

The

Pulse



Hypertension

What is Hypertension?

Hypertension or high blood pressure is a condition in which your blood pressure reading is consistently 140/90 mmHg or higher. When blood passes through the walls of the blood vessels, it pushes against them and this force is known as blood pressure. Each time our heart beats, it forces blood through the vessels – pressure is highest when the heart contracts (known as the systolic pressure), and lowest when the heart is at rest (known as diastolic pressure). When your blood pressure is taken, the top value is the systolic pressure while the lower value is the diastolic pressure (e.g. 115/75 mmHg).

Pre-hypertension is a condition defined as a systolic pressure between 120-139 or a diastolic pressure between 80-89, and affects roughly 20% (45 million) of the US population. According to the Mayo Clinic, within four years of being diagnosed with pre-hypertension, 1 in 3 adults ages 35-64 and 1 in 2 age 65 and older progress to hypertension.

Risk Factors

According to the Mayo Clinic, there are many risk factors for developing hypertension. Risk factors that we have no control over include:

- Age (risk increases with age)
- Family History
- Race (African Americans are at higher risk than Caucasians)

Risk factors which we have the ability to control or bring under control include:

- Alcohol consumption (excessive)
- Diet high in sodium (salt)
- Lack of exercise

- Obesity
- Smoking
- Stress

Signs & Symptoms

According to the National Institutes of Health (NIH), chronic hypertension is often referred to as the silent killer as you can live with the condition for many years with no physical signs or symptoms until the condition has reached an advanced stage. If left untreated, hypertension can lead to:

- **Coronary artery disease (CAD)**
- **Heart failure**
- **Kidney failure**
- **Stroke**

Treatment

For many patients with hypertension, it is possible to bring their condition under control with a change in lifestyle under the guidance of their physician. This includes eating a healthy, low-fat and low sodium diet, physical exercise, losing excess weight, quitting smoking and limiting alcohol intake.

In addition to these lifestyle changes, your physician may also prescribe medication to bring your blood pressure under control. Some of the most common include:

- **Diuretics (water pills)** – these medications work by helping your kidneys to flush excess water and salt out of the body. The amount of fluid in your blood is reduced, and your blood pressure goes down.
- **Beta Blockers** – these medications work by reducing the workload on the heart, causing it to beat slower and with less force. Blood pressure is reduced as a result.

- **ACE inhibitors** – these medications work by blocking the hormone angiotensin II, which normally causes blood vessels to narrow. As a result, blood vessels become relaxed lowering blood pressure.

- **Calcium Channel Blockers** – these medications work by reducing the amount of calcium that enters the muscle cells of your heart and blood vessels. The blood vessels relax, resulting in lower blood pressure.

- **Renin Inhibitors** – these relatively new medications work by reducing the ability of the enzyme renin, produced by the kidneys, to start a series of chemical reactions that leads to high blood pressure.

For treatment to be most effective, it is essential to follow your physician's instructions closely. Your physician isn't trying to just treat a "number", but stop the further progression of a condition that can cause damage to many critical organs (heart and kidneys) and severely impact your quality of life.

Charlottesville Medical Research in conjunction with Dr. Ann Klecan will be conducting a research trial for people with mild to moderate hypertension (diagnosed or naïve) comparing a renin inhibitor to an ACE inhibitor. For more information about the study, contact us at (434) 817-2442 or visit our recently revamped website at www.cvillemedresearch.com.

65 million

Americans have hypertension (1 in 3)

50 percent

of Americans aged 60 and older have hypertension

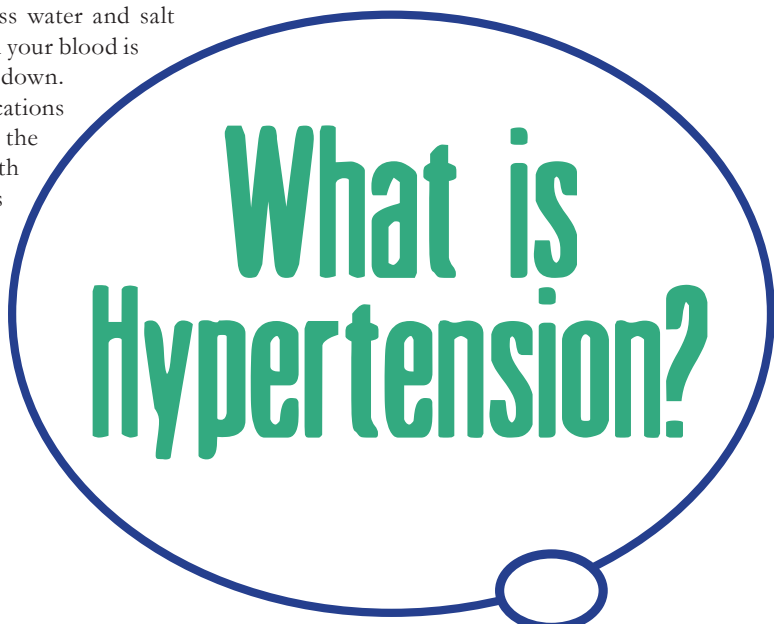
52,602

deaths in the US were attributable to hypertension in 2003

Source: National Institutes of Health (NIH)

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www.cvillemedresearch.com