

## Living with diabetes and maintaining healthy vision

In 2012, diabetes health costs in the U.S. were \$245 billion, and the Centers for Disease Control and Prevention (CDC) estimates that by 2020, one in every three health care dollars in the U.S. will be spent on diabetes-related care.

Diabetes is now the leading cause of new cases of blindness among adults aged 20-74 years, according to the American Diabetes Association (ADA). Maintaining healthy blood vessels is essential for preserving healthy vision, especially those located in the retina in the back of the eye that are particularly susceptible to damage. The need to preserve blood vessel health is supported by the projected rise of diabetes in the U.S. population.



In the U.S. today, diabetes affects approximately 25 million people, or 8 percent of the population. The most common form of diabetes, type 2, accounts for 90 percent of diagnosed cases. Another 79 million people are at risk for developing diabetes, and nearly 2 million new cases are reported each year. It is estimated that 7 million people have undiagnosed diabetes, and that by the year 2030, more than 500 million people worldwide will have diabetes.

### Being proactive about your eye health

The National Eye Institute states that more than 40 percent of people with diabetes have diabetic eye disease. The most common form is diabetic retinopathy, which usually affects both eyes. However, many patients with diabetic retinopathy may experience no symptoms at all until the condition progresses.

There are two forms of diabetic retinopathy: nonproliferative retinopathy and proliferative retinopathy.

Nonproliferative retinopathy occurs when blood vessels in the retina become weak, resulting in tiny bulges within retinal capillaries that may allow leakage of fluid and blood. If the central part of the retina that is responsible for good detail and color vision, the macula, is affected, vision loss may occur (a condition called diabetic macular edema or DME).

Proliferative retinopathy is when abnormally fragile new blood vessels that grow on the surface of the retina in an effort to improve circulation may bleed profusely and cause growth of fibrotic scar tissue that detaches the retina from the back wall of the eye (tractional retinal detachment), resulting in severe vision loss or even blindness.

The longer a patient has diabetes, the more likely they are to develop some level of diabetic retinopathy. Of the approximately 25 million people with diabetes in the U.S., 9.6 million have some level of diabetic retinopathy, while another 3 million have sight-threatening retinopathy (STR). Most diabetes patients will eventually develop nonproliferative retinopathy and a significant number will develop DME, but the more serious, proliferative retinopathy, is less common.

As diabetic retinopathy progresses, patients may experience spots or floaters, red veils or streaks, blurred vision, a dark or empty spot in the center of their vision, and difficulty seeing well at night. Significant damage to the retina occurs long before patients develop any of these symptoms.

Several factors influence if and when a patient develops diabetic retinopathy, including blood sugar control, blood pressure levels, how long the patient has had diabetes, poor nutritional habits, cigarette smoking, and inherited genes.

All of these factors can lead to blood vessel breakdown in the retina, but keeping blood sugar levels closer to normal reduces the risk and severity of diabetic retinopathy.

Patients with diabetes or those at-risk should always engage in healthy nutrition, exercise, and consult with a physician as well as a diabetes educator. To preserve healthy vision, patients with diabetes should get an annual dilated eye exam from an eye doctor experienced with diabetes. They should also see a retina specialist if STR is detected during an eye exam. Finally, science-based nutritional supplements for the eye, like EyePromise, may support retinal health by helping to maintain healthy blood vessels in the eye.

The adverse effects on eye health and vision caused by diabetes can be debilitating, but patients with diabetes can significantly reduce their risk of vision loss by proactively managing their health.