



Glaucoma Filtering Surgery

Sometimes eye drops or laser treatment are not enough to prevent loss of vision from glaucoma. In this case, your ophthalmologist must perform glaucoma filtering surgery. Glaucoma filtering surgery is performed in the operating room, with the use of microsurgical instruments and an operating microscope. This surgery is usually performed as an outpatient procedure under local anesthesia. Proper recovery from this type of eye surgery is slightly longer than other types of eye surgery, and requires frequent postoperative visits to the ophthalmologist.

There are two basic types of glaucoma filtering surgery. In one type, your ophthalmologist creates a fluid drainage hole in the eye wall, and in the other type, the doctor implants a plastic drainage device through the eye wall. After both types of surgery, fluid from the eye drains out of the eye to a pocket behind the eye lids, and is absorbed into the bloodstream. This lowers the pressure inside the eye so that the damage from glaucoma can be stopped.

Your ophthalmologist will choose which type of surgery to perform depending on which type of glaucoma you have, and several other factors.

Trabeculectomy Surgery

In this type of surgery, an incision is made behind the upper eyelid, into the **conjunctiva**, which is the skin covering the surface of the eye. The conjunctiva is the part of the eye that turns red when your eye is irritated. Your doctor lifts this skin to expose the **sclera**, which is the wall of the eyeball.

An incision is made through the eye wall, creating a hole through which fluid will leave the eye. This incision through the eye wall is then partially closed with tiny stitches, so that fluid will percolate through the hole, instead of gushing out. This step is important because some fluid must remain in the eye to maintain its round shape. If the eye is too soft and loses its round shape, it will not function properly, and vision will be poor.

Your doctor then closes the incision in the conjunctiva, so that fluid that leaves the eye through the partially closed hole in the sclera collects in a pocket between the eye wall and the conjunctiva. Fluid is then absorbed from this pocket into the blood stream in the veins around the eye.

After surgery, you must use eye drops that slow the natural healing response of the eye so that the holes your doctor created in the eye are not healed shut. When the healing is over, the eye drops are usually stopped. Sometimes, your doctor uses a laser to cut some of the stitches that were placed in the eye. This is done in order to enlarge the opening in the eye wall if the eye pressure needs to be lowered further.

continued on page 2 →



Sometimes the ophthalmologist uses medicines called antifibrotics to help fight the healing response in eyes that have a high risk of closure of the hole in the eye wall. Two examples of these antifibrotic medicines are Mitomycin C and 5-Fluorouracil. These medicines are very potent, and are also used intravenously in higher concentrations to fight certain kinds of cancer. Eyes that are at high risk of closing the drainage hole are eyes in persons with darkly pigmented skin, eyes that have had other types of surgery in the past, and eyes that have inflammation, or uveitis, at the time of surgery. Your doctor will inform you if you are a candidate for receiving this type of medicine for your surgery.

A certain percentage of patients will experience a gradual increase in eye pressure in the months or years following glaucoma filtering surgery. These patients will start using eye drops again to lower the eye pressure, or may require repeat operations to lower the pressure.

Aqueous Drainage Implant Surgery

In this type of surgery, an incision is made behind the upper eyelid, into the **conjunctiva**, which is the skin covering the surface of the eye. The conjunctiva is the part of the eye that turns red when your eye is irritated. Your doctor lifts this skin to expose the **sclera**, which is the wall of the eyeball. The doctor then attaches a plastic implant to the sclera. There is a tube attached to the implant. This tube is passed through a hole in the eye wall, or sclera, and positioned in the **anterior chamber or vitreous cavity** of the eye. Eye fluid exits the eye through this tube, and is collected by the implant attached to the sclera. From the implant, fluid is absorbed into the blood stream in the veins around the eye. Your doctor then closes the incision in the conjunctiva in order to cover the implant. The implant resides in position behind the eyelids.

After surgery, you must use eye drops that slow the natural healing response of the eye so that the holes your doctor created in the eye are not healed shut. When the healing is over, the eye drops are usually stopped.

A certain percentage of patients will experience a gradual increase in eye pressure in the months or years following glaucoma filtering surgery. These patients will start using eye drops again to lower the eye pressure, or may require repeat operations to lower the pressure.