

WHAT IS A CATARACT?

A cataract is when the clear lens of your eye (the clear focusing part behind the colored part of the eye) gets cloudy. Cataracts come in different types. Some are small and do not cause vision problems. Other cataracts are large and cause very blurry vision. [See figure 1]. People often think that cataracts can only happen in older people, but they can happen in children as well.



Fig. 1: A cataract is any cloudiness of the normally clear lens in the eye. The white area in the center of the colored part of the eye is the cataract

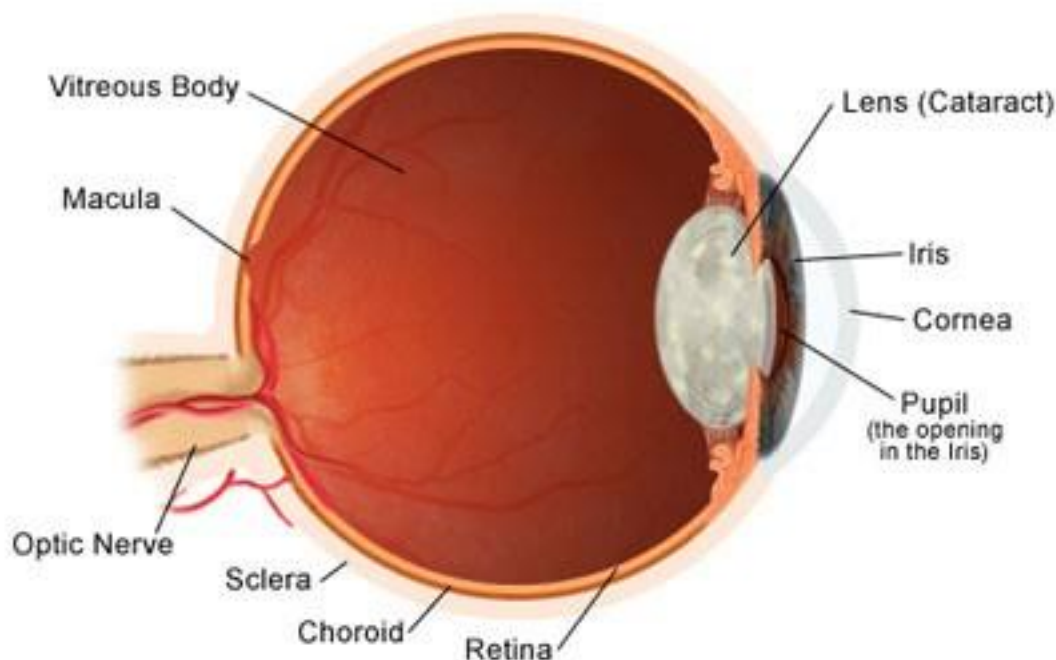
HOW COMMON ARE CATARACTS IN CHILDREN?

Around 3 out of 10,000 children have a cataract. The number of children with cataracts is different throughout the world.

HOW DOES A CATARACT CAUSE VISION LOSS?

When light goes into the eye it focuses on the back inside film of the eye (called the retina). The retina then turns this light into a signal that it sends to the brain allowing us to see. If a cataract gets in the way and blurs the light, it can stop the brain from getting a clear picture (see figure 2). In order for a child to develop good vision, the light has to hit the retina clearly so that the brain gets the signal. If there is a cataract blocking the light, it can make vision blurry and lead to something called [amblyopia](#). This is different than in adults where cataracts come after the vision is already developed and surgery can often fix the problem. To prevent permanent vision problems, it is important to treat cataracts and amblyopia in children quickly.

Example of a Cataract



- **Fig. 2:** A cataract causes blurry vision because it blocks the lens in the eye from sending light clearly to the back of the eye. The lens in this picture is white (cloudy) because it has a cataract.

WHY ARE SOME BABIES BORN WITH A CATARACT?

Babies can get cataracts if their lens did not grow correctly before they were born (during pregnancy). Cataracts in children can also happen due to genetics (can run in families), problems with the growth of the eye's different parts, and infections. Sometimes a cause for cataracts in babies can't be found. Most cataracts in children are found on their own and are not a part of other health problems in the body. When cataracts come with other medical problems, it is often because there is a genetic or metabolism problem. These cataracts may show up at birth or later in life as the child grows up.

DO ALL CATARACTS IN BABIES AND CHILDREN NEED TO BE REMOVED?

No. Some cataracts are small or off to the side of the lens. Cataracts may not need to be taken out if vision is normal.

HOW ARE BABIES AND CHILDREN FOUND TO HAVE CATARACTS?

