



Valley Eye

Diseases, Laser & Surgery of the Eye

Glaucoma

Glaucoma is a degenerative disease that if left untreated can cause permanent damage to the optic nerve resulting in gradual vision loss and eventual blindness.

Damage to the optic nerve, due to glaucoma, is usually caused by an elevated intraocular pressure (IOP). Clear fluid, called aqueous humor circulates through the eye providing nourishment to the tissues pressure to help maintain the shape of the eye.

Open Angle Glaucoma (OAG), occurs when there is an increase in fluid production or a decrease in fluid drainage. Over time, as the optic nerve fibers are destroyed, peripheral (side) vision is lost.

Blocked fluid flow

Aqueous humor flows out of the eye through the Trabecular Meshwork™, near the edge of the iris. If the TM is blocked, restricting drainage, the pressure inside the eye increases. This elevated pressure results in damage to the optic nerve and vision loss occurs.

Therapies

Treatment of Open Angle Glaucoma

OAG treatment concentrates on lowering the pressure inside the eye to prevent damage to the optic nerve. The most common treatments for glaucoma have been the use of medications (in the form of eye drops or pills), laser therapy or surgery.

Medical treatments

Eye drops are commonly used to control glaucoma, however, they can be very expensive, messy, and have unwanted side effects. Furthermore, they may need to be taken for the rest of your life. Some medications allow for faster drainage, while other medications reduce the production of aqueous humor.

Surgical treatments

If non-surgical methods fail to decrease pressure, surgery may be required to create a new drainage channel. Filtration surgeries are designed to relieve eye pressure by removing tissue, inserting implants in the eye, or a combination of both.

Selective Laser Trabeculoplasty

Selective Laser Trabeculoplasty (SLT)

SLT does not rely on medicines, instead, uses an advanced laser system to target only specific cells of the eye—those containing melanin, a natural pigment. This allows for only these cells to be affected, leaving surrounding tissue intact. As a result, your body's own healing response helps lower the pressure in your eye.

Benefits of SLT

Safe: SLT is not associated with systemic side effects or the compliance and cost issues of medications.

Selective: SLT utilizes selective photo-thermolysis to target only specific cells, leaving the surrounding tissue intact.

Smart: SLT stimulates the body's natural mechanisms to enhance outflow of the fluid in your eye.

Sensible: SLT therapy is reimbursed by Medicare and many other insurance providers, which minimizes your out-of-pocket expenses.

Early detection

Vision loss from glaucoma is permanent but can usually be prevented with early detection and treatment. Glaucoma management is usually a lifelong process that requires frequent monitoring and constant treatment. Glaucoma management is usually a lifelong process that requires frequent monitoring and constant treatment. Since there is no way to determine if glaucoma is under control based on how a person feels, doctor visits should be on a regular basis.

How SLT works

Selective Laser Trabeculoplasty (SLT) is an advancement over other lasers that have been used safely and effectively in the treatment of open-angle glaucoma for more than two decades.

SLT works by using laser light to stimulate the body's own healing response to lower your eye pressure. Using a special wavelength and energy, the laser affects only pigmented (melanin containing) cells of your eye. SLT improves the flow of fluid in the eye, which in turn lowers your eye pressure.

How SLT is performed

SLT is usually performed in the physician's office and only takes a few minutes. Prior to the procedure, eye drops will be given to prepare the eye for treatment. The laser applications are made through a special microscope, similar to the one used for eye examinations.

What to expect after SLT treatment

Your eye pressure may drop as quickly as a day or more of having SLT performed. The doctor may treat the eye with anti-inflammatory eye drops that will be continued after the procedure. Most likely, you will have to return for follow-up visits.

Frequently Asked Questions

What are the side effects of SLT?

Unlike some glaucoma medications, there are no incidences of allergy or systemic side-effects with SLT. Complications are minimal but may include inflammation, temporary increase in eye pressure, blurred vision, headache, iritis, corneal edema, corneal lesion, conjunctivitis, or eye pain. For more information about SLT and how it may benefit you, please ask your doctor.

Will I feel anything with the laser treatment?

Generally, the laser treatment does not cause pain. However, studies show some patients experience a sensation during treatment. You may see a green flash of light, and feel nothing from the laser. The lens used on your eye may cause some redness or irritation.

Will I still need to continue using my eyedrops following the SLT procedure?

Because each individual reacts differently to SLT, your doctor can best answer this question.