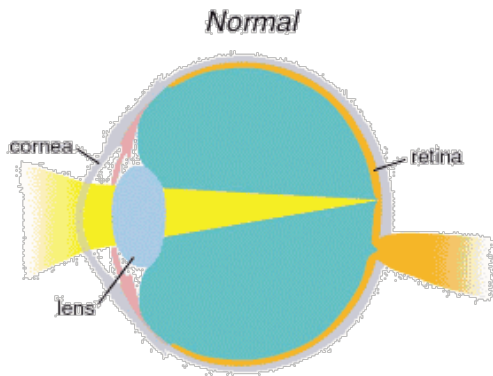


Cataracts & Cataract surgery

Normal Vision



Light passes through the cornea—the curved, clear front surface of the eye. It then passes through the pupil and the lens. The curved surface of the cornea and the lens inside the eye bend the light rays so that images of distant objects are focused on the retina, the layer of nerve cells in the back of the eye. Rays of light from near objects must be bent more than rays of light from distant objects to focus them sharply on the retina. Therefore, the lens inside the eye must change its shape to maintain a sharp image when looking from distant to near objects. The lens becomes somewhat rigid with age, which is why most older people need reading glasses or bifocals to read.

What is a cataract?



A cataract is the clouding of the normally clear, natural crystalline lens of the eye. The lens can become cloudy, blocking or scattering some light and preventing it from reaching the retina in sharp focus. This causes blurred vision and glare. Most cataracts progress slowly over a period of years, but their rate of progression is unpredictable. They can affect one eye or both eyes. As cataracts become more dense, they produce visual symptoms; these typically include blur, glare, halos around lights, and double vision. Colors can become dull, a brown-yellow tint is common, and driving can become dangerous. Untreated, cataracts can cause blindness. In Australia, however, cataracts are usually treated before this.



What are the symptoms of cataract?

Typical symptoms include:

- Cloudy, fuzzy, foggy, or filmy vision.
- Changes in the perception of colors.
- Problems driving at night as headlights seem too bright.
- Problems with glare from lamps or the sun.
- Frequent changes in your eyeglass prescription.
- Double vision.

These symptoms can also be signs of other eye problems. If you have any of them, consult an ophthalmologist for an eye examination.

What causes cataract?

Though researchers are still trying to find out what causes cataract, their cause remains uncertain. However, there are certain risk factors associated with cataracts, they include:

- Age. Most Australians older than 60 years have cataracts.
- Medical conditions. Diabetes and other systemic diseases, glaucoma, and metabolic abnormalities can cause cataracts.

- Physical injuries.
- Ultraviolet radiation (UVA or UVB). Long-term exposure to sunlight is believed to speed the development of cataracts.
- Oral steroids and other medications.
- Smoking. Studies indicate that smokers are twice as likely to develop cataracts than nonsmokers and that quitting can reduce the risk for developing cataracts.

When should I have cataract surgery?

The decision to proceed with cataract surgery should be made with your doctor after he/she measures your vision, examines your eye(s), and listens to your description of the visual problems you are experiencing. With modern medical technology, cataracts are routinely treated safely and effectively using microsurgical techniques. Today, cataract extraction is one of the most successful surgical procedures-about 98 percent of all cataract surgical procedures result in improved vision.

Today, cataract surgery is performed through a microscope with the assistance of several highly trained operating room personnel in a suite with specialized eye surgery equipment.

During the early stages of cataract development, more frequent changes in your eyeglass prescription may be sufficient to restore adequate vision. Surgery should be considered when the reduced vision caused by cataracts begins to interfere with normal daily activities such as reading and driving, even when corrective glasses are used. Although the potential risks of surgery must be weighed against its potential benefits, delaying surgery can lead to accidents when driving as well as personal injury such as falls. In addition, the surgical removal of advanced cataracts is more difficult than the removal of less dense cataracts.

Tell your doctor if any of these statements apply to you:

- I do not feel safe driving because of difficulty reading signs, glare from lights at night, or other visual disturbances.
- I do not see well enough to do my best at work.
- I do not see well enough to do the things I need to do at home.
- I do not see well enough to do things I enjoy, such as reading, sewing, or playing golf.
- Because of my poor vision, I may bump into things, stumble, or fall.
- Because of my poor vision, I am not as independent as I would like to be.
- I cannot see as well as I would like to see, even with my glasses.
- My eyesight bothers me a lot.

You may have other specific visual problems you want to discuss with your eye doctor.

What are the benefits of cataract surgery?

