



How diabetes affects your body

Learn what to do to help reduce the risk of the serious health problems associated with diabetes

The following information will help you learn about diabetes and how it can affect parts of your body.



Diabetes and your heart

If you have diabetes, you are more likely to have a stroke or heart disease. In fact, 2 out of 3 people age 65 or older with diabetes die from heart disease, and 1 out of 6 die from stroke.

For people with diabetes, heart disease is the leading cause of death. Major causes of heart disease are high blood sugar, high blood pressure, and high cholesterol, which are common in people with diabetes.

How to help protect your heart if you have diabetes

- Control your blood sugar, blood pressure, and cholesterol.
- Be physically active for at least 30 minutes on most days of the week.
- Reach and stay at a healthy weight.
- Eat foods high in fiber and low in fat.
- Stop smoking.
- Take medications as directed by your health care provider.

What is a stroke?

A stroke occurs when the blood supply to part of your brain is stopped and brain tissue is damaged.

A stroke can cause problems such as these:

- Part of the body cannot move (like an arm and a leg). This is called “paralysis”
- Trouble thinking or speaking
- Emotional problems

How can you help lower your risk of having a stroke?

You can help lower your risk by keeping your blood sugar, blood pressure, and cholesterol in control. You can do this with healthy eating, physical activity, and, if needed, medicine. Quitting smoking is important, too. Every step helps. The closer your numbers are to your goals, the better.

Ask your health care provider about ways you can help reduce your risk for stroke.

What are the warning signs of a stroke?

Typical warning signs of a stroke develop suddenly and can include

- Weakness or numbness on 1 side of your body
- Sudden confusion or trouble understanding
- Trouble talking
- Dizziness, loss of balance, or trouble walking
- Trouble seeing out of 1 or both eyes
- Double vision
- Severe headache

If you have warning signs of a stroke, call 911 right away. Getting treatment right away can help prevent permanent damage to your brain.





Diabetes and your kidneys

Diabetes can increase your risk for kidney disease. Your risk is much higher if you are Hispanic/Latino, African-American, or Native American.

You may not know if you have kidney disease. In the early stages, kidney disease causes no symptoms.

Why is kidney disease dangerous?

If kidney disease is not treated, your kidneys may stop working. This is called kidney failure, or end-stage renal disease.

Having kidney disease also increases the chance of getting heart disease.

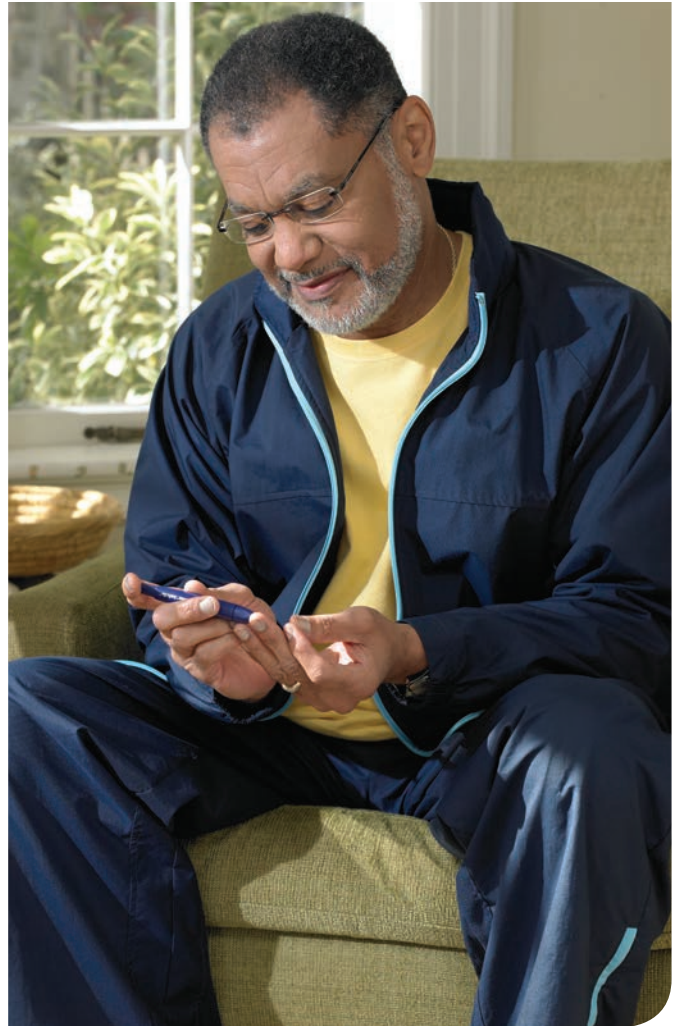
There is no cure for kidney disease but there are things you can do to help prevent it. The earlier you find and treat it, the better your chances are of keeping your kidneys healthy. Visit your health care provider regularly to help manage your diabetes.

