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Your eye doctor may recommend [glaucoma surgery](#) if eye drops and oral medications don't reduce your [eye pressure](#) well enough to prevent optic nerve damage. In these cases, surgery can potentially save your eyesight.

Compared to older methods of glaucoma surgery, modern procedures continue to improve with significantly lower risks of complications.

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When is glaucoma surgery needed?

Most cases of glaucoma can be controlled with one or more drugs, but in some cases surgery may be either preferred or more effective.

Many people with glaucoma fail to use their eye drop medications as directed, which results in poor control of their eye pressure and greater risk of vision loss. Sometimes, surgery can eliminate the need for glaucoma eye drops. But this is not always the case.

Types of glaucoma surgery

There are many types of glaucoma surgery, with new surgical treatments being developed and perfected all the time. An [ophthalmologist](#) will assess your individual condition and help you decide which option is best for you.

Minimally invasive glaucoma surgery (MIGS)

Doctors will consider **minimally invasive glaucoma surgery (MIGS)** before a more invasive procedure whenever possible.

These microsurgery procedures tend to cause fewer side effects and complications than standard glaucoma surgeries, such as trabeculectomy. (In some cases, however, more invasive glaucoma surgeries are needed to have an adequate effect despite the higher risk of complications.)

MIGS procedures require only very small incisions and typically involve the use of tiny (even microscopic-size) implants to increase the outflow of fluid (*aqueous humor*) from the eye.

The trabecular meshwork is responsible for most of the resistance to the normal outflow of aqueous fluid. If this meshwork becomes clogged, pressure in the eye can increase to dangerous levels. The trabecular meshwork is located in the drainage angle of the eye, which is located in the anterior chamber of the eye where the [cornea](#) and [iris](#) meet.

Minimally invasive glaucoma surgery procedures reduce eye pressure by creating new passages through or around the trabecular meshwork with tiny shunt or stent devices to allow the aqueous humor to drain more easily from the eye.

Types of MIGS procedures include:

- Microtrabeculectomy (miniaturized version of a standard trabeculectomy)
- Internal trabecular bypass procedures (by implanting tiny stent or shunt devices within the trabecular meshwork)
- Certain laser procedures

In a **microtrabeculectomy**, microscopic-sized tubes are inserted into the drainage angle to drain aqueous fluid from inside the anterior chamber of the eye to underneath the thin outer membrane of the eye ([conjunctiva](#)) that covers the white of the eye ([sclera](#)). Two new devices seem to make the trabeculectomy operation safer. Examples of devices used in this procedure are the Xen Gel Stent and PRESERFLO MicroShunt.

A laser glaucoma surgery called **selective laser trabeculectomy (SLT)** is now considered a first-line surgical treatment for [open-angle glaucoma](#) and may reduce the number of eye drops a person needs to use every day to treat glaucoma.

During an SLT procedure, an ophthalmologist uses a laser to create tiny holes that allow eye fluid to drain better and lower eye pressure.

SLT often can be performed in the ophthalmologist's office. According to the [Glaucoma Research Foundation](#), this laser glaucoma surgery can lower eye pressure by 20 to 30 percent and is successful in about 80% of patients.

Though the reduction in eye pressure from SLT may not be permanent, the procedure can often be safely repeated, if needed.

Trabeculectomy

A **trabeculectomy** is a more significant glaucoma surgery than a microtrabeculectomy, SLT or other MIGS procedures, and is used when a more significant reduction of intraocular pressure (IOP) is needed to control glaucoma.

In this procedure, a piece of the trabecular meshwork is removed to increase the outflow of aqueous fluid from the eye.

Near the exterior junction of the cornea and sclera, the surgeon cuts and folds back a portion of the conjunctiva that covers the sclera and makes a flap in the sclera. This flap is folded back, and a small piece of the trabecular meshwork and iris are removed to make a hole into the anterior chamber of the eye. The scleral flap is then

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