

HIGH BLOOD PRESSURE AND YOUR KIDNEYS



National
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About the Information in this Booklet

Did you know that the National Kidney (NKF) Foundation offers guidelines and commentaries that help your healthcare provider make decisions about your medical treatment? The information in this booklet is based on those recommended guidelines.

Stages of Kidney Disease

There are five stages of kidney disease. They are shown in the table below. Your healthcare provider determines your stage of kidney disease, based on the presence of kidney damage and your glomerular filtration rate (GFR), which is a measure of your kidney function. Your treatment is based on your stage of kidney disease. Speak to your healthcare provider if you have any questions about your stage of kidney disease or your treatment.

STAGES OF KIDNEY DISEASE		
Stage	Description	Glomerular Filtration Rate (GFR)*
1	Kidney damage (e.g., protein in the urine) with normal GFR	90 or above
2	Kidney damage with mild decrease in GFR	60 to 89
3	Moderate decrease in GFR	30 to 59
4	Severe reduction in GFR	15 to 29
5	Kidney failure	Less than 15

*Your GFR number tells your healthcare provider how much kidney function you have. As chronic kidney disease progresses, your GFR number decreases.

About 73 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 6.)

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. For example, a 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 healthcare provider 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 are said to have pre-hypertension. They should speak to their healthcare providers about lifestyle changes that can help them prevent high blood pressure. If you have diabetes, chronic kidney disease, a kidney transplant, or if you are older than 65, ask your healthcare provider what your target blood pressure should be.



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 Black 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)

Up until age 45, men are more likely to have high blood pressure than women. Between ages 45 and 54, the risk is similar. After age 54, more women than men have high blood pressure.

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 healthcare provider's advice carefully. (See "How is high blood pressure treated?" on page 10.)

How are Black Americans affected by high blood pressure?

High blood pressure is a major health problem among Black Americans. Not only do Black Americans have a greater rate of high blood pressure than White Americans, but they also tend to develop high blood pressure at an earlier age and more severely. As a result, Black Americans have a higher rate of strokes, heart disease, and kidney failure. Black Americans should have regular blood pressure checkups and, if high blood pressure is detected, they should follow their healthcare provider's advice carefully. (For more information about Black Americans and high blood pressure, see the National

Kidney Foundation's brochure *Winning the Fight Against Silent Killers: A Guide for Black 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 healthcare provider. If it is too high, you should have it checked as often as your healthcare provider advises. You may need to start taking medication if your pressure remains high. Your healthcare provider 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 healthcare provider can tell how much kidney damage you've had by measuring the amount of protein in your urine. In addition, your healthcare provider can tell how well your kidneys are working by estimating your glomerular filtration rate (GFR) 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 that keeps your body strong and healthy. When your kidneys are working properly, they keep protein inside your 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**, which is a waste product from muscle activity. The results of this test can be used to estimate your glomerular filtration rate (GFR), which tells your healthcare provider how well your kidneys are working. A low GFR number 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 problems. Sometimes, people with high blood pressure may have repeated, headaches that last a long time. Some patients with severe high blood pressure may experience a change in their eyesight.

How is high blood pressure treated?

Although high blood pressure cannot be cured, it can be controlled. Ask your healthcare provider what your blood pressure target should be. If you have high blood pressure, your healthcare provider may ask you to make some of the following lifestyle changes:

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

- Stop smoking, if you are a smoker. Smoking and high blood pressure together increase your risk of problems, such as heart attacks and strokes.

It is important to make only those lifestyle changes recommended by your healthcare provider. If these steps do not control your blood pressure well enough, your healthcare provider 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 healthcare provider



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 healthcare provider. Your healthcare provider may be able to change your dosage or switch you to another medication that works better. Never change the way that you take your medication without first asking your healthcare provider.

What can I do about high blood pressure?

Make sure you go to your healthcare provider 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 healthcare provider to keep it under control. Follow your healthcare provider's advice about any lifestyle changes you may need to make. If you have questions about your diet, your provider 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 prescribed. 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 getting it. You should urge 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.

Where can I get more information?

If you have questions, speak with your healthcare team. They know you and can answer questions about you.

If you want to read more about kidney disease, the National Kidney Foundation has many other publications that cover many subjects, such as:

- CKD risk factors, like hypertension and diabetes
- Complications of chronic kidney disease, such as cardiovascular disease, anemia or bone problems

- Nutrition for CKD patients, with information about carbohydrates, protein, sodium, phosphorus, and potassium
- Treating kidney disease early
- Treating kidney failure with transplantation or dialysis

(All publications are free, but there is a limit of five per person.)

There are two ways to learn about the many free resources available to you:

- Call the National Kidney Foundation Cares Patient Help Line toll-free at **855.NKF.CARES (855.653.2273)** or email **nkfcares@kidney.org**
- Learn more at **www.kidney.org**

Becoming an educated patient is very important to being healthy!

Key points 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 you suffer long-term damage to your body.
- 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 healthcare provider's orders about taking medications and making lifestyle changes.

The **National Kidney Foundation** is the leading organization in the U.S. dedicated to the awareness, prevention, and treatment of kidney disease for hundreds of thousands of healthcare professionals, millions of patients and their families, and tens of millions of Americans at risk.

Help fight kidney disease.

Learn more at **www.kidney.org**



National
Kidney
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30 East 33rd Street
New York, NY 10016
800.622.9010



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