

EYE MUSCLE SURGERY

Prepared by Scott E. Silverman, M.D.

Strabismus is a misalignment of the eyes. The eyes may cross or drift up or out. Strabismus may be present from birth or may develop later in life. There is a common misconception that strabismus is difficult or impossible to correct. Actually, treatment for this condition is safe and effective for children and adults. Eye muscle surgery is performed under general anesthesia and usually takes less than an hour to complete. During the procedure, the eye muscles are carefully repositioned to straighten the eyes. Depending on the underlying problem, the muscles may be strengthened or weakened. For instance, in a patient with crossed eyes, the muscles that pull the eyes in are surgically weakened. Because the surgery is completed without entering the inside of the eyeball, the risks to the eye are minimized. Children are usually back to school and adults back to work within three days after surgery.

I am on staff and perform surgery at the following facilities:

- HCA Gulf Coast Surgery Center in Bradenton
- Johns Hopkins All Children's Hospital in St. Petersburg

Pediatric anesthesiologists are available for younger children at both facilities.



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Preoperative Visit

You will be given an office appointment just prior to surgery. On that day, certain aspects of the eye examination will be repeated and I will answer any remaining questions that you have. I will also repeat the physical examination of the heart and lungs. If your child gets a severe cold before surgery, we usually postpone the surgery to limit the risks of anesthesia. If your child becomes sick before surgery, please notify us as soon as possible.

You will be asked to sign a surgical consent, which mentions risk of eye muscle surgery including: (1) the possible need for additional surgery, (2) double vision, (3) loss of vision, and (4) anesthesia risk. While many eye muscle problems can be effectively treated with one operation, you must be aware that additional surgery may be needed. Sometimes, two or more eye muscle surgeries are necessary to correct the underlying problem. Development or worsening of double vision may occur after eye muscle surgery. When this happens it is usually temporary. In some cases, transitory double vision is desirable immediately after surgery because it may help the brain to restore alignment of the eyes. In the rare event that double vision persists, a second surgery can be done to treat it. Loss of vision after eye muscle surgery is extremely rare. Although cases of vision loss due to infection, bleeding, or retinal detachment have been reported in the medical literature, I have never encountered this complication in the thousands of eye muscle surgeries that I have performed. **To decrease the chance of bleeding, do not take aspirin, Advil or Motrin type medicines or any herbal medicines (especially garlic, ginger, or ginkgo) for two weeks before surgery; use Tylenol instead.**

You must also be aware that there is a small risk associated with anesthesia. However, the chance of a serious problem such as stroke, heart attack, or death is extremely small. I have never encountered this in my practice.

Eating is not allowed for eight hours before surgery. However, clear liquids are allowed up until four hours (two hours for children less than 10 years) before surgery. Clear liquids are drinks you can see through including water, clear fruit juices without pulp such as clear apple and white grape juice, Gatorade, Sprite, Jell-O and popsicles made from clear juices. A mixture of clear apple juice and water is an excellent choice. Milk is not a clear liquid. Within two hours of surgery, no food or liquids of any kind are allowed.

Infants less than a year of age are allowed formula up to 6 hours, and breast milk up to 4 hours before surgery.



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After Eye Muscle Surgery

What to expect:

- A temperature up to 100° is normal after surgery. Use Tylenol (children's Tylenol for kids) for this.
- There will be mild discomfort and sensitivity to light for a few days after surgery. Cool compresses with a clean towel, Tylenol (children's Tylenol for kids), and outdoor sunglasses will help.
- A sensation of something being in the eye may persist for up to two weeks after surgery.
- Redness and swelling of the eye and eyelid are normal. These should progressively improve each day after surgery. **If you notice increased redness, swelling, pain, discharge, or decreased vision, call us immediately, as this could be a sign of infection.**
- Most patients sleep the majority of the day of surgery.
- Nausea or vomiting may occur after surgery.

Instructions:

- You will receive a prescription for an eye ointment. Beginning one day after surgery, you should apply this twice a day in the lower pouch of the operated eye(s).
- Any glasses worn prior to surgery should be worn after surgery as well, unless otherwise instructed.

Restrictions:

- Bathing is allowed after surgery, but take care not to allow shampoo or water to enter the eyes.
- Children may go back to school as soon as they feel well enough, usually within three days.
- Adults should not drive a car or drink alcoholic beverages for at least 24 hours after surgery.
- Refrain from activities in which the eye may be struck (i.e., basketball) or activities where they may get sand or dirt in the eye (i.e., playground) for three weeks after surgery.
- No swimming for three weeks.



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Commonly Asked Questions About Eye Muscle Surgery

How long does it take?

The surgery itself usually takes between thirty to sixty minutes to complete.

Do you take the eye out of the head and put it back during surgery?

No. The surgery is done with the lids held open, with the eye in its normal position.

Are there any scars after surgery?

The surgical incision is made through the thin tissue covering the white part of the eye. In most cases, the small scar is not noticeable. Incisions are never made through the skin.

What are the goals of surgery?

The primary goal is to restore normal eye alignment. In patients with double vision, the goal is to reduce the double vision as much as possible. Many patients also benefit from improved cosmetic appearance.

How do you know how much surgery to do?

The amount of surgery is based on the measurements of ocular misalignment done in the office.

Why are you doing surgery on both eyes when I only notice one eye to drift?

