



Patient Information Leaflet – Glaucoma Procedures

Selective Laser Trabeculoplasty (SLT Laser)

What is Selective Laser Trabeculoplasty (SLT)?

SLT is a laser therapy used to treat patients with glaucoma. It is a safe, quick and relatively non-invasive procedure that aims to lower the pressure inside the eye (intraocular pressure). The procedure does not require admission to hospital and is carried out as an outpatient procedure.

How does SLT work?

Glaucoma is often caused by raised pressure in the eye. This is due to insufficient drainage of fluid (aqueous) through the natural drainage channels in the eye. SLT uses an advanced laser to target cells in the natural drainage channels of the eye (the trabecular meshwork). Short pulses of low energy light are used to target only those cells containing melanin, a natural pigment. The exact mechanism of SLT is not known but the laser appears to boost the trabecular meshwork drainage cells. This improves drainage of the fluid from the eye and so lowers intraocular pressure. As the laser therapy uses low energy, SLT does not appear to cause collateral damage. Some patients can have an early response to the SLT but in most cases it can take up to 6 or 8 weeks for the effects of the laser to be apparent and for intraocular pressure to drop.

Following the laser it is important to continue to use your medications for glaucoma as normal, including on the day of treatment.

What happens on the day of treatment?

Expect your visit to take about 2 hours. You will be asked to attend the clinic in advance of the treatment time to have some drops instilled in the eye to prevent a

pressure rise in the eye from the treatment. There will be an opportunity to ask questions before the treatment. Anaesthetic drops will be put in to numb the eye during laser therapy. The laser is delivered through a specially designed microscope. It is very similar to the slit-lamp microscope you sit at in clinic to have your eye examined. A special lens will be placed against the front surface of your eye for better viewing. This lens also holds your eyelid open and keeps the eye still so you don't need to worry about blinking or moving your eye. During the laser treatment, you may see some flashes of light and hear clicking sounds as the laser pulses are delivered. The laser treatment is generally painless, although some patients experience mild discomfort.

Following the laser you will be asked to wait for approximately one hour so that your intraocular pressure can be checked a final time. Occasionally SLT can cause a spike in intraocular pressure, which is usually temporary. You will then receive an appointment to come back to the clinic usually in about 6-8 weeks. There are no activity or work restrictions after SLT.

Are there any risks or side effects of this treatment?

Your vision may be slightly blurred for a few hours following your laser treatment. This will settle but it is advisable that you do not drive yourself to the laser clinic appointment as you might find it difficult to drive home. If you are concerned that your vision is not returning to normal please contact the hospital on the number below.

Your eye may feel slightly bruised afterwards or be a little red. This may be due to the lens used for viewing at the time of the SLT and should settle overnight. You may wish to take a mild painkiller, for example Paracetamol, to relieve this discomfort. If you are already taking painkillers for a different condition continue with these, but do not take both.

It is possible for the pressure in your eye to increase immediately after the treatment. In order to prevent this we put in some special drops beforehand. A pressure rise would normally be detectable when we check the intraocular pressure following SLT. Occasionally we need to prescribe additional drops to lower the pressure in the short term until the pressure spike resolves. There is a very tiny risk that your pressure may not respond and require further intervention or that it will cause a change or reduction in your vision.

How successful is it in lowering the pressure?

SLT is not recommended for all types of glaucoma and does not work in all patients. Its success can vary on an individual basis and will be discussed with you; overall, studies show about 70% success. It is usually necessary to continue with some eye drops to lower the pressure after SLT. It may take days or weeks after the laser treatment for the pressure to be reduced. The effects of the laser may wear off in time. In fact about 50% stop working by 5 years. As the laser does not damage the tissues of the drainage meshwork can be repeated if the effects wear off.

Contact information

The information in this leaflet is intended as a guide only as each patient's experience will be different. If you require any further information or are concerned about your eye following laser treatment, please contact my secretary at Princess Alexandra Eye Pavilion, the telephone number is 0131 536 4160. If you are unable to speak with my secretary please contact the Acute Referral Clinic (ARC) at the Eye Pavilion on 0131 536 3751. The Acute Referral Clinic is open weekdays from 9.00 am to 5.00 pm. At weekends or out of hours please contact your GP, optometrist, or Accident and Emergency at the Royal Infirmary who will be able to contact a member of our on call ophthalmology team for further advice.