

Ophthalmology

YAG Laser Peripheral Iridotomy (PI)

What is a YAG laser peripheral iridotomy?

A peripheral iridotomy is a very tiny hole created with a laser in the outer part of the iris (the coloured part of the eye). This is usually not visible with the naked eye as it is very small and we usually aim to place it so that it is covered by the upper eye lid. In some cases it may be placed elsewhere in the peripheral iris.

Why is laser peripheral iridotomy performed?

A laser peripheral iridotomy is usually carried out to treat or prevent a sudden rise in pressure inside the eye (acute glaucoma). It can also be used in some patients with chronic glaucoma to open up access to the drainage angle and may help slow down the progress of chronic glaucoma. If untreated, a sustained rise in pressure can cause a permanent loss of vision. The peripheral iridotomy allows fluid to circulate freely within the eye minimising the risk of a sight-threatening pressure rise.

This laser is performed to **preserve** your sight. It will **not restore or improve** your sight.

Are there any risks?

This procedure is regularly carried out in the Ophthalmology department and complications are uncommon. The most common complications are a temporary rise in pressure and some inflammation shortly after the treatment.



Risks include:

- **Raised Eye Pressure:** Around one in 10 people in the early stages of the disease experience some pressure rise. In advanced cases, one in three may be affected. The rise in pressure may last from hours to weeks. If it happens, it is treated with medication. Some patients may have a persistent rise of intraocular pressure (fluid pressure inside the eye) after the laser treatment requiring further medication, laser or surgery.
- **Inflammation:** It is common to have some inflammation, which settles down with medication. Uncommonly the inflammation may be persistent and may affect vision by causing fluid build-up at the back of the eye.
- **Bleeding from the iris:** there may be a tiny bleed inside the eye and this can cause temporary blurring of vision. This bleeding is usually small and is easily stopped by pressure on the eye for a few minutes. Please tell us if you are taking warfarin or other anticoagulants. Patients taking warfarin to reduce blood clotting should have had a recent blood test (within one week) confirming an INR of less than 3.0. They should also bring their yellow book with them.
- **Change in Vision:** Up to one in 4 patients may notice a change in their vision. In the majority of cases, the vision returns to normal within a month. Some patients notice a permanent change in their vision. As the procedure creates a very tiny hole in the iris some patients may experience visual phenomenon like ghosting around objects, glare, halos, lines in the vision, double vision or dislike of bright lights. **This in most cases is transient or not significant. Very uncommonly these may be significant and permanent.**
- **Discomfort:** this can usually be controlled with regular painkillers.
- **Further treatments:** some people need more than one laser session or surgery.
- **Clouding of the cornea (clear window) of the eye:** this usually goes away on its own, but it may cause blurred vision for some time.
- **Cataract (clouding of the lens):** laser can sometimes cause a cataract to develop more quickly than it would naturally have developed.

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- **Decreased vision:** The risk of vision loss or the need for urgent surgery after the procedure is rare (around 1 in 5,000).
- **Other rare complications:** retinal detachment.

Please discuss any concerns you have with the doctor before the procedure.

Are there alternatives to laser treatment?

Surgical lens extraction (a procedure which is technically identical to cataract surgery) is another treatment for angle closure. Lens extraction surgery has a higher risk of permanent vision loss compared to laser peripheral iridotomy, although the risk is still low (less than 1 in 1000). For this reason, lens extraction is usually only recommended for patients who are already developing visual problems from cataract, or for patients who are unlikely to benefit from laser treatment.

In a very small number of cases it may be possible to prescribe pilocarpine eye drops to open the angle. These drops are usually not recommended in long term due to their potential side effects.

Patients, who choose not to have laser peripheral iridotomy or lens extraction treatment risk developing angle-closure or deterioration of established angle closure. This can result in high intraocular pressure and loss of vision from glaucoma. Observation without any treatment is an option for patients who do not have high intraocular pressure or other signs of damage from angle closure and we would recommend having regular reviews.

What happens when I arrive?

You will initially be seen by the ophthalmic nursing staff who will check your vision and put some drops in your eyes to prepare you for the laser treatment. The doctor will discuss the procedure, the risks and benefits and ask you to sign a consent form and may put in some more drops.

You will be given two types of drops (apraclonidine and pilocarpine). Please note you will not be suitable for apraclonidine if you have had a

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heart attack or significant angina. So please tell us if you have heart problems. The pilocarpine drop often causes a transient headache, and may affect the vision, for example by altering the focus of the eye, and making things appear darker and more blurred than usual. These effects are normal and temporary.

Procedure

Your visit will usually take about half a day in total. The doctor will initially numb the eye with some drops and ask you to rest your chin on the laser machine. The machine is similar to the instrument used to examine the eye in the clinic.

The procedure usually takes between 10-15 minutes. A bright white light is shone into the eye to allow the doctor to see where the treatment is being applied. This can cause the vision to be dimmed for up to 30 minutes afterwards. In most cases, a pulsed ("YAG") laser is used, which makes a soft clicking noise and gives a very short flicking sensation when activated. For patients with a thick brown iris, a continuous wave ("argon") laser is used as an additional treatment before the YAG laser. While most people do not experience any sensation apart from the flicking, the treatment is occasionally uncomfortable for a small number of patients.

Once the procedure is complete you will need to wait to get your eye pressure checked around one hour after the procedure to make sure it remains stable.

What happens next?

You will be usually be given some drops to use for two weeks to control any inflammation within the eye. **Your vision may be blurred for the rest of the day so we advise you not to drive home.** You can usually resume other normal activities immediately. You will be sent an appointment for follow up in the eye clinic in two weeks' time. **If you do not receive an appointment then please do contact us.**

You should continue all your other eye drops unless instructed otherwise.

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If after the treatment you suddenly develop any of the following:

- Significant and persistent pain and/or redness in the eye
- Significant and persistent or sudden decreased vision
- Flashing lights
- Loss of vision, like a curtain in front of your eyes

Emergency eye appointments:

New booking system

If you have an urgent eye problem, you can now book an on-the-day telephone consultation via the **Eye Emergency Referral Service (EERS)**.



Scan the QR code or visit www.uhcw.nhs.uk and search "Eye Emergency Referral Service" to book a telephone consultation.

You will be spoken to by an expert clinician who will give you specialist advice on the next steps to take.

In the event that you feel you cannot wait to speak to someone or do not have online access then you may call 0247 696 4800.

This phone line is open 9am -1pm; 1.30pm - 5pm (Monday - Friday, excluding bank holidays) and 9am - 12pm (Saturday).

In the event of an eye emergency out of hours, please attend the Minor Injuries Unit/Emergency Department.

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Further Information

Any queries about information in this leaflet please contact:

Mr Atul Bansal (Consultant with special interest in Glaucoma and Cataract surgery) through glaucoma secretaries: Michelle Donnelly / Jayne Owen: Tel: 024 7696 6502

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