS, until dullness is heard then student percusses in ICS above or below:

- A. *Student may ask patient to hold their breath (to prevent respiratory movement) or ask patient to exhale completely and hold their breath while they percuss. This maneuver brings the heart closer to the chest wall.*
- B. *Student should correctly identify left cardiac border as resonance changes to dullness*

17. Correctly auscultate the heart in 5 locations.

Technique = patient is supine or, at most, 30 degrees; exam is done on skin (not over a gown); student is on patient's right side; student first uses bell of stethoscope and then repeats exam with bell. Five locations on the precordium are auscultated:

- A. *Apex*
- B. *Left sternal border*
- C. *Epigastrium*
- D. *Left 2nd ICS (pulmonic area)*
- E. *Right 2nd ICS (aortic area)*

18. Palpate the suprasternal notch

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