

Is this your vision?

Read more about ...



Glaucoma



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Important Facts About Glaucoma

The following is information regarding primary open-angle glaucoma, the most common form of glaucoma:

- Glaucoma is a serious eye disease. If left untreated, it can lead to vision loss and blindness.
- Glaucoma is the second most common cause of legal blindness in the U.S. It is the leading cause of blindness for African-Americans.
- Glaucoma is a chronic (ongoing) condition that requires lifelong monitoring and treatment. It is important for people with glaucoma to work with their Ophthalmologists/Eye M.D.s to find a treatment plan that is right for them.
- About 2 million Americans have glaucoma -- but only half of them are aware of it.
- In glaucoma, the fluid (different from tears) that normally flows through the front section of the eye cannot drain properly. This causes a buildup of pressure in the eye that can damage the optic nerve and lead to vision loss.
- Your ophthalmologist can use a series of painless tests and exams to check you for glaucoma. Other tests may be done if your ophthalmologist suspects you may have glaucoma.
- Vision loss is usually preventable if glaucoma is detected early. There is no "cure" for glaucoma, but early detection and ongoing treatment can control the disease and usually preserve vision.
- Treatment for glaucoma can include medication and/or surgery. The best treatment for each person is determined by a number of factors, including type and severity of glaucoma, and the person's medical history and lifestyle.
- Glaucoma usually has no symptoms until vision loss has occurred

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- Approximately 80,000 Americans are legally blind from glaucoma. The incidence is higher in certain other countries. Many more have visual impairment.
- Seniors, African-Americans and those with a family history of glaucoma are at higher risk for the disease and should have eye exams more often.

Medications for glaucoma -- even eye drops -- can affect the whole body and may interact with other medications. It is very important for all your doctors to be aware of any medication you take.

Symptoms of Glaucoma

Most people who have glaucoma don't notice any symptoms until they begin to lose some vision.

As optic nerve fibers are damaged by glaucoma, small blind spots may begin to develop, usually in the side - or peripheral - vision. The top photo on the next page shows how a scene would be viewed by a person with normal vision. The bottom image shows the same scene as viewed by a person with glaucoma. Many people don't notice the blind spots until significant optic nerve damage has already occurred. If the entire nerve is destroyed, blindness results.

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One type of glaucoma, acute angle-closure glaucoma, does produce noticeable symptoms. In angle-closure glaucoma, there is a rapid buildup of pressure in the eye (intra-ocular pressure, known as IOP), which may cause any of the following:

- blurred vision
- severe eye pain
- headache
- haloes (which may appear as rainbows) around lights
- nausea and vomiting



Angle-closure glaucoma is a rare, but serious, form of the disease. If you have any of these symptoms, call your ophthalmologist immediately. Unless treated quickly, blindness can result.

Surgery For Glaucoma

For some people, **surgery** might be the best treatment for glaucoma. Your ophthalmologist may suggest surgery as a first treatment, or after trying medication to lower your IOP.

There are several different types of surgery for glaucoma. The kind of surgery you and your ophthalmologist decide is right for you depends on many factors, including the type and severity of your glaucoma, and other eye problems or health conditions.

Glaucoma surgery may be performed using a laser (a concentrated beam of light) or conventional surgical instruments.

Laser Surgery

Trabeculoplasty is used most often to treat open-angle glaucoma. In trabeculoplasty, a laser is used to place "spot welds" in the

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drainage area of the eye-- also known as the trabecular meshwork -- that allow the aqueous to drain more freely.

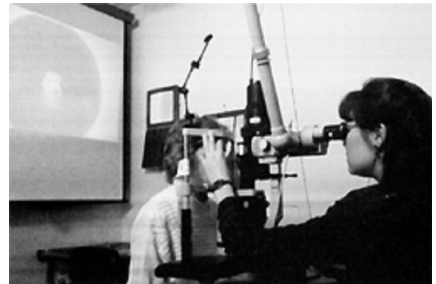
Iridotomy is another kind of laser surgery used in treating glaucoma. It is frequently used to treat angle-closure glaucoma. In this procedure, the surgeon uses the laser to make a small hole in the iris-- the colored part of the eye -- which allows the aqueous to flow more freely within the eye so the iris doesn't plug up the trabecular meshwork.

In **cyclophotocoagulation**, a laser beam is used to treat selected areas of the ciliary body -- the part of the eye that produces aqueous humor -- to reduce the production of fluid. This procedure may be used to treat more advanced or aggressive cases of glaucoma.

Most laser surgeries for glaucoma can be performed in the ophthalmologist's office or an outpatient surgical facility. Eye drops are used to numb the eye for the duration of the procedure. Because there is usually little discomfort during glaucoma surgery, this is often the only anesthesia needed

Little recuperation is needed after laser eye surgery. Patients may experience some local eye irritation, but can usually resume their normal activities a day or two after surgery.

In some cases, laser surgery is not the preferred surgical treatment for glaucoma. Sometimes, when vision loss is rapid, or medication and/or laser surgery fails to lower IOP sufficiently, "conventional" incisional surgery is the best option.



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Incisional Surgery

Filtering surgery is usually done in a hospital or outpatient surgery center, with local anesthesia, and sometimes, sedation. The surgeon uses very delicate instruments to remove a tiny piece of the wall of the eye (the **sclera**), leaving a tiny hole. The aqueous can then drain through the hole, reducing the intraocular pressure, and be reabsorbed into the bloodstream.

In some cases, the surgeon may place a **small tube or valve** in the eye through a tiny incision in the sclera. The valve acts a regulator for the buildup of aqueous within the eye. When the intraocular pressure reaches a certain level, the valve opens, allowing the fluid to flow out of the eye's interior, where it can be reabsorbed by the body. The procedure may take place in the ophthalmologist's office or outpatient surgical center, and can be done under local anesthesia.

