

# What are cataracts and when should I have surgery?



**Waikato's Largest  
Specialist Eye Centre and  
Eye Surgery Facility**



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## What is a cataract?

A cataract is a clouding or opacity of the lens inside the eye. To understand cataracts, learning about how the eye works is helpful.

Inside the eye, behind the coloured part (the iris) with a black hole in the middle (the pupil), is the lens. In a normal eye, this lens is clear. It helps focus light rays on the back of the eye (the retina), which sends messages to the brain, allowing us to see. -

When a cataract develops, the lens becomes cloudy, preventing the light rays from passing through.

## How your eye works

When you look at something, light passes through the front of your eye and is focused by the cornea (the front clear window of the eye) and then the lens behind the pupil onto the retina (at the back of the eye).

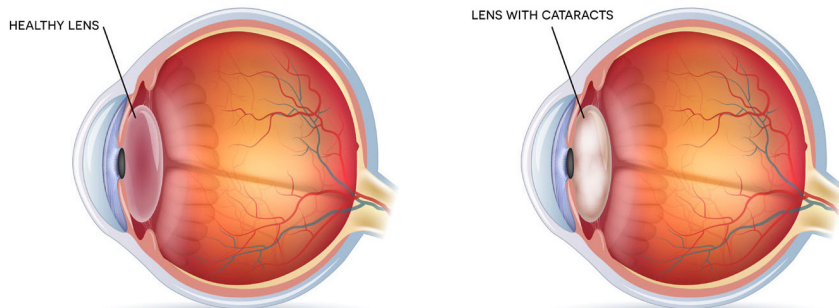
The lens is normally clear so that light can pass directly through to focus on your retina (the lens is clear because of how the collagen fibres are arranged). When the lens focuses light onto the retina, the light is converted to electrical signals.

A network of nerves delivers these signals from the retina to the optic nerve, which connects the retina to the brain. The brain interprets these signals to “see” the world around us.

The lens can change shape, allowing us to focus on objects at different distances – this is called “accommodation of vision”. However, as we get older, the lens can’t change shape as well as it used to – even people who can see clearly in the distance without glasses will need reading glasses to see things up close. This natural change in focusing typically occurs in our 40s and onwards and is called presbyopia.

Cataracts result from changes in the way the collagen fibres of the lens are arranged and their water content, which causes the lens to become cloudy instead of clear. When this happens, light cannot pass directly through the lens, and you may notice problems with your vision.

A cataract is not a growth or a film growing over the eye; it is simply the lens becoming cloudy. Other people will not be able to see that you have a cataract because it is inside your eye.



## What symptoms do cataracts cause?

Cataracts usually form slowly over the years, causing a gradual blurring of vision that eventually is not correctable with glasses. In some people, vision can deteriorate relatively quickly. Developing a cataract can also cause glare, difficulty with night-time driving and multiple images in one eye, which can affect the quality of vision.

## What can be done about cataracts?

Cataracts can be removed by surgery. Cataract surgery removes your cloudy lens and replaces it with an artificial one. This lens is called an intraocular lens implant and is often shortened to IOL. The artificial lens is made of plastic or silicone and will not need to be changed for the rest of your life. No medicine or drops can remove cataracts – surgery is the only treatment. Unfortunately, there's nothing you can do to stop cataracts from developing or getting worse. However, wearing sunglasses to protect your eyes from ultraviolet (UV) light is a good idea.

An ophthalmologist may consider removing both cataracts at the same time for people who are at low risk of ocular complications during and after surgery or people who need general anaesthesia for cataract surgery but for whom general anaesthesia carries an increased risk of complications or distress.

## When should I have my cataract surgery?

Cataracts can be removed at any stage. You don't have to wait for them to "ripen" before having surgery.

Deciding to have your cataracts removed depends on several things:

- How badly your sight is affected
- Whether you have any other eye conditions
- If you only have sight in one eye
- How you use your sight from day to day.

The decision to remove your cataracts comes down to whether the benefit of having the operation outweighs the small risk attached to the surgery.

If you have no other eye conditions or health concerns, the benefit of having your cataracts removed usually outweighs the risk of surgery.

For example, removing your cataracts may be necessary if you find it difficult to read, use a computer or drive. The timing of surgery is different for everyone.

If you make your living by driving, for example, you may need your cataracts removed earlier than someone who doesn't drive.