Things you can do to help prevent kidney disease

- Visit your health care provider regularly. Get screened for kidney disease to catch problems early.
- Follow your health care provider's advice. Sometimes exercise, changes to your diet, and medicine can help keep your kidneys healthy.
- Ask your health care provider about ways to
 - Keep your blood sugar under control.
 - Keep your blood pressure at goal. High blood pressure can lead to kidney disease or make it worse.
 - Lose weight, if you are overweight.
 - Avoid drinking alcohol and smoking.
 - Be active every day. Talk to your health care provider before starting any physical activity.

The following annual tests are recommended by the American Diabetes Association:

- A urine test called urinary albumin checks to see if albumin (al-'byü-mən), a certain type of protein, is present.
- A blood test called creatinine, which can be used to estimate the glomerular filtration rate (GFR).



Ask your health care provider to test you for kidney disease and to explain the results.

Diabetes and your eyes

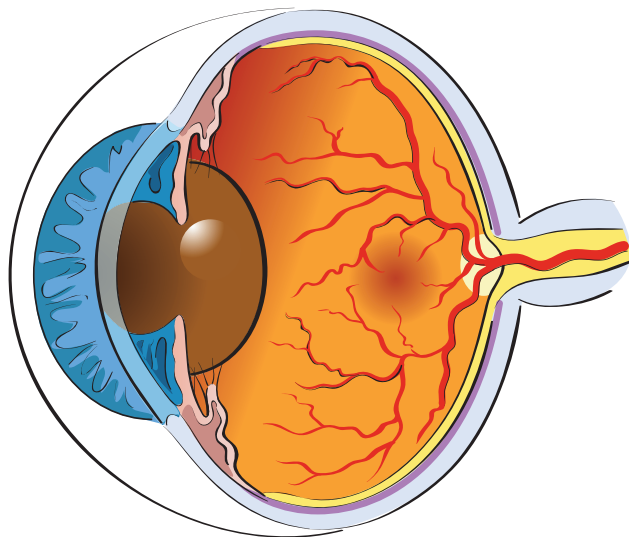
Diabetes is the leading cause of new cases of blindness in people between the ages of 20 and 74.

Diabetes may cause these common eye problems

- Diabetic retinopathy. This is damage to the retina. The retina is a thin layer of tissue covering the back of the eye.
- Cataracts. These make your vision foggy or cloudy.
- Glaucoma. This is high pressure in your eye. It can also damage your vision.

Retinopathy is the most common cause of vision loss for people with diabetes.

You can have retinopathy and not know it. Your vision may seem fine at first. By the time your vision changes, your eyes could already be damaged. That's why it's important to get yearly eye checkups.



Ask your health care provider if you need a dilated eye exam.

How to help protect your eyes from problems

1. Keep your blood sugar under control.
2. Keep your blood pressure under control.
3. Have a dilated eye exam every year.
4. Stop smoking.

If you control your blood sugar and blood pressure, you may help prevent or delay eye problems.

Diabetes and gum disease

Diabetes can worsen gum disease. If you have gum disease, it can cause blood sugar to rise. Serious gum disease can damage your gums and the bone around your teeth.

As gum disease gets worse, your gums move back, showing more of your teeth. In time, pockets form in your gums and become infected. The infection can spread to the bone around your teeth. This can cause your teeth to shift or loosen. They may even fall out or need to be removed.

Gum diseases include

- Gingivitis (jin-ja-VI-tis). This is an early form of gum disease.
- Periodontitis (per-E-O-dahn-ti-tis). This is severe gum disease.

