

Glaucoma Surgery: Implant Devices

There are many implant options available. Your doctor will talk with you about which implant will work the best for you.

Glaucoma Surgery

Surgery is used in the treatment of glaucoma to lower the pressure in the eye. It is done when you are taking the highest dose of medicines and the pressure in your eye is still too high. You are at risk for permanent damage to your optic nerve and vision.

The goal of surgery is to lower the pressure in the eye by making a new channel to drain the fluid. The body's own healing response is to form a scar, which can close the new drainage channel over time. Often an implant is used in a patient who has had glaucoma surgery that has failed, or in a patient who has a form of glaucoma prone to scarring.

How It Works

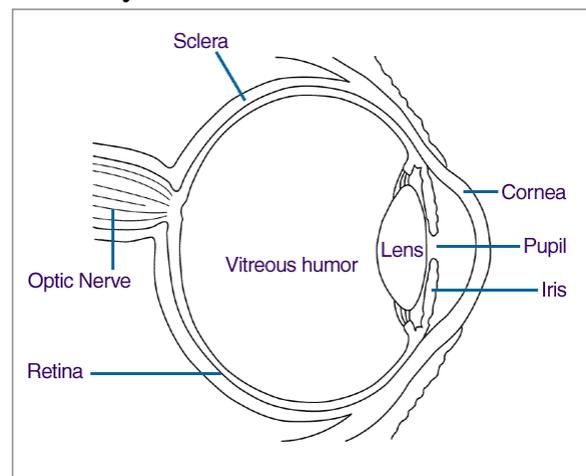
The implant device looks like a plastic plate attached to a tube. The tube is placed in the front part of the eye and fluid can flow from the eye through the tube under the plate which is placed outside of and behind the eye. The plate holds a space between the tissues on the surface of the eye where the fluid can collect and be absorbed by the body.

Implant Surgery

An IV (needle in the vein of the arm) is placed. Medicine to help you relax is given through the IV. Drops may be put in the eye if needed. The eye and the area around it are numbed so that you feel no pain in your eye.

The eye and skin will be cleaned with a yellow cleaning liquid. A protective sheet will be draped over your face.

The surgeon will make a cut in the **conjunctiva** (the thin outer cover of the eye). The implant device is placed on the **sclera** (white part of the eye) about halfway back on the eyeball and is stitched down. Part of the device may pass under some of the muscles of the eye.



A small hole is made where the clear **cornea** (front of the eye) meets the sclera. The tip of the implant tube is tucked into this hole and remains

inside the front part of the eye. A patch of tissue will cover the tube where it lays on the white of the eye.

In some cases, the tube's tip may be tied off for the first few days to weeks after it is put in. The doctor will decide when to open the tube. This depends on how your eye heals. The hole in the conjunctiva is sewn shut. When the tube is opened, the fluid inside the eye will flow through the tube to the space made by the plate between the conjunctiva and sclera. The body will absorb this fluid.

Implant surgery takes about 2 hours. A patch is placed over the eye, and a metal shield is placed over the patch. Once the IV line has been removed from your arm and you feel well enough, you can return home.

Surgery using an implant device is often a success. Three years later, about 60% of implants are working. Most patients will still need pressure-lowering medicines as well.

The body's scarring response can still cause problems even with an implant device. A thick cyst can form around the plate, that can prevent drainage of the eye fluid. Sometimes medicine can be used to prevent scar tissue from forming. The doctor will decide if this is needed. This will depend on your age, if you have had eye surgery before, and how severe your glaucoma is.

Risks

The most common risk is that **the new drain works too little or too well**. If the drain works too little, the pressure in the eye remains too high and further treatment is needed.

If the new drain works too well, fluid may build up behind the retina (inner lining of the eye) and may cause a loss of vision for a short time. You may need to have a second surgery to refill the eye and correct the problem.

You will see the doctor often to adjust your medicines, push on the eye, or remove the tie that may close the implant tube.

The tube which leads from the front of the eye to the plate and the plate itself are covered with eye tissue during the surgery. Over time, **the tube or plate may wear through the tissue**. If this happens, you may need to have it repaired. This is not a common problem, but call your doctor if you notice any change in the way your eye looks.

The tissue around the plate may also get thick and scarred. If this happens, the fluid cannot absorb, so the eye pressure may go up. You may need further treatment to correct the problem.

The implant device may be placed under some of the muscles in your eye. **If the tissues thicken and scar**

around the plate or if the device itself is too thick, the muscles can be pushed out of place. You may notice double vision if this occurs. You may need special glasses or a second surgery to correct your vision.

The tube is carefully placed in the front of the eye during the surgery. You may be able to see its tip if you look very closely, though it should not be noticed by others. **If the tip of the tube touches the cornea (front surface of the eye) it may cause damage.** If the tip touches the lens of the eye, it may form a cataract. It is rare for this to happen.

Your vision might not be as sharp after your surgery. This should last only a short time. Rarely (less than 5% of cases), vision may be reduced for good. A very rare risk is that you could go blind because of surgery, or much rarer still, to die during surgery.

Before the Surgery

You will have a physical before the surgery to make sure that it is safe for you to have. This exam may include blood tests, an EKG (heart tracing), and a chest x-ray.

You should stop taking blood thinners, aspirin, ibuprofen (Motrin[®], Advil[®], Nuprin[®], Medipren[®]), naprosyn (Aleve[®]), anti-inflammatory arthritis medicines, or cold pills with these drugs one week before the surgery since they can cause bleeding.

Check with your own doctor for advice on stopping these medicines. Acetaminophen (Tylenol[®]) is fine to take for headache or pain.

A nurse will call you the day before surgery to tell you what time to arrive and give you eating and drinking instructions.

After the Surgery

Leave the patch and shield on the eye for the first day and night. You will see the doctor the next day and on a regular basis after that time. You will be given medicine to help the eye heal and to prevent swelling and infection.

You should stop the glaucoma medicine you were taking in the eye that had surgery. You will be told when to restart them, if needed. Keep using the glaucoma medicines you may have been taking in the other eye.

Glasses or the eye shield should be worn at all times for the first few weeks. The eye shield should be worn at night to protect the eye.

Activities

- **No** physical activity which makes you strain or hold your breath.
- **Do not** lift over 15 to 20 pounds.
- **Do not** bend over from the waist; bend at the knees to reach low objects.

- You may resume sex when you feel ready.
- Be careful the first few weeks.

When to Call

- A sudden decrease in vision
- Increased pain or discharge in the eye
- A large increase in redness or swelling
- Nausea or vomiting
- Any questions or concerns.

Who to Call

University Station Eye Clinic
Monday—Friday, 8 am to 4:30 pm
(608) 263-7171 or 1-800-323-8942

After hours, your call will be sent to the hospital paging operator. Ask for the “Eye Resident on Call”. Give your name and phone number with area code. The doctor will call you back.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright ©3/2022 University of Wisconsin Hospital and Clinics Authority. All right reserved. Produced by the Department of Nursing. HF#5085