



Hormone Health
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Keep your body in balance

Diabetes and Eye Care

WHAT IS DIABETIC RETINOPATHY?

Retinopathy means “diseases of the retina.” It is an broad term describing several conditions. The most common are macular edema, and proliferative and nonproliferative retinopathy.

Of these, non proliferative retinopathy is the most common condition. When this happens, the tiny blood vessels (capillaries) located in the back of the eye expand and form pouches. With time more of these pouches form.

Proliferative retinopathy is a more serious condition. This usually takes a few years to develop. When this happens, damage to the blood vessels causes new blood vessels to start growing in the retina. Because the new blood vessels have weaker walls, they can leak blood into the eye and block vision. They can also produce scar tissue on the retina. As the scar tissue shrinks, it can begin to push the retina or pull it out of place entirely, which is called retinal detachment.

Macular edema happens when the capillaries can no longer control the flow of substances between the blood and the retina. Fluid leaks into the macula, causing vision to blur and potentially leading to blindness.

HOW DOES THE RETINA WORK?

The retina plays an important role in vision. It records the images the eye takes in and converts them into electrical signals, which it sends to the brain. The brain then interprets the electrical signals so you understand what you’re seeing.

The macula is a part of the retina responsible for picking up fine detail. It is nourished by blood vessels in and behind the retina.

WHO IS AT RISK FOR RETINOPATHY?

Most people with type 2 diabetes will get nonproliferative retinopathy, the less immediately dangerous type. Proliferative retinopathy, which can destroy vision, is not nearly as common.

Damage to the retina can occur without symptoms. Even proliferative retinopathy usually doesn’t have symptoms until it is too late for treatment. That’s why it’s critical for people with diabetes to get regular eye exams by an eye doctor. This person can perform a variety of tests, including a dilated eye exam, to find problems even before one notices symptoms.

DID YOU KNOW?

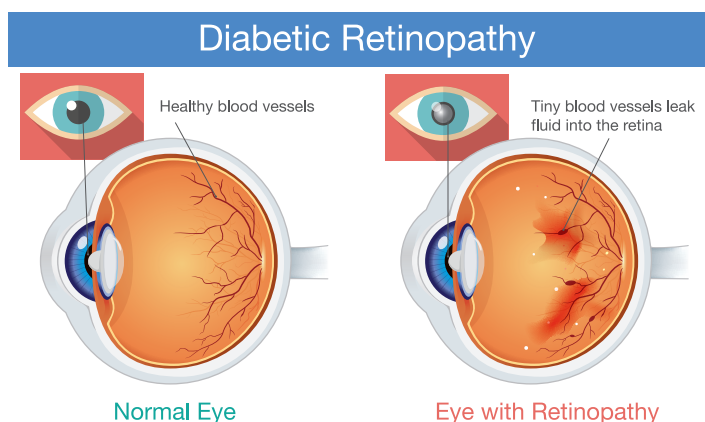
More than 80% of people who have had diabetes 20 years or longer develop diabetic retinopathy.

HOW IS DIABETIC RETINOPATHY TREATED?

Treating this condition depends on what type you have. It usually isn't treated unless macular edema is present, or it has progressed to proliferative retinopathy.

People with diabetic macular edema may be treated with anti-VEGF drugs, corticosteroids, or focal/grid macular laser surgery.

Anti-VEGF drugs are injected directly into the vitreous fluid in the eye (the fluid that makes up most of the eye's center) in order to block a protein, VEGF, from stimulating the abnormal, weak blood vessels to grow and leak fluid. These drugs can also reverse the growth of these blood vessels.



Corticosteroids can be injected or implanted in the eye. They can be used alone or in combination with other drugs or surgery. They are often good at stopping macular edema. But they can lead to glaucoma and cataracts, which is why your doctor will need to monitor them.

Focal/grid macular laser surgery involves the use of a laser to burn several to hundreds of small vessel ends to slow the leakage of blood. This can also help reduce the swelling of the retina.

Proliferative diabetic retinopathy is treated with scatter laser surgery. This procedure uses a laser to make tiny burns on the retina (but away from the macula). The burns can cause the weak, abnormal blood vessels to shrink. Scatter laser surgery can help preserve central vision, but it often causes some loss of peripheral vision and reduces color and night vision, as well.

If bleeding into the vitreous fluid is severe, a type of surgery called vitrectomy may be performed. This procedure removes some of the vitreous fluid and replaces it with a clear salt solution. It can be used to repair a detached retina or remove scar tissue, as well.

QUESTIONS TO ASK YOUR DOCTOR

- Am I at risk for diabetic retinopathy?
- If I have it, what type do I have?
- How often should I be seen for eye exams by an eye care professional?
- Do I need treatment for my retinopathy? If so, what?
- What are the risks and benefits of my treatment options?

RESOURCES

Find an Endocrinologist:

hormone.org or call 1-800-HORMONE (1-800-467-6663)

Find a Diabetes Educator (American Diabetes Association):

<https://www.diabeteseducator.org/living-with-diabetes/find-an-education-program>

National Diabetes Education Program (NIH):

<https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems>

NIDDK (NIH):

<https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems/diabetic-eye-disease>

American Diabetes Association:

<http://www.diabetes.org/living-with-diabetes/complications/eye-complications/>

MedlinePlus (NIH):

<https://medlineplus.gov/diabetescomplications.html>

Mayo Clinic:

<https://www.mayoclinic.org/diseases-conditions/diabetic-retinopathy/symptoms-causes/syc-20371611>

Find an Ophthalmologist (American Academy of Ophthalmology):

<https://secure.aao.org/aao/find-ophthalmologist>

EDITORS

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The Hormone Health Network offers free, online resources based on the most advanced clinical and scientific knowledge from The Endocrine Society (endocrine.org). The Network's goal is to move patients from educated to engaged.

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FROM THE ENDOCRINE SOCIETY

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