

National Kidney
Foundation™

High Blood Pressure and Your Kidneys



About 65 million Americans have high blood pressure, but as many as one third—or three in 10—don't even know it. There are usually no signs or symptoms that your blood pressure is too high. That is why it is important to have your blood pressure checked on a regular basis, especially if you have a family history of the disease or are at risk for other reasons. (See “What causes high blood pressure?” on page 3.)

Do you know these facts about high blood pressure?

- It is called a “silent killer” because you can have it for years without knowing it.
- It is a leading cause of heart attacks, strokes and chronic kidney disease.
- Controlling high blood pressure reduces the risk of these complications.
- High blood pressure can often be controlled by losing excess weight, exercising more, not smoking and cutting down on salt.

What is blood pressure?

Blood pressure is measured with a blood pressure cuff that is wrapped around your upper arm. The person taking your blood pressure (you can learn to do it yourself) pumps air into the cuff and then slowly lets it out while listening for the sound of your pulse. The top number in your blood pressure reading is called the *systolic* pressure and the bottom number is called the *diastolic* pressure. Your reading might be 120/80, which is said as “120 over 80.” The top number is the pressure when your heart beats. The bottom number is the pressure when your heart rests between beats.

What is high blood pressure?

High blood pressure (also known as hypertension) occurs when the force of your blood against your artery walls increases enough to cause damage. A single high reading may not mean that you have high blood pressure. A diagnosis of high blood pressure should always be confirmed on follow-up visits to your doctor or clinic. Normal blood pressure is below 120/80. For most adults, high blood pressure is defined by a systolic pressure (top number) of 140 or higher and/or a diastolic pressure (bottom number) of 90 or higher. People who have systolic blood pressure of 120–139 or diastolic blood pressure of 80–89 may have an increased chance of developing high blood pressure and should speak to their doctors about lifestyle changes that can help them prevent high blood pressure. For people who have diabetes or chronic kidney disease, blood pressure of 130/80 or more is considered high.

What causes high blood pressure?

The exact causes of high blood pressure are not known in most cases. However, your chances of developing high blood pressure may be increased if you:

- have a family history of high blood pressure
- have chronic kidney disease
- are overweight
- are African American

- use a lot of table salt, eat a lot of packaged and fast foods
- use birth control pills
- have diabetes
- use illegal drugs
- drink large amounts of alcohol (beer, wine or liquor).

Men are more likely than women to develop high blood pressure. In addition, the chances of developing high blood pressure increase with age; in men over 30 and in women over 40.

How can high blood pressure hurt my body?

Untreated high blood pressure can damage your heart, brain, eyes and kidneys. This damage can lead to heart attacks, strokes and kidney failure. If you also have diabetes, your chance of developing these other



conditions is even greater. For this reason, it is important to keep your blood sugar under control and follow your doctor's advice carefully. (See "How is high blood pressure treated?" on page 7.)

How are African Americans affected by high blood pressure?

High blood pressure is a major health problem among African Americans. Not only do African Americans have a higher rate of high blood pressure than white Americans, but they tend to develop high blood pressure at an earlier age and more severely. As a result, African Americans have a higher rate of strokes, heart disease and kidney failure. African Americans should have regular blood pressure checkups and, if high blood pressure is detected, they should follow their doctor's advice carefully. (For more information about African Americans and high blood pressure, see the National Kidney Foundation's brochure *Winning the Fight Against Silent Killers: A Guide for African Americans*.)

How often should I have my blood pressure checked?

Your blood pressure should be checked at least once a year and any time you see your doctor. If it is too high, you should have it checked as often as your doctor advises. You may need

to start taking medication if your pressure remains high. Your doctor may also ask you to check your blood pressure at home on a regular basis.

How are high blood pressure and kidney disease related?

Some types of kidney disease may cause high blood pressure. More often it is high blood pressure that causes kidney disease. In addition, high blood pressure speeds up the loss of kidney function in people with kidney disease. Your doctor can tell how much kidney damage you've had by measuring the amount of protein in your urine. In addition, your doctor can tell how well your kidneys are working by estimating your glomerular filtration rate from the results of a simple blood test.

Because people with high blood pressure are at increased risk for developing chronic kidney disease, they should be tested for kidney disease. These tests should include:

- a test for protein in the urine. Protein is an important building block in your body. When your kidneys are working properly, they help keep protein in the body. However, when the kidneys are damaged, protein leaks into the urine. Two positive tests for protein over several weeks is called persistent protein in the urine. This is an early sign of chronic kidney disease.
- a blood test for creatinine, a waste product from muscle activity. The results of this test can be used to estimate your glomeru-

lar filtration rate (GFR), which tells your doctor how much kidney function you have. A low GFR may mean your kidneys are not working well enough to remove wastes from your body. If you have high blood pressure, you should keep track of your GFR.

What are the symptoms of high blood pressure?

You will probably have no symptoms of high blood pressure. Most people with high blood pressure do not feel ill. That is why checking the urine for protein and estimating the GFR are so important. They show the effects of high blood pressure long before you have any symptoms or complications. Occasionally, people with high blood pressure may have repeated, persistent headaches. Some patients with severe high blood pressure may experience a change in their vision.

