

### HOW IS DIABETIC RETINOPATHY DIAGNOSED?

A medical eye examination is the best way to detect changes inside your eye.

An ophthalmologist (Eye M.D.) can often diagnose and treat serious retinopathy before you are aware of any vision problems. The ophthalmologist dilates (enlarges) your pupil and looks inside of the eye with special equipment and lenses.

If your ophthalmologist finds diabetic retinopathy, he or she may order color photographs of the retina or a special test called **fluorescein angiography** to find out if you need treatment. In this test a dye is injected into your arm and photos of your eye are taken to detect where fluid is leaking.

Additional testing like optical coherence tomography (OCT) creates a detailed, three-dimensional view of your retina and is also very common.

### HOW IS DIABETIC RETINOPATHY TREATED?

The best treatment is to prevent the development of retinopathy as much as possible. Strict control of your blood sugar will significantly reduce the long-term risk of vision loss from diabetic retinopathy. If high blood pressure and kidney problems are present, they need to be treated.

**Medical treatment.** Injections of anti-VEGF medication in the eye can stop the growth of new blood vessels and subsequent bleeding. VEGF is necessary for the eye to build new blood vessels and the use of anti-VEGF medication causes regression of these fragile and abnormal blood vessels. Sometimes a steroid medication may also be used.

Anti-VEGF injections are also commonly used to reduce the swelling associated with diabetic macular edema.

**Laser surgery.** Laser surgery is often recommended for people with macular edema, PDR and neovascular glaucoma.

For macular edema, the laser is focused on the damaged retina near the macula to decrease the fluid leakage. The main goal of treatment is to prevent further loss of vision. It is uncommon for people who have blurred vision from macular edema to recover normal vision, although some may experience partial improvement. A few people may see the laser spots near the center of their vision following treatment. The spots usually fade with time but may not disappear.

For PDR, the laser is focused on all parts of the retina except the macula. This **panretinal photocoagulation** treatment causes abnormal new vessels to shrink and often prevents them from growing in the future. It also decreases the chance that vitreous bleeding or retinal distortion will occur.

Multiple laser treatments over time are sometimes necessary. Laser surgery does not cure diabetic retinopathy and does not always prevent further loss of vision.

**Vitrectomy.** In advanced PDR, your ophthalmologist may recommend a vitrectomy. During this micro-surgical procedure, which is performed in the operating room, the blood-filled vitreous is removed and replaced with a clear solution. Your ophthalmologist may wait for several months to see if the blood clears on its own before performing a vitrectomy.

Vitrectomy often prevents further bleeding by removing the abnormal vessels that caused the bleeding. If the retina is detached, it can be repaired during the vitrectomy surgery. Surgery should usually be done early because macular distortion or traction retinal detachment will cause permanent visual loss.

## diabetic retinopathy

The longer the macula is distorted or out of place, the more serious the vision loss will be.

### VISION LOSS IS LARGELY PREVENTABLE

If you have diabetes, it is important to know that today, with improved methods of diagnosis and treatment, a smaller percentage of people who develop retinopathy have serious vision problems. Early detection of diabetic retinopathy is the best protection against loss of vision.

You can significantly lower your risk of vision loss by maintaining strict control of your blood sugar and blood pressure, and by visiting your ophthalmologist regularly.

### WHEN TO SCHEDULE AN EXAMINATION

People with Type 1 diabetes should schedule an examination within five years of being diagnosed and then yearly. People with Type 2 diabetes should have an exam at the time of diabetes diagnosis and then once a year.

Pregnant women with diabetes should schedule an appointment in the first trimester because retinopathy can progress quickly during pregnancy.

If you need to be examined for eyeglasses, it is important that your blood sugar be consistently under control for several days when you see your ophthalmologist. Eyeglasses that work well when blood sugar is out of control will not work well when blood sugar is stable.

Rapid changes in blood sugar can cause fluctuating vision in both eyes, even if retinopathy is not present.

You should have your eyes checked promptly if you have visual changes that:

- Affect either one or both eyes;
- Last more than a few days;
- Are not associated with a change in blood sugar.

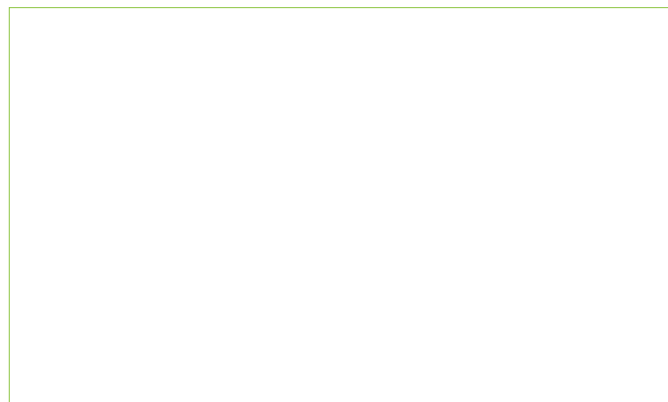
When you are first diagnosed with diabetes, you should have your eyes checked:

- Within five years of the diagnosis if you are 29 years old or younger;
- Within a few months of the diagnosis if you are 30 years old or older.

For more about diabetic retinopathy, scan this code with your smartphone or visit <http://bit.ly/diabeticretinopathy>.



#### COMPLIMENTS OF:



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