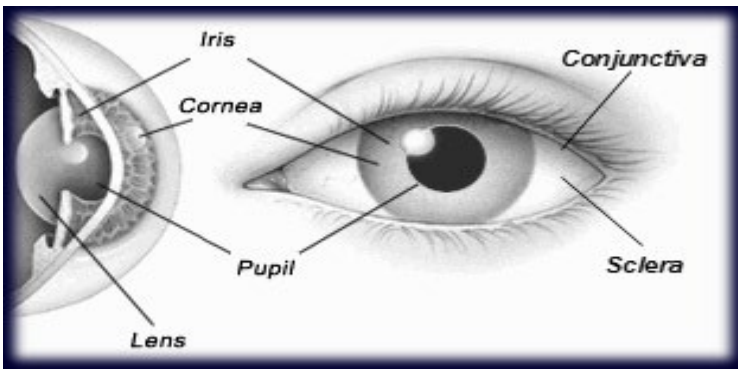
Glaucoma - Laser Treatment

If you have difficulty reading this leaflet, please ask us to send you a copy in a larger print size.

If your first language is not English, we can arrange for an interpreter to be available. Please let us know in advance if you require this service.

Medical laser therapy is widely used to treat a number of eye conditions. Laser treatment offers important advantages, as it often means eye operations can be avoided. The use of the laser is without discomfort for most procedures.

This leaflet is to help you understand more about your laser treatment, and what to expect. To have a better understanding it is helpful to see what the eye looks like from the inside.



The eye consists of two main parts separated by the lens. The front part is called the **anterior segment**, and is situated between the cornea and the lens. It's in this part that the laser treatment which this leaflet describes takes place.

There are two main laser treatments used:

- **YAG Laser Iridotomy** (To prevent acute glaucoma attacks)
- **Trans-scleral Photocoagulation (Cyclodiode Laser)** (To help reduce high pressure due to chronic glaucoma)
- **Selective Laser Trabeculoplasty (**To help reduce pressure due to chronic open angle glaucoma)

The Ophthalmologist (Eye Doctor) will be able to explain which laser treatment relates to you.

YAG Laser Iridotomy

The YAG (Yttrium-Aluminum-Garnet) laser is used to prevent a sudden rise in pressure inside the eye, which is called **acute glaucoma.** Attacks are painful and can threaten vision.

The laser makes a hole in the **iris** (the coloured part of the eye), creating a new passage for the fluid inside the eye to pass through, which helps to control the pressure. It is common for both eyes to be treated in this way.

Local anaesthetic eye drops may be instilled to numb the front of the eye before a special contact lens is placed on it. The contact lens provides a greater magnification for the surgeon. A beam of red light is used to aim the laser before it is operated. You may hear a 'click' each time the laser is fired. The treatment takes a few minutes, and may involve a little discomfort as the laser is fired into the sensitive tissue of the iris.

Afterwards, it is sometimes necessary for more eye drops or tablets to be taken. They help to protect against any inflammation or short-term increase of pressure in the eye.

Trans-scleral Photocoagulation (Cyclodiode) Laser

This is a type of laser used in patients with **chronic open angle glaucoma.**

If you have healthy eyes the fluid in your eye (aqueous humour) flows through the pupil into the front of the eye. It then drains away through drainage channels. If you have glaucoma, the fluid in the eye cannot drain away properly.

This results in a build-up of pressure within the eye. Over a period of time, this high pressure can injure your optic nerve – the nerve that carries information from your eye to your brain – leading to damage in your peripheral vision.

The cyclodiode laser is a highly concentrated beam of light, which can be used to target and treat a selected area. The aim of the laser therapy is to lower the pressure in the eye by reducing the production of fluid within the eye. The reduced amount of fluid causes the eye pressure to fall.

This laser treatment is normally performed under local anaesthetic (where the eye is numbed using eye drops). The laser is then applied through the sclera (the white of your eye) using a pen-like instrument. At the end of the procedure, an injection of steroid is given to help reduce inflammation that may occur following the laser treatment. An eye pad will be applied over the eye and you will be given drops to take at home. The procedure normally lasts around 20 minutes.

Your eye may be red and sore when the anaesthetic wears off. If this happens, you should take normal painkillers e.g. paracetamol. Your sight may be blurred for a few days or even a few weeks, but it should settle down to how it was before the laser treatment was performed. In around 30% of cases, patients will need repeat treatment to achieve low pressure in the eye.

