

Diabetic Retinopathy

What is it?

People with both type 1 and type 2 diabetes are at high risk of developing diabetic retinopathy, a condition affecting half a million Canadians, in which elevated blood glucose levels cause vessels in the retina to swell and leak. New blood vessels may also grow, causing further damage. Without treatment, diabetic retinopathy can advance to permanent vision loss or even blindness, usually in both eyes.

Symptoms

See your eye care professional as soon as possible if you notice:

- ✓ Dark spots in your visual field.
- ✓ Blurred, distorted or double vision.
- ✓ Large “floaters” – specks in the form of dots, circles, lines or cobwebs that move across your field of vision. They are most noticeable when looking at a white wall or clear sky. These may or may not be harmless, but should be checked.

Risk factors

Nearly all Canadians with type 1 diabetes and 60 per cent of those with type 2 develop some form of diabetic retinopathy during the first 20 years they have the disease. Other risk factors include:

- **High blood sugar**
- **High blood pressure**
- **Smoking**
- **Ethnicity:** People of Aboriginal, Hispanic, Asian, South Asian or African descent typically have a higher risk of developing the condition than people of other ethnicities.

Controlling your blood sugars can help reduce the risk of developing vision loss due to retinopathy. Regular follow-up with your family doctor regarding control of your blood sugars, blood pressure and cholesterol plays an essential role in helping to preserve vision.

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Diabetic Retinopathy

Diagnosis

If you have diabetes and do not already have an eye doctor, ask your family physician for a referral. Diagnostic tests for diabetic retinopathy include:

- **Visual acuity test:** The standard measurement of a person's ability to see, using an eye chart.
- **Dilated eye examination:** Drops are placed into the eye to widen (dilate) the pupils to allow a direct view of the retina. A special magnifying lens is used to examine the retina and the optic nerve.
- **Tonometry:** A test that measures pressure inside the eye.
- **Fluorescein angiogram:** A dye is injected into a vein and then circulated within the eye. Photographs are taken of any abnormal blood vessels.
- **Optical coherence tomography (OCT):** A diagnostic imaging device a doctor can use to aid in the detection of retinal disease.

Treatment

Lost vision from diabetic retinopathy cannot be restored, but early detection and treatment is often successful and can prevent vision from worsening. During the early stages of diabetic retinopathy, a person's vision is monitored carefully, but treatment is usually not justified because vision has not yet been affected. In the later stages, diabetic retinopathy is treated by:

- **Scatter laser treatment:** Shrinks abnormal blood vessels and consists of a large number of microscopic thermal laser burns in the retina.
- **Vitrectomy:** If blood has leaked into the centre of the eye, the vitreous gel must be removed. A tiny incision is made in the eye, and the vitreous gel is replaced with a salt solution.
- **Intraocular (anti-VEGF) injections:** Drugs that are injected into the eye to stop the growth of abnormal blood vessels.
- **Intraocular anti-inflammatory injections:** An injection used to reduce swelling and inflammation inside the eye.
- **Focal laser treatment:** Reduces the risk of future vision loss in some people who have swelling in the central part of the retina (the macula).

*In advanced stages, other eye complications may need to be treated, such as a retinal detachment, which requires surgery.

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