

Understanding Diabetic Retinopathy



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In Ireland, about 210,000 people have diabetes. Diabetes is a condition where the body can't use and store sugar properly and this can cause many health problems.

Too much sugar in the blood can cause damage to blood vessels throughout the body, including the blood vessels in the eye. These eye changes are called **diabetic retinopathy**.

If you have diabetes, it is vital to have the back of your eyes checked every year. In most cases, an eye doctor or an optometrist will carry out this eye examination for you.

What is diabetic retinopathy?

To understand diabetic retinopathy it helps to know a little bit about how your eye works. The lining at the back of your eye is called the retina. The job of the retina is to help change what you see into messages that travel along the sight nerve to the brain. In the centre of the retina is an area called the macula which is really important for clear, sharp vision.

Diabetic retinopathy is the name used for two different types of changes in the retina which can affect your sight:

- **diabetic macular edema** – this is where leaky blood vessels affect the important central part of the retina called the macula. It is the more common eye change;

and

- **proliferative diabetic retinopathy** – this is where fragile new blood vessels form gradually on the surface of the retina.

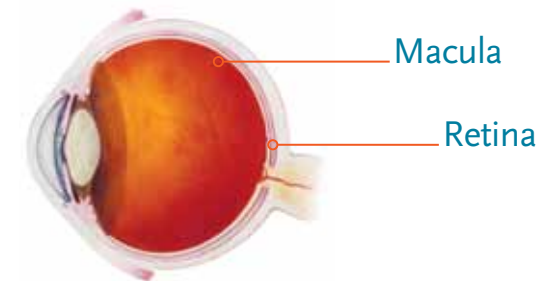
What causes diabetic retinopathy?

When someone has diabetes, over time the blood vessels in the retina become thicker and the blood flowing in the blood vessels slows down. The retina tries to help speed up the blood flow by producing tiny amounts of chemicals to open up the blood vessels. These chemicals have two side effects:

- they can make the blood vessels leaky (**diabetic macular edema**); or
- they can cause the retina to make new blood vessels which are very fragile (**proliferative diabetic retinopathy**).

Both diabetic macular edema and proliferative diabetic retinopathy can be treated and managed if they are detected early enough. If they are left untreated, sight problems will develop.

The Human Eye



National Eye Institute, National Institutes of Health

Could I develop diabetic retinopathy?

Anyone with diabetes can develop diabetic retinopathy. The longer you have diabetes, the more likely you are to develop the condition. Poor blood sugar control in diabetes can make diabetic retinopathy worse and can increase the risk of developing sight problems.

What are the risk factors for diabetic retinopathy?

- Poor blood glucose control
- High blood pressure
- Raised fats (triglycerides) in the blood
- Pregnancy (not gestational diabetes). During pregnancy, diabetes can worsen diabetic retinopathy.

What if I want to have a baby?

Talk with your diabetes care team and have a full eye examination before trying to have a baby. Once you become pregnant, you should have an eye examination every three months during your pregnancy and another eye exam about six weeks after delivery.

What is my diabetes care team?

Your diabetes care team are the healthcare professionals who look after you and your diabetes. They may include your family doctor (GP) and practice nurse, endocrinologist, eye doctor, optometrist, diabetes nurse specialist, dietitian and pharmacist.

How will I know if I am developing diabetic retinopathy?

You may not notice anything as there may be no symptoms in the early stages of diabetic retinopathy. But talk with your diabetes care team if you:

- experience blurred vision or any changes in your sight;

- see new black spots or 'floaters' that appear to float in your eye;
- have trouble seeing things at the side of your vision.

Blurred vision can happen at any stage of diabetic retinopathy, although it is more likely to occur the longer you have diabetes. Blurred vision happens for two reasons.

- with **diabetic macular edema**, leaky blood vessels cause swelling of the macula, which can lead to blurred vision
- with **proliferative diabetic retinopathy**, fragile new blood vessels on the retina cause bleeding in the eye. This can also lead to blurred vision.

Don't wait for symptoms to appear. It is important to attend your diabetes and eye examination appointments as early detection and treatment can help to avoid sight loss from diabetic retinopathy.

How is diabetic retinopathy detected?

During a full eye examination, your eye doctor or optometrist will use eye drops to make your pupils larger (dilated) so that he or she can see your retina more clearly. (Eye drops may cause temporary blurring of vision or make your eyes sensitive to light, so it is important not to drive until your vision returns to normal.)

Your eye doctor or optometrist may also use a special digital camera to photograph the back of your eye. This is painless and safe.

Is this full eye examination the same as a regular eye test?

No. A regular eye test for glasses or to check for glaucoma or cataract is **not** the same as a full diabetic retinopathy eye examination. It is important to have both.

How can I avoid getting diabetic retinopathy?

You can help prevent or slow the development of diabetic retinopathy by:

- taking your prescribed medication;
- sticking to your recommended diet as best you can;
- exercising regularly and sensibly;
- controlling high blood pressure;
- limiting your alcohol intake;
- avoiding smoking;
- attending your regular diabetes check-ups; and
- having a **full eye examination** every year.

How is diabetic retinopathy treated?

If you get diabetic retinopathy, a good diet, regular exercise and looking after your blood sugar can slow down the development of the condition.

Treatment depends on the amount and type of changes in your eyes and is aimed at slowing or stopping those changes.

Diabetic macular oedema is treated with a combination of laser and injections of medicines in the eye.

Proliferative diabetic retinopathy is typically treated with laser but some people may need injections and surgery inside the eye.

You and your diabetes care team will decide together which treatment is best for you.

What should I do if I have a problem with my sight?

Talk to your diabetes care team as soon as possible. Treatments are available to help you to maintain your vision.

If you have significant problems with your sight and are finding it difficult to manage everyday tasks, you can contact NCBI, the national sight loss agency.

To find out more about diabetic retinopathy and to get professional counselling for any level of sight loss, contact Fighting Blindness.

For further information and support please contact:

Diabetes Ireland

www.diabetes.ie

Phone: 1850 909 909

NCBI – Working for people with sight loss

www.ncbi.ie

Phone: 1850 334 353

Fighting Blindness – Cure. Support. Empower.

www.fightingblindness.ie

Phone: 01 709 3050

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