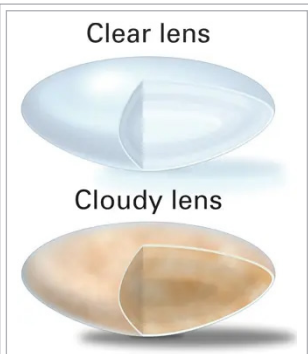


WHAT IS A CATARACT?

A cataract is a loss of transparency, or clouding, of the eye lens. The eye lens plays a vital role in focusing images on the retina. A cloudy lens interferes with light passing

through to the retina, the light-sensing layer of cells at the back of the eye. Compare a cataract to looking at the world through a foggy or blurry window. Light rays do not focus clearly if the lens loses its clarity, as it does when a cataract develops. Glasses or contact lenses cannot sharpen vision if a cataract is present.

WHAT CAUSES A CATARACT?



The top lens is a clear, natural lens.
The bottom lens shows clouding by cataract.

The most common cause of a cataract is aging. As you get older, chemical changes in your lens make it less transparent. The loss of transparency may be so mild that vision is hardly affected or so severe that no shapes or movements are seen, only light and dark. You have a cataract when the lens gets cloudy enough to obstruct vision to any significant degree.

Other causes of cataracts include trauma, medications like

steroids, systemic diseases such as diabetes, and prolonged exposure to ultraviolet light. Occasionally, babies are born with a cataract. Glasses or contact lenses cannot sharpen your vision if a cataract is present.

Reducing the amount of ultraviolet light exposure by wearing a wide-brim hat and sunglasses may reduce your risk for developing a cataract, but once set, there is no cure except to have the cataract surgically removed. Outpatient surgical procedures remove the cataract either through a small incision (phacoemulsification) or a large incision (extracapsular extraction). The time to have the surgical procedure is when your vision is bad enough to interfere with your lifestyle.

WHAT ARE THE SYMPTOMS?

Cataract formation is a slow, progressive, and painless decrease in vision. Ironically as the lens gets harder, farsighted (hyperopic) people experience improved distance vision and are less dependent on glasses. However, nearsighted (myopic) people become more nearsighted, causing distance vision to worsen.

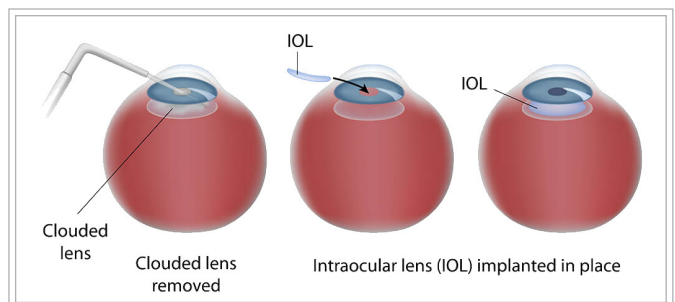
- Blurring of vision
- Glare, particularly at night
- Frequent glasses prescription changes
- Reduction in color intensity
- Yellowing of images
- Double vision in rare cases

A cataract is detected during our comprehensive eye exams. Your eyes will be dilated, so the pupils are wide open, enabling our medical team to look for signs of a cataract with a slit lamp, along with checking your retina and optic nerve. We will also do a refraction to test your visual acuity.

WHAT ARE THE TREATMENTS?

The treatment for a cataract is to remove the lens and implant an Intraocular Lens (IOL). An IOL is a tiny, lightweight, clear plastic disk placed in the eye during cataract surgery. Intraocular lenses have many advantages. The IOL remains in the eye after surgery, unlike contact lenses, which must be removed, cleaned, and reinserted. An IOL replaces the focusing power of the eye's natural lens. The rapid evolution of IOL designs, materials, and implant techniques has made them a safe and practical way to restore normal vision after cataract surgery.

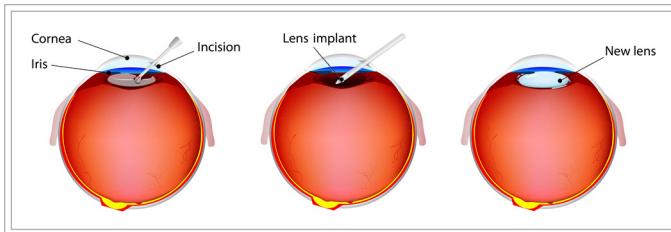
One and a half million people have a cataract procedure every year, and 95% achieve success. As with any surgery, complications may occur during or after, and some are severe enough to limit vision. In most cases, vision, as well as the quality of life, improves.



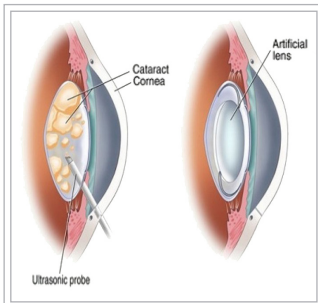
Laser-assisted cataract surgery is performed as an outpatient procedure, typically under a local anesthetic (using eye drops) or sometimes with general anesthesia. The patient feels no pain, but you may need to avoid bending over or lifting heavy objects during recovery. It can take up to six weeks to achieve the best-corrected vision.

Extracapsular cataract extraction (ECCE)

Extracapsular cataract extraction is a traditional method for surgically removing a cataract. An incision is made in the side of the cornea at the point where the cornea and sclera (the white part of the eye) meet. Carefully entering the eye through the incision, the surgeon gently opens the front of the lens capsule and removes the lens's hard center (the nucleus). The soft lens cortex is suctioned out, leaving the back of the capsule in place.