When an eye drifts, it is usually not a problem with one eye versus the other. Rather, it is a problem with the balance between the eyes and the brain. In a patient with crossed eyes, when the right eye looks straight ahead, the left eye crosses in. When the left eye looks straight ahead, the right eye crosses in. Some patients favor one eye strongly, so only one eye seems to drift, when the problem is actually in both eyes. Based on the severity of misalignment, surgery may be recommended on one eye or both eyes.

Does the patient wear patches after surgery?

Generally not. On occasion, a temporary patch is needed.



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What is the chance of needing a second operation?

The likelihood of needing a second operation depends largely upon the problem for which the surgery is being done. Many eye muscle problems can be taken care of with one operation while others will likely need two or more surgeries. Ask me for details about your particular case.

What is the success rate of a second operation?

The success rate of the second surgery is usually as high as the first operation.

Is recovery painful?

After surgery, the eyes feel “scratchy”, but not very painful. Some have more discomfort than others.

What do we watch for after the surgery?

Redness and swelling of the eye and eyelid are normal. These should progressively improve each day after surgery. If you notice increased redness, swelling, pain, discharge, or decreased vision, call us immediately, as this could be a sign of infection.

In a patient with drifting out before surgery, is crossing and double vision normal after surgery?

Yes. In patients with drifting out of the eyes before surgery, it is normal for the eyes to cross inward and to experience double vision for a period of time after surgery. This immediate overcorrection is desirable since the eyes tend to progressively drift back outward after surgery. As the eyes progressively drift outward over the days to weeks after surgery, crossing and double vision almost always resolves.

Will I be asked to sign a surgical consent before surgery?

Yes, you will be asked to sign a consent on the exam before surgery. It is included at the end of this handout for your review. Please let us know if you have any questions about it.



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Before and After Surgery Photos of Dr. Silverman's Patients

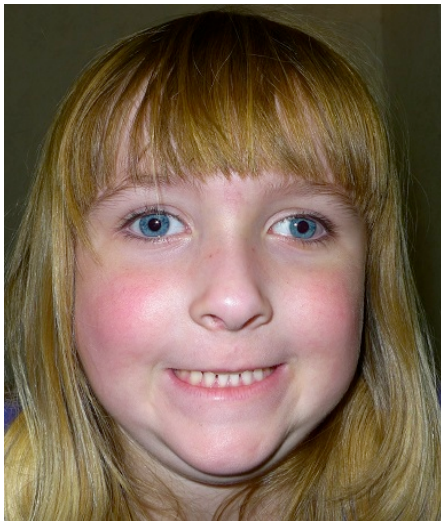


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INFORMED CONSENT FOR STRABISMUS SURGERY

WHAT IS STRABISMUS AND HOW IS IT TREATED?

Strabismus is a misalignment of the eyes. Treatment options may include prism glasses, surgery, or no treatment. During strabismus surgery, the surgeon realigns the eyes by tightening or loosening the eye muscles on the exterior of the eye. The eyes are not removed from the eye socket. Strabismus surgery can improve the ability of the eyes to work together and may also improve appearance.

WHAT TYPE OF ANESTHESIA IS USED? WHAT ARE ITS MAJOR RISKS?

General anesthesia will be used. Common side effects from general anesthesia include sore throat, nausea, vomiting and low-grade fever. Very rarely, severe complications from general anesthesia can occur including diminished brain function, heart attack, pneumonia, and death. Although possible, Dr. Silverman has never had a patient who has suffered a severe complication from general anesthesia.

WHAT ARE THE MAJOR RISKS OF STRABISMUS SURGERY?

This document will help you decide whether you are ready to accept the risks of strabismus surgery by listing the major risks; there are others that are not listed here.

- **Allergic reaction** to medications or surgical material.
- **Corneal abrasion** (a scratch on the eye's surface) may occur.
- **Scar tissue formation** may occur and may be cosmetically noticeable.
- **Persistent eye misalignment and/or altered eyelid position.** The eye may not be straight after the surgery, and the eyelid position may be altered.
- **Need for additional surgery.** It takes at least three months for the results of the surgery to stabilize. If persistent undercorrection or overcorrection persists, additional surgery may be needed in the future.
- **Double vision.** Some patients experience double vision after surgery while the brain adapts to the new alignment. The double vision usually disappears in a few days in children, and 1 to 2 weeks in young adults; in some patients, it may persist even longer. If double vision does not improve, prism glasses or additional surgery may be needed.
- **Infection.** Mild infections are treated with antibiotics. Severe infections are very rare, but may result in vision loss or even loss of the eye. Although possible, Dr. Silverman has never had a patient permanently lose vision or lose an eye from strabismus surgery.
- **Bleeding.** Mild external bleeding is common and resolves spontaneously. Severe hemorrhage is very rare, but could cause permanent vision loss. Although possible, Dr. Silverman has never had a patient suffer permanent vision loss from strabismus surgery.

PATIENT'S ACCEPTANCE OF RISKS

I understand that it is impossible for the doctor to inform me of every possible complication that may occur.

I understand that more than one surgery may be required to treat the strabismus. By signing below, I agree that Dr. Silverman has answered all of my questions, that I have been offered a copy of this consent form, and that I understand and accept the risks, benefits, and alternatives of strabismus surgery. I wish to have an operation on the _____ [*right, left or both*] eye(s).



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