

MANUAL/DOPPLER BLOOD PRESSURE

What is a manual blood pressure?

Blood pressure is the pressure exerted by circulating blood upon the walls of blood vessels. Usually refers to the arterial pressure in the systemic circulation.

Purpose of manual blood pressure

Blood pressure is important because the higher your blood pressure is, the higher your risk of health problems in the future.

If your blood pressure is high, it is putting extra strain on your arteries and on your heart. Over time, this strain can cause the arteries to become to become thicker and less flexible, or to become weaker.

Equipment Required

- A quality stethoscope
- An appropriately sized blood pressure cuff
- A blood pressure measurement instrument such as an aneroid or mercury column sphygmomanometer or an automated device with a manual inflate mode.

Procedure

Prepare the patient: Make sure the patient is relaxed by allowing 5 minutes to relax before the first reading. The patient should sit upright with their upper arm positioned so it is level with their heart and feet flat on the floor. Remove excess clothing that might interfere with the BP cuff or constrict blood flow in the arm. Be sure you and the patient refrain from talking during the reading.

Choose the proper BP cuff size: Most measurement errors occur by not taking the time to choose the proper cuff size. Wrap the cuff around the patient's arm and use the index line to determine if the patient's arm

circumference falls within the range area. Otherwise, choose the appropriate smaller or larger cuff.

Place the BP cuff on the patient's arm: Locate the brachial artery and position the BP cuff so that the artery marker points to the brachial artery. Wrap the BP cuff snugly around the arm.

Position the stethoscope: On the same arm that you placed the BP cuff, palpate the arm at the crease of the arm to locate the strongest pulse sounds and place the bell of the stethoscope over the brachial artery at this location.

Inflate the BP cuff: Begin pumping the cuff bulb as you listen to the pulse sounds. When the BP cuff has inflated enough to stop blood flow you should hear no sounds through the stethoscope. The gauge should read 30 to 40 mmHg above the person's normal BP reading. If this value is unknown you can inflate the cuff to 160 - 180 mmHg. (If pulse sounds are heard right away, inflate to a higher pressure.)

Slowly Deflate the BP cuff: Begin deflation. The pressure should fall at 2 - 3 mmHg per second, anything faster may likely result in an inaccurate measurement.

Listen for the Systolic Reading: The first occurrence of rhythmic sounds heard as blood begins to flow through the artery is the patient's systolic pressure. This may resemble a tapping noise at first.

Listen for the Diastolic Reading: Continue to listen as the BP cuff pressure drops and the sounds fade. Note the gauge reading when the rhythmic sounds stop. This will be the diastolic reading.

Double Check for Accuracy: To check the pressure again for accuracy wait about five minutes between readings. Typically, blood pressure is higher in the mornings and lower in the evenings. If the blood pressure reading is a concern or masked or white coat hypertension is suspected, a 24 hour blood pressure study may be required to assess the patient's overall blood pressure profile.