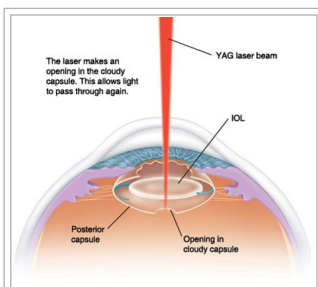
Phacoemulsification (Phaco)



Phacoemulsification is a surgical method in which an ultrasonic oscillating probe is inserted into the eye. The probe breaks up the center of the lens. The fragments are suctioned from the eye at the same time. A cataract is removed in tiny pieces with a small incision is made that

does not require sutures to close. Most of the lens capsule is left behind, and a foldable intraocular lens implant, or IOL, is placed permanently inside to help focus light onto the retina. Vision returns quickly, and one can resume normal activities within a short period.

Posterior capsulotomy



A posterior capsulotomy is a surgical laser procedure that is sometimes necessary after cataract surgery. It is painless and takes five minutes to perform.

During cataract surgery, part of the front (anterior) capsule that holds the lens is removed. The transparent back (posterior) capsule remains intact. As long as that capsule stays clear, one has good vision. But in up to 50% of people, the posterior capsule loses its clarity. When this happens, an opening can be made in the capsule with a laser (posterior capsulotomy) to restore normal vision.

Before the laser procedure, the ophthalmologist does a thorough ophthalmic examination to ensure there is no other reason for vision loss.

WHAT HAPPENS DURING CATARACT SURGERY?

Cataract surgery has changed dramatically over the last 20 years. Many patients remember the days when the operation required a hospital stay of several days and weeks of recovery. Retinal detachment was a frequent complication and thick aphakic glasses were necessary for clear vision. Today's cataract surgery is totally different. The operation is now done on an outpatient basis, usually only a two to three-hour stay.

- The actual surgery is 10 to 20 minutes in length and typically painless. A mild sedative takes care of any anxiety during the surgery.
- A very small incision is made through a bloodless area of the eye and the cataract is removed with ultrasound.
- A foldable implant is rolled up like a carpet and insert through the same small incision. It is fitted into the eye behind the pupil where the cataract was located before removal. Suturing is generally not necessary. The wound seals on its own and is quite secure.
- A seal protects the eye the first day and then the patient wears a shield at night for a week. Regular activity is possible right away. Eyedrops are used on a tapering schedule for one month after surgery to reduce the risk of infection and help to heal.

New glasses, if necessary, are prescribed two to three weeks after surgery. If the second eye has a cataract it can be done within three to four weeks. Whether or not glasses are needed depends on the implant lens chosen.

Complications are rare and the success rate is in excess of 95%. The cataract will not grow back after surgery. However, the membrane, which supports the intraocular lens implant, can become cloudy in some patients months or years later. If this occurs, simple laser treatment is all that is necessary to restore clear vision.

ADVANCED CATARACT SURGERY OPTIONS

Traditional Cataract Surgery

- Improve quality of vision with glasses
- Glasses required all of the time (if you have astigmatism)

Cataract Surgery for Distance Intermediate and Near Vision

- Premium Multifocal Implant or Extended Depth of Focus Implant
- Improved Distance, Intermediate and/or Near vision without Glasses
- Improved Distance Vision without Glasses

Cataract Surgery with Astigmatism Correction

- Premium Toric Implant
- Improved Distance Vision without Glasses

Cataract Surgery with Customized Vision

- Premium Light Adjustable Lens
- Only implant available allowing optimization AFTER Lens implantation and healing

WHAT ARE THE DIFFERENT INTRAOCULAR LENS (IOL) CHOICES?

It is helpful to consider vision from a lifestyle perspective. Considering what visual tasks are most important and if freedom from glasses for those tasks is important to you will help guide you on which IOL best matches your needs.

INTRAOCULAR LENS

	MONOFOCAL (STANDARD)	TORIC (ASTIGMATISM)	EXTENDED DEPTH OF FOCUS (EDOF)	MULTIFOCAL	LIGHT ADJUSTABLE LENS
Customizable After Surgery	No	No	No	No	Yes
Astigmatism Correction	No	Yes	Yes	Yes	Yes
Zones of clear vision without glasses	Glasses likely needed at all distances for best vision	Distance	Distance, Intermediate	Distance, Intermediate, Near	Distance, Intermediate, Variable, Near (blended vision)
Strengths	Most affordable	Excellent distance vision without glasses	Excellent distance and intermediate vision	Excellent full range of vision (distance, intermediate, & near)	Allows unparalleled precision as the power can be adjusted after surgery
Weaknesses	Glasses likely needed at all distances for best vision	Glasses required for intermediate and near tasks	May need glasses for near tasks and low light (within 20 inches)	Halos given lens design including low risk of glare	Requires UV protective glasses for several weeks after surgery and in office adjustments to perfect the outcome. May need glasses for fine print.
Optimal patient	Doesn't mind wearing glasses or can't afford other options	Prioritizes distance activities, ok with glasses for computer and reading	Fits with modern lifestyle, ok with glasses for reading and low light	Needs full range of vision, ok with low risk of bothersome halos	Can afford truly customizable vision, prior refractive surgery patients
Good choice with coexistent ocular disease	Yes	Yes	Probably	No	Yes