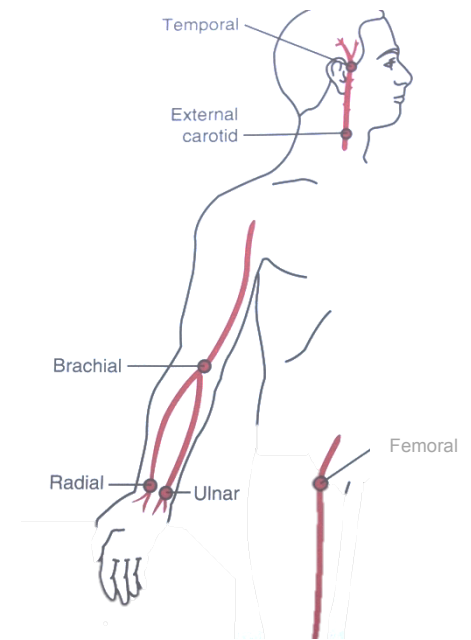


Cardiovascular Health Lab Activities

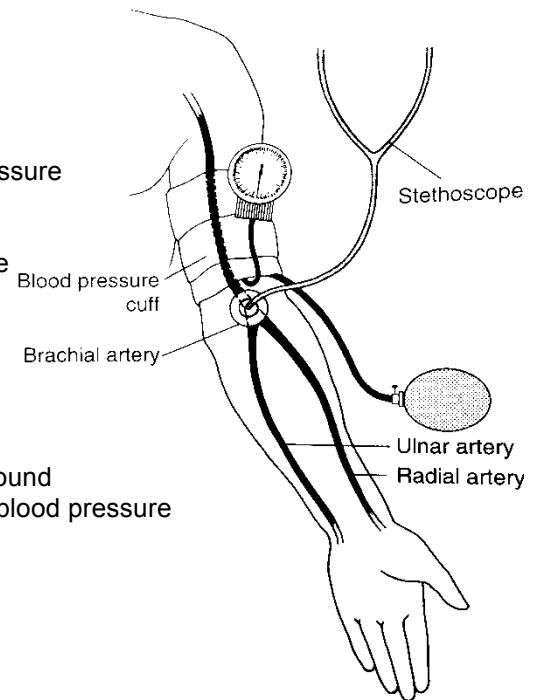
Measuring Radial Pulse (Heart Rate)

- A. Assemble equipment: You will need a watch or wall clock with a second hand.
- B. Wash hands.
- C. Procedure:
 1. Place patient's wrist in neutral with palm up.
 2. Place middle and index fingers firmly over radial pulse
→ do not use too much pressure or you will block blood flow.
 3. Once strong pulse is identified, notice the second hand position on your watch/clock. Determine heart rate by counting the number of beats for 30 seconds and multiplying by 2.
 - ❖ If any irregularities are noted, a full 60 second count should be taken to improve accuracy.



Measuring Blood Pressure

- A. Assemble equipment: You will need a blood pressure cuff and a stethoscope. Make sure the size of the cuff is appropriate for the patient based on their arm size. The adult size cuff should encircle 80% of an adult arm; the child's size cuff should completely encircle the child's arm.
- B. Wash hands.
- C. Procedure:
 1. Explain procedure to the patient and request that they remain still during monitoring.
 2. Patient should be sitting with back supported, legs uncrossed, and feet flat on the floor. If possible, arm should be free of clothing (do not roll up sleeve because it can have a tourniquet effect). The arm should be positioned at heart level with elbow slightly bent and palm up. You can position the patient's arm on a treatment table or armrest, using pillows as needed to adjust height of arm.
 3. Wrap deflated cuff around patient's arm about 1-inch above the elbow crease. The center of the cuff (identified with an arrow) should be in line with the brachial artery.
 4. Ensure that the pressure gauge is visible and that it reads "0."
 - ❖ Note: For first time blood pressure readings, an estimate of the patient's systolic blood pressure should be made:
 - a. Palpate radial artery
 - b. Close valve of the blood pressure cuff
 - c. Inflate the cuff until radial pulse disappears → continue to inflate to 30 mm Hg above this level
 - d. Note this pressure on the gauge – this is the estimate of max pressure required to measure systolic blood pressure
 - e. Allow air to release quickly
 5. Place earpieces of stethoscope (tilting forward) into your ears.
 6. Locate and palpate the brachial artery. Place bell of stethoscope over the brachial pulse point
 7. Close valve of cuff and rapidly inflate to about 30 mm Hg above estimated systolic blood pressure.
 8. Release thumb valve slowly at a rate of 2 mm Hg per heartbeat and listen for point at which **first** rhythmic tapping sound → systolic blood pressure
 9. Continue to release air at 2 mm Hg per heartbeat. Note when sound first becomes muffled, and record last sound heard → diastolic blood pressure
 10. Release remainder of air quickly.
 11. Clean equipment.
 12. Wash hands.



