



REI Department

Selective Laser Trabeculoplasty (for treatment of Glaucoma)



What is Glaucoma?

Glaucoma is a disease of the eye in which pressure builds up inside the eye (intraocular pressure or IOP) and causes damage to the optic nerve, the nerve that connects the eyeball to the brain, hence affects our vision.

Vision loss from glaucoma is permanent but can usually be prevented with early detection and treatment. Reducing pressure inside the eye is the only proven method of controlling glaucoma and preventing long-term nerve damage.

Management of glaucoma is usually lifelong, requiring frequent monitoring and continuous treatment.

The treatment options are determined by the type and severity of the disease, as well as patients' choice. They involve the use of different eye drops (usually when the patient is on three drops to lower the pressure and still the control is unsatisfactory, other measures such as surgery must be considered), laser and surgery. Each form of treatment has its own advantages and disadvantages.

The Laser Treatment

Selective Laser Trabeculoplasty (SLT) is a safe and simple out-patient procedure that effectively reduces eye pressure in most patients with glaucoma.

The procedure is quick and takes only a few minutes to treat either one or both eyes. It does not require any incision (cut). Depending upon the clinical requirements it is performed either in a single or two separate appointments.

When do we use Selective Laser Trabeculoplasty (SLT)?

SLT is recommended as the first line treatment for the 'Primary Open Angle Glaucoma', the most common type of glaucoma. It is also used in the treatment of Ocular Hypertension (high eye pressure without optic nerve damage) to prevent progression to glaucoma.

SLT is commonly used when eye drops alone are not sufficient to achieve good glaucoma control.

How does SLT work?

Pressure inside the eye is maintained by a fine balance between fluid production in the front of the eye and its drainage through a structure called trabecular meshwork into the veins outside the eye.

Any mismatch between this production and drainage leads to buildup of fluid inside the eye and results in pressure over the optic nerve.

SLT targets pigment cells in the trabecular meshwork in the drainage angle of the eye, which improves drainage of the fluid out of the eye.

What to expect on the day of treatment?

When you arrive, your vision will be checked, and eye pressure may be recorded. Your consent and other documents will be checked.

We will put in some eye drops to have a better view of your drainage angle (pupil constriction), and to control your eye pressure during and after the laser. You might experience some headache and blurred vision with the eye drops and your pupils will become smaller for a few hours.

The treatment will be performed in a dedicated Laser room in the eye clinic. After numbing your eye with anaesthetic eye drops, we place a special contact lens on the front of your eye. This is not painful, but it might feel a little strange and uncomfortable.

The procedure takes a few minutes, and we might do either one or both of your eyes on the same day as per plan. You may be asked to wait for about an hour after the laser to check eye pressure.

After the laser, you will not be able to drive back home.

What happens after the laser?

If you are already on eye drops for glaucoma, you will normally be advised to continue taking them after the laser treatment. It takes about six weeks to get a response from the laser treatment.

A follow-up appointment will be arranged in around 8 to 12 weeks. The effect usually lasts for 3 years on average, and the SLT can be repeated, if necessary.

When can I resume driving and work?

You can plan to drive and return to work in 24 to 48 hours, depending upon your recovery.

What complications can arise?

The procedure is usually safe and painless, and most patients feel their eyes have recovered by the following day.

The laser treatment works by producing some low-grade inflammation in the eyes and this may result in the eyes being a little light sensitive for a week or two afterwards. In some cases, this may be severe enough to warrant treatment with anti-inflammatory drops.

A small rise in eye pressure is common, but in a few patients the eye pressure may rise significantly, immediately following the laser. This may require additional treatment for a few days and settles in most cases. Some patients are at a higher risk than others and, if it applies to you, your Ophthalmologist will explain this to you at the time of booking you for the laser.

There is a risk of a permanent increase in the eye pressure requiring additional eye drops or even a surgical intervention is necessary. This risk is about 1 in 1000 people.

Rarely, some patients may notice reduced vision due to the swelling of the back of the eye caused by inflammation (cystoid macular oedema).

Other complications that happen very rarely are bleeding inside the eye, cataract formation and clouding of the cornea.

You should contact us urgently should you have any concerns.

Success rate

Different people will experience a different pressure-lowering effect. The results are variable due to a variety of factors such as the structure and pigmentation of the trabecular meshwork, and the type of glaucoma. Laser response cannot be accurately predicted, and treatment may be adjusted according to the individual needs. It is effective in reducing intraocular pressure in about 80% of cases, whilst about 20% of patients either do not respond to SLT or the response is short-lived.

Consent

We must by law obtain your written consent to this procedure beforehand. Staff will explain all the risks, benefits, and alternatives before asking you to sign a consent form. If you are unsure about any aspect of the treatment proposed, please do not hesitate to speak with a senior member of staff.

Further Information

For further advice and information please telephone the REI Department on 01305 255192.

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