

## Selective Laser Trabeculoplasty (SLT)

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### Introduction

This leaflet is for patients undergoing Selective Laser Trabeculoplasty.

### What is Glaucoma?

The optic nerve carries images from the retina (light-sensitive layer at the back of the eye) to the brain, allowing you to see. (See Figure 1, right.)

Glaucoma is the name given to a group of conditions that cause damage to the optic nerve where it leaves the eye. It affects 1 in 50 people over the age of 40.

Glaucoma can cause loss of vision.

Your Ophthalmologist will assess you and let you know if glaucoma laser treatment is suitable for you. However, it is your decision to go ahead with the laser therapy or not.

This document will give you information about the benefits and risks to help you make an informed decision.

### How does Glaucoma happen?

Glaucoma can be caused by an increase in pressure in the eye (called the intraocular pressure). Fluid (aqueous) is constantly being made in the eye and drains out slowly into the bloodstream. The pressure in the eye can increase if the fluid does not drain properly.

Sometimes the optic nerve can be damaged, even though the pressure in your eye is within the normal range.

Most people do not realise there is a problem in the early stages. This is because it is usually painless, and peripheral (side) vision is usually affected first.

There are several types of glaucoma. The two main types are:

- Open-angle glaucoma
- Angle-closure glaucoma.

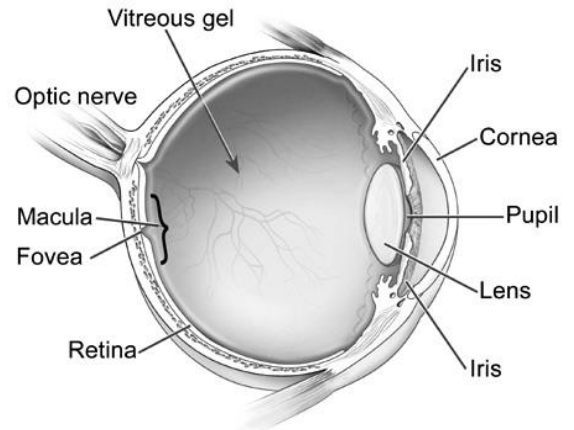


Figure 1

## Selective Laser Trabeculoplasty (SLT)

### Open-Angle Glaucoma

Open-Angle Glaucoma, the most common form of glaucoma:

- Is caused by the slow clogging of the drainage canals, resulting in increased eye pressure;
- Has a wide and open angle between the iris and cornea;
- Develops slowly and is a lifelong condition;
- Has symptoms and damage that are not noticed.

“Open-Angle” means that the angle where the iris meets the cornea is as wide and open as it should be. Open-Angle Glaucoma is also called primary or chronic glaucoma. (See Figure 2.)

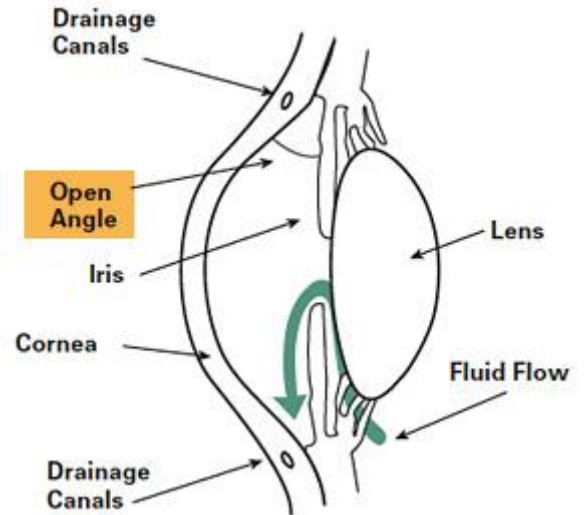


Figure 2

### Why am I being offered Selective Laser Trabeculoplasty (SLT)?

Glaucoma can sometimes be treated successfully with medications to lower the pressure in the eye. If medications are not effective, laser and other surgical procedures could be of value in controlling the pressure and preventing further vision loss.

Both medications and surgery are designed to do one of two things:

- Decrease the amount of fluid production in the eye.
- Improve the flow of fluid out of the eye.

SLT is one option for lowering the pressure in the eye, for patients who have Open-Angle Glaucoma in the early stages, and also in combination with drug therapy or as an alternative therapy when drugs fail.

