Blood presure

ا. د. سعد عبد الرحيم الجبوري

Blood pressure (BP) is the force exerted by circulating blood on the walls of blood vessels. It is

a vital sign used to assess cardiovascular health. Blood pressure is measured using two values:

. \*\*1-Systolic Pressure\*\*: The pressure in the arteries when the heart beats contracts)).

\*\*2- Diastolic Pressure\*\*: The pressure in the arteries when the heart rests between beats.

Blood pressure is expressed as systolic/diastol (e.g., 120/80 mmHg).

Methods of Measuring Blood Pressure:\*\*

\*\*Manual (Auscultatory) Method\*\*:

 - Uses a \*\*sphygmomanometer\*\* (blood pressure cuff) and a \*\*stethoscope\*\*.

 - Steps:

. Inflate the cuff to occlude the brachial artery.

 . Slowly deflate the cuff while listening for Korotkoff sounds with the stethoscope.

 The first sound (tapping) corresponds to systolic pressure.

 The disappearance of sounds corresponds to diastolic pressure.

. \*\*Automated (Oscillometric) Method\*\*:

 - Uses an electronic blood pressure monitor.

 - The device detects oscillations in the artery and calculates systolic and diastolic pressures automatically.

 \*\*(Ambulatory Blood Pressure Monitoring (ABPM)\*\*:

 - A portable device worn for 24 hours to measure BP at regular intervals.

 - Provides a more comprehensive picture of blood pressure over time.

. \*\*Home Blood Pressure Monitoring\*\*:

 - Patients use a home BP monitor to track their blood pressure regularly.

 - Helps in managing hypertension and assessing treatment effectiveness.--

 \*\*Proper Technique for Accurate Measurement\*\*

- Sit quietly for 5 minutes before measuring.

- Ensure the arm is supported at heart level.

- Use the correct cuff size (too small or too large can lead to inaccurate readings)).

- Avoid caffeine, smoking, or exercise 30 minutes before measurement.

- Take multiple readings and average them for accuracy.

 \*\*Normal Blood Pressure Ranges\*\*

- \*\*Normal\*\*: <120/80 mmHg

- \*\*Elevated\*\*: 120-129/<80 mmHg

- \*\*Hypertension (Stage 1)\*\*: 130-139/80-89 mmHg

- \*\*Hypertension (Stage 2)\*\*: ≥140/90 mmHg

- \*\*Hypertensive Crisis\*\*: >180/120 mmHg (requires immediate medical attention).

 \*\*Clinical Significance\*\*

- High blood pressure (hypertension) is a major risk factor for heart disease, stroke, and kidney failure.

- Low blood pressure (hypotension) may indicate underlying conditions like dehydration, heart problems, or severe infection.

Regular monitoring and proper management of blood pressure are essential for maintaining cardiovascular

 Health



![‪Measurement of blood pressure with a sphygmomanometer [9] | Download  Scientific Diagram‬‏]()



