



Pediatric  
Eye Specialists

## Pediatric Cataract Surgery

### CATARACTS AND HOW THEY AFFECT VISION

A cataract is a clouding of the normally clear lens in the middle of the eye. Infant cataracts are usually due to malformation of the lens during early intra-uterine life. Infant cataracts are hereditary in about 20% of cases. Cataracts in older children can occur as the result of a less severe malformation or following eye trauma. If the cataract is very dense, vision in that eye is reduced to a fog. If the cataract is smaller or less dense, vision in that eye may be slightly or moderately blurred. Severely cloudy cataracts that occur near the time of birth must be removed within weeks or vision will fail to develop normally and the eye will become legally blind (the medical term is “amblyopia”).

### ALTERNATIVES

Less severe cataracts initially may be treated with patching therapy, dilating eye drops and/or glasses. If these methods are able to maintain good vision in the eye, cataract surgery is deferred. If the vision remains poor despite eye glasses and patching, cataract surgery is advised.

### METHOD OF CATARACT REMOVAL

Cataracts that occur in infants and children are unlike cataracts that occur in adults. Pediatric cataracts require different instrumentation and techniques. Using a microscope to provide a magnified view, the doctor makes a small incision in the wall of the eye. An instrument no thicker than a toothpick is inserted through the incision. This instrument, used to remove the cataract, is a combined vacuum and cutter. A second incision is made and a small tube is inserted to allow fresh fluid to be flushed into the eye. The cloudy lens is cut into pieces and vacuumed away. Depending upon the age of the child, it may be necessary to remove some of the thick gel (vitreous) that fills the middle of the eye. Removing the gel can reduce the chance of scarring that can cause a cloudy membrane to rapidly grow where the cataract had been. The space that is created in the eye from removal of the cataract and gel is replaced by a special clear fluid inserted in the eye at the time of the surgery.

## GLASSES, CONTACT LENS OR IMPLANT?

The lens inside of the eye normally focuses the light rays to a sharp point on the retina in the back of the eye. If the lens is removed, as in cataract surgery, a lens implant inside the eye, a contact lens on the outside of the eye, or thick eye glasses must be worn to properly focus the light rays. Dr. Packwood, Norman, or Hunt will discuss with you whether an implant, contact lens or glasses would be best for your child.

### METHODS OF CORRECTING EYE FOCUSING AFTER CATARACT REMOVAL

#### Lens Implants

In toddlers and older children who have a cataract removed, an artificial lens may be inserted surgically to focus the light rays. Implant surgery in children is more complex because of the special characteristics of young eyes. The advantage of implants is that they avoid the magnification of cataract glasses and the need to insert, remove, and replace contact lenses. The implant is designed to remain in the eye permanently. The power of the implant selected depends upon the size of the eye at the time of surgery and calculated estimates of future eye growth. The implant power is chosen to focus at either near or distant targets. Normal thickness bifocal glasses may be prescribed at a later time to further fine-tune your child's vision.

#### Contact Lens Fitting

Contact lenses are the preferred method of treatment in cases of cataract removal from only one eye in very young infants. Contact lenses make it easier to use both eyes together in this case because they produce less image magnification than glasses. They are also aesthetically more appealing than glasses. However, contact lenses for infants are quite expensive and the total expense for the first year may be over \$500. The lenses can be lost or torn, and a fast-growing baby needs frequent lens power changes. Parents must learn how to insert, remove and clean their child's contact lens. Initial instruction normally requires one or two office visits. Fitting is usually done within one to three weeks after surgery.

#### Eye Glasses

When cataracts have been removed from both eyes, eye glasses are an effective and simple method for restoring eye focusing. However, cataract glasses are very thick and magnify the appearance of the eyes. They need to be fit by opticians at optical shops that specialize in pediatric glasses (we can recommend several in this area). When children are older, bifocal cataract glasses are prescribed to provide focusing at both near and far distances. At an older age, the glasses can be replaced by contact lenses or surgery can be performed to implant lenses into the eyes.

## EYE PATCHING

If your child has lazy vision (amblyopia), patching therapy will be started in the days or weeks after surgery. The normal eye will be covered with a patch applied to the skin during part of the waking hours to aid development of vision in the operated eye.

## RISKS

Amblyopia (lazy vision) may persist despite cataract removal. This can occur if the amblyopia is very severe and does not respond to patching after surgery.

Eye crossing (strabismus) appears in a majority of children who have cataracts. A crossed eye can appear before or after cataract surgery because of lazy vision. Cataracts can also cause eye wiggling (nystagmus). The crossing usually can be fully or partially corrected by eye muscle surgery.

Glaucoma (high eye pressure) may develop months to years following cataract removal. This is not caused by the cataract surgery, but rather by a malformation of the drainage channels in that eye. About 1 in 5 children who have cataract surgery will later require treatment for glaucoma. Eye pressure should be checked periodically throughout life.

Complications of a serious nature are unusual. These include serious anesthetic reactions, a severely detached retina, or infection or hemorrhage serious enough as to cause blindness in the eye. In rare circumstances despite removal of the entire cataract and gel, a membrane can grow back in the middle of the eye. The membrane can be removed by a repeat operation. With modern instrumentation and techniques, cataract surgery performed by a pediatric ophthalmologist is considered a safe and effective procedure.

## 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 VOMITING) IN THE DAYS PRECEDING SURGERY,  
Please call us at (817) 878-5454.**

## TIME OF OPERATION

The time you have been given for the operation is tentative and may need to be changed on the day of surgery. In general, patients are taken by age with the youngest going first.

## ANESTHESIA

The anesthesia doctor may order a preoperative oral sedative medication. 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 beforehand so that sedative medications can be administered. Depending on the special needs or medical condition of a patient, the anesthesiologist may slightly alter the routine.

## LENGTH OF SURGERY

Generally cataract surgery and the measurements of the eye under anesthesia are completed within 90 minutes, although this may vary from 45 minutes to two hours depending on the complexity of the case. After the surgery, Dr. Packwood, Norman, or Hunt will find you to discuss the operation.

## 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. Cataract surgery does not cause severe discomfort. Mild nausea is common. If vomiting occurs, medication may be prescribed.

## DISCHARGE TO HOME AND FOLLOW-UP

Most patients are discharged to home with two to three hours after surgery and instructed to return for an exam the next day. A patch and shield will be placed over the eye to protect it until the exam on the day after surgery. A technician from our office will schedule a time for this brief postoperative check in our clinic. Your child will need to be seen multiple times in the first months after the surgery.

## 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. The medicines come in bottles or tubes and may be given to you by a nurse at the time of discharge. Additional prescriptions for eye drops may be provided to you the day 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, though some 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 week after surgery. Bathing, showering and washing of the hair with the eye gently closed (with care not to splash water directly into the eye) will not interfere with the healing. We prefer that your child avoid submerging the eyes under water in a bath or swimming pool for 7 to 10 days following the surgery. Redness of the eye usually disappears in a few weeks. Your child can return to day-care or to school within days following surgery.

## EYE SHIELD AND EYE GLASSES

In the first weeks following cataract removal, your child's eye will need protection from possible injury. An eye shield will provide this at night and nap time. The shield is to be worn for two weeks. Eye glasses, if prescribed, will protect the eye during awake time. The lenses of the glasses may be exchanged for more precise prescription lenses in the first months after the operation.

## POSTOPERATIVE EXAM UNDER ANESTHESIA

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