



HOLISTIC WELLNESS EDUCATION

BLOOD PRESSURE

UNDERSTANDING BLOOD PRESSURE

Blood pressure is the force of blood against artery walls. It keeps blood moving so tissues receive oxygen and nutrients. The heart, blood vessels, kidneys, nervous system, and hormones work together to regulate it. Systolic pressure (the top number) measures pressure when the heart contracts. Diastolic pressure (the bottom number) measures pressure between beats as the heart relaxes. Readings use mm Hg, meaning millimeters of mercury – this is a pressure unit. Blood pressure differs from pulse, which counts the heartbeats per minute.

WHAT'S HAPPENING IN THE BODY?

Pressure depends largely on how much blood the heart pumps and how much resistance that blood encounters. Small arteries narrow or widen through muscle contraction, changing the resistance. Stiffer large arteries absorb each heartbeat less effectively, often raising systolic pressure. Pressure sensors in arteries signal the nervous system to adjust heart activity and vessel width. The kidneys regulate sodium and water, influencing blood volume. Hormones such as angiotensin II narrow vessels, while aldosterone increases sodium and water retention. These mechanisms normally adapt pressure to changing needs.

CAUSES & CONTRIBUTING FACTORS

Most hypertension is primary: it develops through interacting genetic, age-related, environmental, and behavioral influences rather than one identifiable cause. Artery stiffness, excess body fat, high sodium intake, heavy alcohol use, and disrupted sleep can contribute through effects on circulation, fluid balance, or nerve activity. Individual susceptibility varies. Secondary hypertension has an identifiable cause, such as kidney disease, sleep apnea, certain hormone disorders, or medication and substance effects. Temporary elevations during pain, stress, or activity do not necessarily indicate persistent hypertension.

SIGNS, SYMPTOMS, EFFECTS

Hypertension usually causes no noticeable symptoms. Over time, sustained pressure can damage artery walls and small vessels & increase the heart's workload, thereby increasing the risk of heart attack, heart failure, stroke, kidney disease, and vision loss.

NUMBERS & EVALUATION

Under U.S. AHA/ACC categories for nonpregnant adults, normal means systolic below 120 and diastolic below 80. Elevated means systolic 120–129 with diastolic below 80. Stage 1 hypertension means systolic 130–139 or diastolic 80–89. Stage 2 hypertension means systolic 140 or higher or diastolic 90 or higher. All values are mm Hg; the higher category applies. Diagnosis generally uses averaged, repeated measurements. Cuff size, positioning, and recent activity affect accuracy. Blood and urine tests assess kidney function and possible causes. Above 180 systolic or 120 diastolic with chest pain, breathlessness, weakness, or speech / vision changes requires emergency care – call 911

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