

What Is Glaucoma? Symptoms, Treatment, Definition

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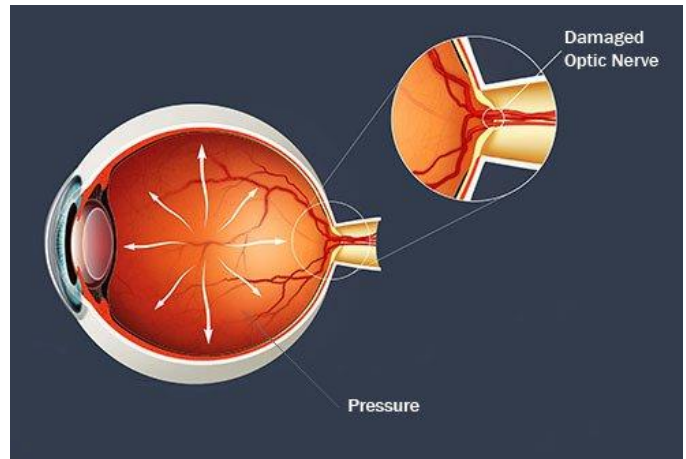
What Is It? Glaucoma Definition

Glaucoma isn't one thing. The term refers to a group of eye diseases that damage the optic nerve. Glaucoma can cause serious vision problems including blindness, but it can often be prevented when it is detected early enough.

What Is the Optic Nerve?

The optic nerve is the cord between your brain and eye. It is made up of more than a million tiny nerve fibers. Without your brain, your eye is practically useless, as the brain reconfigures everything you see, making sense out of the visual world. That's what makes this nerve so important to your visual health; when this cord is damaged, your vision can be diminished.

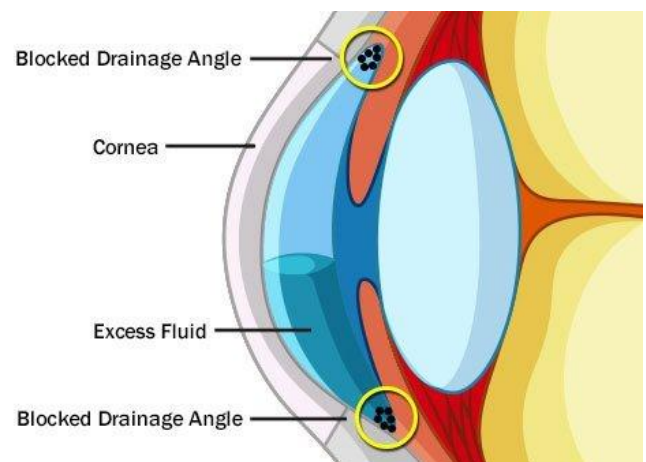
If you or someone you know has glaucoma, the following slides can aid you in understanding the condition, its treatments, and what steps you should take while living with glaucoma. If you've never been diagnosed, learn who is most at risk of developing glaucoma and how it can be detected and prevented.



Causes of Glaucoma

Although there are multiple diseases that can cause glaucoma, they mostly stem from a failure to drain fluid from your eye. Your eyes are constantly making a fluid called aqueous humor. This fluid brings nourishment to your eye and keeps it inflated at a constant pressure.

Because you are constantly making more aqueous humor, the old fluid has to be drained constantly as well. The eye's drainpipe is known as the drainage angle. If your eye isn't draining properly, the pressure within your eye increases. This damages your optic nerve, killing off some of the tiny nerve fibers it is made of and leaving you with blind spots.



Glaucoma Risk Factors

Some people stand a greater risk of developing glaucoma than others. You stand a higher risk of developing glaucoma if you belong to any of the following groups:

- People with diabetes
- African Americans over age 40
- All people over age 60
- People with a family history of glaucoma

The risk is highest for African Americans, who are six to eight times more likely than whites of developing glaucoma. People with diabetes are twice as likely as those without diabetes of developing the condition.

