

Purpose: We will use a variety of tools in this lab to assess how exercise and changes in posture affect these cardiovascular parameters. Together with our partner, we will take our blood pressure and record it. A technique for assessing a person's level of physical fitness will be shown.

Procedure:

- #1) Wrap the pressure cuff of the sphygmomanometer snugly around the upper left arm of your lab partner. Your lab partner should assume a relaxed, sitting or supine position.
- #2) Place the stethoscope securely over the brachial artery. Close the pressure valve and begin pumping up the rubber ball.
- #3) You will begin to hear the arterial pulse as you pass the diastolic pressure. Continue pumping until the pulse is not heard, approximately 10 mmHg above your partner's normal systolic pressure. The brachial artery is now totally occluded.
- #4) Slowly open the pressure valve and listen for the pulse sounds to reappear as the pressure drops. These are known as Korotkoff.
- #5) The first sound heard signals the systolic BP. Record this value from the scale.
- #6) The sound will become louder as the pressure drops until it finally starts to become muffled. Record the pressure at which the sound vanishes. This signals the diastolic BP. Record your blood pressure as systole/diastole.
- #7) Alternate with your lab partner and repeat these procedures.
- #8) Next, measure the BP of each of you immediately upon standing. Be sure to have your cuff inflated prior to standing, so that you can begin to release pressure immediately upon standing.
- #9) Lastly, measure the BP three minutes after standing. Record these values for your use on the chalkboard.
- #10) Discuss the orthostatic response in terms of the receptors used and the effects of postural change. Include any limitations to obtaining reliable results.

Discussion:

When my partner took my blood pressure on my right arm while I was sitting down it was 130/60 and did it again on the left arm and read 130/60. When my partner took my blood pressure standing, I got a reading of 125/70. Typically, systolic blood pressure falls slightly upon standing up

Conclusion:

Usually, the patient is seated when the blood pressure is measured. The arm is squeezed as the cuff expands. For a brief period, blood flow through the artery ceases. In order to gradually release the air in the cuff and restore blood flow, the medical professional opens a valve on the hand pump. The healthcare professional takes a blood pressure reading while still monitoring blood flow and pulse. Blood pressure at the systolic level is measured during a heartbeat. The heart ventricles relax to measure diastolic blood pressure. There is a drop in arterial blood pressure when one moves from a supine position to a standing one.