- ❖ If you have to take a 2nd measurement, wait at least 1 minute in between readings.
- ❖ PRACTICE these techniques to ensure accurate blood pressure measurements!

Cardiovascular Health Lab Activities

6-Minute Walk Test – For ambulatory patients

- A. Assemble equipment: You will need a timer and a way to keep track of each lap (i.e. paper and pencil)
- B. Prepare environment: This test should be performed indoors on a long, flat, straight and even surface, 30 meters in length. Using tape, mark off 3-meter increments on the ground and use cones or chairs to mark turn around points. Place a chair near the starting position for the patient to sit in prior to starting the test.
- C. Procedure:
 - a. While patient is seated, test heart rate and blood pressure.
 - b. Instruct patient to stand. Ask him/her to rate current level of perceived exertion.
 - c. Set the timer for 6 minutes and move to the starting point.
 - d. Instruct the patient using the following standardized instructions:

“The purpose of this test is to find out how far you can walk in 6 minutes. You will start from this point and follow the hallways to the marker at the end, then turn around and walk back. You will go back and forth as many times as you can in the six-minute period. You may stop and rest, if you need to, just remain where you are until you can go on again. The most important thing is that you cover as much ground as you possibly can during the six minutes. I will tell you the time, and I will let you know when the six minutes are up. When I say ‘stop,’ stand right where you are.”
 - e. Instruct the patient to begin walking whenever they are ready. Start the timer when he/she starts walking.
 - f. Keep track of the patient’s number of laps. Do not get distracted and lose count. After each minute, tell the patient that he/she is doing well and report how many minutes are left in the test. Do not use any other words of encouragement or body language. If the patient needs a break, allow them to rest against a wall or bring them a chair if absolutely necessary. If patient is unable to finish six minutes or refuses, discontinue the walk and allow them to sit. Record reason for incompleteness of the test.
 - g. After the test is completed, ask the patient to rate their level of perceived exertion. Re-check patient’s blood pressure and heart rate.
 - h. Record number of laps walked and number of rest periods taken. Include rate of perceived exertion and blood pressure/heart rate readings in documentation.

6-Minute Wheelchair Push Test – For patients who can self-propel in a wheelchair

- A. Assemble equipment and set up testing environment in same manner as 6-Minute Walk test. Ensure that there is adequate space for the patient to perform turns in their wheelchair at each end of the track.
- B. Procedure:
 - a. Record resting heart rate and blood pressure before starting.
 - b. Set the timer for 6 minutes and move to the starting point.
 - c. Instruct the patient using the following instructions:

“The purpose of this test is to find out how far you can propel yourself in your wheelchair in 6 minutes. You will start from this point and follow the hallways to the marker at the end, then turn around and propel back. You will go back and forth as many times as you can in the six-minute period. You may stop and rest, if you need to, just remain where you are until you can go on again. The most important thing is that you cover as much ground as you possibly can during the six minutes. I will tell you the time, and I will let you know when the six minutes are up. When I say ‘stop,’ stop your wheelchair right where you are.”
 - d. Instruct the patient to begin propelling whenever they are ready. Start the timer as soon as he/she begins to move.
 - e. Keep track of the patient’s number of laps.. After each minute, tell the patient that he/she is doing well and report how many minutes are left in the test. Do not use any other words of encouragement or body language. If the patient needs a break, allow them to rest. If patient is unable to finish six minutes or refuses, discontinue the test. Record reason for incompleteness of the test.
 - f. After the test is completed, ask the patient to rate their level of perceived exertion. Re-check patient’s blood pressure and heart rate.
 - g. Record number of laps propelled and number of rest periods taken. Include rate of perceived exertion and blood pressure/heart rate readings in documentation.