The best thing you can do to protect your mouth is to control your blood sugar level. You also need to take good care of your teeth and gums.

- Brush at least twice a day and floss at least once a day.
- Have your teeth cleaned at the dentist office at least 2 times a year.
- If you smoke, quit.
- Keep your blood sugar under control.



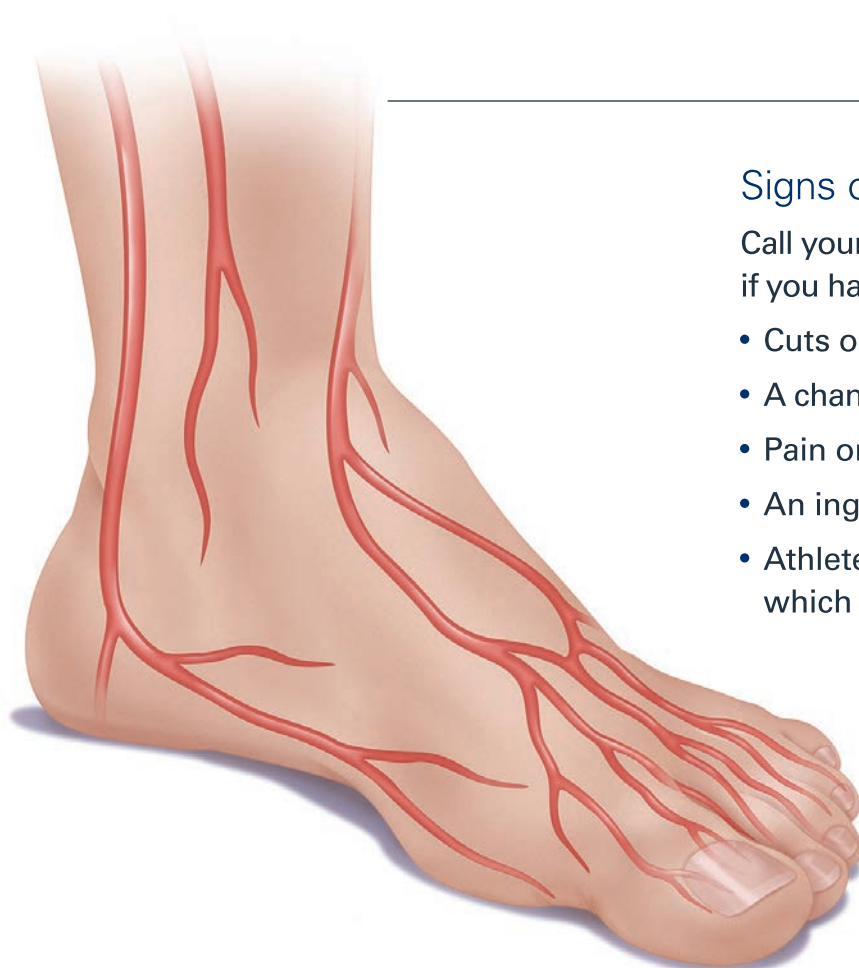
Tell your dentist that
you have diabetes

Diabetes and your feet

If you have diabetes, it is very important to take care of your feet. In severe cases, diabetes can lead to the loss of a foot or leg. This is why it is best to try to prevent problems before they happen.

Diabetes can cause 2 different problems in your feet

1. **Nerve damage.** The nerves in your legs and feet can be damaged by high blood sugar. This may affect your ability to feel pain, heat, or cold in your legs and feet. You may also have odd feelings or numbness. This nerve damage can lead to a sore or an infection, which may get worse because you do not know it is there.
2. **Poor blood flow.** This means that too little blood reaches your legs and feet. This makes it hard for a sore or an infection to heal.



