

SLT Selective Laser Trabeculoplasty

SLT has an 80-percent success rate with few long-term side effects. Eye doctors increasingly believe SLT should be the first treatment for glaucoma, replacing medicated eye drops.

What Is SLT?

Selective laser trabeculoplasty (SLT) is a simple yet effective laser procedure that lowers the intraocular pressure (IOP) associated with glaucoma. Ophthalmologists perform the outpatient procedure in their office, which typically takes five to 10 minutes.

How Does SLT Laser Treatment Work?

SLT works when laser energy is applied to the drainage tissue (trabecular meshwork) located in the front of the eye. This is the natural drain for fluid.

SLT stimulates the trabecular meshwork through a chemical and biological change to increase the amount of fluid drained from within the eye. This lowers eye pressure.

The treatment may take one to three months to take full effect. It is important to remember that this treatment is performed to save your sight and is not meant to improve your sight or restore any sight you may have already lost.

Who Is a Candidate for SLT?

If you fit into any of the following categories, you are a good candidate for SLT:

If you have primary open-angle, pigmentary, pseudoexfoliation or juvenile glaucoma. Your ophthalmologist will guide you on which type of glaucoma you have and if you qualify for SLT.

If you are intolerant of glaucoma medications or have difficulty taking them as prescribed.

If you are currently undergoing glaucoma drug therapy and wish to combine it with SLT.

If you have a history of failed argon laser trabeculoplasty (ALT) treatment.

If it is difficult for you to commit to regular follow-up treatments due to lack of transportation, finances, or other limitations.

Benefits of SLT Laser Treatment for Glaucoma

SLT lowers eye pressure by about 20 to 30 percent, on average, and is effective in lowering eye pressure in about 80 percent of people who opt for the treatment. Recipients can expect to see noticeable results within three months of treatment.

Data suggests SLT reduces intraocular pressure caused by glaucoma for up to five years for most people and longer for others. Although the treatment eventually wears off, the trabecular meshwork can be stimulated again with repeat treatment.

Research published by the Glaucoma Research Foundation shows that SLT laser treatment has an excellent benefit-to-risk profile. And although some people required eye drops following SLT, they required fewer drops to control glaucoma resulting in significant cost savings.

Additionally, given the difficulties that people have with eye drops including costs, allergies, side effects, forgetfulness, and complicated eye drop schedules, there is a strong case for SLT to be applied as primary therapy for new glaucoma patients.

What Happens During the SLT Procedure?

Eye doctors perform SLT in a specially equipped laser room in the clinic. Clinicians administer medicated eye drops ahead of time to provide mild anesthesia and prevent a spike once treatment starts. They use no injections or needles.

Next, your doctor will place a special lens on the eye to focus the laser on the trabecular meshwork. The lens also prevents the eye from blinking and keeps the eye still during the procedure.

A clear gel is placed between this lens and the eye to protect the surface of your eye. Gentle pulses of light are then delivered through a specially designed microscope into the eye.

You will hear a series of clicks and may see flashes of light. The entire process takes just a few minutes and is pain-free, although some people might experience some slight discomfort.

Your doctor may treat your eye with anti-inflammatory eye drops once the procedure is complete.

Recovery after SLT for Glaucoma

At the end of the procedure, your doctor will remove the lens from the eye. Residue from the gel may remain on your eye for up to an hour, causing blurred vision or a feeling of eye heaviness.

As a new SLT recipient, you can expect to experience the following post-surgery symptoms for a few hours: Red eyes, Irritable eyes, Mild discomfort, Light sensitivity. Regardless, you should be able to return to work and your usual activities by the following day.

Your intraocular pressure should drop significantly in one to three days after the procedure. Your doctor may recommend periodic follow-up visits to monitor the progress of treatment.

If you are already taking glaucoma eye drops, your doctor will tell you which drops to continue using and how often to use them after the laser procedure.

Risks & Complications Associated with SLT Laser Treatment for Glaucoma

SLT has a strong safety record. In comparison to other glaucoma treatments such as eye drops, other laser treatments, and surgery, SLT has fewer side effects.

Although you could experience inflammation after the procedure, it is not common. To reduce inflammation, doctors often prescribe ibuprofen or other non-steroidal anti-inflammatory drugs.

There is also a small risk of a temporary spike in intraocular pressure immediately after the procedure. However, your doctor can take steps to alleviate this problem, including recommending glaucoma eye drops.

SLT Laser Treatment Vs Other Glaucoma Treatments

Apart from glaucoma eye drops, other similar glaucoma treatment procedures are:

Argon laser trabeculoplasty (ALT) or Micropulse laser trabeculoplasty (MLT)

ALT was the first laser trabeculoplasty procedure recommended for the treatment of glaucoma. It uses a thermal laser (heat) but can potentially cause more scarring in the drainage angle than SLT.

MLT was designed to reduce the amount of energy delivered to ocular tissues. It pulses the energy in small increments and therefore has similar potential benefits as SLT in terms of tissue scarring, lower inflammation and repeatability.

In terms of lowering intraocular pressure, the success rates of SLT, MLT and ALT are comparable.