

EYE MUSCLE SURGERY

AT CHILDREN'S HOSPITAL OF PITTSBURGH OF UPMC, we believe parents and guardians can contribute to the success of this surgery and invite you to participate. Please read the following information to learn about the surgery and how you can help.

Fast Facts About Eye Muscle Surgery

- Eye muscle surgery is a surgery to correct strabismus (eye misalignment) or nystagmus (eye wiggling).
- The surgery involves moving one or more of the eye muscles to adjust the position of the eye or eyes.
- Eye muscle surgery may be done as an outpatient procedure at the Same Day Surgery Center at Children's Hospital, Mercy Hospital, or Children's North Surgery Center.
- Eye muscle surgery requires general anesthesia to make your child sleep during the procedure.
- With general anesthesia, there are important rules for eating and drinking that must be followed in the hours before the surgery.
- The surgery can range from 45 minutes to 2 hours depending on the type of eye muscle surgery your child needs.
- Recovery from anesthesia may take several hours.

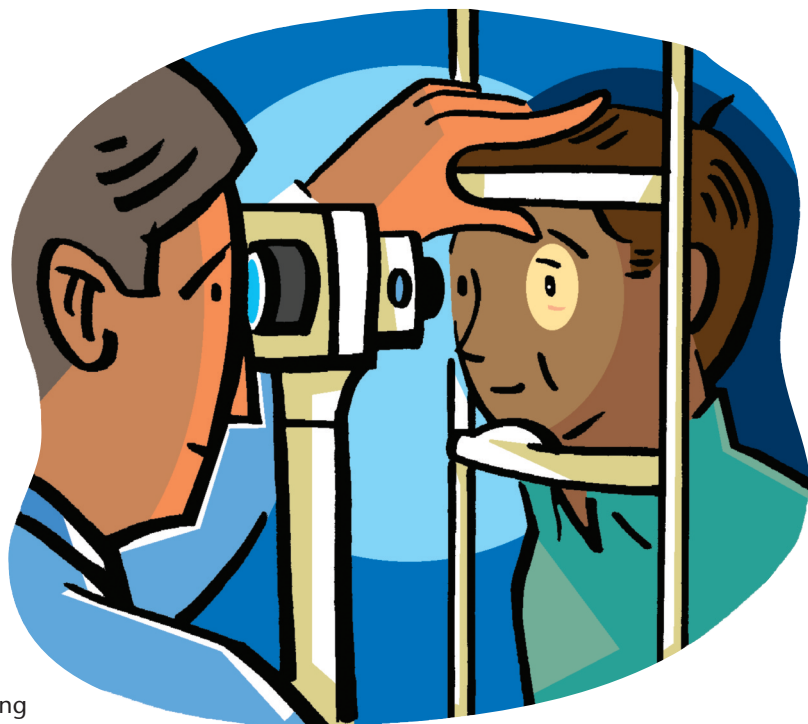
Why Is Eye Muscle Surgery Done?

Eye muscle surgery is done to treat two of the most common childhood eye problems—strabismus and/or nystagmus.

- **Strabismus** (*stra-BLIZZ-muss*) is an eye problem in which the eyes are misaligned—meaning that they point in different directions. One eye may look straight ahead, while the other eye turns inward, outward, upward or downward. Sometimes both eyes are affected. Strabismus affects about 5 percent of children, and is sometimes referred to as being “cross eyed” or “wall eyed.”
- **Nystagmus** (*nigh-STAG-muss*) is an eye problem which causes the eyes to make involuntary (unintentional) movements or “wobble.” It usually affects both eyes and often is more visible when the eyes are looking in a particular direction. Nystagmus can cause vision problems and often occurs with strabismus and amblyopia (*am-blee-OH-pee-uh*), also known as lazy eye.

What Is Eye Muscle Surgery?

Eye muscle surgery is performed to correct eyes that are not aligned. The eyes may be crossed or have a tendency to wander out, in or up. The type and amount of surgery done will depend on the child's measurements that are done in the office.



- Although not a cure for nystagmus, eye muscle surgery can help children with nystagmus by improving their visual function, which also can correct the way they hold their heads to see.
- The eye is shaped like a grape and the muscles attach to the outside of the eye like elastic bands. Eye muscle surgery involves detaching and reattaching the muscles to another position on the eye.
- The procedure will take place in the operating room and the child will be asleep for the entire surgery. Your child will not feel any pain during the procedure and will be monitored by doctors and nurses throughout the surgery.
- After your child is asleep, an IV will be placed to provide fluids and medications.
- A small instrument called an eyelid speculum is used to hold the eye open and a small incision (or opening) is made on the clear covering of the white part of the eye. It is through this opening that the muscles can be detached and reattached to the eye. The clear covering is then closed with stitches that will dissolve on their own. At no time during the surgery is the eyeball removed or are any incisions created on the skin or the face.

Home Preparation

In the 2 weeks before the surgery, do not give your child any aspirin or ibuprofen. That includes Motrin®, Advil®, Bayer®, Pediafen®, Aspergum®, Pepto Bismol® and Alka Seltzer®. Your child may take Tylenol®.

