



Glaucoma LASERS

Overview

DeHaven Eye specializes in glaucoma diagnosis and treatment in East Texas. Whether you're just concerned about glaucoma symptoms or needing glaucoma laser or surgery, DeHaven is ready to help with education and treatment options.

About Glaucoma

Glaucoma is the second leading cause of blindness and affects approximately one out of every 50 adults. It is a complicated disease that damages the optic nerve and leads to progressive, irreversible vision loss. However, if diagnosed early, glaucoma can be effectively treated.

Glaucoma is usually caused by an increase in fluid production or a decrease in fluid drainage in the eye. The change in fluid levels eventually destroys the optic nerve fibers and results in loss of vision.

There are a few types of glaucoma:

Open-angle glaucoma, the most common type, often goes undiagnosed because there is no discomfort or pain, and no change in vision until there is already a significant loss. It occurs when fluids do not drain properly due to a gradually built blockage deep within the eye. The increased pressure damages the optic nerve and causes loss of vision.

Angle-closure glaucoma is quite rare, but has much more pronounced symptoms that include blurred vision, pain, halos around lights, and even nausea. It is caused by a rapid increase of pressure inside the eye due to blocked fluid drainage channels.

Normal-tension glaucoma (NTG), is also known as low tension or normal pressure glaucoma. In this type of glaucoma, damage occurs to the optic nerve without eye pressure exceeding the normal range. Causes are unknown, but for some reason, the optic nerve is susceptible to damage from a normal and relatively low amount of eye pressure.

Glaucoma of all types is usually detected during regular eye exams. Special instruments are used to check the fluid pressure in the eye, and a magnifying lens is used to examine the drainage channels for proper fluid outflow.

When detected early, glaucoma can usually be treated and vision can be preserved. There is no cure, though — once vision is lost it cannot be restored.

Am I at risk?

Vision loss from glaucoma is permanent, but can usually be prevented when it's detected early and then properly treated. Getting regular eye exams is the best defense against vision loss caused by glaucoma.

Here are some risk factors to consider:

Although glaucoma can occur at any age, the risk of developing glaucoma increases dramatically after age 35. That risk increases further after age 60.

African Americans are at a higher risk of developing glaucoma and should begin having their eye pressure monitored by age 30.

Asian Americans are at higher risk of developing angle-closure glaucoma.

Other glaucoma risk factors include:

- Family history of glaucoma
- Diabetes
- High blood pressure or heart disease
- History of eye injuries. Injury can also dislocate the lens, closing the drainage angle.
- Retinal detachment
- Eye tumors
- Eye inflammations, such as chronic uveitis and iritis
- Farsightedness
- Prolonged use of corticosteroid eye drops

Options

Traditional treatments for glaucoma are the use of eye drops on a regular schedule to control eye pressure and other medications. Both are safe and effective at treating glaucoma. Some work by slowing down the production of fluids or by improving drainage of fluid from the eye. Below are some common glaucoma medication types:

Beta-Blockers – Timolol[®], Betimol[®], Istalol[®], Betagan[®]

These medications have been used to effectively treat glaucoma for years. They slow down the production of fluid inside the eye and thus reduce pressure on the optic nerve. People suffering from asthma or other reactive airway diseases should not take them.

Carbonic Anhydrase Inhibitors (CAI) – Azopt®, Trusopt®

These medications also work by slowing down the production of fluid inside the eye, reducing pressure. They are very effective when combined with a prostaglandin analogue or a beta-blocker.

An alternative to medications are laser treatments that may reduce or eliminate the need for medications or help them work better. DeHaven offers two such treatments: Selective Laser Trabeculoplasty (SLT) and Endoscopic Cyclophotocoagulation (ECP).

Procedures

SLT

Prior to SLT in particular, eye drops will be given for anesthesia and to prepare the eye for treatment. The laser is applied through a slit-lamp microscope, similar to what is used during eye exams.

The IOP should decrease within several weeks of the procedure. Your doctor may prescribe anti-inflammatory eye drops to use for 4-7 days afterward. SLT does not always lower the intraocular pressure to the desired level. If not, the procedure may have to be repeated.

Unlike with some glaucoma medications, there have been no incidences of allergic reactions or side effects with the SLT procedure. Complications are rare but may include inflammation, fluctuation in intraocular pressure (IOP), conjunctivitis, or eye pain. Your doctor will provide more specific pre- and post-surgery guidelines.

ECP

ECP is a procedure in which the surgeon uses a laser to reduce the production of excess fluid in the eye and thus reduce pressure on the optic nerve. It's a relatively gentle procedure and is very precise, which prevents undesirable collateral tissue damage. ECP is an excellent choice for cases in which the eye is already undergoing cataract surgery.

Micropulse CYCLO-G6 Glaucoma Laser System

The Micropulse Cyclo-G6 Glaucoma Laser System is a non-incisional procedure designed to lower eye pressure by applying short bursts of laser energy directly to the fluid-producing cells in the eye. This new and innovative technology is a variation of an earlier procedure called “diode laser cyclophotocoagulation.” Due to the shorter micro-bursts of energy, the post-operative inflammation and post-operative recovery time are minimized with the Cyclo-G6 Laser procedure. Most importantly, the structural changes seen during standard diode laser cyclophotocoagulation are not seen using the Cyclo-G6 Laser.

The goal of the procedure is to decrease the amount of medications needed to decrease a patient’s eye pressure, and to slow the rate of peripheral and/or central vision loss a patient experiences from glaucoma. The surgeons of DeHaven Eye Clinic are positioned to evaluate your glaucoma and help determine if this procedure, or other glaucoma treatments, are suitable for your stage of glaucoma.