If you have another eye condition, it may be possible to remove your cataracts, but there may be more concerns about complications. Your ophthalmologist (hospital eye doctor) may want to delay the operation for as long as possible to avoid the risk of surgery, but this needs to be balanced with how much of your sight is affected by cataracts.

If you have sight in only one eye, your ophthalmologist may recommend delaying surgery for as long as possible. Having sight in only one eye doesn't make cataract surgery more difficult.

However, any serious complication that affects your sight would mean the outcome is worse than that of someone with sight in both eyes. Delaying the operation for as long as possible reduces the risk until the operation is essential.

## Certain things make it more likely that you will develop cataracts

- People who have diabetes often develop cataracts earlier
- Having an eye injury can cause the injured eye to develop a cataract
- Some prescription drugs can cause cataracts, for example, steroids
- Previous eye surgery: surgery for a retinal problem will likely lead to cataracts in the affected eye at some point in the future
- Eye conditions: other eye conditions, such as retinitis pigmentosa, glaucoma or uveitis, may also cause cataracts
- Having high myopia: (being very short-sighted) may cause cataracts

## When is the right time to have your cataracts treated?

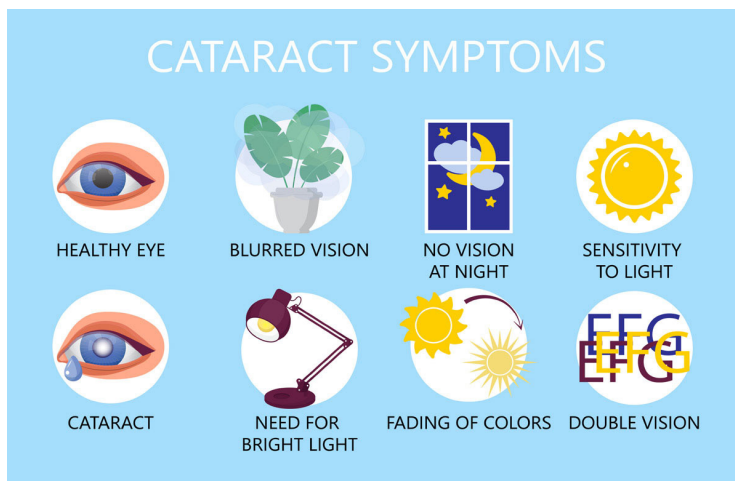
Cataracts only affect the lens and no other part of your eye. If you decide to put off surgery, your sight will become increasingly cloudy, but the results of your surgery, no matter how delayed, will be the same as if you had it done earlier.

You don't have to worry about permanently damaging your vision by delaying surgery. Your ophthalmologist or optometrist can help you decide when to have treatment. If you drive and have cataracts in both eyes, you should check with your optometrist to ensure you can still meet the vision standard set by the New Zealand Transport Agency.

Some people have cataracts removed when their vision isn't necessarily adversely affected by the presence of cataracts but to help with or monitor other eye conditions. If someone has narrow anterior chamber angles (crowded structures in the front of the eye), cataract surgery may be carried out earlier to improve the control of the pressure in the eyes, known as intraocular pressure.

Removing the crystalline lens and replacing it with an IOL frees up valuable space in the anterior chamber of eyes with narrow angles, allowing for improved fluid drainage inside the eye, which may help reduce intraocular pressure.

Another example of early cataract surgery is to get a clearer view of the back of the eyes of diabetic patients, where cataracts can hamper the monitoring of diabetes-related changes.



# Lens Options

Please remember that cataract surgery is performed to remove the cataract, not to remove the need to wear glasses.

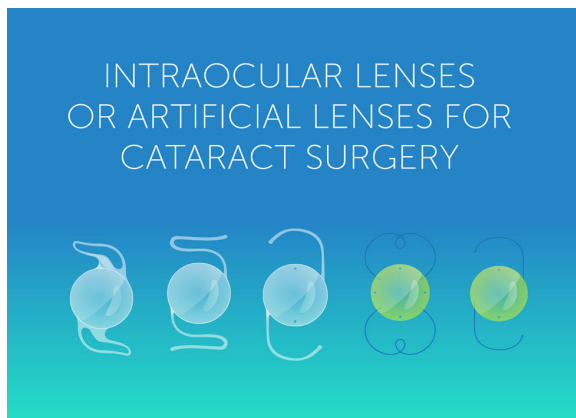
## Standard monofocal lenses

Your lens, which helps you focus, is removed during the operation and is replaced with an artificial lens – the intraocular lens implant.

