

Cataract Surgery and Intraocular Lenses

When Is My Cataract Ready for Surgery?

In most cases, deciding when to have a cataract fixed with surgery is truly up to you, the patient. When the cataract affects your vision and keeps you from performing activities that you want to do, it is probably time to fix the cataract. Your ophthalmologist/surgeon should advise you on whether the cataract is causing your symptoms and whether fixing the cataract will help your symptoms.

Rarely, you may not be bothered by the cataract, but your doctor feels it is necessary to have cataract surgery anyway. This is usually because the cataract is making it hard for your doctor to see the back of your eye and thus, hard to care for your retina and optic nerve health. Also, if you are going to have retinal or vitreous procedures, this may also necessitate removal of the cataract to optimize a retinal/vitreous surgeon's view of the back of the eye.

Ok, What Do I Want to Know about the Intraocular Lens (IOL)?

Your eye's natural lens sits inside a wrapper-like capsular bag within the eye. A cataract is your natural lens of the eye (which you were born with) which has become cloudy, and when it is removed, a new lens is needed in the eye. Without this new lens you will not be able to see well, and you will need extremely thick glasses to maintain vision. An IOL is a very thin, small plastic-like artificial lens that will be placed into the same wrapper-like capsular bag inside the eye that used to hold your cataract. The choices of what kind of IOL to use are many.

To determine which IOL is best for you, measurements are done to decide which power IOL is best for each of your eyes. This power measurement is the prescription for your eye. It is unique to you and to each eye. You and your surgeon will decide where you want your main focus to be. Distance, near vision or in-between are all options. Some people even choose *monovision*— distance vision in one eye and near vision in the other eye. This is usually only done for people who have already had monovision, as it can take some adjustment which some people find challenging.

IOLs covered as a part of your surgery are considered standard IOLs and generally correct nearsightedness and farsightedness. There is about a 90% success rate at correcting your distance vision to a level of 20/40 or better with a standard IOL without glasses. 20/40 distance vision is often the level required by the State's Departments of Motor Vehicles. Approximately 61% of people will even attain 20/20 vision in one eye with a standard IOL.

The standard IOL does not correct astigmatism. Astigmatism is part of your eye's prescription when the cornea, or front of your eye, is not perfectly round in all directions like a basketball but rather has longer and steeper parts like a football. Without the correction in glasses or contact lenses for the astigmatism, your vision is distorted and can be quite blurry. The measurements done before cataract surgery can determine how much astigmatism you will still have after the surgery with a standard IOL.

You can elect to have a non-standard or upgraded lens that is not covered by your insurance. One of the upgraded, non-covered IOLs available to you is called a *toric* IOL and can correct the astigmatism inside your eye and lessen the need for glasses. The quality of the vision with these types of astigmatism-correcting IOLs is particularly good. There are also incisions that can be made in the cornea manually or with a laser to help lessen your astigmatism.

Another type of upgraded, non-covered IOL is the *multifocal* class of lenses. These IOLs have different focal areas that help the eye see at different distances simultaneously or provide some deeper range of vision distances. With these types of IOLs, there can be some issues with seeing haloes around lights, especially at night when the pupil is larger, and when there are low light conditions where contrast sensitivity is reduced. For example, gray print on gray paper in low light may be hard to read. Another factor, Dry eye, can also decrease the quality of vision with these types of IOLs. For some people, the benefit of seeing at different distances and not needing glasses for most activities—both near and distance—outweighs any negative symptoms.

***Accommodative IOLs* are also a type of upgraded IOLs that are single focus lenses that give an extended range of vision and lessen dependency on glasses for distance and near vision without the issues of glare and haloes at night.**

Light adjustable IOLs are another type of upgraded IOLs that allow for adjustment of the vision after surgery has been performed with the use of a quick, non-painful, ultraviolet treatment to change the effective power of the implant and to give the patient customized vision without glasses that best meets their needs.

If your eye has any of the conditions outlined below (especially in the retina), the best choice may be a standard or toric IOL since other processes in the eye that blur vision will not work well with a multifocal IOL because things will be too blurry throughout the field of vision.

- macular degeneration
- macular puckers or epiretinal membranes
- diabetic disease
- advanced glaucoma

There may be other conditions not listed here that also make a multifocal IOL a poor choice for the eye.

Can I Change My Mind about the IOL after Surgery and Have it Exchanged?

IOL exchange is rarely performed because of the increased risk of damaging the capsular bag within which the IOL is contained. If the capsular bag is damaged during the exchange, the IOL will need to be placed in a location within the eye that is used less often with greater potential for future complications. Your surgeon will help you decide if an exchange is a reasonable idea or if you are better off with glasses or contact lenses to correct your vision.

Occasionally, calculations are difficult and can be less accurate for an unusual eye, and an exchange will be recommended if your result is not what you and your surgeon want for your vision. Patients with prior refractive surgeries, such as RK or LASIK, are less likely to have accurate measurements for determining the IOL power needed and thus have less predictable results.

Should I have Laser for my Cataract surgery? Is It better than regular Cataract surgery?

Lasers are known to create very precise incisions, probably better than a manual incision. However, the overall outcomes for resulting vision have been shown to be equal in large research studies. Laser assisted cataract surgery results in precise sizing and centration of the anterior capsule opening of the cataract versus the manual technique. The laser also partially cuts up the cataract resulting in decreased energy used to remove the cataract which decreases inflammation and swelling. Laser OCT is a device that gives the surgeon precise images and measurements of the thickness of the cataract which improves safety by giving the surgeon more information about the thickness of the cataract intraoperatively.

The laser can be used to make astigmatic corneal incisions that may or may not be needed or used until after surgery and therefore can be customized depending on your vision after surgery.

Lasers can also be used to soften cataracts in cases where the cataract is exceptionally dense, or physically wobbly or unstable where less pressure on the cataract is desired for safety. In certain complicated cases, such as when a person has had prior LASIK or RK, the laser may have some advantages over manual cataract surgery. Also, if a patient has a corneal disease, where there is extra concern about post-operative swelling, the laser may be gentler on the cornea. Recovery time and complications rates are the same for laser and manual cataract surgery and final vision results are also equal. Many surgeons feel laser assisted cataract surgery is safer and more predictable in terms of outcomes. There is a fee for the laser that is not covered by your insurance and Medicare has guidelines about the coverage and uses of the laser for cataract surgery.