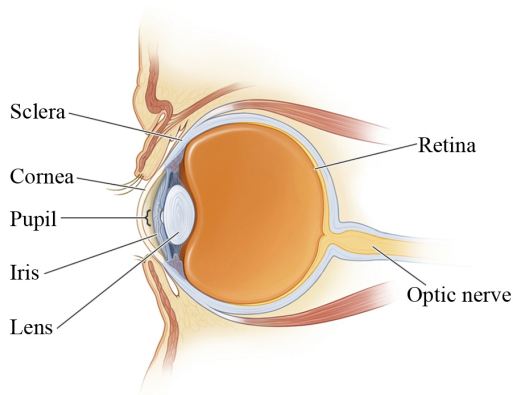


# Diabetes: Diabetic Retinopathy



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Diabetes can harm blood vessels in the retina, the part of the eye that sends images to your brain. This is called diabetic retinopathy, and it can lead to poor vision and even blindness. You can help prevent or slow diabetic retinopathy by keeping your blood sugar and blood pressure levels in a normal range.

## What causes diabetic retinopathy?

High blood sugar harms tiny blood vessels in the retina. The vessels become weak, which allows protein and other substances to come out of them. Small bulges form in the vessels, and these bulges can break open. New, fragile blood vessels grow on the surface of the retina. These abnormal blood vessels may bleed into the eye, clouding vision and forming scars. The longer you have diabetes, the more likely you will later get diabetic retinopathy.

## What are the symptoms?

Over time, diabetic retinopathy can cause swelling in the retina, called macular edema. It can also cause another problem called a detached retina. Later, retinopathy can lead to vision loss or blindness. You may not notice

symptoms until your eye is already very damaged. But your doctor may be able to detect symptoms early and start treatment to prevent vision loss.

## How can you prevent or slow diabetic retinopathy?

- Have regular, thorough eye exams. This includes a dilated retinal exam, which allows your doctor to see inside your eye. These exams should be done at least once a year. If you are at low risk for vision problems, your doctor may consider follow-up exams every 2 years.
- Tell your doctor about any vision changes right away.
- Follow a healthy eating plan. Eat different kinds of foods, and eat the right amount of carbohydrates with each meal. A dietitian can help you plan meals.
- Aim for at least 2½ hours of moderate exercise a week. One way to do this is to be active 30 minutes a day, at least 5 days a week. Find an activity you like. This will also help you keep your cholesterol and blood pressure low. Talk to your doctor about what types of exercise are safe for you.
- Take your medicine exactly as prescribed. Call your doctor if you think you are having a problem with your medicine.
- Check your blood sugar as many times a day as your doctor says. Keep your blood sugar levels within your target range.
- Eat a low-fat and low-salt diet to keep your cholesterol and blood pressure at normal levels. You may also need to take medicines to reach your goals.
- Do not smoke. Smoking raises your risk of many health problems, including diabetic retinopathy. If you need help quitting, talk to your doctor about stop-smoking

programs and medicines. These boost your chances of quitting for good.

**Follow-up care is a key part of treatment.**

Go to all scheduled visits with your doctor. Watch for signs of problems, and call your doctor if you have any questions.

**How is this treated?**

There is no cure for diabetic retinopathy, but treatment may help prevent vision loss.

Because you may have no symptoms until you have serious eye damage, it is important to catch it early. The earlier retinopathy is detected, the easier it is to treat and the more likely it is that treatment will help you maintain your vision.

**Laser treatment**, or photocoagulation, can prevent vision loss if it is done before the retina is too damaged. It works by removing less important cells in the retina, reducing the need for blood and blood vessels in your eye. The new, weak vessels are no longer formed. There is a limit to the number of laser treatments you can have. Laser treatment to prevent vision loss works better than laser treatment to treat vision loss.

**Surgery** to remove the vitreous gel, or eye fluid, is called a vitrectomy. Removal of the eye fluid is done when there is bleeding or your retina becomes detached. It may help your vision if the retina is not too damaged. Surgery may also be used to treat severe scars.

**Freezing**, or cryotherapy, may help shrink blood vessels or fix a detached retina. It may be used before laser treatment to clear blood from the fluid in your eye.



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