

Human Anatomy & Physiology Practical 2 – Blood Pressure

Learning Outcomes

- To become accustomed to blood pressure assessment equipment and learn how to take both automatic and/ or manual methods
- To document the effects of blood pressure and results onto excel spreadsheet

What is blood pressure?

- Blood pressure refers to the force exerted by circulating blood on the walls of blood vessels.
- The pressure of the circulating blood decreases as blood moves through arteries, arterioles, capillaries, and veins.
- Blood pressure values are reported in millimetres of mercury (mmHg).
- Blood pressure is recorded as systolic over diastolic e.g. 120/60.

Blood Pressure Overview

- Heart Pumps blood
- Produces bulges
- These pressure waves = pulse
- Rhythm and strength of pulse in distal arteries
- Garden hose – force on the walls

Blood pressure

- Measured in mm Hg
- Measurement is made with a sphgmomanometer
- It measures changes in blood pressure according to the pulse – giving an indirect measure
- Mercury – hazardous!!

Anthropometric Data

- Height
- Weight
- Gender
- Age

Procedure

- **Simple steps to an accurate reading**

- There are a few simple steps that you can follow to be sure that you get an accurate reading of your blood pressure.

- **Before you take your blood pressure reading**

- **1.** Many things can make your blood pressure rise for a short time. Make sure you do not need to use the toilet, and that you have not just eaten a big meal. Do not measure your blood pressure within 30 minutes of drinking caffeine or smoking.
- **2.** Wear loose-fitting clothes like a short sleeved t-shirt so that you can push your sleeve up comfortably.
- **3.** Always use the same arm for blood pressure readings, as each arm will give you a slightly different reading. If possible, use the arm that your doctor or nurse uses when measuring your blood pressure.
- **4.** Before you take your readings, rest for five minutes. You should be sitting down in a quiet place, preferably at a desk or table, with your arm resting on a firm surface and your feet flat on the floor.
- **5.** Make sure your arm is supported and that the cuff around your arm is at the same level as your heart. You may need to support your arm with a cushion to be sure it is at the correct height. Your arm should be relaxed, not tensed.

Tasks

- Automatic /Manual sphygmomanometer
- Check whether it is working (batteries)
- Rest for 5 mins to get baseline
- Test the subject after exercise (2-5mins)
- Re-check (at 10mins)
- Document your results on excel spreadsheet

Interpretation

- Why does the blood pressure vary with exercise?
- What happens to the blood pressure when you lie down?
- Explain variations in the group?

Task

- See Resources folder and read what an academic journal says about Blood Pressure responses to exercise.
- What would you expect to see in the long run?