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The day before the surgery, do not allow your child to get any kind of vaccination.

When general anesthesia is needed, there are important rules for eating and drinking that must be followed in the hours before the surgery. One business day before your child's surgery, you will receive a phone call from a nurse between the hours of 1 and 9 p.m. (Nurses do not make these calls on weekends or holidays.) Please have paper and a pen ready to write down these important instructions.

The nurse will give you specific eating and drinking instructions for your child based on your child's age. Following are the usual instructions given for eating and drinking. No matter what age your child is, you should follow the specific instructions given to you on the phone by the nurse.

For children older than 12 months:

- After midnight the night before the surgery, do not give any solid food or non-clear liquids. That includes milk, formula, juices with pulp, coffee and chewing gum or candy.

For infants under 12 months:

- Up to 6 hours before the **scheduled arrival time**, formula-fed babies may be given formula.
- Up to 4 hours before the **scheduled arrival time**, breastfed babies may nurse.

For all children:

- Up to 2 hours before the **scheduled arrival time**, give only clear liquids. Clear liquids include water, Pedialyte®, Kool-Aid® and juices you can see through, such as apple or white grape juice.
- In the 2 hours before the **scheduled arrival time**, give nothing to eat or drink.

A Parent's/Guardian's Role

The most important role of a parent or guardian is to help your child stay calm and relaxed before the surgery. The best way to help your child stay calm is for you to stay calm.

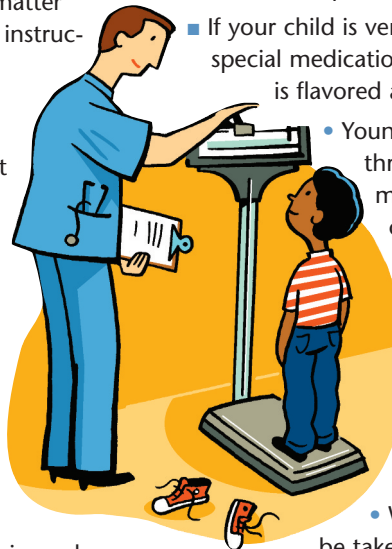
- You may bring along a "comfort" item—such as a favorite stuffed animal or "blankie"—for your child to hold before and after the surgery.
- If you are a guardian of the child having surgery, please bring the necessary paperwork with you to prove your guardianship.
- During the surgery, at least one parent or guardian should remain in the surgical family waiting area at all times in case the family needs to be reached.

Going to Sleep

A pediatric anesthesiologist—a doctor who specializes in anesthesia for children—will give the medications that will make your child sleep during the surgery.

Before the surgery, a member of the anesthesia staff will meet with you to take your child's vital signs, weight and medical history. As the parent or legal guardian, you will be asked to sign a consent form before the anesthesia is given.

- The anesthesiologist will meet with you and your child to review your child's medical information and decide which kind of sleep medication your child should get.
- If your child is very scared or upset, the doctor may give a special medication to help him or her relax. This medication is flavored and takes effect in 10 to 15 minutes.
- Younger children will get their sleep medication through a "space mask" that will carry air mixed with medication. Your child may choose a favorite scent to flavor the air flowing through the mask. There are no shots or needles used while your child is still awake.
- Older children may choose between getting their medication through the mask or directly into a vein through an intravenous (IV) line.
- When your child has fallen asleep, you will be taken to the waiting room. If it has not already been done, an IV will be started so that medication can be given to keep your child sleeping throughout the surgery.



The Eye Muscle Surgery

Eye muscle surgery is done through the Same Day Surgery Center at Children's Hospital of Pittsburgh in Oakland, at Mercy Hospital, Shadyside Hospital and at Children's North in Wexford.

When you check in at the registration desk, you will be asked for the clearance form from your child's primary care physician (PCP). This PCP form was given to you at the appointment with the ophthalmologist when you scheduled your child's surgery.

Once your child is registered, you and your child will be called to the examining room.

- A nurse will take your child's weight, vital signs and medical history. The nurse will ask you to name any medications your child might be taking, as well as the dosages and the time last taken.
- A member of the anesthesia team will meet with you to discuss your child's medical history and answer any questions you might have about the anesthesia. As the parent or guardian, you will be asked to sign a consent form for the anesthesia.

Eye Muscle Surgery cont'd

- Your child's doctor also will meet with you and your child to discuss the surgery and answer any questions you might have. As the parent or guardian, you will be asked to sign a consent form for the surgery.

You and your child will be moved to a holding area near the operating room (OR). When the operating room is ready, your child will go to the OR and you will be taken to the OR waiting room. We ask that at least one parent stay in the OR waiting room at all times.

- Your child will be given the anesthesia medication that was selected based on his or her age, weight and medical history.
- When your child is fully asleep, the surgery will begin.
- An eyelid speculum is used to hold the eye open and a small incision (or opening) is made on the clear covering of the white part of the eye. It is through this opening that the muscles can be detached and reattached to the eye. The clear covering is then closed with stitches that will dissolve on their own. At no time during the surgery is the eyeball removed or are any incisions created on the skin or the face.
- When the stitches are in place and the surgery is over, the doctor will decide whether or not to patch the eye. If surgery was done on both eyes, your surgeon might patch one eye and leave the other uncovered, or might leave both uncovered.
- The anesthesia medications will be stopped and your child will begin to wake up.
- Your child will be moved to the recovery room so that you can be there as he or she wakes up.