Doctors can often find cataracts in babies right after they are born using a test called the “red reflex” before they leave the hospital. Cataracts can also be spotted during regular baby check-ups with the pediatrician. Some parents can notice cataracts too as a white spot in the pupil (the black spot in the middle of the colored part of the eye).

WHAT TYPES OF CATARACTS HAPPEN IN BABIES AND CHILDREN?

The lens is made up of three main parts: a center part (nucleus), an outer part (cortex), and a bag (capsule) surrounding the cortex. Any of these parts can become cloudy and make a cataract. The different types of cloudiness have different names, including:

- Lamellar cataract: Cloudiness between the center and outer parts of the lens. [See figure 3]
- Nuclear Cataract: Cloudiness in the center of the lens.
- Posterior subcapsular cataract: A thin layer of cloudiness in the back part of the lens, close to the capsule. It can be caused by medicines like steroids and medical problems like diabetes. [See figure 4].
- Anterior polar cataract: A small spot of cloudiness at the front of the lens capsule. Usually it does not get worse in childhood or cause blurry vision. They usually don’t need surgery [See figure 5].
- Posterior polar cataract: Cloudiness in the center part of the back of the lens near the capsule [See figure 6].
- Persistent fetal vasculature: During eye growth in pregnancy there is a blood vessel from the back of the eye to the lens that helps the lens grow. This blood vessel is supposed to go away by birth so that it doesn’t block vision. Sometimes that blood vessel doesn’t go away and causes a cataract on the back of the lens as well as other eye problems, including problems in the retina. These cataracts are harder to treat than others, especially if it involves the retina or other parts of the eye.
- Traumatic cataract: This happens when the lens is damaged from an eye injury. The cataract can form right after the injury or even many years later. [See figure 7].

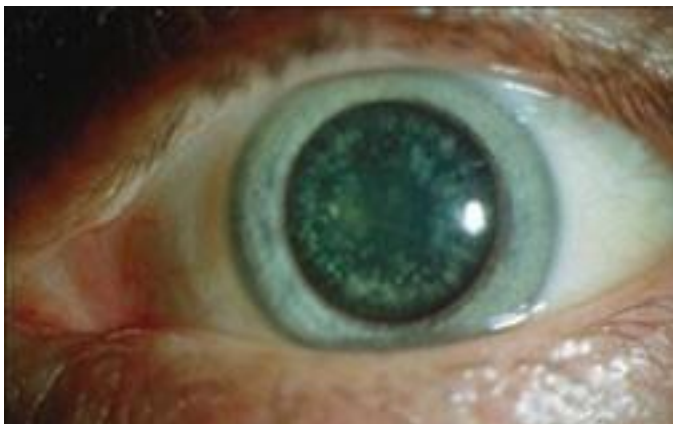


Fig. 3: Lamellar cataract

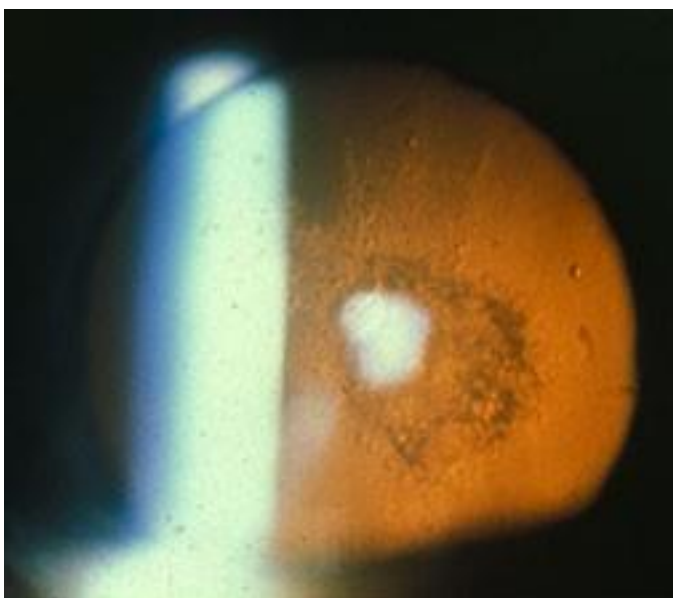


Fig. 4: Posterior subcapsular cataract.