It is a flexible treatment option and can be repeated if necessary, depending on the individual patient's response.

### Selective Laser Trabeculoplasty (SLT):

#### How it works

The trabecular meshwork is found around the edge of the iris and is where fluid made in the eye drains out of the eye. This meshwork is treated directly with the laser to improve drainage through it. (See Figure 3, below.)

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SLT uses short pulses of relatively low-energy light to target the melanin-rich cells in the drainage channel of the eye. It is believed that melanin-rich cells increase fluid outflow resistance and therefore contribute to the build-up of pressure in the eye.

The laser pulses affect only these melanin-containing cells, leaving the surrounding structure unaffected. This gentle laser treatment induces a response from the body in which white cells are released to clear the affected cells and rebuild the meshwork so that it again functions effectively, reducing the intraocular pressure.

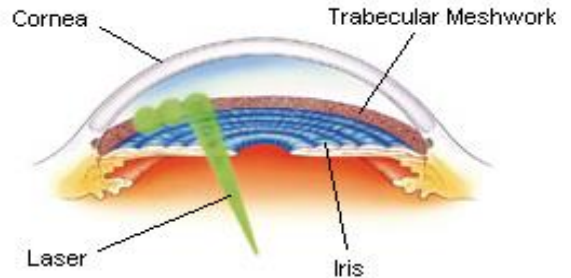


Figure 3

Essentially, your body's own healing response (activated by SLT treatment) helps lower the pressure in your eye.

### Benefits

SLT effectively lowers raised intraocular pressure without the side effects or difficulty of taking eye drops. The treatment is particularly suitable for patients who cannot correctly use, or are intolerant of, glaucoma medications. SLT can also be used alongside medication to enhance the overall pressure-lowering effect. It has the advantage of not causing any damage to the tissue treated.

### The SLT treatment procedure

Treatment takes place in the Outpatient Department. A nurse will check your vision and put some drops into your eye to prevent the eye pressure rising. These drops might cause a temporary headache and can take up to one hour to work. A doctor will take your written consent and explain further, if you have any questions.

Once seated in front of the laser machine, which looks similar to the microscope used to examine your eye[s] in clinic, you will have anaesthetic drops put in to numb the front of your eye.

A special lens will then be placed against the front surface of your eye. This is not painful, but it might feel a little strange. During the laser treatment, you might see some flashes of light and hear clicking noises. Most patients tolerate the laser treatment well, but some may feel slight discomfort. The procedure takes between 10 and 15 minutes.

You may be given a prescription for drops to take three times daily at home **if the eye aches**. If it is comfortable, there is no extra treatment, but **do continue your usual glaucoma drops if you use them**.

We will make an appointment for you to come back to the clinic approximately six weeks after the laser treatment.

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### Potential side effects

Your vision will be blurred for a few hours following your laser treatment, but this will settle. The chance of your vision being permanently detrimentally affected from SLT is extremely small. If you are concerned that your vision is not returning to normal, please contact us on the numbers at the end of this leaflet.

You are also advised not to drive yourself to the hospital, as you may be unable to drive home if the drops should cause blurred vision.

It is possible for the pressure in your eye to increase immediately after the treatment and for there to be inflammation. In order to prevent this, we put in special drops when we treat you, and check the pressure afterwards.

Rarely, the pressure in the eye rises to a very high level and does not come down. If this happens, you might require surgery to lower the pressure. This is a very unusual event.

### Success rate

Studies show a 78% success rate for SLT, with some patients responding well to the treatment, but others not responding at all.

Usually, we cannot predict how well the laser will work as your response is determined by the type of glaucoma you have and the basic make-up of your eye.

If you take eye drops, you will usually need to continue these to lower the pressure after laser trabeculoplasty.

It will take up to eight weeks after the laser treatment for the pressure to be reduced.

You might require additional laser surgery to lower the pressure if it is not sufficiently low after your first laser treatment.

The effects of the laser treatment might wear off in time; about half of all treatments stop working after five years, but the treatment can be repeated.

**Ophthalmology Department: Monday to Friday, 9.00am – 5.00pm**  
**Tel. 01423 553195 or 01423 553423**

**Outside these hours:**  
**Tel. 01423 885959 and ask for the On Call**  
**Ophthalmologist.**

If you require this information in an alternative language or format (such as Braille, audiotape or large print), please ask the staff who are looking after you.