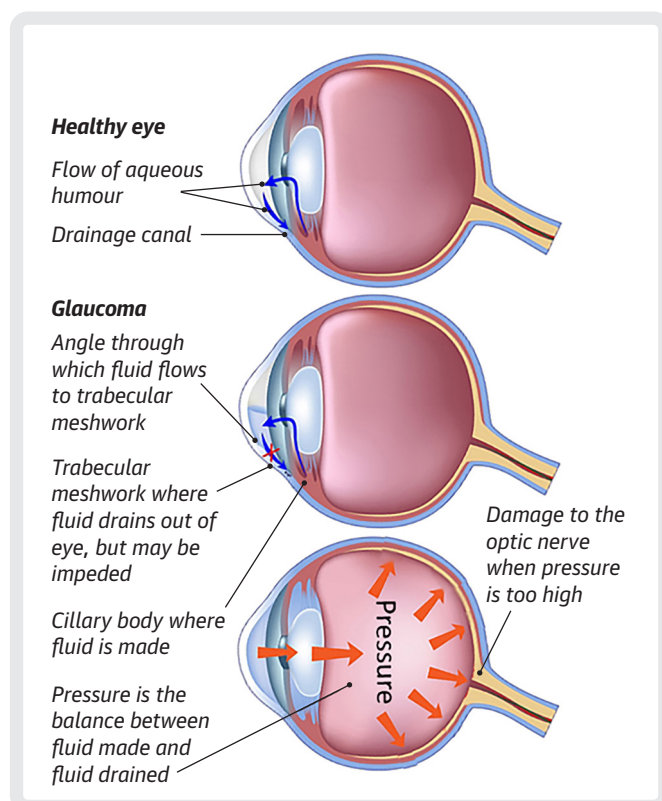




Angle Closure Glaucoma and Laser Peripheral Iridotomy

The development of glaucoma

- In a healthy eye, fluid called aqueous humour is constantly produced and drained to maintain pressure. It is unrelated to tears.
- The aqueous humour is produced behind the iris. It moves through the pupil and across the front of the iris to 'the angle of the anterior chamber'. The angle is where the iris and cornea meet.
- The aqueous humour moves through the angle to the outside of the eye through a tissue called the trabecular meshwork (which provides some resistance), where surrounding blood vessels absorb it.
- This sustains normal eye pressure. An imbalance in this drainage network causes increased eye pressure and glaucoma.



What is angle closure?

In an eye with a 'narrow angle', fluid can be obstructed from exiting the eye. The iris moves forward, blocking the angle, causing drainage to not function properly. This causes an increase in pressure within the eye.

The three types of angle closure

1. Acute angle closure

- A rapid, abnormal increase in eye pressure that can result in permanent vision loss
- Symptoms include severe eye pain, headache, nausea, very red eye, and blurred vision/halos around lights (due to the fluid being forced into the cornea)
- Vision can deteriorate quickly, requiring rapid diagnosis/emergency treatment.

2. Intermittent angle closure

- Eyes at risk of angle closure can have a series of minor episodes of angle closure where the angles close for a short time or partially close
- Symptoms include aching eye, halos around lights and poor vision lasting a few hours
- Bright light may relieve intermittent angle closure as the light causes the pupil to constrict, opening the angle.

3. Chronic angle closure

- Chronic angle closure is a slow or long term closure of angles
- As pressure slowly rises the eye tends to adjust, so symptoms may not occur. However this can still cause permanent damage to the optic nerve and loss of vision.

People at higher risk of angle closure

- Those with a family history of angle closure
- People who are hyperopic (far-sighted), as their eyes are smaller and the front of the eye is, therefore, more crowded
- People of Asian ethnicity
- Older people, as the size of the lens in the eye gradually increases throughout life, crowding the front of the eye.

How is Angle Closure Glaucoma treated?

