

# Why are Eye Exams Important in Diabetes?

**Diabetes is a common disease in the United States, and diabetic eye disease is the most common cause of blindness in the US. Regular eye examinations are important in diabetes because diabetic eye disease and the vision loss caused by it are completely preventable.**

In diabetes, high sugar levels in the blood damage blood vessels throughout the entire body. Damage to blood vessels in the kidneys can cause kidney failure requiring dialysis. Damage to blood vessels in nerves can cause neuropathy. Your eye also has many blood vessels in it, and diabetes can also damage those blood vessels. In particular, high blood glucose levels cause damage to the blood vessels in the retina of the eye. The retina lines the back of your eye like wallpaper, and is like the film in a camera—it detects the light entering your eye and turns it into pictures for your brain to see. When the retina's blood vessels are damaged, the retina stops working properly, and sight can be lost.

After being exposed to high sugar levels for a long time, the blood vessels in the retina develop some weak spots. These weak spots often poosh out like bubbles along the blood vessels, and these are called microaneurysms. Sometimes the microaneurysms rupture, and blood spills into the retina to form small dot hemorrhages. Your retina will eventually clear the blood away, but some debris is often left behind—these clumps of debris are called hard exudates. Altogether, these changes—microaneurysms, dot hemorrhages, and hard exudates—are called background diabetic eye disease. Most people with diabetes get these small changes in their eyes after

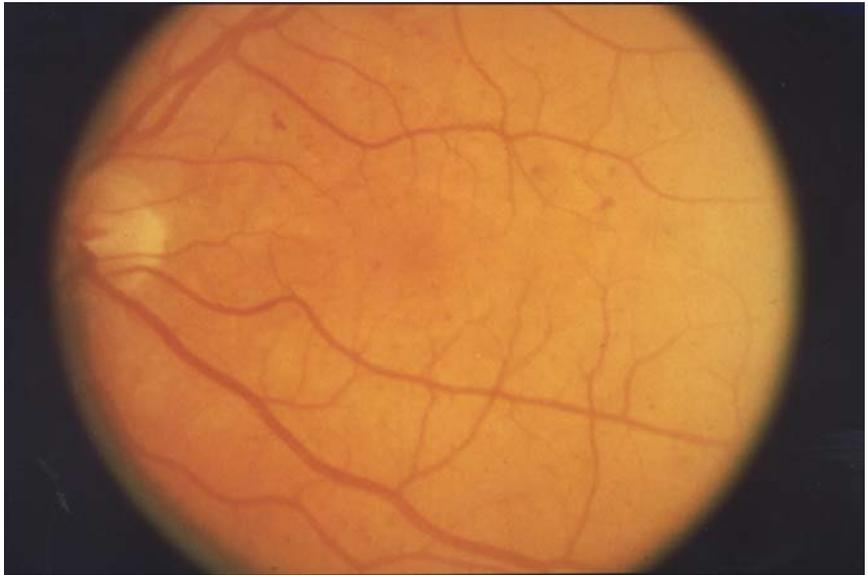


Photo Credit: National Eye Institute, National Institutes of Health.

*Background diabetic retinopathy (pictured above) is a sign that your retina's blood vessels are sick. If enough of the blood vessels rupture, the retina may not receive enough blood to keep it healthy.*

having diabetes for 10 years or more. Background diabetic eye disease does not usually cause significant vision loss unless the swelling occurs in the very center part of the retina, called the macula. If you have swelling here, it is called diabetic macular swelling, and it is a common cause of vision loss among diabetic patients.

Background diabetic retinopathy is a sign that your retina's blood vessels are sick. If enough of the blood vessels rupture, the retina may not receive enough blood to keep it healthy. In this case, the retina will try to grow new blood vessels to replace the sick ones. Unfortunately, these new blood vessels usually grow in the wrong places. They are fragile, and they break easily, sometimes spilling enough blood to fill up the eye. When these new blood vessels begin to grow, it is called proliferative diabetic eye disease.

Proliferative diabetic eye disease is less common than background diabetic eye disease, but is much more likely to take away some or all of your vision.

If it is caught early—before your vision is damaged—proliferative diabetic eye disease can be treated with laser therapy to save your vision. Once the vision is lost, it is very hard to get it back.

**Background and early proliferative diabetic retinopathy have no symptoms. The only way to know if you have these changes—and need laser therapy to save your sight—is to visit your eye doctor regularly. People with diabetes should have their eyes examined at least once a year to make sure they do not have early damage that threatens their vision.**