There is a choice of different strengths (powers) of lenses which, just like different strengths of glasses lenses, affect how clearly you see when looking into the distance or at near things such as reading a book.

During your initial assessment, the surgeon will discuss whether you want a better focus for close or distance vision. Most people choose to aim for good distance vision after the operation. If you pick this option, you will usually need reading glasses, and you may still need glasses for fine focusing on the distance.

Some people prefer to aim for good close vision, especially if they like to read without glasses or do a lot of detailed close work such as embroidery. If you choose this option, you will need glasses for distance.



## Monovision

Combining a more precise distance focus in one eye with a clearer focus at arm's length is a good option if you have no strong preferences and had good vision in both eyes, with or without glasses, before cataracts developed.

Spreading the focus between the eyes in this way does not usually stop them from working together or make you feel unbalanced, and it helps you to do more activities comfortably without glasses.

You will probably still prefer to wear glasses for at least some activities after surgery, and it may take you a few weeks to get used to your new vision.

This option requires careful consideration and may not be suitable for all patients.

## Multifocal Lenses

Multifocal lenses aim to correct both near and distant vision.

Multifocal lenses do not work for all patients and may cause some visual quality problems, like glare and haloes.

## Toric lenses (astigmatism correcting lenses)

Toric lenses are special lenses that treat moderate to high astigmatism from within the eye.

They are made of the same material as a standard non-toric lens but incorporate astigmatism correction.

The aim is to improve the quality of your vision so that the need for glasses is minimised.

The surgery is the same as standard cataract surgery except that once the toric lens has been inserted, it is carefully rotated to the correct position for each patient.

A standard lens does not need to be placed so precisely.

There are some potential issues with toric lenses, including the following:

- A toric lens may not fully correct the astigmatism, and you may still need glasses to see for distance.
- If complications occur during cataract surgery, inserting a toric lens may not be possible.
- The lens can rotate, and a second operation may be needed to rotate the toric lens back into position for best vision, with the additional risk of further surgery.
- Some patients may require further surgery to replace the toric lens with a standard one.

## How accurate are the results of cataract surgery

The pre-operative measurements usually allow your surgeon to choose a lens implant that gives the desired near or distance vision, but individual patient responses vary, and absolute accuracy cannot be guaranteed.

Sometimes, patients can unexpectedly need moderately strong glasses following surgery despite correctly taken measurements and uncomplicated surgery.

## Colour vision

A cataract in your eye scatters and absorbs blue light selectively.

After surgery, your lens implant is very clear, so a change in colour vision is common.

This can be dramatic, especially in the early period after surgery, and can make colours look brighter or bluer than usual.

Most lens implants have built-in ultraviolet (UV) blocking.

However, you can use sunglasses outdoors in bright sunlight to block excess UV light from reaching the retina.

If you have an occupation where colour vision is critical, you should seek specific advice from your ophthalmologist at your consultation appointment.

# What are cataracts and when should I have surgery?

## What happens at my first appointment?

At the clinic appointment before your surgery, your eye will be examined and measured. The shape of the front of your eye and the length of your eye will help the ophthalmologist decide which intraocular lens to implant. If you've had any previous eye surgery, including laser surgery to reduce your need for glasses, you should tell your ophthalmologist or nurse at this appointment.

Before your special tests, if you wear contact lenses, you must leave them out for the following time unless told otherwise:

- one week for soft lenses
- two weeks for rigid lenses, including gas-permeable lenses.

This assessment will also check if your general health is good enough for surgery. You should let your ophthalmologist know of any medication you are taking and general health problems you have so they can advise you of any preparations you need to make before surgery.

An example of this is dry eye and blepharitis management before surgery. Blepharitis and meibomian gland dysfunction are the most common causes of dry eye. Blepharitis is an inflammation of the eyelid margins and can sometimes be caused by a bacterial infection, so it's important to manage blepharitis before surgery to reduce the risk of infection during or after surgery.

## What does the cataract operation involve?

The most common form of cataract surgery is performed by surgeons using a small incision (wound) and a process called "phacoemulsification", often shortened to "phaco".

This technique uses ultrasound to soften the lens, which is broken up and flushed out using fine instruments and special fluids.

A clear artificial lens (intraocular lens implant or IOL), made of a plastic-like material, is placed inside the eye. The back membrane of the lens (capsule) is left behind, holding the artificial lens in place.

The wound is tiny, and most patients do not require stitches, although very fine stitches are sometimes needed to close the wound safely.

