



*Penn Highlands Eye Center has offices in Clarion, Clearfield, DuBois and St. Marys. For an appointment in the Clarion or DuBois offices, please call 814-371-2390. For an appointment in the Clearfield office, please call 814-768-8888. For an appointment in the St. Marys office, please call 814-781-3435.*

*For more information on the physicians, visit [www.phhealthcare.org/eyecare](http://www.phhealthcare.org/eyecare).*



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# **What Is Diabetic Retinopathy?**

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# Diabetic Retinopathy

One less obvious health impact of diabetes is the effect the disease has on the eyes. Diabetic retinopathy is a complication that people with type 1 or type 2 diabetes need to be concerned with while managing their disease. Diabetic retinopathy is a complication caused by damage to the blood vessels in the light-sensitive tissue in the back of the eye called the retina.

The eye surgeons at Penn Highlands Eye Center treat thousands of diabetic retinopathy patients each year and are highly skilled at monitoring the progression and performing the laser procedures used to combat the affects of the disease.

## HOW DIABETIC RETINOPATHY DAMAGES VISION

Proper blood flow to the retina is very important to normal sight. Too much blood sugar can damage the tiny blood vessels that provide this blood to the retina, causing damage to these vessels. As the body tries to grow new blood vessels to the retina, the new vessels do not develop properly and leakage and a reduction in proper blood flow occurs. This decreased blood flow decreases the light sensitivity and reduces a person's vision.

## TWO TYPES OF DIABETIC RETINOPATHY

There are two types of diabetic retinopathy. Early diabetic retinopathy, often called nonproliferative diabetic retinopathy (NPDR), occurs when the needed new blood vessels do not form at all. Patients with this type of disease are considered to have mild to severe disease that progresses as the blood vessels become more blocked or damaged. When

this occurs, nerve fibers throughout the retina and, in particular, the central part of the retina, called the macula, begin to swell. This more severe form requires medical treatment.

Advanced diabetic retinopathy, often called proliferative diabetic retinopathy, occurs when the blood vessels are damaged and new vessels begin to grow. The abnormal vessels growing in the eye can cause scar tissue and may leak into the vitreous, or fluid that fills the center of the eye. When too much scar tissue builds up, the retina becomes detached from the eye. The leaking blood also may cause too much pressure to build up inside the eye, causing damage to the nerve that carries images from the eye to the brain. The result of this pressure and nerve damage is glaucoma.

## SYMPTOMS OF DIABETIC RETINOPATHY

In the beginning stages of diabetic retinopathy, vision is normal and there may not be any symptoms. However, as the disease progresses, a person may experience spots or lines floating in their vision. Symptoms that become apparent as the disease progresses include:

- Blurred vision
- Vision that changes from good to bad and back
- Difficulty identifying colors
- Areas of vision that appear dark
- Vision loss

## MANAGEMENT OF YOUR DIABETES

Visiting your physician and managing your diabetes is the best way to prevent loss of vision due to diabetic retinopathy. Yearly dilation exams with your ophthalmologist, even if your vision seems fine, are recommended. Pregnancy often leads to a sudden onset of diabetes. Contact your eye doctor immediately if you sense a change in vision or have symptoms.

## HOW TO TREAT

Those with mild to moderate NPDR may not need treatment. By closely monitoring your eyes, your ophthalmologist can determine when to start treatment for your diabetic retinopathy.

Those with advanced disease may need surgical attention depending on what specifically is occurring with the affected retina. Several types of laser treatments, called photocoagulation, can shrink the blood vessels in the eye and stop or slow the leakage of blood into the center of the eye. These procedures are done in the ophthalmology office.

A surgical procedure that may be recommended is a vitrectomy. This procedure uses a small incision in the eye to allow the surgeon to remove blood and scar tissue that is causing the symptoms. This procedure is done in a surgery center or hospital and uses general anesthesia.

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