

# Understanding **DIABETIC RETINOPATHY**

## **How does diabetic retinopathy cause vision loss?**

Blood vessels damaged from diabetic retinopathy can cause vision loss in 2 ways:

1. Diabetic retinopathy leads to the formation of abnormal blood vessels that are fragile and tend to leak blood into the center of the eye, blurring vision. This is known as proliferative retinopathy and is the most advanced stage of the disease.
2. Diabetic retinopathy can also lead to fluid leaking into the center of the macula, which is the part of the eye responsible for sharp vision, causing swelling that blurs vision. This condition is called macular edema and can occur at any stage of diabetic retinopathy, although it is more likely to occur as the disease progresses. About half of the people with proliferative retinopathy also have macular edema.

## **Who is at risk for diabetic retinopathy?**

Patients with either type 1 or type 2 diabetes can develop diabetic retinopathy and should have a comprehensive dilated eye exam at least once a year. Approximately 40%-45% of patients with diabetes will develop diabetic retinopathy, with the likelihood increasing with the duration of the disease.

The risk of diabetic retinopathy is increased for pregnant women who have diabetes, underscoring the need for a comprehensive dilated eye exam as soon as possible after the pregnancy is confirmed, and clinicians may recommend additional exams during pregnancy.

## **What can I do to protect my vision?**

If you have diabetes, having a comprehensive dilated eye exam at least once a year is critical.

- Proliferative retinopathy can develop without symptoms and puts the patients at high risk for vision loss.
- Macular edema can develop without symptoms.
- Both proliferative retinopathy and macular edema can occur in patients who do not have vision loss, so this should not be taken as a sign that disease is not progressing or that eye exams are not necessary.

After diabetic retinopathy is diagnosed, more frequent eye exams may be necessary. Timely treatment and appropriate follow-up care can significantly reduce the risk of blindness.

Improved control of blood sugar levels has been shown to slow the onset and progression of retinopathy. Controlling blood sugar levels also reduces the risk of kidney and nerve disease. Consult with your endocrinologist to determine the best strategy for controlling blood sugar.

## **How are macular edema and diabetic retinopathy treated?**

Macular edema can be treated with injections of steroids or anti-VEGF agents with or without focal laser treatment where the clinician places up to several hundred small laser burns in the areas of retinal leakage surrounding the macula. These burns slow the leakage of fluid and reduce the amount of fluid in the retina. Repeat treatments may be necessary if the leakage is not completely addressed or returns. Your clinician will discuss the best course of treatment for you.

During the early stages of diabetic retinopathy, unless macular edema is present, no ocular treatment is needed. To prevent progression of diabetic retinopathy, people with diabetes should control their levels of blood sugar, blood pressure, and blood cholesterol.

Proliferative retinopathy is treated with scatter laser treatment, which helps to shrink the abnormal blood vessels. Because a high number of laser burns are necessary, 2 or more sessions usually are required to complete treatment. Scatter laser treatment is more effective earlier in the course of the disease, underscoring the need for regular, comprehensive dilated eye exams.