
GENERAL INFORMATION

DIABETIC EYE DISEASE



WHAT IS DIABETIC EYE DISEASE?

Diabetic eye disease is a term used to describe the common eye complications seen in people with diabetes. It includes:

- Diabetic retinopathy (including diabetic macular oedema)
- Cataracts
- Glaucoma.

Diabetes is the leading cause of blindness in working-age adults¹. People with type 1 and type 2 diabetes are at risk. It's possible to be unaware that you have severe diabetic eye disease and suddenly go blind.

MOST CASES OF BLINDNESS CAN BE PREVENTED WITH REGULAR EYE EXAMINATIONS AND PROPER CARE.

1. Centre for Eye Research Australia. Out of Sight: a report into diabetic eye disease in Australia. www.cera.org.au/wp-content/uploads/2015/11/outofsightreport.pdf (accessed online 15 May 2018)

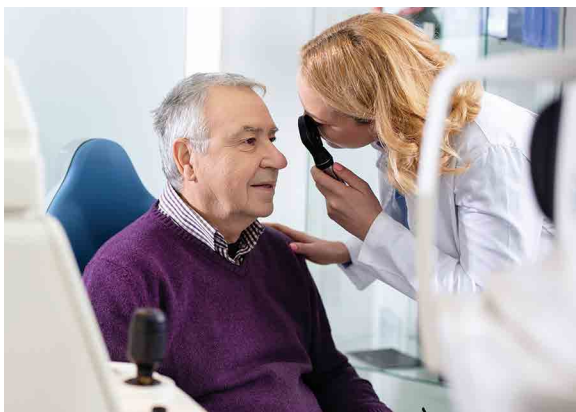


What are the symptoms of diabetic eye disease?

Diabetic eye conditions often have no signs or symptoms, particularly in the early stages. By the time someone with diabetes notices changes in their vision, the condition is quite advanced.

Signs and symptoms may include:

- Blurry, cloudy or dim vision
- Floaters and flashes
- Poor night vision
- Sensitivity to light and glare
- Double vision, seeing halos around lights
- Trouble reading
- Frequent changes in spectacle and contact lens prescriptions
- Eye pain
- Headaches, nausea, vomiting.



DIABETIC RETINOPATHY

The persistently high blood sugar levels that occur with diabetes can damage the retina's small blood vessels (capillaries), which deliver oxygen and nutrients. Diabetic retinopathy affects around 15% of people with diabetes and there are three main types:

NON-PROLIFERATIVE DIABETIC RETINOPATHY

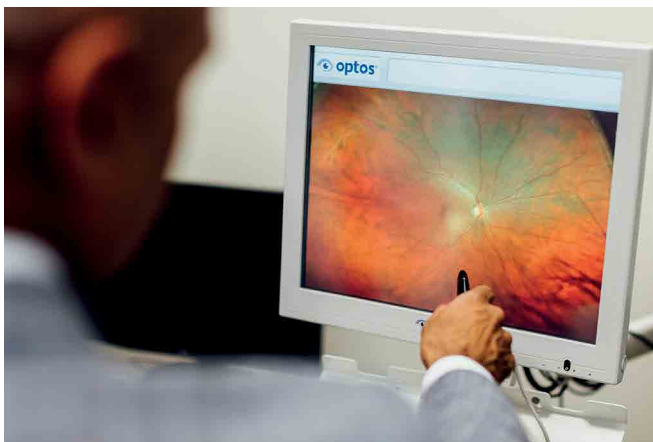
This is the early stage of the disease in which capillary damage results in blood and fluid leaking into the retina, causing it to swell. Depending on the number of vessels affected, there is usually minimal or no effect on vision.

DIABETIC MACULAR OEDEMA

Diabetic macular oedema occurs if swelling extends to the macula, which is the part of the retina responsible for central vision. Diabetic macular oedema (swelling) is the usual cause of vision loss related to diabetes and the level of impairment can be significant.

PROLIFERATIVE DIABETIC RETINOPATHY

Proliferative diabetic retinopathy is the advanced stage of the disease. In an attempt to supply the retina with more oxygenated blood, abnormal blood vessels start to grow but these are fragile and bleed easily. This can lead to the formation of scar tissue. If these new vessels bleed, the person may see 'floaters' or even lose all vision. This requires emergency treatment.



How is diabetic retinopathy diagnosed?

