

## Hypertension from Early Detection to Effective Management

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### DESCRIPTION

Hypertension, often referred to as the "silent killer" is one of the most prevalent yet underestimated health conditions worldwide. Characterized by consistently elevated blood pressure, hypertension is a significant risk factor for cardiovascular diseases, including heart attacks and strokes. Despite its prevalence, many people remain unaware of their condition, as hypertension typically shows no noticeable symptoms until severe complications arise. Blood pressure is the force of blood pushing against the walls of arteries as the heart pumps it through the body. When this force is too high over an extended period, it is classified as hypertension. Blood pressure is measured in millimeters of mercury (mmHg) and is recorded with two numbers: Systolic pressure (the top number) and diastolic pressure (the bottom number). Systolic pressure measures the pressure in arteries when the heart beats, while diastolic pressure measures the pressure in arteries between beats, when the heart rests.

Normal blood pressure is below 120/80 mmHg. Elevated Blood Pressure is systolic between 120-129 and diastolic below 80 mmHg. In hypertension Stage 1 systolic between 130-139 or diastolic between 80-89 mmHg. In hypertension Stage 2 systolic 140 mmHg or higher or diastolic 90 mmHg or higher. Hypertensive crisis systolic over 180 mmHg or diastolic over 120 mmHg, requiring immediate medical attention.

The exact cause of hypertension is often unclear, and for most individuals, it develops gradually over time. However, several factors contribute to its onset, including both lifestyle and genetic components. One of the primary contributors to hypertension is an unhealthy lifestyle. Poor diet, particularly high in sodium and low in potassium, significantly raises blood pressure. Excessive alcohol consumption and tobacco use also contribute, as do lack of physical activity and chronic stress. A sedentary lifestyle increases the risk of obesity, which is another major contributor to high blood pressure. As people age, their blood vessels lose elasticity, leading to increased resistance to blood flow and elevated blood pressure. This explains why hypertension becomes more common with advancing age. Family history plays a crucial role in hypertension. Individuals with parents or siblings who have high blood pressure are more

likely to develop the condition themselves. Certain chronic conditions, such as diabetes, kidney disease, and sleep apnea are linked to hypertension. These conditions can cause damage to blood vessels or influence the regulatory mechanisms of blood pressure.

Hypertension is notoriously asymptomatic in most cases, which is why it is referred to as the "silent killer." Many individuals may live with high blood pressure for years without realizing it. However, when symptoms do occur, they are often severe and require immediate attention. These symptoms may include headaches, shortness of breath, nosebleeds, dizziness, chest pain, and vision problems. These are usually signs of dangerously high blood pressure or complications arising from untreated hypertension.

The long-term complications of untreated hypertension are serious and life-threatening. High blood pressure can damage blood vessels and organs over time, leading to various cardiovascular diseases. The heart, for instance, has to work harder to pump blood against higher pressure, which can result in heart failure, arrhythmias, or heart attacks. Damage to blood vessels can also cause strokes and aneurysms. Other organs, such as the kidneys and eyes, may also suffer damage, potentially leading to kidney failure and vision loss.

The best part is that hypertension is both preventable and manageable. Early detection and lifestyle modifications are key to controlling blood pressure and minimizing the risk of complications. One of the most effective ways to manage blood pressure is through dietary changes. The DASH (Dietary Approaches to Stop Hypertension) diet is specifically designed to help reduce blood pressure. This diet emphasizes fruits, vegetables, whole grains, lean proteins, and low-fat dairy while minimizing sodium, saturated fats, and sugars. Reducing sodium intake to less than 1,500 mg per day is particularly important for lowering blood pressure. Engaging in regular physical activity can help lower blood pressure and improve cardiovascular health. The American Heart Association recommends at least 150 minutes of moderate-intensity exercise per week. Activities such as brisk walking, cycling, and swimming can significantly reduce systolic and diastolic pressure over time. Maintaining a healthy weight is crucial in preventing and managing hypertension.

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Losing even a small amount of weight can help reduce blood pressure in individuals who are overweight or obese. Limiting alcohol intake and quitting smoking can have a positive impact on blood pressure. Excessive alcohol consumption raises blood pressure, while smoking damages blood vessels and accelerates the hardening of arteries. Chronic stress contributes to hypertension by triggering unhealthy habits like overeating, smoking, or drinking alcohol. Managing stress through relaxation techniques, mindfulness, and healthy coping strategies can help lower blood pressure. In some cases, lifestyle modifications alone may not be enough to manage hypertension. There are various medications available that can help lower blood pressure. These include diuretics, ACE

inhibitors, beta-blockers and calcium channel blockers. It's essential for individuals with hypertension to work closely with their healthcare providers to find the most effective treatment plan.

Hypertension remains a leading cause of morbidity and mortality worldwide. Its asymptomatic nature makes it particularly dangerous, as individuals may unknowingly live with high blood pressure for years. However, with regular monitoring, lifestyle changes, and appropriate medical intervention, hypertension can be effectively managed. Public awareness and education about the condition are vital to reducing its prevalence and preventing complications.