



Pediatric Glaucoma Surgery

BENEFITS

Glaucoma is caused by higher than normal pressure inside the eyeball, causing damage to the optic nerve and retina with gradual loss of vision. In infants and children, high eye pressure can also cause eye enlargement, clouding of the clear front surface of the eye, and lazy vision (amblyopia). Glaucoma can be treated with a combination of eye medicines and eye surgery. The medical and surgical treatments are designed to lower the pressure in the eye by allowing more eye fluid to escape (“opening the drain”) or by allowing less eye fluid to be created (“closing the faucet”). If the pressure is lowered to normal or nearly normal levels, vision can often be preserved. The child may need frequent visits to measure eye pressure or to treat lazy vision with eye glasses and eye patching.

SURGICAL TECHNIQUE

After your child is fully asleep (general anesthesia) in the operating room, microsurgery is performed using specialized instruments and high power microscopes. The surgery may take one of several forms. First, new drainage channels may be created inside the eye at the far edges of the iris (colored part of the eye). The channels allow the escape of natural fluid created inside the front chamber of the eye, thereby lowering the pressure. Second, lasers may be used to turn off some of the cells that create the fluid. Third, tubes may be inserted to create new drainage routes. At the end of surgery the eye is bandaged shut for one night. Glaucoma surgery is usually performed as an outpatient procedure (if your child is over one month old, and has no other illnesses, he or she can be taken home).

ALTERNATIVES

Dr. Packwood, Norman, or Hunt will have considered carefully whether your child would benefit most from glaucoma surgery or further treatment with eye medications. Eye glasses or eye patching may be used in cases accompanied by lazy vision.

RISKS

Re-operations on children with glaucoma are the rule rather than the exception. Some children require only one or two surgeries, but in particularly severe cases 10 or more operations may need to be performed, spaced months to years apart. Pediatric glaucoma is often more difficult to treat than glaucoma that occurs in adults.

Lazy vision (amblyopia) occurs in up to 90% of infants and children with glaucoma, and will need to be treated with glasses (or contact lenses) and eye patching. Amblyopia is usually caused by clouding of the front of the eye or unequal focusing.

Eye Crossing (strabismus) and eye wiggling (nystagmus) occur in up to 50% of children with glaucoma. Often these can be corrected or significantly improved with eye muscle surgery.

Cataract (clouding of the eye lens) occurs in 20% of children with glaucoma. If the cataract becomes dense, cataract surgery will need to be performed and contact lenses or glasses worn. About 5% of children with glaucoma will also require a corneal transplant, due to clouding of the front clear covering (cornea) of the eye.

Complications of a serious nature are unusual in glaucoma surgery. These include severe bleeding or scarring inside the eye, infection, detachment of the retina and complete loss of vision, or severe anesthetic reaction. Glaucoma surgeries performed by an experienced pediatric eye surgeon are considered safe and effective procedures.

THE NIGHT BEFORE SURGERY

No food or milk is permitted after midnight. Medicines may be taken with sips of water. Only apple juice, Sprite, Kool Aid, and water may be taken up to three hours before the admission time.

**IF YOUR CHILD IS ACUTELY ILL (HAS A FEVER, DEEP COUGH, OR VOMITTING) IN THE DAYS PRECEDING SURGERY,
Please call us at (817) 878-5454.**

ANESTHESIA

The anesthesia doctor may order a preoperative oral sedative medication. In the operating room young children are put to sleep within seconds by breathing gas from a mask held near their face. An intravenous (IV) line and a breathing tube (endotracheal tube) are placed only after they are asleep and the breathing tube is removed before they are fully awake. Children age 13 or older who are not unduly frightened may be given an IV line before anesthesia so that sedative medications can be administered. Depending on the special needs or medical condition of the patient, the anesthesiologist may slightly alter the routine.

LENGTH OF SURGERY

Generally glaucoma surgery is completed within 60 minutes, although this may vary from 45 minutes to 2 hours depending on the complexity of the case. Dr. Packwood, Norman or Hunt will find you to discuss the operation immediately afterward.

POSTOPERATIVE DISCOMFORT AND NAUSEA

There may be mild discomfort from the surgery, and the nurses will treat it with the appropriate medication. Tylenol may also be used. Glaucoma surgery does not cause severe discomfort. Mild nausea is common. If vomiting occurs, medication may be prescribed.

DISCHARGE TO HOME

Most patients are discharged to home within two to three hours after surgery, and instructed to return for an exam the next day in our office. The Surgery Scheduler will set up a time for this post-op exam. This information will be mailed out to you with information for the surgery. If you have questions regarding this, you may call the Surgery Scheduler at (817) 878-5454.

POST-OPERATIVE EYE MEDICINES

Eye drops and ointment may be used to help healing and prevent infection in the first 4-6 weeks after surgery. When giving the medicines, do not apply pressure on the eyeball itself.

The patient can resume limited activities the day after surgery. Younger children often play within hours after surgery. Older children may be tired for a day or two. Some children feel sleepy or grouchy or even vomit the day after surgery. We discourage rough play for the first two weeks after surgery. Bathing, showering and washing of the hair with the eye gently closed will not interfere with the healing. We prefer your child avoid submerging the eyes under water in a bath or swimming pool for ten days following the surgery. Redness of the eye usually disappears in a few weeks. Your child can usually return to day-care or to school within days after surgery.

EYE SHIELD AND EYE GLASSES

In the first weeks following glaucoma surgery your child's eye may need protection from possible injury. An eye shield will provide this at night and nap time. The shield is to be worn for one-two weeks. Eye glasses or a shield will protect the eye during awake periods.

POSTOPERATIVE EXAM UNDER ANESTHESIA

In some children a brief examination under anesthesia may be required in the weeks after glaucoma surgery. The exam allows precise measurements to be made and ensures that the healing process has followed a normal course.