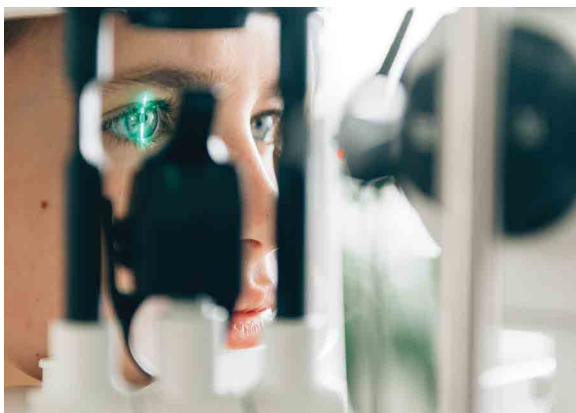
Your ophthalmologist will examine both retinas after using eye drops to make your pupils larger and allow a clear view of the back of each eye. Other tests that may be performed include:

- **Optical coherence tomography (OCT)** to scan the various tissue layers that make up the retina to help identify and measure any swelling
- **Fluorescein angiography (FA)**, which involves fluorescent dye being injected into the bloodstream (normally through a vein in your arm) to highlight the blood vessels in the retina. The dye will show any leakage, bleeding or abnormal growth of blood vessels.

How is diabetic retinopathy treated?

Various treatments are available and vision can often be partially recovered. The earlier the condition is diagnosed and monitored the better, as this provides the best chance of preventing severe vision loss and/or recovering vision. Earlier stages of damage require more frequent monitoring, while treatment is necessary for sight-threatening disease.

- **Eye (intravitreal) injections:** medication is injected into the vitreous humour (the gel-like fluid that fills the eye and gives it its shape). The medication reduces fluid and swelling in the retina by shrinking abnormal blood vessels and inhibiting growth of new blood vessels.
- **Retinal laser treatment:** uses heat from a laser to seal or destroy leaking or malfunctioning blood vessels or reduce swelling at the macula. A special microscope known as a slit lamp is used together with the laser to perform the procedure.
- **Vitreotomy surgery:** may be required for severe cases of diabetic retinopathy. This involves removing some of the vitreous and any blood so that light rays can focus on the retina again. Scar tissue from the retina can also be removed and retinal detachments repaired.



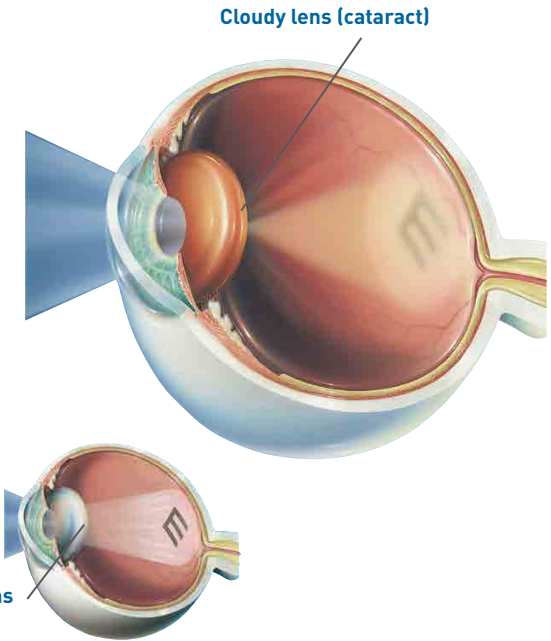


CATARACTS

A cataract is a clouding of the lens in the eye. Without treatment, cataracts can eventually lead to blindness.

PEOPLE WITH DIABETES ARE MORE LIKELY TO DEVELOP CATARACTS AT AN EARLIER AGE, AND SUFFER VISUAL IMPAIRMENT FASTER THAN THOSE WITHOUT THE CONDITION.

Cataracts can be fixed surgically by replacing the dysfunctional lens with an artificial lens. Cataract surgery is one of the most frequently performed surgical procedures in the world.

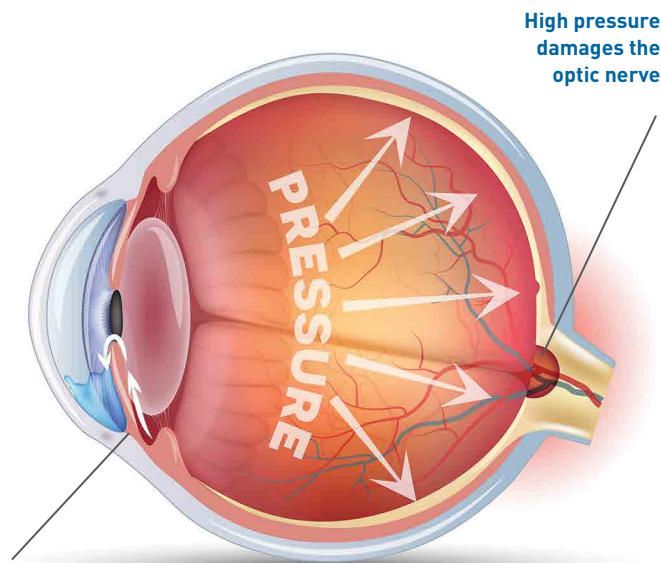


GLAUCOMA

Glaucoma is a group of conditions that lead to damage of the eye (optic) nerve. The optic nerve transmits signals from the retina to the brain for processing. Glaucoma is often (but not always) a result of increased pressure inside the eye. The two main types are open-angle glaucoma (also called 'the sneak thief of sight') and angle-closure glaucoma (this occurs suddenly and is a medical emergency).

