

## **What is a Cataract?**

A cataract is a clouding of the eye's naturally clear lens. The lens focuses light rays on the retina—the layer of light-sensing cells lining the back of the eye—to produce a sharp image of what we see. When the lens becomes cloudy, light rays cannot pass through it easily and vision is blurred.

## **What are the symptoms of cataract?**

The amount and pattern of cloudiness within the lens can vary. If the cloudiness is not near the center of the lens, you may not be aware that a cataract is present.

### **Common symptoms of cataract include: |**

- a painless blurring of vision;
- glare or light sensitivity;
- Poor night vision;
- Double vision in one eye;
- Needing brighter light to read;
- Fading or yellowing of colours.

## **What causes cataracts?**

Senile cataract development is a normal process of aging. Certain other types of cataract may develop from:

- medical problems, such as diabetes;
- eye injuries/diseases;
- long term use of certain medications, especially steroids;
- long term, unprotected exposure to sunlight;
- chronic tobacco smoking;
- previous eye surgery;
- genetic predisposition.

## **Cataract Surgery: Treatment**

### **How can a cataract be treated?**

A cataract may not need to be treated if your vision is only slightly blurry. Simply changing your eyeglass prescription may help to improve your vision for a while.

There are no medications, eye drops, exercises, dietary supplements or glasses that will cause cataracts to disappear or stop progressing or to prevent them from forming.

Surgery is the only way to remove a cataract. When you are no longer able to see well enough to do the things you like to do, cataract surgery should be considered.

In cataract surgery, the cloudy lens is removed from the eye through a surgical incision. In most cases, the natural lens is replaced with a permanent intraocular lens (IOL) implant.

### **When should surgery be done?**

Surgery should be considered when cataracts cause enough loss of vision to interfere with your daily activities. It is not true that cataracts need to be 'ripe' or 'mature' before they can be removed or that they need to be removed just because they are present.

Based on your symptoms, you and your ophthalmologist should decide together when surgery is appropriate.

### **Will cataract surgery improve my vision?**

The success rate of cataract surgery is excellent, over 95%. However, even if cataract surgery is successful, some patients may not see as well as they would like to. Other eye problems such as macular degeneration, glaucoma or diabetic retinopathy, if present, may limit vision after surgery. Even with these problems, cataract surgery may still be worthwhile. Talk to your ophthalmologist to learn more about cataract surgery, its risks and benefits.

### **What can I expect in cataract surgery?**

During cataract surgery, which is usually performed under local or topical anesthesia as an outpatient procedure, the cloudy lens is removed from the eye. In most cases, the focusing power of the natural lens is restored by replacing it with a permanent IOL implant.

Your ophthalmologist performs this delicate surgery using a microscope, miniature instruments and other modern technology. Hence, traditionally, this procedure is often referred to as 'microsurgery'.

Nowadays cataract surgery is performed by a technique called phacoemulsification.

### **Phacoemulsification surgery for cataract**

In this, the complete surgery is carried out through a tiny opening-microincision (less than 3 mm)-into the eyeball. A sophisticated equipment with a pencil-like probe is used to break the cataractous lens into small fragments which are then aspirated out. A special variety of IOL made of either silicon or acrylic material is folded and inserted into the eyeball through the microincision. This variety of IOL is known as foldable IOL.



### **Insertion of Foldable IOL**

Is phacoemulsification more than 30 years old and is well established as a safe procedure. Because of the small size of incision involved, it offers a safer surgery with lesser chances of complications during and after surgery. Usually no sutures are required to close the microincision. Post-operative recovery is much faster and often the patient can resume normal lifestyle from the very next day.

### **Is phacoemulsification with foldable IOL costlier than conventional 'microsurgery'?**

Phacoemulsification involves use of several sophisticated equipment and consumables thus increasing the total cost of the surgery per se as compared to conventional microsurgery. However, considering the cost of recurring expenses in the long run, phacoemulsification with a foldable IOL works out more economical than conventional 'microsurgery'.

### **Why are glasses necessary after IOL implant surgery?**

The natural lens of the human eye has the ability to change its shape in order to focus at various distances as required, comparable to the adjustable focusing mechanism in a SLR camera. The artificial IOL material, however, has a fixed shape and power for a specific distance only, the situation being comparable to that in an ordinary 'click-and-shoot' camera wherein one can take clear pictures at a specific distance only. The power of the IOL is selected by your surgeon based on biometry estimations and your visual requirements. Because the IOL has a fixed power, glasses are required after cataract surgery for clear vision at all other distances.

Nowadays, a new variety of IOL known as multifocal IOLs, is fast gaining popularity. Although it can be used in selective cases, it offers fairly clear vision without glasses at near, intermediate and far distances. Multifocal IOLs are made of foldable material with specially designed optics and are costlier than other varieties of IOLs.

### **Can cataract be treated by lasers?**

Contrary to popular myth cataract surgery by lasers is still in experimental stages. As of now, phacoemulsification which utilizes ultrasound energy is the most well established method of cataract surgery.

However, there is a condition known as after cataract which blurs a person's vision weeks or months after cataract surgery. This occurs in nearly 40% of patients undergoing conventional 'microsurgery' as against less than 20% in those undergoing phacoemulsification with foldable IOL. 'After cataract' can be treated easily by a short laser procedure on an outpatient basis. In most cases this laser treatment needs to be performed only once.

### Complications in cataract surgery:

It is important to understand that complications can rarely occur during or after the surgery, some severe enough to even limit vision. Some of the serious complications are:

- infection
- bleeding
- secondary glaucoma
- retinal detachment
- loss of vision

### Cost / Benefit Analysis

Parameter	PHACO	Non-PHACO
Surgery	2x	1x
Suture cutting	-	1x
Post-op laser capsulotomy	1x	3x
Post-op glasses changes	1x	3x
Post-op visits	1x	3x
Conveyance	1x	3x
Loss of productive man-hrs	1x	3x

Note: X indicates a unit of currency