Cataract surgery restores quality vision for millions of patients each year. Good vision is vital to an enjoyable lifestyle. Numerous research studies show that cataract surgery restores quality-of-life functions including reading, working, moving around, hobbies, safety, self-confidence, independence, daytime and nighttime driving, community and social activities, mental health, and overall life satisfaction.

A study published in the Journal of the American Medical Association found that older people who have cataract surgery reduce their chances of having a car accident by more than 50 percent.

In addition to greater safety, those who had cataract surgery enjoyed other benefits. People who didn't have the surgery drove much less than those who did, logging only half the number of passenger miles. This could be an indication that cataracts cause patients to limit their mobility. The study's authors note that the

limitations on driving, an ability that may be needed to commute to work or an activity site, could have a significant impact on the quality of life for someone who wants to remain active.

Despite the proven benefits, many patients are reluctant to have cataract surgery. They may delay it because of a lack of family support, the need to address other chronic conditions, or the mistaken perception that cataract surgery requires a significant amount of time for recovery.

Today, most cataract operations are performed in an outpatient setting and do not require admission to a hospital. Twenty years ago, thick glasses were prescribed so that people who had cataract surgery could see. In the past two decades, however, small artificial lenses that can be implanted in the eye have been developed. These intraocular lenses (IOLs) can provide good distance vision with thin glasses or, sometimes, without glasses at all.

What are the risks of cataract surgery?

Cataract surgery is performed millions of times every year in the United States. In fact, it is the most commonly performed surgery in the United States. About 98 percent of patients have a complication-free experience that results in improved vision. Nevertheless, cataract surgery has risks and complications. Most complications resolve in a matter of days to months. In rare cases, patients lose some degree of vision permanently as a result of the surgery. Most risks of cataract surgery are well known. Although procedures are designed to prevent them, they may even occur in the hands of an experienced surgeon who performs the procedure flawlessly.

Risks of Cataract Surgery:

Endophthalmitis. This is an infection inside the eye. To prevent endophthalmitis, topical antibiotic eye-drops are administered on the day of surgery. The area around the eye is carefully cleaned with special sterilizing solutions, and the face is covered with sterile drapes. After surgery, antibiotics are administered. Despite these precautions, endophthalmitis occurs in about 1 of 3,000 cases.

Symptoms of endophthalmitis include pain, excessive redness of the eye, sensitivity to light, and loss of vision. Although symptoms usually appear within the first few days of surgery, endophthalmitis may not cause noticeable symptoms or be detectable by examination until later. Patients who have any of these symptoms should call their ophthalmologist immediately.

To treat endophthalmitis, antibiotics may be injected into the eye to control the spread of the infection. In rare instances, additional surgery, called a vitrectomy, is indicated. During this procedure, the vitreous (a jelly-like material inside the eye) is removed to control infection.

Cystoid macular edema. The back part of the eye is lined by the retina, a layer of nerve cells that can sense light. The central portion of the retina is called the macula, which responds to light in the center of the visual field. Rarely, after uneventful cataract surgery, inflammation develops that can cause the fine blood vessels in the retina to leak fluid that accumulates in the macula and causes it to swell. The result is decreased vision in the central part of the visual field. This swelling is called cystoid macular edema. To determine the extent of the swelling, a test called a fluorescein angiogram or ocular coherence tomography may be done. A patient who notices a decrease in vision as time goes by after cataract surgery should contact his or her ophthalmologist immediately. Macular edema is treated with anti-inflammatory eyedrops. Sometimes, injections of steroids behind the eye or vitrectomy surgery are done to resolve the problem.

Retinal detachment. In some patients, cataract surgery may increase the risk for retinal detachment, which occurs when vitreous fluid seeps through a tear in the retina. The seepage may cause the retina to separate from the back of the eye. Cataract surgery is not the only cause of retinal detachments; they also occur in

patients who have not had previous eye surgery. Patients who are highly myopic (nearsighted) are more likely to develop this condition. Retinal detachments after uneventful cataract surgery are infrequent, occurring in about one half of one percent of patients.

Patients with retinal detachments may notice what appears to be a curtain moving across part or all of the field of vision. Early symptoms of retinal detachment include flashes of light and dark spots that appear to float in the visual field, but these symptoms occur frequently during the normal recovery from cataract surgery. Patients who notice flashes, floaters, or loss of part of their visual field should contact their ophthalmologist immediately.

Posteriorly dislocated lens material. On rare occasions, fragments of the cataractous lens fall into the vitreous cavity behind the thin membrane that normally surrounds the lens. The ophthalmologist may recommend a vitrectomy to remove the lens material and prevent inflammation.