This can occasionally cause some temporary post-operative irritation. Depending on the type of stitch used, these may need to be removed.

Removing the stitches is usually done in the clinic and is a quick and painless procedure.

## What is it like during the operation?

The operation is performed while you are lying down on your back. A sterile sheet partially covers your face. If you have difficulty lying flat or are claustrophobic, we will do our best to ensure you are comfortable before the operation starts, but please tell the nurses this during your pre-operative assessment.

During the operation, the surgeon uses a microscope. The bright light from the microscope and the covering sheet means that you do not see the operation or the detail of the instruments but may see moving shapes. Usually, you will be awake during the operation and aware of bright light and often pretty-coloured lights and shadows.

You may feel the surgeon's hands resting gently on your cheek or forehead.

A lot of fluid is used during the operation. Sometimes, excess fluid may escape under the sheet and run down the side of your face, into your ear or neck, which can be uncomfortable, please let the team know if you have any discomfort.

## **Is there anything else I must do to care for my eye?**

You should avoid rubbing or touching your eye. This is extremely important in the first week or two after the operation. You might find you are sensitive to light, so having a pair of plain dark glasses in case you need them is helpful. You can buy these at any chemist or supermarket. The medical and nursing staff will advise you if there are any activities you should avoid. Most patients can resume normal physical activity within a day or two.

Depending on your occupation, you should be able to return to work the day after your operation. You might need longer if you perform manual work or a job requiring a lot of eye use. The doctors and nurses in the clinic will advise you. Your eye will take a few weeks to settle and achieve the best vision.

## **How will my eye feel after the operation?**

As the anaesthetic wears off, there can be a dull ache or a sharp pain like something in the eye, felt in and around your eye. Your eye will also be red and watery, and your vision may be very blurred. You can ask the nurse for tablets for pain relief. You may want to use your normal pain-relieving tablets at home and during the first 24 hours. Your eye usually settles over two to four weeks after the operation, although some patients take slightly longer. A slight feeling of grittiness or as if there is a foreign body in your eye can last several months after the operation as the small wound gradually flattens. You should contact us if the pain, redness or blurred vision gets worse rather than better.

## **Will I have to stay in hospital?**

Cataract surgery is performed on a day-stay basis. This means you are admitted to the hospital, have your operation, and are discharged home the same day.

You could spend several hours in the hospital from arrival to discharge.

## **When can I wash my face and hair after the operation?**

You are advised to be careful when washing. A clean face cloth can safely be used. Do not directly splash water into your face in the shower or immerse your head in the bath for one week after surgery.

## **When can I see my optician for an update on my glasses?**

You will be advised about tests for glasses to improve vision (refraction) at your clinic appointment after the operation. However, you can usually have your eyes checked for new glasses by your own optician about four to six weeks after the operation. Until you have your new glasses, or between having the first and the second eye operation, you may experience some vision difficulties, especially if there is a big difference in the glasses prescription between the two eyes. During this time, you may choose to use or not use your old glasses or have your optician remove the lens on one side of the glasses until your final pair of glasses is ready or once you have had the operation on both eyes.

## **Do cataract operations have any complications?**

There is a minimal risk of vision loss to the other eye. Serious complications are uncommon, but if they occur, they can permanently damage your eye and vision. These risks are detailed below:

- 1 in 1,000 risk of severe and permanent visual loss in each eye.
- Approximately 1 in 250,000 risk of severe and permanent vision loss in both eyes with immediate sequential bilateral cataract surgery .
- About 1 in 100 people are at risk of requiring additional surgery to rectify a problem for each eye.
- 1 in 20 operations has less serious complications, possibly requiring further treatment during surgery or after each eye's operation.
- 1 in 10 patients will need laser treatment at some point in the future for the opacity of the capsule behind the implant.

## **I have a cataract developing in both eyes – are both operated at the same time?**

Most people develop cataracts in both eyes. Your cataract surgery can be performed on different days, which may be inconvenient due to any imbalance in the glasses prescription and extra hospital visits. Some patients choose to have both cataracts operated on the same day.

Doing so means there is only one admission, one recovery period and one post-operative review. The team in charge of your treatment will be able to advise you on the suitability, risks and benefits of having surgery on both eyes at the same time.

On the day of surgery, once the first eye cataract surgery is completed satisfactorily, the surgeon will perform surgery on the second eye. You will remain in the operating theatre throughout, but the two procedures are independent, using separate surgical instrument sets and drapes. The surgical risks and outcomes are equivalent to performing cataract surgeries on different days.

