

THE INFORMED HEALTH CARE CONSUMER

Glaucoma is an eye disease that causes loss of sight by damaging a part of the eye called the optic nerve. This nerve sends information from your eyes to your brain. When glaucoma damages your optic nerve, you begin to lose patches of vision, usually side vision (peripheral vision). Over time, glaucoma may also damage straight ahead (central) vision. You may not notice a loss of side vision until you have lost a great deal of your sight. When checking for glaucoma, eye doctors usually look for damage to the optic nerve and any loss of side vision. They may also check your eye pressure.

Glaucoma is often called "the sneak thief of sight." That's because people usually do not notice any signs of the disease until they have already lost significant vision. Once lost, vision can't be restored. [More than 2.2 million Americans age 40 and older have open angle glaucoma](#), the most common form of glaucoma. At least half don't even know they have it.

There are many types of glaucoma. Often, the cause of high pressure in the eye can help tell the type of glaucoma and the best treatment for it. The most common types include:

Chronic (Open Angle) Glaucoma

This is the most common type. In open angle glaucoma, fluid drains too slowly and pressure inside the eye builds up. It usually results from aging of the drainage channel, which doesn't work as well over time. However, younger people can also get this type of glaucoma.

Normal Tension Glaucoma

This is a form of open angle glaucoma not related to high pressure. People with normal tension glaucoma may be unusually sensitive to normal levels of pressure. Reduced blood supply to the optic nerve may also play a role in normal tension glaucoma.

Acute (Angle Closure) Glaucoma

Less than 10 percent of Caucasians or African-Americans have this form, but for those of Asian

and Native American descent, the risks are as high as for open angle glaucoma. Hispanics are midway between these groups. It causes a sudden rise in pressure, requiring immediate, emergency medical care. The signs are usually serious and may include blurred vision, severe headaches, eye pain, nausea, vomiting or seeing rainbow-like halos around lights. Occasionally, the condition may be without symptoms; similar to open angle.

Secondary Glaucoma

Another 10 percent of glaucoma cases come from certain diseases and conditions that damage the eye's drainage system. These include diabetes, leukemia, sickle-cell anemia, some forms of arthritis, cataracts, eye injuries or inflammation of the eye, steroid drug use and growth of unhealthy blood vessels..

Post-Surgical Glaucoma

Some surgeries, such as retinal reattachments, increase the chance of getting glaucoma.

These risk factors may increase your chance of having glaucoma:

- **Age** – The older you are, the greater your risk.
- **Race** – African-Americans have glaucoma four to five times more often than others. African-Americans are also likely to have glaucoma at a younger age.
- **Family history** – If you have a parent, brother or sister with glaucoma, you are more likely to get glaucoma too. If you have glaucoma, your family members should get complete eye exams.
- **Medical history** – Diabetes, previous eye injuries, eye surgery or long-term steroid use can increase your risk of glaucoma.

Anyone can get glaucoma. Glaucoma affects one in 200 people age 50 and younger. The rate increases to one in 10 over the age of 80. Prevent Blindness America has an online Adult Vision Risk Assessment at <http://preventblindness.org/glaucoma/index.htm>.

How do Eye Doctors Check for Glaucoma?

There are three major signs that a person may have glaucoma:

- **Optic nerve damage**
- **Vision loss** (visual field loss)
- **Increased eye pressure** (elevated intraocular pressure).

Your eye doctor will check your eyes using some of these tests:

Ophthalmoscopy The doctor will place a few drops in your eye to open or dilate the [pupil](#). This allows the doctor a clearer view to inspect the [optic nerve](#) at the back of the eye.

Photography or laser scanning may be used to show the appearance of the [optic nerve](#) inside your eye. This will also involve dilating your eye.

Tonometry measures pressure in the eye. Medicine drops are used to numb the eye. An instrument gently presses on the outside of your eye.

Perimetry evaluates your visual field. This tests your vision all around your field of view to see if any areas are missing. It usually involves staring straight ahead at a light and trying to see lights that appear around the sides of your view. This is generally done with a computerized system.

Gonioscopy After numbing the eye, the doctor gently places a special lens on the surface to examine the area in the front of the eye that drains fluid. Gonioscopy allows a more accurate diagnosis of the type of glaucoma.

How Does Glaucoma Damage My Eyes?

Doctors don't know exactly how glaucoma damages the [optic nerve](#). For many people, increased eye pressure seems to play an important role.

Your eye produces a watery fluid ([aqueous humor](#)), which goes into the eye and drains out. When your eye is healthy, the fluid drains into the bloodstream.

For some people, fluid can't drain properly because of a faulty drainage system. Drainage that once worked well may gradually slow down as you get older. When there is no place for excess fluid to go, pressure inside the eye builds up.

This increased eye pressure may damage the optic nerve over time. Slowly, the nerve fibers that are essential for vision die.

For others, glaucoma damages the optic nerve without increased pressure. These people may be unusually sensitive even to normal levels of pressure. Their glaucoma may also be related to problems with blood flow in the eye. Doctors continue to study eye pressure and other possible causes of glaucoma.

Different people experience glaucoma differently. Usually, glaucoma affects side vision (peripheral vision) first. Late in the disease, glaucoma may cause "tunnel vision." In this condition, the person can only see straight ahead. That's why someone with glaucoma can have good straight ahead (central) vision. However, even central vision can be seriously damaged.

How Do Eye Doctors Treat Glaucoma?

Glaucoma can usually be treated and controlled using medicine(s), laser surgery, glaucoma surgery or a combination of these treatments. Medicines (eye drops) are typically the first step in treatment, but laser surgery may be just as effective as a first choice. Your treatment is up to you and your doctor. In this section, you will learn about your options for treatment.

You will have many questions as your doctor diagnoses and treats your glaucoma. It's helpful to keep a list of these questions, especially if they come to mind in between your eye appointments. Write all your questions down and bring the list with you, then discuss them with your doctor. Here are some questions many people have:

- What do these medicines do?
- How much will they cost? Will my insurance help pay for them? (These may be questions for your insurance company, not your doctor.)
- What are the possible side effects of my medicines?
- Can I do anything to lower the chance of side effects or reduce the effects?
- What should I do if I miss a dose?
- Will I need surgery? What are the benefits and drawbacks of laser surgery? Of glaucoma surgery?
- What will my vision be like after surgery?
- How long will recovery take? How will I need to change my usual activities? Will I be able to drive? Go to work?

Sources:

<http://preventblindness.org/glaucoma/index.htm>