It is rare to have any serious complications after this procedure. Occasionally, the pressure may be too high or low following treatment. In very rare cases persistently very low pressure can cause permanent loss of vision and alter the cosmetic appearance of the eye. All the risks and benefits of the treatment will be explained to you and you will be asked for your consent before the procedure takes place.

Selective Laser Trabeculoplasty (SLT)

Selective Laser Trabeculoplasty (SLT) is used to help reduce high pressure inside the eye, called **chronic open angle glaucoma**.

Results are best if all 360 degrees of the eye's drainage channels (called the 'trabecular meshwork') is treated at one sitting.

Local anaesthetic eye drops may be instilled to numb the front of the eye before a special contact lens is placed on it. A beam of red light is used to aim the laser before it is operated. You may hear a 'click' each time the laser is fired. The treatment takes a few minutes, and may involve a little discomfort as the laser is fired into the sensitive tissue of the iris. A number of laser shots are given at one sitting, so the laser treatment may take a little time.

Afterwards, it is sometimes necessary for more eye drops or tablets to be taken. They help to protect against any short-term increase of pressure in the eye.

Follow-up appointments are very important, as there may be a tendency for the pressure to build-up again over time. If necessary, SLT laser can be repeated if the effect wears off.

Where will the laser treatment be carried out?

An eye doctor or eye specialist (ophthalmologist or optometrist) carries out the laser treatment as an outpatient procedure, which means that you can go home afterwards. A treatment session can vary in length from person to person. Ask your eye doctor how long your sessions will last and whether you will be expected to come back for more treatment.

What should I do before I come into hospital?

Please **do not drive** yourself to this appointment as the dilating drops blur your vision and make your eyes sensitive to daylight. The drops may also invalidate your driving insurance for as long as the symptoms last, which could be 6 hours or more.

It is important to use your normal eye drops and other medications on the day of your laser treatment, unless your eye doctor has told you not to.

Patients taking warfarin should have had a recent blood test (within one week) confirming an INR of less than 3.0. Please tell us if you are taking warfarin and bring your yellow book.

What do I need to do after I go home?

Your eye may feel a little sore and red after the procedure. If you have discomfort once you get home, we suggest that you take your usual pain relief, following the instructions on the packet. It is normal to have the following symptoms for a few hours after the laser treatment:

- irritated eyes
- red eyes
- mild discomfort.

You may also find that your vision has altered a little after the treatment due to the drops used. This is normal, and vision usually returns to how it was before the laser treatment within about six hours.

What are the potential risks and side effects?

Generally, laser treatment is a very low-risk procedure. The most common adverse event is a temporary rise in intraocular (eye) pressure. This will be detected by measurements taken before and after the procedure. The likelihood of pressure rising is related to the severity of the glaucoma. Approximately one in ten 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 occurs, it is treated with medication.

Inflammation can also occur following the laser procedure. This can be treated with anti-inflammatory drops used in the affected eye/s for a week or so.

A small amount of bleeding from the laser hole (inside the eye) is fairly common and can cause misty vision which usually settles within 24 hours. 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. The risk of vision loss or the need for urgent surgery following the laser procedure is extremely rare (around 1 in 5,000).

What should I do if I have a problem?

If you need urgent advice about your eye(s) following laser treatment, you can contact our Eye Emergencies telephone line on 0300 131 4500 extension 771744 (Mondays to Fridays between 09:00am and 5:00pm). Outside of these hours, call 0300 131 4500 and ask to speak to the on-call eye doctor.

Consent (Giving your permission)

The staff caring for you will seek your permission to perform a particular treatment or investigation. You will be asked to sign a consent form that says you have agreed to the treatment and that you understand the benefits, risks and alternatives. If there is anything you don't understand or if you need more time to think about it, please tell the staff caring for you. Remember, it is your decision. You can change your mind at any time, even if you have signed the consent form. Let staff know immediately if you change your mind. Your wishes will be respected at all times.

Important information

The information in this leaflet is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

Your comments

We are always interested to hear your views about our leaflets. If you have any comments please contact the Patient Experience Team – on 0300 131 4731 or by email at: esh-tr.patientexperience@nhs.net

Hand hygiene

The trust is committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

Other formats

If you require any of the Trust leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department.

Tel: 0300 131 4434 Email: esh-tr.accessibleinformation@nhs.net

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

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Reference

Reviewed by: Paul Russell (Ophthalmology Staff Nurse)

The directorate group that have agreed this patient information leaflet:
Ophthalmology Department, Diagnostic, Anaesthetic and Surgery division (DAS)

The following clinicians have been consulted and agreed this patient information:
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Responsible clinician/author: Ophthalmology Department (ESHT)