How is high blood pressure treated?

Although high blood pressure cannot be cured, it can be controlled. For most people, the target blood pressure is below 140/90. If you have diabetes or chronic kidney disease, your target blood pressure is less than 130/80. If you have high blood pressure, your doctor may ask you to make some of the following lifestyle changes:

- Lose excess weight.
- Exercise more.
- Cut down on salt.

- Cut back on alcohol.
- Increase the amount of calcium in your diet by increasing your intake of low-fat dairy products, such as low-fat milk and yogurt.
- Increase the amount of potassium in your diet by increasing your intake of nuts, raisins, certain fresh fruits and vegetables and dried fruits. If you have chronic kidney disease, speak to your doctor before making any changes to your potassium intake.
- Stop smoking, if you are a smoker. Smoking and high blood pressure together increase your risk of complications such as heart attacks and strokes.

It is important to make only those lifestyle changes recommended by your doctor. If these steps do not control your blood pressure well enough, your doctor may prescribe medications for you. Sometimes, more than one type of high blood pressure medication may be needed to help you reach your target blood pressure. If you also have diabetes or chronic kidney disease, your doctor may prescribe high blood pressure medications called ACE (angiotensin converting enzyme) inhibitors or ARBs (angiotensin receptor blockers). Studies have shown that these medications may help to protect your kidney function.



What should I do if my medication causes side effects?

Sometimes, high blood pressure medications may cause problems such as:

- dizziness
- tiredness
- headaches
- erectile dysfunction.

If you have any side effects, you should report them to your doctor. Your doctor may be able to change your medication's dosage or switch you to another medication that works better for you. Never change the way that you take your medication without first asking your doctor.

What can I do about high blood pressure?

Make sure you go to your doctor or clinic regularly to have your blood pressure checked.

Early detection and long-term treatment are the keys to a longer and healthier life. If you have high blood pressure, you will need to work with your doctor to keep it under control.

Follow your doctor's advice about any lifestyle changes you may need to make. If you have questions about your diet, your doctor or clinic can refer you to a registered dietitian who will help you learn more about the right foods to eat. You should take your medications faithfully, even when you are feeling fine, because high blood pressure may not cause any symptoms at all. Remember to take your medication exactly as ordered by your doctor. If you have trouble remembering when to take your medication, try using a pill box that has small compartments labeled with the days of the week and the time of day. Watches with alarms or beepers may also be helpful. Ask your family to help you remember when to take your medication.

How can my family help me win the fight against high blood pressure?

Getting your family involved in your treatment for high blood pressure is a good idea. High blood pressure runs in families, so some of

your family members may already have it, or be at increased risk for developing it. You should encourage your family to learn all they can about high blood pressure and to have their blood pressure checked at least once a year. You should ask them to join you in adopting a healthier lifestyle. It is often much easier (and can even be fun) to eat healthy, exercise and avoid or stop smoking if you do these things as a family.



What if I have more questions?

Speak to your doctor about any other questions you might have. You may also be interested in the following publications from the National Kidney Foundation:

Your Kidneys: Master Chemists of the Body

Are You at Increased Risk for Chronic Kidney Disease? (Also available in Spanish)

About Chronic Kidney Disease: A Guide for Patients and Their Families (Also available in Spanish)

What You Need to Know About Urinalysis (Also available in Spanish)

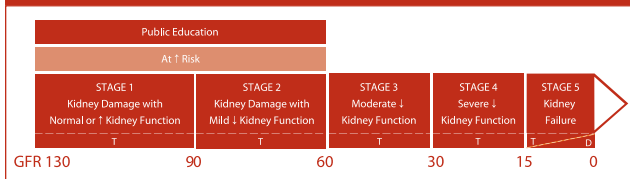
Diabetes and Chronic Kidney Disease. (Also available in Spanish)

Things to remember...

- High blood pressure is a leading cause of heart attacks, strokes and chronic kidney disease.
- Controlling high blood pressure reduces the chances of having these complications.
- Have your blood pressure checked at least once a year. Do not wait until your internal organs are damaged.
- Spread the word about high blood pressure to your family and friends and encourage them to have their blood pressure checked too.
- If you have high blood pressure, follow your doctor's orders about taking medications and making lifestyle changes.

More than 20 million Americans—one in nine adults—have chronic kidney disease, and most don't even know it. More than 20 million others are at increased risk. The National Kidney Foundation, a major voluntary health organization, seeks to prevent kidney and urinary tract diseases, improve the health and well-being of individuals and families affected by these diseases, and increase the availability of all organs for transplantation. Through its 47 affiliates nationwide, the foundation conducts programs in research, professional education, patient and community services, public education and organ donation. The work of the National Kidney Foundation is funded by public donations.

Education Along the Continuum of Care



This arrow illustrates the potential scope of content for KLS resources. Lightshaded boxes indicate the scope of content targeted in this resource.

GFR = Glomerular Filtration Rate; T = Kidney Transplant; D = Dialysis

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