

YAG laser peripheral iridotomy (PI) for glaucoma

At Peel Vision, we use the advanced TANGO™ SLT/YAG combination laser, a state-of-the-art laser using ultra-low energy levels, ensuring the highest levels of safety and precision.

When is YAG laser PI required?

YAG laser PI is used most commonly as a preventative treatment for patients with narrow drainage angles in their eyes, which puts them at risk of sight-threatening acute angle-closure glaucoma.

YAG laser PI is also used to treat patients who have already developed acute angle-closure-glaucoma.

What is narrow angle glaucoma?

The front chamber of the eye is filled with a fluid called the Aqueous humour. This fluid is constantly produced and pumped into the eye by the **ciliary body** of the eye, and drained out of the eye through the **angle** of the eye, via a spongy structure called the **trabecular meshwork**.

To maintain normal pressure in the eye, the rate of fluid production into the eye must equal the rate of fluid drainage out of the eye. If it does not, then the pressure in the eye begins to rise, leading to glaucoma.

In narrow angle glaucoma, the natural shape of the eye is such that the drainage angle is narrow. This may just be an anatomical variant that patients are born with, but is more likely in patients with high levels of long-sightedness (hypermetropia), and may also be exacerbated with age as cataracts develop behind the drainage angle. If the angle is narrow, the fluid may not drain out of the eye as fast as it is produced, leading to a rise in eye pressure and glaucoma. If this occurs over a long period of time, it is called chronic narrow angle glaucoma. This form of glaucoma is usually painless, but leads to progressive loss of peripheral vision if not treated.

What is acute angle-closure glaucoma? (AACG)

Patients with narrow angles are at risk of developing AACG, whereby the drainage angle suddenly closes off, leading to a complete blockage of fluid drainage out of the eye. If this happens, the eye pressure can rise very rapidly to dangerously high levels, leading to severe eye pain, headaches, haloes, and nausea and vomiting. This is a true eye emergency, as it can lead to permanent vision loss if not treated quickly.

What does YAG laser PI do?

YAG laser PI uses the heat of a focused laser beam to create extra drainage ports in the iris of the eye. These ports are usually created in the upper iris of the eye, under the upper eyelid. These extra “back-up” ports will allow the fluid in the eye to continue to flow throughout the eye in the event of acute angle closure, thus reducing the risk of AACG and visual loss.

How is YAG laser PI performed?

YAG laser PI is performed in our clinic. It is a safe, quick and relatively painless procedure.

Local anaesthetic eye drops, as well as pupil-constricting and pressure-lowering eye drops are placed in the eye to be treated. The patient is comfortably seated in front of the laser, and their chin placed in an adjustable chin rest. A contact lens is placed in the eye to keep it open and focused during the laser. The laser is applied in short pulses. During the procedure, most patient do not feel any pain. Some patients may, however, feel a slight discomfort as the laser pulses are applied.

The procedure should take only a few minutes to complete. When it is finished, the contact lens is removed. No eye patching is required after laser, but dark glasses should be worn for comfort on the journey home.

What happens after YAG laser PI

After the procedure is complete, you will be observed in our waiting room for a minimum of 15 minutes. You will then be allowed to return home with your driver. You will be advised to rest and take it easy in the first 24 hours after this laser.

Dr Then may prescribe mild anti-inflammatory eye drops to be used for 1 week after laser. Any regular glaucoma drops should be continued as normal following laser.

Most patients do not experience significant pain or visual blur after YAG laser PI. However, some patients may experience a slight aching discomfort for a few hours after the laser. You may take simple pain-killers for any mild discomfort after this laser (eg Panadol or ibuprofen).

You will be scheduled for a follow-up appointment in our clinic the next day and 1 week later. This is to check your eye pressure and to ensure that you have not developed any problems after the laser.

You should NEVER experience severe pain or visual loss after this laser. If this occurs, please call our rooms immediately on (08) 9535 4321. If after-hours, please present to the Peel Health Campus emergency department for immediate assessment; Dr Then will be advised if this occurs and will arrange an appointment to see you soon after.

What are the risks of YAG laser PI?

This is generally considered a safe procedure, and complications are rare. Most complications are self-limiting or easily treated. These include:

- Transient rise in eye pressure
- Bleeding from the iris
- Glare or double-vision in one eye
- Retinal damage from the laser inadvertently going to the back of the eye

Patient acceptance of risk

It is impossible for Dr Then to inform of every possible complication that may occur. Results cannot be guaranteed and more treatment/surgery may be necessary.

We confirm you have signed a consent form with Dr Then to proceed with this procedure.

Dr Then has answered any questions to your satisfaction. Costs of having YAG laser peripheral iridotomy performed have been explained.

If you have any additional queries, please do not hesitate to call 9535 4321.

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