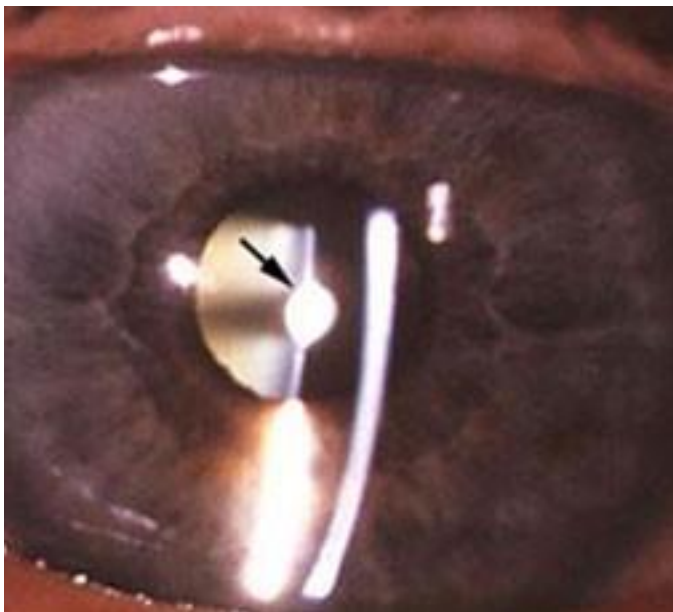


Fig. 5: Anterior polar cataract.

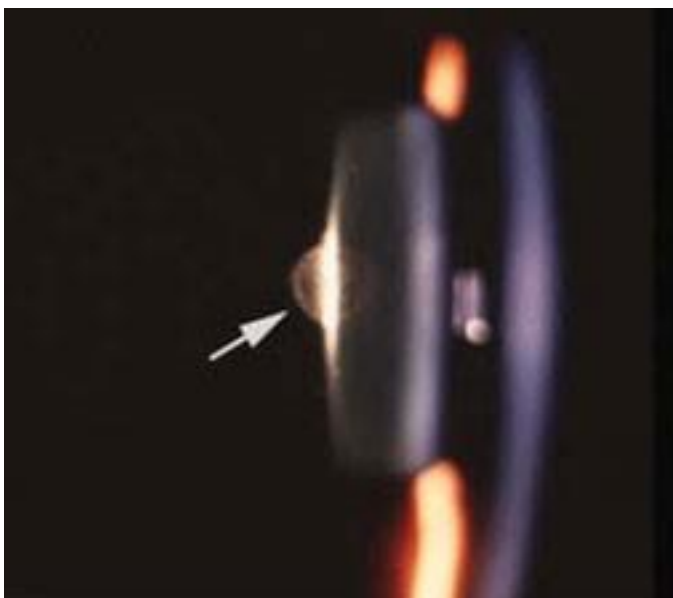


Fig. 6: Posterior polar cataract.

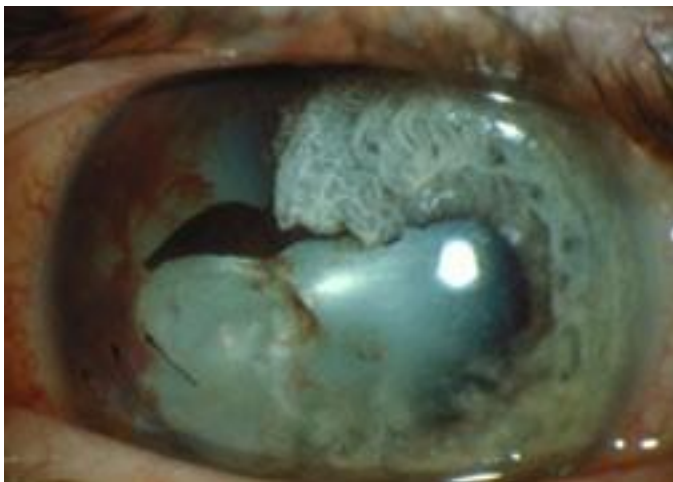


Fig. 7: A traumatic cataract after a severe eye injury.

AT WHAT AGE SHOULD A CATARACT BE REMOVED FROM AN INFANT OR CHILD?

If your child has a cataract that is making it hard for them to see, it is important to remove it as soon as it is safe. It is especially important to act quickly when a cataract is present at birth. Waiting too long to treat a cataract, can make it hard for the vision part of the brain to develop. Even if a cataract is very small and doesn't seem to bother the child's vision enough to need surgery, it should still be watched closely as vision problems can show up as the child grows. Sometimes if a cataract is very small or not in the center, wearing glasses or patching may help the vision and surgery may not be needed right away or at all.

HOW IS A CATARACT REMOVED IN INFANTS AND CHILDREN?

A cataract is removed with eye surgery. For children, it is usually done under general anesthesia and does not use lasers. A small cut is made into the eye and the front part of the bag (capsule) of the cloudy lens. The soft cloudy lens (cataract) inside the lens capsule is removed with a special suction tool. An intraocular lens (IOL, see below) is then sometimes placed inside the empty lens capsule either during the same surgery or later during another surgery. Younger children may need an extra opening made in the back of the capsule and removal of part of the gel (vitreous) from the back (called a vitrectomy). The cuts in the eye are closed with stitches that dissolve on their own.