Choroidal hemorrhage. The retina receives its blood supply from a delicate web of fine blood vessels called the choroid. On rare occasions during cataract surgery, the choroid begins to bleed, a condition known as a choroidal hemorrhage. It is more likely to occur in elderly patients and those with glaucoma or high blood pressure, but it is an unpredictable complication. If the hemorrhage is confined to a small area of the choroid, patients often recover without significant visual loss. However, in the most severe cases of choroidal hemorrhage, patients can have complete and permanent visual loss. In modern cataract surgery, the use of small incisions has reduced the severity of choroidal hemorrhages.

Drooping eyelid. Occasionally, the top eyelid may become droopy after cataract surgery. If this occurs, we generally wait a few months as it often improves by itself. Otherwise it can usually be improved by another eyelid operation a few months later.

What happens during the operation?



Almost everyone has a local anaesthetic. With a local anaesthetic, you will be wide awake but feel nothing in your eye. Usually the eye specialist will explain what is happening as the operation goes along, and someone will also be there to hold your hand if you wish, and make sure you are comfortable and relaxed. You may vaguely see some movement but no details of the operation.

If, however, you do have a general anaesthetic you will be completely unconscious, and it will be like sleeping through the operation.

The eye specialist does the operation with the aid of a microscope, through a small incision in the eye. This incision is so small that stitches are not usually necessary. The operation often takes about 15-20 minutes, although it can last longer.

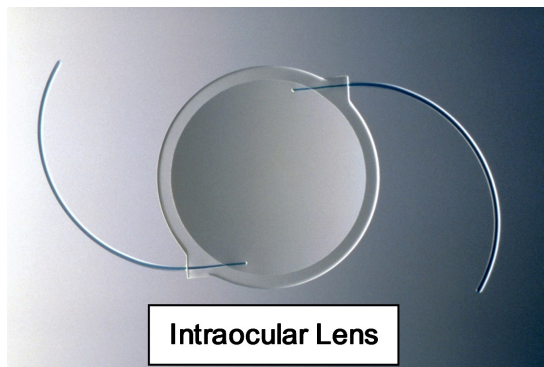
During the operation the lens containing the cataract is removed and replaced with a plastic lens, so that the eye can see clearly after the operation. This plastic lens is called an intraocular lens implant and remains permanently in your eye.

A pad or shield will probably be put over your eye to protect it from accidental rubbing and bumping after the operation.

The operation cannot be performed by laser, although laser treatment is sometimes needed afterwards if the lens casing (the capsule), which is usually left in place, becomes cloudy.

We want to reassure you that your eye is not taken out of its socket during surgery. The operation is not painful and if stitches are used, they cannot be seen or felt.

What happens after the operation?



Given that cataract surgery is in most cases an outpatient procedure, patients are sent home shortly afterward and given instructions for using eyedrops to prevent infections and inflammation. If an injection was used to numb the eye for surgery, a patch may be required during the first night. A doctor or an assistant will check the eye the next morning. Vision may be blurry for 24 to 48 hours after surgery. Glasses are usually prescribed several weeks after surgery when the eye has healed.

Will you need glasses after the operation?

Generally, after your cataract surgery, we aim to have you see clearly in the distance, though you may still need glasses to see perfectly in the distance. However, this means you will need glasses to read and see objects up close.

If you wish to see up close and read without glasses, you will then need glasses to see clearly in the distance or drive.

Monovision: Occasionally, patients will opt to have one eye focused for distance and another focused for near, and so alternate between eyes depending on what they are doing. However, not every patient is able to achieve this comfortably.

Astigmatism: If you have a lot of pre-existing astigmatism, discuss the possibility of decreasing this with your surgeon.

Strong glasses: Some patients with very strong glasses will find their eyes are very “unbalanced” after their operation, which can be very disorientating and difficult to manage. These patients will generally need to have their 2nd eye operated on fairly quickly in order to balance the two eyes once more.

Can a cataract come back?

A cataract cannot return because the entire lens has been removed. However, in as many as half of all people who have cataract surgery, the lens capsule (the tissue bag that supports the replacement lens) becomes cloudy. This cloudiness can develop months or years after surgery. It can cause the same vision problems as the original cataract.

The treatment for this condition is a procedure called a YAG laser capsulotomy, which is named for the material used to generate the laser energy (yttrium-aluminum-garnet). The doctor uses a laser (light) beam to make a small opening in the capsule through which light can pass unimpeded. This surgery is painless and does not require a hospital stay. Most people see well after a YAG capsulotomy. Your doctor will discuss the risks with you.