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Informed Consent for Selective Laser Trabeculoplasty (SLT)

Selective Laser Trabeculoplasty, or SLT, is a form of laser surgery that is used to lower intraocular pressure in glaucoma. It is used when eye drop medications are not lowering the eye pressure enough or are causing significant side effects. It may sometimes be used as initial treatment in glaucoma. SLT is a laser technique used to lower eye pressure in patients with glaucoma. SLT does this by stretching open the eye's drain by placing small burns next to the drain. The pressure may also be reduced from a recruitment of certain blood cells, which help to clean out the eye's drain.

1. Who is a candidate for SLT?

Patients who have open-angle glaucoma (the drainage system in the front part of the eye is open) and are in need of lowering of their intraocular pressure (IOP) are eligible for the procedure. Your eye doctor will make the final determination if you are a candidate.

How does it work? Laser energy is applied to the drainage tissue in the eye. This starts a chemical and biological change in the tissue that results in better drainage of fluid through the drain and out of the eye. This eventually results in lowering of IOP. It may take 1-3 months for the results to appear. Most patients respond well to SLT, but some do not respond at all. It is difficult to predict how well the laser will work for you, and no guarantee or assurance can be made as to the results that may be obtained. The SLT procedure typically takes 1-2 minutes. You will hear clicking and may see a flashing light during the procedure, but most patients do not find SLT uncomfortable.

2. Why is it called Selective?

SLT is performed using an Nd:YAG laser. The type of laser used has minimal heat energy absorption because it is only taken up by selected pigmented tissue in the eye. Sometimes it is referred to as a "cold laser." Because of this, the procedure produces less scar tissue and has minimal pain.

3. What are the risks?

One key aspect of SLT is a favorable side effect profile, even when compared with glaucoma medications. Post-operative inflammation is common but generally mild, and treated with observation or eye drops or an oral non-steroidal anti-inflammatory drug. There is an approximately 5% incidence of IOP elevation after laser, which can be managed by glaucoma medications and usually goes away after 24 hours. After the SLT, most patients notice mild blurring and irritation. This generally clears up in a few hours to a few days. There is a very small chance your vision may be permanently affected from SLT.

The greatest risk of SLT is that the eye pressure may go up after the laser. To help prevent this pressure spike, you will receive drops before and after the laser. Most people will have their pressure checked about 1 hour after the laser. If the eye pressure does go up, we may give you medications to help lower the pressure.

In very rare cases, the eye pressure may go up and not come down with medicines. If this happens, you may require surgery in the operating room to lower the pressure. After the laser, you will need to use a drop 2 times a day for 4 days to help the eye heal. You may begin the drops when you get home after the laser treatment. In most cases, you will return to have your pressure checked in 2 weeks. It generally takes 4-6 weeks to obtain the full pressure reduction from SLT.

4. How effective is it?

SLT lowers the IOP by about 30% when used as initial therapy. This is comparable to the IOP lowering of the most powerful and commonly used class of glaucoma medication (prostaglandin analogs). This effect may be reduced if the patient is already on glaucoma medications.