HOW DOES THE EYE FOCUS ONCE THE CATARACT IS REMOVED?

The lens inside the eye helps the eye focus to see clearly both close up and far away. When the lens is removed in cataract surgery, it can't do that anymore. There are a few ways to help with this:

- 1) A permanent IOL is placed inside the eye.
- 2) A contact lens goes on the eye's surface. It has to be removed and cleaned often.
- 3) Glasses can be used. Glasses after cataract surgery can be thick and make things look bigger. This may not be the best treatment if only one eye has a cataract.

A child can develop [amblyopia](#) from the cataract even after early surgery. To make the eye stronger and treat the amblyopia, the child may need to wear a patch over the good eye.

WHAT IS AN IOL?

An intraocular lens (IOL) implant is a man-made lens that is put into the eye to take over the focusing job of the natural lens that is removed during cataract surgery. [See figures 8 and 9].

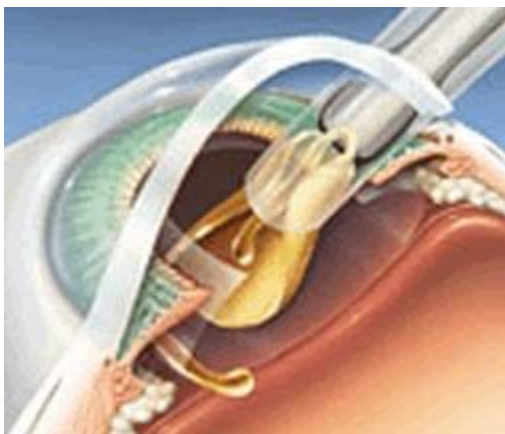


Fig. 8: Foldable intraocular lens being inserted into eye.

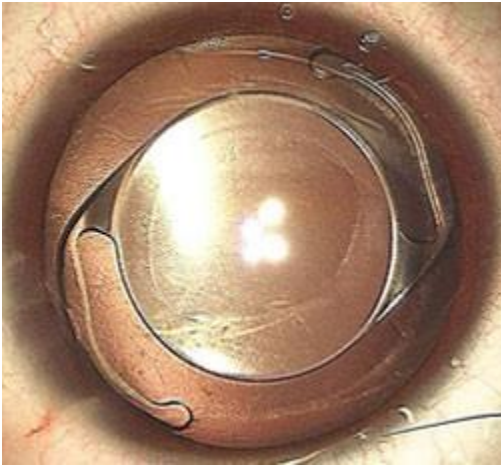


Fig. 9: Intraocular lens in place after cataract is removed with surgery.

ARE IOLS APPROVED BY THE FOOD AND DRUG ADMINISTRATION (FDA)?

IOLs are allowed by the Food and Drug Administration (FDA) for people who are eighteen years and older. Use of an IOL under age eighteen years is off-label. Sometimes doctors use drugs or tools off-label because it is the best choice for the patient. Before putting in an IOL, the ophthalmologist will do a complete eye check-up and discuss the risks and benefits of an IOL versus contact lens or glasses treatments.

AT WHAT AGE CAN AN IOL BE INSERTED?

When cataract surgery is done after a child's first birthday, an IOL is often placed. For babies in the first year of life, using an IOL with cataract surgery is still being studied. A national study by the FDA and the National Institutes of Health (NIH) looked at using IOL in babies. This study found that babies treated with an IOL had similar vision results as those with contact lens, but they had more problems after surgery and needed more extra surgeries.

If a baby starts with contact lens or glasses after cataract surgery, they may be able to get an IOL placed after their eyes have grown more.

The use of an IOL is different for each child and needs a discussion with the child's ophthalmologist to make the best decision.



WHAT ARE THE RISKS OF CATARACT SURGERY IN BABIES AND CHILDREN?

Cataract surgery with a skilled surgeon is generally very safe. However, no surgery is without risks. The risks for children getting cataract surgery include: infection, inflammation, the retina coming off, getting glaucoma, the IOL moving out of place, and the lens capsule or gel inside the eye getting cloudy. Children's eyes can get extra inflamed after cataract surgery, especially when an IOL is placed during surgery or there is a history of inflammation in the eye or the body.

Please see additional resources below for more information about cataracts and cataract surgery in children:

[How is pediatric cataract surgery done?](#)

[More scientific and technical information on cataracts in childhood.](#)

Facebook support groups:

- [The Pediatric Glaucoma and Cataract Family Association: Support Group](#)
- [Aphakic kids](#)
- [Parents of children with cataracts or other eye disorders](#)
- [Children with congenital cataracts](#)
- [Congenital cataracts](#)
- [Cataract tots](#)
- [A group for parents with young children in glasses](#)

Updated 10/2023