

Intraocular Lens Implant (IOL)

What is an IOL?

An intraocular lens implant is a synthetic, artificial lens placed inside the eye that replaces the focusing power of a natural lens that is surgically removed, usually as part of [cataract](#) surgery [See figures 1 and 2].

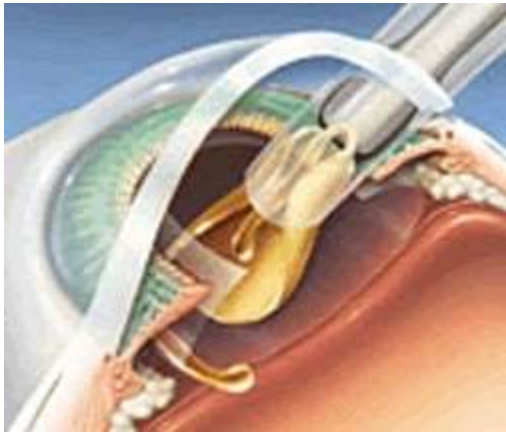


Fig. 1: Foldable intraocular lens being inserted into eye.

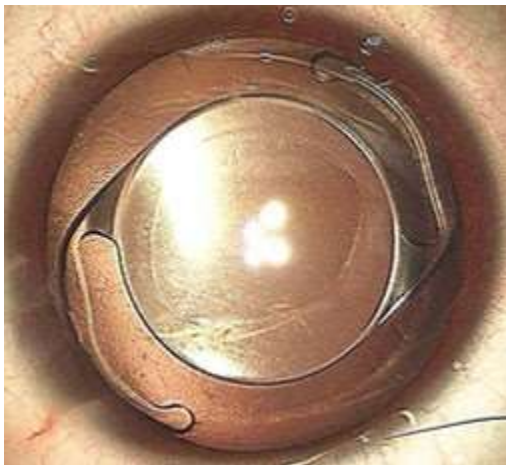


Fig. 2: Intraocular lens in place.

Why is an IOL used?



When the natural lens is removed, much of the eye's focusing ability is lost. To restore vision, the loss of focusing power is usually replaced by one of three methods. The first method is the use of glasses (spectacles). The required lens power is high, and the corrective lens is typically very thick. This option is less desirable for cataract surgery on one eye since the magnification caused by the one thick lens may hinder binocularity (use of the eyes together). The second option is to wear a contact lens. This option can be utilized for cataract surgery on one or both eyes and is the most ideal option for infants that need cataract surgery. However, handling and/or tolerating a contact lens can be difficult for some children. The third option is to place a permanent IOL inside the eye, making compliance less of an issue.

What are the considerations of cataract surgery for a child?

In addition to the infrequent risks of any intraocular surgery, (infection, bleeding, inflammation, retinal detachment, etc.) there are special considerations for a child. Children's eyes can develop inflammation after cataract surgery, especially when an IOL is placed. Inflammation sometimes makes further surgery necessary. [Glaucoma](#) also occurs more frequently after cataract surgery in children. Lastly, cataract surgery for a child requires general anesthesia.

Are IOLs approved by the Food and Drug Administration (FDA)?

IOLs are approved by the FDA for implantation for those eighteen years and older. Use of an IOL under age eighteen years is off label. Drugs and devices are often used off-label when a physician determines that use is in the best interest of a patient. The placement an IOL in a child eye is made after a thorough eye examination followed by a discussion with the parent/guardian about the risks and benefits of an IOL versus a contact lens or glasses (informed consent).

At what age can an IOL be inserted?

An IOL is frequently utilized when cataract surgery is performed after the first birthday. The use of an IOL in the first year of life, especially in the first few months of life, is investigational. A national study was recently conducted under the auspices of the Food and Drug Administration and the National Institutes of Health to determine if an IOL is a viable option for infants. This study demonstrated that visual outcomes were similar in infants treated with an IOL compared to those treated with a contact lens. However, there was an increased risk of complications and need for additional surgeries in the IOL group. If a contact lens or glasses are used initially, secondary IOL insertion can be considered when the child is older and eye growth more complete. Use of an intraocular lens is a decision for each parent to make after discussion with the ophthalmologist.

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