The recuperative period following incisional glaucoma surgery is usually short. You may need to wear an eye patch for a few days after surgery, and to avoid activities which expose the eye to water, such as showering or swimming. The ophthalmologist may recommend that you refrain from heavy exercise, straining or driving for a short time after surgery, to avoid complications.

Possible Complications

As with all surgery, there are risks associated with glaucoma surgery. Complications are unusual, but can include:

- infection
- bleeding
- undesirable changes in intraocular pressure

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- loss of vision

Sometimes, a single surgical procedure is not effective in halting the progress of an person's glaucoma. In these cases, repeat surgery, and/or continued treatment with topical or oral medications may be necessary.

Your age, eye structure, type of glaucoma, and other medical conditions are all considerations when deciding how to treat your glaucoma.

The ophthalmologist, in partnership with the patient, is best able to make the appropriate treatment decisions.

If You Are Scheduled For Glaucoma Surgery...

Before your surgery: (TIPS)

1. Make sure you understand the risks and benefits of the surgery. Here are some questions you may want to ask your ophthalmologist:
 - Why do you think surgery is the best treatment for my condition?
 - What kind of surgery do you recommend for my condition, and why?
 - Are there other treatment options I should consider?
 - What do you think might happen if I don't have the surgery?
 - Do you think I am likely to need further treatment after the surgery (i.e. medication or further surgery)?

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- What change should I expect in my condition after surgery?
- What kind of anesthesia will you use for my surgery?
- Where will my surgery take place?
- Approximately how long will my surgery take?
- Should I discontinue any of my medications prior to surgery? If so, how long before my surgery should I stop taking them?
- Can I eat prior to my surgery?

You might find it helpful to write your questions down prior to your office visit, or to take notes during your appointment. This can help ensure you understand everything your ophthalmologist discusses with you.

2. If you have medical insurance, you should find out if your policy will cover your surgery, and how much - if anything - you should expect to pay out of pocket.
3. Most importantly, don't be afraid to ask your ophthalmologist questions. If you have any concerns, now is the time to discuss them with your doctor.

The day of your surgery:

(TIPS)

1. If you've been told not to eat before surgery, it is very important that you follow that instruction. It can be dangerous to eat prior to undergoing some kinds of anesthesia.
2. Most hospitals and outpatient facilities recommend you leave valuables, such as money or jewelry at home. You

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may not be allowed to take those items into the procedure room.

3. If you are having your procedure in a hospital or outpatient surgery facility, make sure you get there in time to fill out any registration forms that may be required.

What will happen the day of surgery?

After you have registered or checked in, you may go to a waiting room or area prior to your surgery. You may be asked to change into a patient gown for your surgery. Depending on the kind of anesthesia you and your doctor selected for your procedure, an anesthesiologist may spend a few minutes talking with you to make sure it is the safest kind for you.

In the procedure room, you may be asked to sit in a special chair or lie on a table, depending on what kind of surgery you are having. In either case, special equipment will be used to make sure your head doesn't move during your procedure.

Your ophthalmologist or an assistant will probably put drops in your eyes to numb them. This is the only anesthesia necessary for many patients having glaucoma surgery. He or she may also give you one or more injections near your eye to help numb the whole area. This usually involves a minimum of discomfort.

If you and your ophthalmologist decide you need sedation - medication to make you less anxious - you may be given an injection or have an intravenous line (i.v.) placed in your arm. (This means a small needle will be placed in your arm and connected to some tubing and a bag of sterile solution and medication.) This usually doesn't hurt any more than getting a shot or giving blood.

If your surgery is a laser procedure, you will be seated in a special chair while the surgeon uses a beam of light to carry out the

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procedure. You will not be able to feel it, or to see it with the eye that is having the surgery.

If your surgery is an incisional procedure, the ophthalmologist or the assistant will place sterile cloth around your eye. You won't be able to feel the surgery, or see it with the eye having the surgery, but you may hear the tiny instruments while the ophthalmologist works.

Most glaucoma surgeries don't take very long - about an hour for most - but the time depends on many factors, such as your eye structure, the kind of surgery you're having and the difficulty of the procedure.

After your glaucoma surgery...

After your surgery, the ophthalmologist or assistant may put more drops in your eyes. You may be given medication for discomfort. You might need to wear an eye patch to protect the eye.

You will probably have to wait for a period after your surgery to make sure it's safe for you to return home. You may have to stay a little longer if you've had sedation.

(TIPS)

1. Prior to leaving, you should be given instructions about:
 - medications -when you should start taking them, and how often
 - what to expect in the next few hours or days -- i.e. how much discomfort or swelling you may have

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- what signs to look out for that might indicate infection or another problem
 - what activities you must refrain from, and for how long
 - when you should return to the ophthalmologist for follow up
2. If you have any questions or concerns, ask your ophthalmologist or his/her assistant or nurse before you leave.
 3. Make sure you have a friend or family member to drive you home after your procedure. You may have an eye patch, or feel slightly groggy after your surgery.
 4. Make sure you understand your ophthalmologist's instructions and follow them carefully. This will help ensure a speedy recovery and good outcome.
 5. Keep your follow-up appointment(s), even if you have no sutures (stitches) to remove and are experiencing no complications.
 6. Above all, take care of yourself and your eyes. Maintain a healthy diet - this is particularly important if you have a medical condition such as diabetes or hypertension (high blood pressure) - and get regular exercise. Wear sunglasses with adequate UV protection when you're in the sun, and make sure your eyes are protected when you play sports or use heavy machinery.

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