Queen Victoria Hospital
NHS Foundation Trust

Selective Laser Trabeculoplasty (SLT)

Corneo-Plastic Unit

What is Selective Laser Trabeculoplasty (SLT)?

Selective laser trabeculoplasty is a type of laser treatment used for the treatment of glaucoma or raised intraocular pressure.

How does intraocular pressure become elevated

A clear fluid (aqueous humour) is produced by the cells at the back of the iris (the ciliary body). The fluid drains out of the eye at a constant rate from an area of filter-like tissue (trabecular meshwork) situated at the front of the eye -where the clear part of the eye (cornea) joins the white of the eye (sclera). This fluid maintains normal pressure in the eye.

Normal eye pressure (known as 'intraocular pressure' or 'IOP') is between 10-21mmHg and is maintained by a balance between the amount of fluid that is formed and the amount that drains out of the eye. The IOP becomes elevated (high) when there is an imbalance and the fluid that is being formed at a constant rate is not draining out of the eye from the trabecular meshwork at the same rate.

Why does high intraocular pressure need treatment?

High intraocular pressure can cause permanent loss of vision. Lowering of pressure can protect vision.

How is raised intraocular pressure treated?

Raised intraocular pressure can be treated with drops, laser treatment (SLT) or surgery. SLT can be used either as the primary treatment or in addition to medical or treatment with eye drops. The choice of approach will depend on the level of your intraocular pressure and what previous treatment you have received.

How does SLT work?

SLT works by using a microsecond, pulsed laser to treat cells in the trabecular meshwork which contain the pigment melanin (pigmented cells). Using this type of laser ensures that there is no unintentional damage to non-pigmented cells unlike older forms of laser treatment (Argon laser trabeculoplasty). The treatment is thought to improve or enhance the outflow of fluid (aqueous humour) from the eye, thereby lowering intraocular pressure.

What happens during the procedure?

SLT is carried out as an outpatient procedure under local anaesthetic. There is no preparation required and you may eat and drink as normal before your procedure.

The laser treatment is applied whilst you sit at a modified slit lamp or the examination microscope (similar to the one used to examine your eyes by the ophthalmologist).

Local anaesthetic and pressure lowering drops are put into the eye being treated. A contact lens is then placed on the eye and the laser applied. You will see a bright light but the treatment is not painful.

The treatment takes approximately 15 minutes for each eye. You will have a pressure lowering eye drop immediately following the treatment. You may need to have your eye pressure checked one hour after your treatment; please be prepared to wait. Your ophthalmologist will advise you.

Your vision will be blurred for the rest of the day following laser treatment; please ensure you have someone with you to drive you home after the procedure.

You may be prescribed anti-inflammatory drops to use following treatment.
The treatment does not make your eye painful afterwards but you may take some paracetamol if you have any discomfort and your eye feels sore.

Are there any potential problems?

SLT laser treatment is safe in the vast majority of patients. Some patients can have the following side-effects:

- inflammation (usually short-lived)
- raised intraocular pressure (usually short-lived)

Can SLT fail?

The treatment is more effective in certain types of glaucoma than others. Treatment with eye drops in advance of surgery can also influence the effect of SLT. If necessary, the treatment can be repeated.

Questions or concerns

If you have any questions or concerns please do not hesitate to contact us:

Eye emergencies only 9am – 5pm
01342 306782

Out of hours, bank holidays and weekends please call Ross Tilley Ward on 01342 414451

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Please ask if you would like this leaflet in larger print or an alternative format.

Mr Gokulan Ratnarajan, Consultant Ophthalmic Surgeon
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