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What to know before — and after — cataract surgery

Perspective by Allan Steigleman and Elizabeth M. Hofmeister
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Cataract surgery is one of the most commonly performed procedures in the world. (iStock)

As ophthalmologists, we know that many patients have misconceptions about cataracts and the related surgery. But we also know cataract surgery is one of the most commonly performed procedures in the world, and that the vast majority of patients have excellent outcomes with few complications.

We like to compare a cataract to the frosted glass of a bathroom window, where light can be transmitted but details cannot. Or when turbulence from a storm causes normally clear water in the ocean to become murky. In much the same way, the eye's once-transparent lens becomes cloudy.

What happens during cataract surgery?

Cataract surgery removes the clouded lens of the eye and replaces it with a new, clear lens. Most patients say the procedure is painless.

Typically, it's an elective surgery performed on an outpatient basis. The patient is often awake, under local anesthesia, with sedation similar to that used for dental procedures.

For a standard cataract procedure, numbing drops are then applied to the eye's surface, along with an anesthetic inside the eye. Patients with claustrophobia or movement disorders such as Parkinson's disease may not be suitable candidates for awake surgeries and may require general anesthesia.

Before surgery, patients receive dilating drops to make their pupil as large as possible. The surgeon makes a tiny incision, usually with a small, pointed scalpel, between the clear and white part of the eye to gain access to the lens capsule, a thin membrane similar in thickness to a plastic produce bag at the grocery store.

This capsule is suspended by small fibers called zonules, which are arranged like the springs that suspend a trampoline from a frame. The surgeon then creates a small opening in the capsule, called a capsulotomy, to gain access to the cataract. The cataract is then broken into smaller parts that are removable through the small incision.

The process is similar to using a tiny jackhammer to break the large lens into smaller pieces for removal. That sounds scary, but it's painless. Ultrasound emulsifies the lens, and vacuum power then aspirates it from the eye.

Laser-assisted cataract surgery has been found to have similar outcomes to traditional cataract surgery.

What about complications?

Serious complications, such as postoperative infection, bleeding in the eye or a postoperative retinal detachment, are rare; they occur in approximately 1 in 1,000 cases. But even in many of these situations, appropriate management can salvage useful vision.

Capsular complications deserve additional discussion. According to some studies, they occur in up to 2 percent of cases. If a hole or tear of the posterior

capsule is encountered during cataract surgery, the clear gel in the vitreous — the back chamber of the eye — may be displaced into the front chamber of the eye.

If that happens, the gel must be removed at the time of the cataract surgery. This will reduce the likelihood of additional postoperative complications, but those who have the procedure, known as a vitrectomy, face an increased risk for additional complications, including postoperative infections and postoperative swelling.

After the surgery

Patients usually go home right after the procedure. Most surgery centers require the patient to have someone drive them home, more because of the anesthesia than the surgery. Patients begin applying postoperative drops the same day as the procedure and must wear an eye shield at bedtime for a few weeks after surgery.

Patients should keep the eye clean and avoid exposure to dust, debris and water. They should also try not to bend over and should avoid heavy lifting or straining in the first week or so after surgery. Lifting or straining can cause a surge of blood pressure to the face and eye. Known as a suprachoroidal hemorrhage, it can lead to bleeding into the wall of the eye and be devastating to vision.

Things that cause only moderate increases in heart rate, like walking, are okay. Routine postoperative examinations are usually completed the day after surgery, about a week after surgery and about a month after surgery.

A choice of lens

The plastic lens used to replace the cataract, the intraocular lens, requires careful sizing for best results, and a nuanced discussion between patient and surgeon.

Early intraocular lens technologies were monofocal, and most patients with these lenses chose distance correction and used reading glasses for near tasks. This is still the preferred approach for most patients having cataract surgery today.

Recent advances have led to intraocular lenses that offer multifocality — the opportunity to have near as well as distance vision, without glasses. Some multifocal lenses are even in the trifocal category, which includes distance, near and intermediate vision, the latter of which, in recent years, has become important for computer and phone use.

Determining who is an ideal candidate for a multifocal intraocular lens is an area of active research.

As with many technologies, current-generation advanced-technology intraocular lenses are much better than their predecessors. Future offerings are likely to offer improved vision and fewer side effects than those available today.

But these newer lenses are often not reimbursed by insurance companies and often entail substantial out-of-pocket costs for patients.

Deciding on what type of lens is best for you can be complicated. Fortunately, except in unusual circumstances, there is seldom a hurry for adult cataract surgery.

Cataracts, by the numbers:

- By age 80, over half of all Americans have cataracts or have had surgery to remove them, according to the National Eye Institute.
- Some 3.7 million cataract surgeries are performed in the United States every year.
- The rate of infection from endophthalmitis post-surgery is less than 0.1 percent.

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