While Asleep

While your child is asleep, his or her heart rate, blood pressure, temperature and blood oxygen level will be checked continuously.

- During the surgery, your child will have a breathing tube placed in the airway while he or she is asleep. Your child might have a sore throat after the surgery.
- To keep your child asleep during the surgery, he or she might be given anesthetic medication through the breathing tube, through the IV tube or both. When the surgery is over, the medications will be stopped and your child will begin to wake up.

Waking Up

When your child is moved to the recovery room, you will be called so that you can be there as he or she wakes up. While your child is in recovery, your surgeon will talk to you about the surgery. This is a good time to ask questions about pain medications, diet and activity.

- Your child will need to stay in the recovery room to be watched until he or she is alert and his or her vital signs are

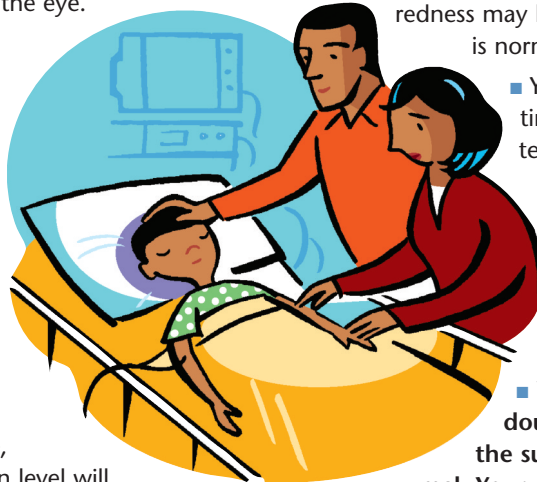
stable. The length of time your child will spend in the recovery room will vary because some children take longer than others to wake up after anesthesia.

- Children coming out of anesthesia react in different ways. Your child may cry, be fussy or confused, be sick to his or her stomach, or vomit. These reactions are normal and will go away as the anesthesia wears off.
- When your child is fully awake, he or she may be given a Popsicle® or slushy to drink. If he or she can keep the liquid down, your child will be discharged and may go home.

After the Surgery

When your child is discharged from the hospital, he or she still might be groggy and should take it easy for the rest of the day.

- Your child might have a patch on one eye that will need to be removed by the surgeon the next day.
- Your child's eyes might feel sore for 1 or 2 days after the surgery because of the incisions and the sutures. You may give your child Tylenol to relieve the discomfort.
- Your child's eyes will be red in the corners. This redness may be mild pink to very red. This redness is normal and may last for up to 2-3 weeks.
- Your child may have pink or blood-tinged tears for 1-2 days. These pink tears are normal.
- Your child may complain of scratchiness or a feeling that there is something in the eye. This feeling is normal and may last for up to 2-3 weeks, but will go away in time.
- Your child's vision will be blurry or double for about 1 or 2 weeks after the surgery. This blurred vision is normal. Your child's vision will start to improve when the brain catches up with the changes in the eye.



At-Home Care and Follow-Up Visits

You will need to bring your child to see the surgeon 1 day after the surgery.

- You will be given eye drops or ointment to put in your child's eye (or eyes) after surgery. Your doctor will tell you how often and for how many weeks you should give your child the eye drops.
- Your child may return to school or daycare when he or she feels well enough.
- Your child may return to normal daily activities, but should not participate in gym class, swimming, or other sports or physical activities for at least 2 weeks after the surgery.
- Your doctor will need to see your child again for a check-up in approximately 4 to 6 weeks after the surgery.

EYE MUSCLE SURGERY cont'd

When To Call the Surgeon

The following symptoms may be cause for concern:

- Signs of infection, such as eye drainage that has gotten worse or has changed to green or yellow
- Vision loss
- Pain that has gotten worse
- Swelling that has gotten worse
- Fever higher than 100 degrees F.
- Nausea and vomiting that won't go away

If your child has any of these symptoms, you should call the surgeon's office at 412-692-8940 immediately. If you are calling during the evening or on a weekend, please call the hospital at 412-692-5325 and ask to page the ophthalmology resident on call.



Special Needs

If your child has any special needs or health issues you feel the doctor needs to know about, please call the Division of Ophthalmology at Children's Hospital *before* the surgery and ask to speak with a nurse. It is important to notify us *in advance* about any special needs your child might have.

Division of Ophthalmology
Children's Hospital of Pittsburgh of UPMC
One Children's Hospital Drive
4401 Penn Ave.
Pittsburgh, PA 15224
412-692-8940
412-692-5325 evenings and weekends

Children's North
2599 Wexford Bayne Road
Sewickley, PA 15143
724-933-3600 Medical Appointments
724-933-3700 Surgical Appointments

To see the list of all available patient procedures descriptions, please visit www.chp.edu/procedures.