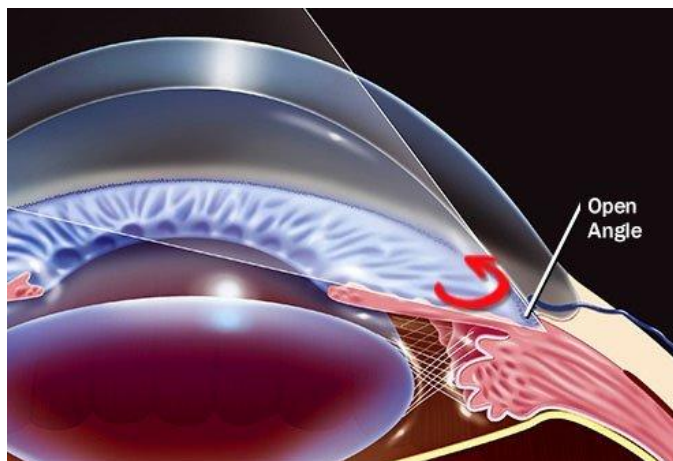


Open-Angle Glaucoma

The vast majority of glaucoma cases are open-angle glaucoma. At least nine out of 10 glaucoma patients suffer from this disease. It is sometimes known as chronic glaucoma or primary glaucoma. About 3 million Americans suffer from open-angle glaucoma.

The “open-angle” part refers to the angle between the iris and the cornea, which is where fluid drains from your eye. This area is open wide, as it should be. Despite this, the eye drains slowly, which can lead to too much eye pressure and potential blindness.

People with open-angle glaucoma need to carefully control their blood pressure. High blood pressure can contribute to optic fiber nerve damage, so working with your doctor to keep your blood pressure within a healthy range is vital to your visual health.

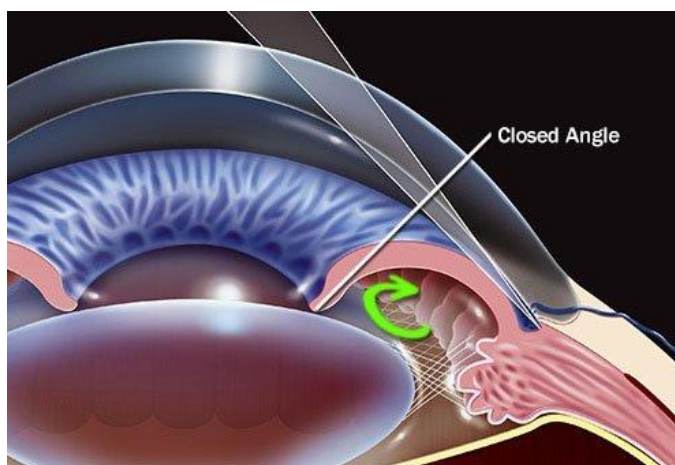


Angle-Closure Glaucoma

Sometimes the angle between the iris and cornea is blocked by the iris. This causes angle-closure glaucoma. When the angle is blocked, fluid cannot leave the eye as it normally does, which leads to eye pressure problems and potential blindness like all glaucoma types. Angle-closure glaucoma tends to be inherited. About half a million people in the United States have this condition. People of Asian descent and near-sighted people are most likely to be affected by it. Angle-closure glaucoma can come on suddenly (acute) or slowly over time (chronic). When it is acute, this condition can be extremely painful as the pressure in the eye rises suddenly. Symptoms of acute angle-closure glaucoma include:

- Seeing halos around light
- Red eyes
- Nausea
- Clouded vision

Immediate medical treatment is necessary if you experience these symptoms. With quick treatment, complete recovery is typical.



Normal-Tension Glaucoma (NTG)

In this type of glaucoma, the optic nerve is damaged despite near-normal eye pressure. Also known as low-tension or normal-pressure glaucoma, NTG is more common in people of Japanese heritage, those with a family history of the disease, and those who have an irregular heartbeat or a history of systemic heart disease. The causes of NTG remain a mystery. Your eye doctor can detect it by looking at the optic nerve. If the nerve is not its normal healthy pink color, or if it is cupped, this may indicate NTG. Doctors may also use a field of vision test to search for loss of sight.