- Treatment of Angle Closure Glaucoma requires a hole to be created in the iris. This procedure is called Laser Peripheral Iridotomy
- If it is related to acute angle closure, a person may need medical treatment at hospital prior to Laser Peripheral Iridotomy being performed
- In cases of chronic angle closure, the angle will often not return to normal, requiring a long-term "bypass" surgical procedure, such as Trabeculectomy to maintain normal eye pressure

Laser Peripheral Iridotomy

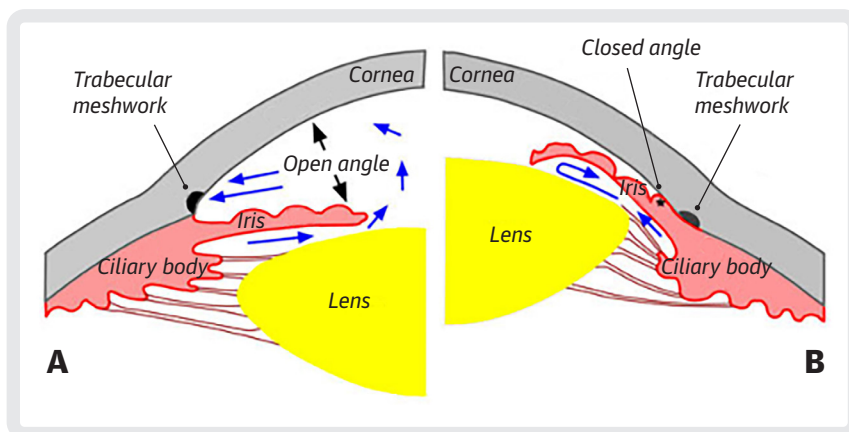
Laser Peripheral Iridotomy is the definitive preventative treatment for angle closure glaucoma. An iridotomy is a very small hole in the iris - it does not affect vision.

The purpose of the hole is to equalise the pressures behind, and in front of, the iris. This creates an alternative pathway for fluid in the eye to flow, allowing the iris to move back and open the angle again.

The small hole is not easily recognised by the naked eye but is easily seen by an eye specialist during an examination.

Laser Peripheral Iridotomy at a glance

- Normal flow of aqueous fluid in an eye with an open drainage angle.
- In acute angle closure glaucoma, fluid cannot pass through the pupil fast enough. This is known as pupillary block. Fluid collects behind the iris causing it to bulge forward and close the drainage angle. The obstruction of the fluid drainage causes a rapid rise in eye pressure.
- The treatment for acute angle closure glaucoma using the laser to produce a hole in the iris.
- Fluid can bypass the pupil and make its way to the trabecular meshwork and out of the eye. Bypass of the pupillary block reduces bulging of the iris and opens the drainage angle.



What happens during Laser Peripheral Iridotomy?

- Laser Peripheral Iridotomy is performed at Southern Eye Specialists.
- Before the procedure, but not in all cases, your pupil is constricted with an eye drop called Pilocarpine.
- You will then be seated at the laser, and a local anaesthetic drop administered to numb the eye. A large contact lens is fitted onto the eye.
- The contact lens holds the eyelid open and provides a special prism to focus the laser on the surface of the iris in the peripheral zone.
- Usually two holes are made in each eye. These are permanent so that the eye is protected from acute angle closure glaucoma for the rest of its life. The small hole is not easily recognised by the naked eye but is easily seen by an eye specialist during an examination.

What should you expect after Laser Peripheral Iridotomy?

- Afterwards, your vision may be blurred for a few minutes caused by the gel on the contact lens.
- It is not recommended that you drive yourself home so you will need to arrange suitable transport.
- Most people return to normal day-to-day activities the day after treatment

What are the risks of Laser Peripheral Iridotomy?

A Laser Peripheral Iridotomy is a very safe procedure. Serious long-term complications are extremely rare. Any minor short-term problems that occur usually include:

- Bleeding from the surface of the iris, which is then absorbed by the eye.
- If the blood flows over the pupil, vision would be intermittently blurred for a short while.
- The laser can also release pigment, which causes a minimal blurring of vision for a short time.
- The eye may become inflamed and require steroid eye drops.
- While extremely uncommon it is also possible to get some light perception through the small hole, which can be troublesome.

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