Sam Garcia was driving through southern New Mexico for his work as a marketing representative when the headaches began. He thought they were sinus-related or possibly eyestrain from the amount of driving he had been doing. One afternoon, it became so bad that he could barely keep his eyes open, so he checked into a hotel and got some sleep. The next morning, however, just fifteen minutes into his drive, the headache returned, accompanied by a burning sensation in his eyes. He promptly canceled the remainder of his appointments, returned home and made an appointment with his eyecare provider.

Upon having a comprehensive eye examination, Sam was shocked when his doctor told him he had a fairly serious case of glaucoma. Sam was only 32 years old.
Despite the young age at which he was stricken, Sam subsequently learned that he is one of the luckier ones with this disease, since his glaucoma was discovered before he lost any of his vision. He was also unusual because of the symptoms he displayed; the vast majority of individuals with glaucoma experience no symptoms until the disease has caused partial blindness, which is what earned it the epithet “the silent thief of sight.” Eventually, most glaucoma victims will notice a narrowing of their peripheral vision, but if diagnosis first takes place at that point, the vision that was lost is irretrievable.

According to The National Eye Institute, approximately 120,000 Americans have lost their sight to glaucoma. Furthermore, it is believed that more than three million people across the country have the disease, but only half are aware they have it. Glaucoma occurs at a very high percentage in the population, but because it is a “silent thief,” the disease often advances to the stage of permanent partial loss of sight before it is discovered. Early detection can prevent glaucoma-related vision loss, and it is as easy as having regular eye examinations.

Glaucoma’s Path of Destruction

Fluid, called the aqueous humor, fills the anterior portion of the eye. When a person has glaucoma, this fluid does not drain from the eye quickly enough, which in turn causes pressure to build up in the eye. Researchers do not know what causes this to happen, but they do know that it ends up damaging and eventually destroying the optic nerve fibers. When the optic nerve fibers die, there is no way to regenerate them. These dead nerves cannot conduct electrical impulses and therefore do not send communication to the brain, which results in a loss of vision. Before the vision loss becomes noticeable, the pressure on the nerves causes deepening of the “cup,” or center of the optic disc. This frequently is a key factor in determining the presence of glaucoma.

By far the most common type of glaucoma, referred to as open-angle glaucoma, occurs when the drainage area of the eye remains open, but the fluid still accumulates. This condition is chronic, meaning it progresses slowly and is asymptomatic until its later stages. A less prevalent form of the disease is called closed-angle glaucoma. In this variant, the eye’s drainage angle actually closes, allowing no fluid to leave the eye. When this occurs suddenly, the pain is quite intense, as pressure in the eye builds rapidly. The victim must receive treatment immediately or blindness may result in a matter of hours. With normal tension glaucoma (also known as low tension glaucoma or normal pressure glaucoma), the optic nerve is damaged even though intraocular pressure (IOP) is not very high. There are also several pediatric glaucomas: congenital glaucoma, in which the baby is born with glaucoma; infantile glaucoma, which occurs during the first three years of a child’s life; and juvenile glaucoma, which can appear any time from age three through the teenage or young adult years.

Glaucoma can also be a secondary signal of another problem. It can be caused by the advanced stages of other diseases such as diabetes and cataracts, from medications such as steroids, from a tumor or from an eye injury. Secondary glaucoma occurs in children and adolescents, as well as adults.

Assessing Your Risk

Glaucoma can strike anyone at any age. However, certain risk factors make some people more susceptible than others. Some particularly high-risk groups include:

- African Americans over age 40
- Everyone over age 60
- People with a family history of glaucoma
- Steroid users
- People who have suffered an eye injury

Anyone considered to be at higher risk for glaucoma should have a thorough eye examination on a regular basis. Heed the recommendations of your eyecare professional, or go by the current eye examination schedules from the Glaucoma Foundation. They suggest getting your eyes checked at least every two years if you are under 45 years old and have any of the above risk factors. If you are 45 or older, they recommend an eye examination at least every two years for those with no glaucoma risk factors and annually for those at risk. A regular eye examination is the most important thing you can do to safeguard your vision.