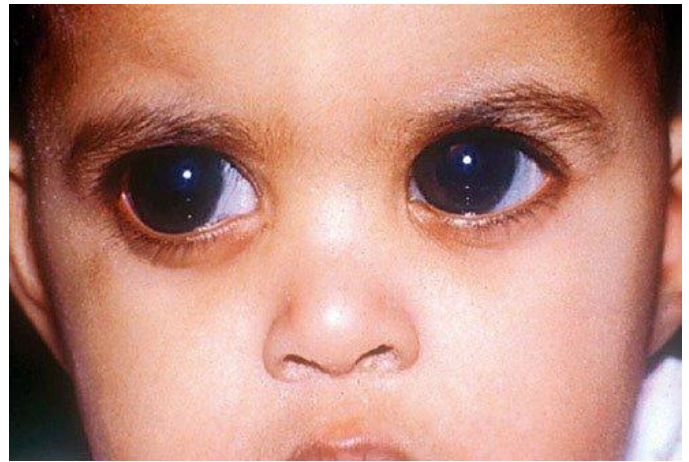


Congenital Glaucoma (Childhood Glaucoma)

Sometimes children are born with glaucoma. That's true in the case of this disease, also known as pediatric or infantile glaucoma. In some cases, congenital glaucoma is inherited. Often children with this disease are diagnosed within the first year of their lives. Symptoms include:

- Unusually large eyes
- Cloudy corneas
- Excessive tears
- Sensitivity to light (photosensitivity)

Surgery can correct this problem in many cases. Sometimes, medication in addition to surgery is necessary. Encouraging the child to participate in self-care through oral medications and eye drops can help preserve his or her vision into the future.



Glaucoma Symptoms

One of the most frightening things about glaucoma is that it often comes without early symptoms. That's why it's sometimes called the "silent thief of sight." Before you're aware you have a problem, you may already have irreversible eye damage. Of the estimated 3 million Americans with glaucoma, about half don't even know they have it. The number of undiagnosed glaucoma sufferers is even higher in certain populations. As many as 75% of Latinos with glaucoma do not know they have the condition. That's a scary fact, considering glaucoma is one of the leading causes of blindness in the U.S.

Though most glaucoma cases begin with no symptoms, signs of the condition can develop over time. Vision loss from glaucoma starts around the edges of your vision. It can be like looking into a tunnel. This vision slowly goes away until the sufferer begins to miss objects out of the corners of their eyes. Eventually your central vision decreases as well, ultimately leading to blindness if untreated. Since glaucoma usually begins with no symptoms, regular testing is crucial. Early detection is key to preserving your eyesight.



How Is Glaucoma Tested?

Since glaucoma begins without symptoms, you need to get your eyes checked regularly. Eye doctors have a variety of ways to diagnose glaucoma. Some of these tests require your eyes to be numbed first.

Your eye pressure can be directly measured with a device called a tonometer. This is a quick and painless test. The pachymeter measures how thick your cornea is. That's important because thin corneas can help predict glaucoma. Using other devices your doctor will want to examine your peripheral vision and your optical nerve itself. Another device called a gonioscope can examine your drainage angle directly.



Glaucoma Medications

After being diagnosed with glaucoma, you need to take your medication regularly and precisely to preserve your vision. Some of these medications have side effects, but many patients experience none of these. As with any new medicine you should let your doctor know all the other medications you may be taking before you begin your treatment.

Eye Drops

Most glaucoma patients will be treated with eye drops. Eye drops prescribed by a doctor can maintain even pressure inside your eye. While there are several types of glaucoma eye drops, all of them have the potential to irritate your eye depending on your sensitivity. You may need to switch medications depending on side effects, so work with your doctor to find the right fit for you.

Pills

A wide variety of pills are used to treat glaucoma. Some of these medications cause your eyes to produce less fluid. Others increase drainage of eye fluid. A handful of others do both. These medicines have a wide range of side effects and interactions with other medications, so letting your doctor know what drugs you already take is important.

Tips for Applying Glaucoma Eye Drops

To give yourself the best chance at avoiding vision problems with glaucoma, you need to use your eye drops properly and consistently. Doing it right can mean the difference between a life of clear vision and one of increasing vision problems that can result in blindness. Here are some tips to help you preserve your eyesight with eye drops:

- Wash your hands first, and keep the eye dropper clean. You don't want to accidentally infect your eyes! For the same reason, avoid touching your eyes with the tip of the dropper.
- Some medications require more than one drop in a session. If that's true, wait five minutes before adding a second drop. This gives your eyes time to absorb the medicine.
- After adding a drop, keep your eyes shut for three minutes and don't blink.
- If you find that your drops drain into your throat, gently press your finger or thumb against the inside corner of your closed eye for two or three minutes.
- If you find it hard to keep your hands steady, a lightweight wrist weight from a sporting goods store can be worn to prevent shaking.