Signs of nerve damage in your feet

Call your health care provider right away if you have any of these:

- Cuts or breaks in the skin of your foot
- A change in the color or shape of your foot
- Pain or numbness
- An ingrown toenail
- Athlete's foot, blisters, or plantar warts, which can become infected

How to help protect your feet from problems

Things you can do to protect your feet:

1. Keep your feet clean and protect them from injury.
 - Wash your feet every day, and dry them carefully, especially between the toes.
 - To keep the skin soft and smooth, rub a thin coat of lotion on your feet every day, but not between your toes.
 - Do not go barefoot, and always wear clean socks and comfortable shoes that protect your feet.
 - Do not trim any corns or calluses. Have your health care provider trim any corns or calluses on your feet.
 - Avoid getting your feet really hot or really cold; don't use heating pads, hot water bottles, or electric blankets.
2. Check the skin on your feet every day.
 - Check your feet every day for scratches, cracks, cuts, blisters, sores, and infection. Use a mirror if you have any trouble seeing the soles of your feet.
3. Keep the blood flowing to your legs and feet.
 - Do not sit with 1 leg crossed over the other.
 - When able, prop your feet up while sitting.
 - Wiggle your toes and flex your ankles by moving your feet for about 5 minutes, 2 or 3 times every day.
 - Do not smoke.
4. Other things you can do to help prevent foot problems or help keep them from getting worse are:
 - Control your blood sugar.
 - Be more active.

Ask your health care provider to look at your feet at least once a year.

Diabetes and your nervous system

Diabetes is a leading cause of nerve damage. Nerve damage is also called neuropathy. It can cause tingling, pain, or numbness in your feet and hands.

Nerve damage can also cause problems in other parts of your body.

You might have nerve damage if you

- Have numbness, tingling, or pain in the toes, feet, legs, hands, arms, or fingers
- Often feel like you have a full stomach or throw up a lot
- Have trouble going to the bathroom
- Feel dizzy or weak
- Sweat more or less than usual
- Lose the desire or ability to have sex

Why you should care about nerve damage

Nerve damage can lead to serious health problems such as

- Tingling, pain, or numbness in your feet, legs, hands, and arms
- Damage to your heart, sex organs, and digestive system
- Infection that leads to losing a foot or a leg:
 - Diabetes can cause damage to your nerves. If your nerves are damaged, they cannot tell your brain that something is wrong.
 - Body parts can become numb from nerve damage. For example, you could get a blister or a sore on your foot and not know it. That blister or sore could become infected. If it is not treated, the infection could go through your skin and into your bone. To stop the infection from spreading to the rest of your body, a surgeon may have to remove the infected area. This is called an amputation.
 - Most foot or leg amputations may be prevented. That is why it is important to take care of your feet.

Ways to help protect yourself against nerve damage

You can do many things to help lower your chance of getting nerve damage. If you already have nerve damage, you can help stop it from getting worse.

Do these steps to keep your body working well:

- Talk to your health care provider who can diagnose neuropathy based on your symptoms and physical exam.
 - Discuss any problems, including numbness, tingling, pain, problems with digestion, trouble going to the bathroom, or problems having sex.
- Keep your blood sugar, blood pressure, and cholesterol in control.
 - Check your blood sugar regularly.
 - Have your health care provider test your A1C at least 2 times a year.
 - Eat healthy and stay active.
 - Take your prescribed medicines.
 - Control your blood sugar, blood pressure, and cholesterol.
- Have healthy habits
 - If you are overweight, lose weight with diet and exercise.
 - Stop smoking.
 - Limit your alcohol use.

Keeping your blood sugar levels in your target range can help prevent or delay nerve damage and other problems.

Talk to your health care provider about any numbness, tingling, or pain you may have.

What are the regular checkups and tests needed when you have diabetes?

Specific blood tests and checkups are important to have on a regular basis to learn about your diabetes health. The American Diabetes Association recommends the following standards. Your health care provider may recommend different goals and frequency of tests and visits.

Test/Exam	How Often It Is Done	Test Date	Results
A1C	2 to 4 times a year		
Blood pressure	Blood pressure should be checked at every visit with your health care provider		
Cholesterol and triglycerides	Cholesterol levels should be checked when you are diagnosed with diabetes and every 5 years (or more often, if needed).		
Foot exam	Once a year		
Kidney urine test: Urine albumin	Urine albumin should be checked at least once a year		
Kidney blood test: Creatinine (which is used to estimate GFR [glomerular filtration rate])	Creatinine should be checked at least once a year		
Dilated eye exam	Most people with diabetes should have a dilated eye exam once a year		
Dental exam and cleaning	Most people with diabetes should see a dentist 2 times a year		