

# Anesthesia for Adults Having Eye Surgery

## WHAT KINDS OF ANESTHESIA ARE AVAILABLE FOR ADULTS HAVING EYE SURGERY?

Eye muscle surgery requires either general anesthesia or local anesthesia to provide adequate pain control. General anesthesia, which puts the whole body “to sleep” and eliminates the possibility of movement, is commonly used. In some adults, topical or local anesthesia which can block sensation to the eye but does not affect general consciousness may be preferred. The decision about what type of anesthesia will be used depends on the surgery being performed and the individual patient.



**Fig. 1:** A "general" or "local" anesthesia is necessary during all kinds of surgery to reduce or eliminate pain.

## HOW IS GENERAL ANESTHESIA ADMINISTERED?

General anesthesia is usually started in adults with an intravenous (IV) line. Sometimes a relaxing drug can be given to the patient through this IV prior to going to the operating room. Once in the operating room, additional medicines are administered through the IV line to induce sleep. After the patient is asleep, some type of breathing-tube is placed to allow the anesthesiologist to control the patient's breathing, protect the airway, and maintain anesthesia during surgery. Inhaled anesthetic agents delivered through the tube or medications given intravenously maintain the anesthesia. The breathing tube is removed at the

end of surgery before the patient is fully awake. The IV can be removed in the recovery period when the patient is drinking well and ready to go home.



**Fig. 2:** Anesthesia machine

## **HOW IS ANESTHETIC “SLEEP” DIFFERENT FROM NORMAL SLEEP?**

Anesthetic “sleep” is quite different from normal sleep because the potent medications affect every organ of the body. Achieving and maintaining the desired effect requires continuous monitoring and adjustment. An anesthesiologist or Certified Registered Nurse Anesthetist (CRNA) has the experience and knowledge to decide which agents are best for the patient and to administer them in as safe a manner as possible.

## **HOW SHOULD AN ADULT PREPARE FOR EYE MUSCLE SURGERY?**

Before surgery, a medical history and physical examination may be performed to be sure the patient is sufficiently healthy for anesthesia. Instructions will be given to stop eating and drinking for a period preceding the surgery. Further instructions about taking any oral prescription medications should also be provided. The staff, nurses, and doctors will try to make the hospital experience a positive one. The patient and any family members should be encouraged to ask questions.



## DO ANESTHESIA COMPLICATIONS TEND TO RUN IN FAMILIES?

They can. It is important to know if any blood relatives have had serious problems with anesthesia such as a high fever (malignant hyperthermia) or not breathing, as some of these problems can be hereditary. Nausea is relatively common with general anesthesia. Nausea is also frequent after [strabismus surgery](#) but medications to ease the discomfort are available.

## WHAT CAN THE PATIENT EAT OR DRINK PRIOR TO GENERAL ANESTHESIA?

Adults should not eat any solid foods or consume dairy products for 8 hours before their scheduled arrival time to the hospital or surgery center. Clear fluids are acceptable until 4 hours prior to arrival time. Examples of clear fluids (see through fluids) include: water, soda, clear juices without pulp, plain tea, or black coffee (without milk, milk substitutes, creamers, smoothies, or any products containing dairy). Chewing gum is not allowed.

The stomach must be empty to avoid possible anesthesia complications. The hospital staff will provide specific instructions about what time the patient should stop eating and drinking. Please avoid alcoholic beverages for 24 hours prior to the scheduled arrival time as they may interfere with the anesthetic agents.

## CAN A FAMILY MEMBER BE WITH AN ADULT PATIENT WHILE ANESTHESIA IS GIVEN?

Check with your individual hospital or doctor for guidance. In general, family members are asked to wait in a specified area outside the operating area while the patient is taken on a gurney to the operating room. For adults with special needs, some hospitals may have policies permitting a family member to be with the patient during the time he or she is going to sleep in the operating room or waking up in the recovery room. Restrictions on the number of persons allowed into the operating room area are based on infectious disease recommendations to ensure the safety of the patient.

## WILL I WAKE UP DURING ANESTHESIA?

The anesthesiologist or CRNA constantly monitors the concentration of inhaled anesthetic vapors to assure that patients will not be aware of pain or other aspects of the surgery.

## WHAT HAPPENS DURING THE RECOVERY FROM GENERAL ANESTHESIA AFTER SURGERY?

Once the surgery is complete, the anesthetic medications are withdrawn and the breathing tube is removed as normal breathing resumes. The patient is then transferred from the operating room to the recovery room. Over the next hour or so, the patient gradually wakes up. During this time the patient is often groggy and confused but receives supportive care including pain medication and reassurance from the recovery room staff, who are also monitoring the patient's heart rate, blood pressure, and breathing. During the next few hours, the patient will still be mildly groggy and may have a lowered tolerance for discomfort or pain. Patients are not allowed to operate machinery for 24 hours following anesthesia. A responsible adult is needed to help transport the patient home following surgery. Many adults can be back to normal activities by the next day, although frequently the doctor will advise exercise and work limitations for several days after surgery.



**Fig. 3:** Anesthesia techniques, such as laryngeal mask anesthesia, often include special breathing tubes that reduce irritation to the windpipe during surgery.

## WHAT ARE THE SIDE EFFECTS OF GENERAL ANESTHESIA?

Patients may be nauseous after eye surgery, particularly muscle surgery. Although the nausea may last for hours, it is rarely serious. Everything possible should be done to provide reassurance and comfort. Medication is sometimes helpful. Patients usually resume eating by starting with foods that are bland and easy on the stomach, and then gradually increase the diet to normal. Drinking fluids is important in this period.

## WHAT ARE THE RISKS OF ANESTHESIA?

Serious anesthesia complications, such as brain damage or death, are exceptionally rare. Generally, healthy adults tolerate anesthesia well. Whenever possible, elective eye surgery should be avoided when you are ill.



Anesthesiologists and surgeons should be informed of all medical conditions and all medications the patient is taking. They should also be informed of any anesthetic problems the patient or any blood relative has experienced, as there are some rare hereditary conditions, which are associated with a greater risk.

Although strabismus surgery is usually quite routine, the anesthesiologist extensively monitors patients while they are asleep. Serious reactions to anesthesia are extremely rare. All precautions are taken to ensure the patient's safety while he or she is asleep.

### **CAN STRABISMUS SURGERY IN ADULTS BE DONE WITH TOPICAL OR LOCAL ANESTHESIA?**

Some [strabismus surgery](#) in teenagers and adults can be done with a local anesthetic injection to numb the nerves around the eyeball. The patient will get a short acting sedative while given a local injection around the eye to numb the eye. Patients do not remember this injection and often feel they are in "twilight" during the surgery. Although, topical anesthesia which consists of numbing eye drops to the surface of the eye, may be used in cataract surgery, drops alone do not provide sufficient patient comfort to be used during strabismus surgery. Hence, local or general anesthesia is used most commonly for eye muscle surgery. If local or topical anesthesia is used, the patient must be still during the procedure to avoid potentially serious complications that may result from sudden unexpected movements. A medication to act as a sedative or to reduce pain may be administered through the IV during surgery as necessary to keep the patient comfortable.

### **SUMMARY**

Anesthesia is generally very safe. Complications may be minimized by avoiding food and drink before general anesthesia and postponing elective surgery if the patient is ill. Modern anesthesia allows surgery to be performed without pain or anxiety.

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