Laser Surgery for Glaucoma

Laser surgery is usually the first surgical option used for glaucoma patients. Using a highly focused light beam, a tiny hole is burned into your eye tissue to allow fluid to drain more freely. This is an outpatient procedure, and patients are usually able to resume their normal activity the next day. Typically, only one eye is operated on at a time.

There are various forms of laser surgery used for glaucoma patients depending on the cause of your condition and its severity. The most common forms are selective laser trabeculoplasty (SLT), argon laser trabeculoplasty (ALT), laser peripheral iridotomy (LPI), and laser cyclophotocoagulation.

You may see flashes of red or green light during the surgery. After surgery, you may have inflammation or other side effects. You will be sent home with anti-inflammatory eye drops, and will need to schedule a follow-up visit for further monitoring. While laser surgery has proven successful, its effects are temporary in some cases and may require further surgery over time.



Traditional Glaucoma Surgery

Sometimes medicine and laser surgery are not enough. In these cases, doctors turn to conventional surgery for glaucoma. This type of surgery lowers eye pressure about 60% to 80% of the time, and may require additional surgery depending on effectiveness. It's most effective if you have not had other forms of eye surgery such as cataract removal.

About half the time patients don't need their usual glaucoma medications for a significant amount of time following surgery. For those who do continue their medications, about 30% to 40% have better control of their eye pressure.

After you've had the surgery, you will be given a different kind of eye drop that helps fight off infections. You will need to limit some activities for two weeks to a month after surgery, including reading, driving, bending, and lifting heavy objects.



Lowering Glaucoma Risk

There is no way to prevent glaucoma yet, but there are ways to reduce your risk of developing it. To give you the best chances of avoiding this condition, here are ways to lower your risk of glaucoma:

- If you're overweight, lose weight. If you're at a healthy weight, maintain that weight.
- Keep your blood pressure under control.
- Stay active. Get plenty of exercise. But talk to your doctor about what exercises are most beneficial to regulating your eye pressure. Some forms of weight-lifting, for example, can increase eye pressure.
- Don't smoke.
- Get plenty of leafy green vegetables into your diet. These have nutrients that provide special protection for your eyes. Eat nuts and other foods with plenty of vitamin E, which preserves nerve cells.
- Don't drink too much at a time. Drinking a quart or more liquid in less than 20 minutes has been shown to contribute to your risk of developing glaucoma.
- If you spend a lot of time in front of a computer screen, remember to take frequent breaks. Even a few seconds away from the screen can be enough to avoid eye strain.



Managing Glaucoma

If you've been diagnosed with glaucoma, you will want to do everything you can to preserve your vision. Much of that comes down to setting and keeping appointments with your eye doctor, as well as taking your medications properly and consistently. While this advice applies to anyone diagnosed with glaucoma, you may want to take extra steps if you've already experienced some loss of vision.

Fortunately, many products and resources are available for those who suffer from low vision. Depending on your needs and your disability, you may find magnifying glasses, text enlargers, or colored lenses useful. Glare can be particularly troublesome for glaucoma sufferers, so finding ways to reduce glare can really pay off. One way to do that is to use tinted lenses. Another is to direct your light source from behind your shoulder when you're reading or doing other activities that require close examination.



Driving With Glaucoma

Most people with glaucoma can still drive safely. Of course it depends on how advanced your vision loss has become. Keep in mind that in the initial stages of glaucoma vision loss, your peripheral vision is impaired. That can cause you to miss important details on the road, including other cars and pedestrians, as they enter your field of vision.

If you're concerned about driving with glaucoma, talk to your eye doctor. There are glaucoma specialists who can assess your driving ability with both on-road and off-road tests. These specialists can give you driving tips tailor-made to suit your circumstances.

If you have to give up driving, there are still ways to maintain your independence. You can share rides with friends and family, learn bus, train, or subway routes, or call for a ride from a taxi or ridesharing program.



Questions for Your Doctor

If you or a loved-one has been diagnosed with glaucoma, you probably want to know more about the condition and what steps should be taken next. It's a smart idea to come ready with a list of questions. You may want to ask some of these:

- How will my vision be affected now and in the future?
- Should I change anything about my lifestyle?
- Are there any threatening symptoms I should watch out for?
- How can I treat glaucoma?
- Should I avoid any medications, foods, or activities?
- What testing will I need?
- When will I hear back about my tests?
- Will I need more tests as time goes on?

Make sure to keep asking questions until you understand what you need to know. Take notes. It may be useful to have your doctor write down any instructions he or she may have for you.



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