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A guide to diabetes and diabetic retinopathy



**Waikato's Largest
Specialist Eye Centre and
Eye Surgery Facility**

**HAMILTON
EYE CLINIC**

A Guide to Diabetes and Diabetic Retinopathy

Diabetes can affect the eye in several ways. Diabetic retinopathy occurs when the small blood vessels in the retina become damaged by high blood sugar levels. Both type 1 and type 2 diabetics are at risk of diabetic retinopathy.

The risk of developing diabetic retinopathy increases the longer you have the disease and affects up to half of diabetics to some degree. At first you may notice no changes in your vision, but the retinopathy can worsen over the years and damage your sight.

With timely treatment, over 80% of people with advanced diabetic retinopathy are prevented from going blind. In New Zealand, we recommend every diabetic have an eye exam through dilated pupils at least every two years.

Pregnancy is a relatively high-risk period for worsening of diabetic retinopathy and closer follow-up during pregnancy is required.

Cataract and glaucoma are more common in diabetics.

What can you do to protect your vision

Having regular eye checks every 1 to 2 years is the most important thing you can do.

Good blood sugar and blood pressure control reduce the risk of developing advanced diabetic retinopathy.

A1C blood tests show your average blood sugar over the last 3 months and regular A1Cs will let you know how well you are controlling your disease.

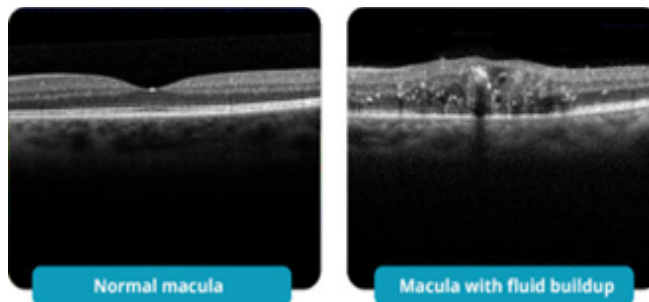
Together with your doctor, you can set a personal A1C goal and adjust your medications, diet and exercise levels to meet that goal.

What is diabetic retinopathy?

The retina is a thin layer of light-sensitive nerve tissue that lines the back of the eyeball and allows us to see by sending messages back to the brain. There are 2 main ways in which the retina can be affected by diabetes:

Diabetic macular swelling (oedema) describes the condition whereby retinal blood vessels develop tiny leaks in the very center of the retina, in the part called the macula.

The macula gives us our sharp central vision and allows us to read, and thread a needle. When the macular blood vessels leak, swelling of the macula occurs which your doctor may demonstrate to you on an OCT scan of the eye. The swelling can result in blurry vision and difficulty reading.



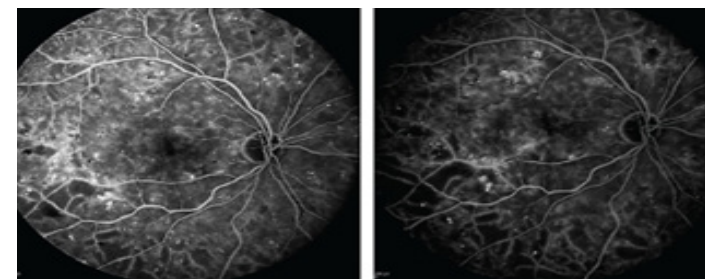
Proliferative diabetic retinopathy describes the changes that occur when abnormal blood vessels grow on the surface of the retina. These new blood vessels have a tendency to bleed or cause scar tissue growth.

Leaking of blood from these blood vessels can cloud the vitreous jelly that fills the center of the eye and cause severe blurring. Scar tissue formation around these blood vessels can lead to retinal detachment, which if left untreated can cause blindness.

If these abnormal blood vessels start growing around the pupil you can develop a diabetic type of glaucoma blurring. a diabetic type of glaucoma.

Symptoms of proliferative diabetic retinopathy include a sudden loss of vision in one eye, or dark spots floating around in front of the vision.

Your doctor may request a fluorescein angiogram (dye injection test with photographs) to determine whether or not you have proliferative diabetic disease.



Diabetic Retinopathy Treatment

Retinal laser is commonly used to treat proliferative diabetic retinopathy by making the abnormal blood vessels shrivel up.

This is usually a clinic-based procedure whereby laser is applied through a contact lens system. Sometimes multiple sessions are required over several weeks. During the procedure you will see multiple bright green lights and afterwards the eye may feel slightly bruised. Temporary blurring and light sensitivity are common.

Someone will need to pick you up from the clinic and take you home.

Intravitreal Injections into the eye are commonly used to treat macular swelling by reducing blood vessel leakage. There are several different types of drug used. These injections often have to be repeated and may be used in conjunction with laser treatment or vitrectomy surgery. The injections don't change your vision right away. Short term irritation should clear up after a day or two.

Vitrectomy surgery is performed on eyes with advanced diabetic eye disease in order to clear cloudy vitreous jelly or to treat retinal detachment. Vitrectomies are performed in the operating theatre under a local anaesthetic usually. Laser and injections are often applied at the same time and gas or oil bubbles may be left in the eye at the end of the operation to hold the retina in place.

