



HyperTensia 2025



Basics of Blood Pressure

Blood pressure (BP) is the force exerted by circulating blood against the walls of blood vessels. It is essential for delivering oxygen and nutrients to organs and tissues.

1. Blood Pressure Readings

Blood pressure is measured in **millimeters of mercury (mmHg)** and recorded as:

Systolic BP / Diastolic BP

- **Systolic Pressure** (upper number): The pressure when the heart **contracts** and pumps blood.
- **Diastolic Pressure** (lower number): The pressure when the heart **relaxes** between beats.

Example: **120/80 mmHg** (Normal BP)

2. Blood Pressure Categories (According to American Heart Association - AHA)

Category	Systolic (mmHg)	Diastolic (mmHg)
Normal	<120	<80
Elevated	120-129	<80
Hypertension Stage 1	130-139	80-89
Hypertension Stage 2	≥140	≥90
Hypertensive Crisis	>180	>120

3. Factors Affecting Blood Pressure



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- **Heart Health:** A strong heart pumps blood more efficiently.
- **Blood Volume:** More blood in circulation increases pressure.
- **Blood Vessel Condition:** Narrowed or stiff arteries raise BP.
- **Hormones & Kidney Function:** The kidneys regulate blood pressure through fluid balance and hormones like **renin** and **aldosterone**.

4. How Blood Pressure is Measured

Using a **sphygmomanometer (BP monitor)**, blood pressure is usually checked on the upper arm. Readings can vary based on:

- **Posture:** Sitting vs. standing affects BP.
- **Time of Day:** Morning BP tends to be higher.
- **Activity Level:** Exercise temporarily raises BP, but lowers it long-term.

5. Importance of Maintaining Healthy BP

Uncontrolled high blood pressure can lead to:

- **Heart attack & stroke**
- **Kidney damage**
- **Vision loss**
- **Cognitive decline (dementia risk)**