## **Are cataracts removed by laser?**

New technology is available, and a specially designed laser is used for part of the procedure.

However, the surgeon still needs to operate to complete the surgery, as it is currently not possible to remove a cataract via laser alone.

Lasers are not routinely used for cataract surgery except in clinical trials.

## **What kind of anaesthetic is necessary?**

Most cataract operations are performed under local anaesthetic, in which you are awake, but your eye is numb.

This is usually done using eye drops or an injection around your eye. A small number of patients require sedation or even a general anaesthetic, which sends you to sleep.

## **Can the cataract return?**

No, but you can develop a thickening or clouding of the posterior capsule membrane behind your new lens implant in the months or years following your surgery, which occurs in approximately one in ten cataract surgery patients. This is called posterior capsular opacification and causes blurring of vision.

This can be treated in an outpatient visit with a laser procedure called YAG laser capsulotomy. It is usually very effective, painless and quick but can occasionally cause complications such as retinal detachment or waterlogging of the central part of the retina. The risks of YAG laser treatment are smaller than those of the original cataract procedure and will be explained at your consultation.

### **How do I put in the eye drops?**

A nurse will teach you how to care for your eye. You will be shown how to clean your eye and put in the eye drops correctly, as detailed below:

1. Tilt your head back
2. Gently pull down your lower lid with one hand
3. Look up and allow the drops to fall inside the lower lid

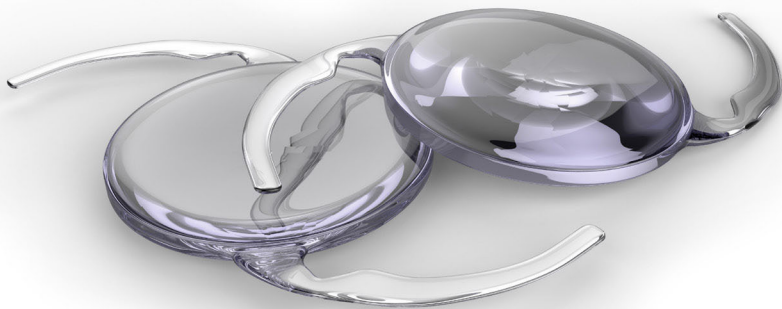
Do not let the tip of the bottle come in contact with your eye. In some circumstances, family and friends will be taught how to do this so they can help you. The eye drops help reduce the risk of inflammation after surgery and may be necessary for one to two months.

### **How soon after the operation do I go home?**

After the operation, you will have a chance to have a drink and a snack before the nurse or doctor checks that you are ready to leave. The nurses will ensure you have post-operative instructions and eye drops and then discharge you from the hospital. This usually takes 30-60 minutes.

### **Will my eye be covered after the operation?**

Your operated eye may be covered with a protective clear plastic eye shield if this is your surgeon's preference. Some patients may additionally have an eye pad. If you leave the hospital with a pad, you will be told when to remove it yourself and when to start putting in your eye drops. Most patients are advised to wear the protective plastic eye shield when sleeping for approximately one week if this is provided. You will receive specific advice depending on what your surgeon would like you to do.



## What to look out for after surgery

If you experience any of the following or are worried about your eye, you must contact/attend the clinic or go to the Emergency department at the hospital or your Accident and Emergency care facility. If that is not possible, please see your GP as soon as possible.

- Increasing redness, pain, blurring of vision or yellow/green discharge: This can indicate a serious infection or inflammation
- Blurring of the central vision: This may indicate macular oedema (waterlogging of the central part of the retina)
- Red sore eye after stopping drops: This can be due to a recurrence of post-operative inflammation inside the eye
- Distorted vision: The implanted lens can move from its original position, causing distorted vision. Although this is unusual, you might need further surgery to reposition the displaced lens if it happens
- Shadows, lights or floaters in your field of vision: The most common cause of shadows or lights in peripheral vision is the different way the light is focused on the retina through the new lens implant. Following the operation, you may become aware of a shadow to the side of your vision, often described as a “half-moon” or “crescent”. The effect (termed negative dysphotopsia) is usually temporary as your eye rapidly adapts to the new lens

Shadows can also be caused by the retina becoming separated from the inner wall of the eye. This is known as a retinal detachment. If you notice an enlarging shadow in your field of vision, especially with increasing floaters or flashing lights, please contact the hospital as soon as possible.





## Contact us to book a consultation

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