THE RISK OF GLAUCOMA IN PEOPLE WITH DIABETES IS SIGNIFICANTLY HIGHER THAN THAT OF THE GENERAL POPULATION.

Glaucoma treatment includes medication (eye drops, tablets), laser treatment and surgery.



Drainage canal blocked

too much fluid stays in the eye, which increases pressure



HOW TO LOOK AFTER YOUR EYES IF YOU HAVE DIABETES

- Make sure you have your eyes checked by an ophthalmologist/optometrist when you are first diagnosed with diabetes. Your eyes should then be checked every 1–2 years, or more frequently if advised.
- Keep your blood sugar, blood pressure and blood cholesterol under control and have regular health checks to confirm this. While this will not reverse any vision damage that has already occurred, it will help prevent further deterioration of your eyes.
- If you smoke, it's time to quit. Smokers who have diabetes are at much greater risk of losing their sight, having a heart attack or stroke, and suffering kidney failure.
- Get regular exercise and maintain a healthy diet. Advice from a dietician and your GP can be extremely helpful.
- Have your eyes checked immediately if you notice any changes in your vision.
- Always take medications as instructed by your doctor.



FAQs

Can I prevent diabetic retinopathy?

You can reduce your risk by having your eyes checked as soon as possible after being diagnosed with diabetes (this is called a screening test) and then at regular intervals thereafter.

Keeping your diabetes under control is the most important thing you can do – this means eating a balanced diet, exercising, not smoking and monitoring your blood sugar levels. You should also see your doctor regularly to have your blood pressure and cholesterol levels checked. If you experience any changes in your vision, have your eyes checked immediately.

What's the difference between diabetic retinopathy and diabetic macular oedema?

Diabetic macular oedema is a form of diabetic retinopathy. It occurs when the swelling involves the macula, which is the part of the retina responsible for central vision. Vision can become blurred and distorted, resulting in trouble reading, recognising faces and driving. Macular oedema (swelling) is the usual cause of vision loss related to diabetes and the level of impairment can be significant.



Can diabetic retinopathy be cured?

Vision can often be improved by treatment, but the main goal is to stabilise your condition and prevent it from getting worse. The three main treatments of diabetic retinopathy are injections into the eye, laser treatment or vitrectomy surgery. Your doctor will recommend the most appropriate course of treatment.

How does smoking contribute to loss of vision?
















Smoking is not a risk factor for diabetic eye damage, but it can damage the eye in other ways. It increases the risk of developing cataracts, blockages of retinal arteries and the wet form of age-related macular degeneration. Diabetics who smoke also increase their risk of heart attack, stroke and kidney failure.

Is the treatment painful?

No, modern anaesthetics are very effective. Special anaesthetic eye drops are usually used to prevent pain and, for patients undergoing vitrectomy surgery, a sedative is given to relieve anxiety. Following laser treatment or surgery, you may feel some mild discomfort the next day.

COMPREHENSIVE EYE CARE

Vision Eye Institute is the leading provider of ophthalmic services in Australia. Our team of highly regarded doctors includes general ophthalmologists as well as those who specialise in specific areas/conditions of the eye.

| | | | |
|----------------------------|---|-------------------------------|---|
| LASER EYE SURGERY |  | CATARACT & LENS SURGERY |  |
| GLAUCOMA |  | DIABETIC EYE DISEASE |  |
| MACULAR DEGENERATION |  | RETINAL CONDITIONS |  |
| KERATOCONUS |  | DRY EYE |  |
| PTERYGIUM |  | CORNEAL TRANSPLANTATION |  |
| CORNEAL CONDITIONS |  | NERVE-RELATED VISION PROBLEMS |  |
| RECONSTRUCTIVE EYE SURGERY |  | CHILDREN'S EYE HEALTH |  |
| GENERAL EYE HEALTH |  | | |

OUR DIABETIC EYE DISEASE CLINICS

For more information or to find a Vision Eye Institute clinic that treats diabetic eye disease, visit:
visioneyeinstitute.com.au/services/diabetic-eye-disease/

All medical and surgical procedures have potential complications. Check with your doctor before proceeding.



visioneyeinstitute.com.au



Transforming lives. That's our vision.