

What is glaucoma?



Glaucoma – the ‘sneak thief of sight’ as it is commonly called – refers to a group of eye diseases which damage your optic nerve causing irreversible vision loss, often without any obvious symptoms.

The optic nerve sends signals from your eye to the brain to produce the images you see.

When there is significant damage to this nerve, your peripheral

(side) vision is lost. Often the loss of peripheral vision goes unnoticed as your central vision remains good.

However, the vision loss will gradually extend towards your central vision,

until ultimately sight is lost completely.

Vision loss caused by glaucoma is permanent.

What causes glaucoma?

Glaucoma is usually caused by an increase in pressure in your eye, called intraocular pressure (IOP), which can damage your optic nerve.

The front part of your eye is filled with a clear fluid called ‘aqueous humour’. This fluid is continuously produced and constantly flows out of the eye, maintaining a steady pressure within the eye.

Fluid drains out of your eye in an area called the ‘drainage angle’ of the eye between the iris

(the coloured part of your eye) and the cornea. If the fluid does not flow out of your eye properly, the IOP will increase, and glaucoma might develop.

However, high eye pressure does not always cause glaucoma. Glaucoma can also occur with normal eye pressure.

There are two main types of glaucoma:

Open-angle glaucoma: the most common form which is usually a slowly progressing condition. This involves an open drainage angle which can not adequately drain the fluid out of the eye. As a result, the IOP increases and causes gradual damage to the optic nerve, resulting in a loss of peripheral vision and eventually blindness. There is no pain to warn of a problem.

Angle-closure glaucoma: the second most common form. This involves a narrow drainage angle. In this case, the iris is usually too close to the drainage angle and can block the passage for the fluid to pass through. If angle closure occurs suddenly, the IOP may rise abruptly causing an acute angle-closure glaucoma attack. Acute angle-closure is a medical emergency requiring urgent treatment to prevent permanent blindness.

Who is at risk for glaucoma?

Anyone can develop glaucoma, but some people are at a higher risk. Risk factors include:

- A family history of glaucoma – there is a six to 10 times increased risk of developing glaucoma if you have a close blood relative with the condition (father, mother, brother, sister or child)
- High eye pressure
- Thin central cornea
- Age 50 years and above
- African or Asian ethnicity
- Diabetes
- High or low blood pressure
- Short or long sightedness
- Prolonged use of steroids (past or current)
- Previous eye injury
- Migraine
- Obstructive sleep apnoea.



What are the symptoms of glaucoma?

With open-angle glaucoma, there are no warning signs or obvious symptoms in the early stages and most people do not notice any change in their vision until the damage is quite severe.

When symptoms do occur, they include:

- Loss of peripheral vision that gradually creeps towards your central vision
- Blurred vision
- Difficulty adjusting to low-light conditions.

With acute angle-closure glaucoma symptoms include:

- Sudden onset of severe pain in the eye or forehead
- Appearance of rainbow-coloured circles around bright lights
- Sudden vision loss
- Headache
- Blurred vision
- Nausea
- Redness of the eye
- Vomiting.

If you experience these symptoms, you should contact your ophthalmologist immediately or visit the nearest emergency department, as this is a medical emergency and requires immediate treatment.

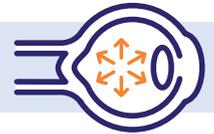
How is glaucoma diagnosed?

Glaucoma cannot be self-detected.

The only sure way to determine if you have glaucoma is with a **complete eye exam**. A screening that only checks eye pressure is not sufficient.

In a complete eye examination, your ophthalmologist will:

- Measure your eye pressure (IOP)
- Inspect your eye's drainage angle
- Examine your optic nerve for damage
- Test your central and peripheral (side) vision
- Take a picture or computer measurement of your optic nerve
- Measure the thickness of your cornea.



How is glaucoma treated?

Glaucoma damage is permanent, but medication and surgery help stop further damage by lowering IOP. Treatments your ophthalmologist might recommend include:

Medications

These include **eye drops** and **oral medication**.

Laser surgery

Laser surgery is **effective** in different types of glaucoma.

There are several types of laser treatment used to treat glaucoma. Laser treatment can be offered instead of, or in addition to, eye drops. The type of laser treatment your ophthalmologist recommends will depend on the type of glaucoma you have and how severe it is.

Laser is usually performed as an outpatient, causes mild discomfort and has few complications.

Surgery

Surgery is used in patients whose glaucoma progresses despite medication and laser treatment.

The most common surgical technique used to treat glaucoma is called trabeculectomy and involves creating a new drainage channel so fluid can escape from the inside of the eye to lower the pressure.

More recently, newer surgical devices have been developed to make glaucoma surgery less invasive with quicker recovery. This class of surgery has been called '**minimally invasive glaucoma surgery**' or MIGS.

The MIGS group of operations involve implanting a microscopic stent into different parts of the eye to bypass the blockage in the drainage angle and help the fluid inside the eye drain out via different routes.

Local anaesthetic is usually used for these surgeries, but occasionally a general anaesthetic may be preferable.

Patients go home on the day of surgery. Surgery has a **good success rate**, but as with all surgery, there are risks involved.

Your ophthalmologist will discuss all the treatment options that will be appropriate for you.

What out-of-pocket costs can I expect to pay for glaucoma surgery?

Some, but not all, of the costs of glaucoma surgery are covered by Medicare and also by private health insurance.

Out-of-pocket expenses will vary and **depend on several factors**, including your level of private health cover.

Ask us for an estimate of the cost of your glaucoma surgery.

Need to
know more?

Please contact the Lions Eye Institute to make an appointment with one of our ophthalmologists. Phone: (08) 9381 0777; email: carecentre@lei.org.au; or see our website: lei.org.au