

Hypertension

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What is it?

High blood pressure or *hypertension* occurs when blood moves through your arteries at a higher pressure than normal. Blood pressure is really two measurements. The first number is the *systolic* pressure which is the peak blood pressure when your heart is squeezing blood out. The second number is the *diastolic* pressure when your heart is filling with blood - relaxing between beats.

In general, for adults age 18-59, or those at any age with chronic kidney disease or diabetes, hypertension is 140/90 or higher. For those 60 and older, hypertension is 150/90 or higher. The systolic pressure or the diastolic pressure or both may be abnormally high. It is important to realize that blood pressure is normally variable during each day, especially in response to smoking, alcohol, stress, excitement or heavy exercise. Individual blood pressure measurements are not as important as the trend or average of several measurements.

What causes it?

In most cases, the cause of high blood pressure is unknown. This is referred to as *primary* or *essential* hypertension. However, there are some patients in whom it may be caused by kidney disease, hormonal imbalance, or some other cause. This is known as *secondary* hypertension and treating the underlying cause will usually cure the high blood pressure.

Who gets it?

It is estimated that more than 90 million Americans have hypertension, but 30% don't know it. Anyone can develop high blood pressure, even if they have had normal blood pressure most of their life. That's why it's so important to have your blood pressure measured regularly. Adults under age 40 of average risk should be screened every 3 years. People over 40, African Americans, those who are overweight, and people who previously had high normal blood pressure above 130/85 should have their blood pressure checked every year. Local pharmacies Superdrug, White Cross, and Safeway offer free blood pressure check stations. Local fire stations will check blood pressure for those within their district. Home monitors (upper arm) are available for \$40-70 at pharmacies and both Superdrug and White Cross have larger cuffs available for an extra \$20.

Risk factors for developing hypertension

- Family history of high blood pressure
- Male sex
- Age over 35
- African-American
- Overweight
- Smoking
- Excessive salt
- Excessive alcohol
- Inactive lifestyle
- Diabetes
- Birth control pills

What are the symptoms?

There are usually no symptoms of hypertension. If symptoms do occur, the most common are headaches, nosebleeds, dizziness or spots before the eyes. If blood pressure is much higher than normal (180/110 or higher) you may develop severe headache, blurry vision, chest pain or shortness of breath and should call your doctor right away.

Untreated high blood pressure can tick away silently for many years, damaging your body. That's why it has been referred to as the "silent killer", and why it is so important to have your blood pressure checked regularly. The earlier a person finds out that he or she has hypertension, the earlier steps can be taken to reduce it and help prevent serious damage.

Can it be treated?

Even though there is no cure for essential hypertension, there are several methods to help control it. Treatment begins with changes in your lifestyle to help lower blood pressure and reduce your risk of heart disease. These steps by themselves may work. If they don't work, you may also need to take medicine. Even if you must take medicine, making some changes in your lifestyle can help lower how much medicine you must take to control your blood pressure.

- **Stop Smoking** - The nicotine in cigarettes and other tobacco products makes your body release

adrenaline. Adrenaline causes blood vessel constriction and faster heart rate, which raises blood pressure. If you can quit smoking you will significantly lower your risk of heart disease, as well as lowering your blood pressure, no matter how long you smoked.

- **Cut Down on Salt** - The average person eats 4 teaspoons of salt a day, but the body only needs a pinch of salt. People who have hypertension should limit how much *sodium* (the main ingredient in salt) they eat each day to less than 2,400 mg. This can reduce blood pressure 2-8 points. Foods that are low in sodium include fruit juices, fresh vegetables, rice, and noodles.

Read labels carefully! Don't add salt to your food. You might try taking the salt shaker away from the dining table and seasoning your food with lemon juice, paprika or one of the premixed seasonings that are low in salt. Use salt-substitutes containing potassium only if your doctor recommends them.

- **Cut Down on Alcohol** - Alcohol can raise your blood pressure 2-4 mm. If you drink alcohol, limit it to no more than two drinks a day for men, one drink per day for women. One drink is a can of beer (12 ounces), a 4-ounces glass of wine or one jigger (1 ounce) of liquor.

- **Lose Weight** - Losing weight if you're overweight helps lower blood pressure in most people, about 1 point for every 2 pounds lost. A low-fat, low-cholesterol diet is also recommended like the DASH (www.nhlbi.nih.gov/health/health-topics/topics/dash/) diet or Mediterranean diet.

- **Exercise** - Regular exercise is a good way to lose weight and it can lower blood pressure 4-9 points. Although daily activity is most effective, even low to moderate exercise is beneficial. Your goal should be to exercise for 30 to 45 minutes at least 4 times every week. The best kind of exercise is *aerobic*. Aerobic exercise uses your large muscles. Walking briskly, swimming, jogging, and cross-country skiing are examples of aerobic exercise.

- **Reduce Stress** - Stress affects blood pressure. To help combat the effect of stress, try relaxation techniques like meditation or biofeedback. Take time every day to relax and do things that you enjoy.

- **Medication** - Many different types of medicines, called *antihypertensives*, can be used to treat high blood pressure. Within each group, there are many different brands. The goal of treatment is to reduce your blood pressure to normal levels with medicine that's easy to take and that doesn't have side effects.

If your blood pressure can only be controlled with medicine, you'll probably, but not always, need to take the medicine for the rest of your life. Most patients require 2 or more medicines to achieve goal blood pressure. It is important to take the medicine even though you feel well. Don't stop taking the medicine without talking with your doctor.

Types of high blood pressure medicine

- **Alpha blockers** - These work by helping your blood vessels dilate open.
- **Angiotensin-converting enzyme (ACE) inhibitors** - These prevent your blood vessels from constricting (getting smaller) by blocking conversion of angiotensin I to angiotensin II.
- **Angiotensin II blockers** - These work by blocking the effects of angiotensin II.
- **Beta blockers** - These medications block the effects of adrenaline in the body.
- **Calcium-channel blockers** - These help prevent your blood vessels from constricting by blocking calcium pumps that control pressure.
- **Centrally acting agents** - These target the brain's control of blood pressure.
- **Diuretics** - These drugs help your body get rid of extra sodium and water so that your blood vessels don't have to hold so much fluid.
- **Renin inhibitors** - These block renin, a kidney hormone, from forming angiotensin I which results in reduction of blood vessel constriction.

Different medications have different potential side effects. They can include feeling dizzy when you stand up, dry cough, drowsiness, ankle swelling, headaches, bloating, constipation and depression. Talk to your family doctor about any side effects. Let your doctor find the best medicine for you.

Are there complications?

Hypertension damages your blood vessels. Untreated high blood pressure raises your risk of stroke, kidney failure, blindness, heart disease and heart attack. As blood pressure is lowered, so are the risks of developing complications.

In summary

- Many people with hypertension don't know it. Have your blood pressure checked regularly.
- For more information, browse FamilyDoctor.org under diseases or contact the American Heart Association high blood pressure center, hearthub.org/hc-high-blood-pressure.htm