Early Detection Equals Protection

Several tests are used in a comprehensive screening for glaucoma. Tonometry is the most common detection method employed by eyecare professionals. The practitioner uses a tonometer with either a puff of air or a touch of the eye to measure intraocular pressure. Elevated fluid pressure is a main characteristic of glaucoma and will throw up an immediate red flag that further testing is required. Not everyone with elevated fluid levels has glaucoma or will develop it, though that is frequently an indicator of the disease. Often, the pressure begins building in one eye first, although glaucoma generally will occur in both eyes.
Another important test is a Dilated Fundus Examination (DFE). The eyecare professional places medicated drops into the eye in order to dilate the pupil. After a few minutes, the back of the eye can be examined for early signs of glaucoma, such as optic nerve damage.

If either of these tests shows indications of glaucoma, the practitioner will perform a visual field test, or perimetry, to measure the patient’s peripheral vision. This test can help determine whether any vision loss has taken place. Glaucoma affects “side” vision before “center” vision. A perimetry test is repeated once or twice a year for those diagnosed with glaucoma to ensure that no further deterioration of vision has occurred.

The final assessment used when glaucoma is suspected is gonioscopy. The eyecare provider will use a special device to look into the eye and see whether the drainage angle is open or closed, allowing him to determine which type of glaucoma is present.

**Treatment Options**

Currently, there is no cure for glaucoma. However, there are several common, effective treatments to keep the disease under control:

Medications: usually taken in the form of eye drops or pills, these doctor-prescribed pharmaceuticals work to either increase the eye’s ability to drain excess fluid or lessen its production of fluid. They are generally taken daily and often can safely control intraocular pressure for many years.

Laser Trabeculoplasty: this is a procedure that assists fluid in draining from the eye, and may be performed at any time, as it is performed in a doctor’s office or an eye clinic. The process involves using a laser to create burns in the meshwork of the eye that stretch the drainage holes, thereby enabling the fluid to drain better. The patient will often need to continue taking glaucoma medications after this procedure, and the effects of the procedure will likely not be permanent.

Conventional Surgery: if medication and laser surgery prove to be ineffective in controlling eye pressure, conventional surgery may be employed. Performed in a hospital or an eye clinic, the procedure consists of removing a small piece of tissue, thereby creating a new opening to allow fluid to leave the eye.

In addition to medical treatment options, studies have indicated that regular exercise can help lower eye pressure, thereby facilitating effective management of the disease.

Upon an initial diagnosis of glaucoma, the patient may need weekly or monthly visits to an eyecare professional to monitor the level of pressure in the eye and to ensure that the treatment is working. As with any chronic disease, even glaucoma patients whose pressure level is under control must have their eyes examined at regular intervals (every few months to a year) to verify that the medication is still effective in its present dosage or that the results of the surgery have not changed.

Sam Garcia has been able to effectively control his glaucoma for more than two decades through the use of eye drops. He is careful about taking his medication because he is aware of how close he came to losing some or all of his sight permanently. Initially, Sam thought he had no risk factors for the disease, but he later discovered that his great-grandmother on his father’s side had gone blind at the age of 30, presumably from glaucoma. Sam now takes his own children for annual eye examinations because his experience has taught him well that an ounce of prevention is worth a pound of cure.

**Assessing Your Risk**

Glaucoma can strike anyone at any age. However, certain risk factors make some people more susceptible than others. Some particularly high-risk groups include:

- African Americans over age 40
- Everyone over age 60
- People with a family history of glaucoma
- Steroid users
- People who have suffered an eye injury
The Davis Vision program is committed to providing members with value, convenience and quality.

To learn more about our program, call:

1.800.328.4728

• Comprehensive benefit design
• National credentialed preferred provider network
• Fashionable frame collection in every provider office
• Regional world-class laboratories
• Verifiable quality assurance program
• Administrative simplicity
• 24-hour member service
• Low annual cost with long-term rate guarantees