

Mr Paul O'Brien

Consultant Ophthalmic Surgeon
Cataract, Cornea and Laser Eye Surgery



www.eyesurgeon.ie



Patient Information : Cataract Surgery

CATARACT

A cataract is an opacity of the natural lens inside the eye.

The lens is located behind the coloured part (the iris) and the pupil. In a normal eye, this lens is clear. It helps focus light rays onto 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 and prevents the light rays from passing through, causing gradual loss of vision.

What symptoms do cataracts cause?

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

Do cataracts spread from eye to eye?

No. But often they develop in both eyes simultaneously or soon after one another.

Are there different kinds of cataract?

Yes. Most cataracts are age-related. Other types include; congenital (present from birth), those caused by drugs such as steroids and those occurring after trauma to the eye.

Is there a link between diabetes and cataracts?

Yes. Cataract is more common in people who have certain diseases such as diabetes.

Are cataracts just a part of getting old?

Most forms of cataract develop in later adult life. This is called age-related cataract and can occur at any time after the age of 40. The normal process of ageing causes the lens to gradually become cloudy. Not all people who develop cataract require treatment.

Can children have a cataract?

Yes, but this is rare.

I didn't know that I had a cataract until my optician told me; is that normal?

At first, you might not be aware that cataract is developing and, initially, it may not cause problems with your vision. Generally, as cataract develops over time, you start to experience blurring of vision. In most cases, eyes with a cataract look normal but, if

the cataract is advanced, your pupil may no longer look black and can look cloudy or white.

You may need to get new prescription glasses more frequently when the cataract is developing. Eventually, when your cataract worsens, stronger glasses may no longer improve your sight and you might have difficulty seeing things even with your glasses on.

Assessment of cataract

Patients with cataracts are looked after by a team of people including optometrists (opticians), nurses, technicians and surgeons.

At your cataract assessment visit you will be asked about your sight problems, any other eye conditions and your general health. Your sight will be tested and measurements taken with specialist equipment, which will help us to make recommendations about the best treatment for your vision problem.

You will be given eye drops to make your pupil bigger, so that we can examine your eyes fully. The drops may blur your vision temporarily and the effect of the drops may take several hours to wear off.

TREATMENT

When do I have my cataract treated?

When the cataract progresses to the point that it is interfering with daily activities or lifestyle, even when using up-to-date glasses, then cataract surgery may be the next step. Modern surgery is highly successful for the majority of patients but, as with all surgery, there are risks. Cataract surgery is performed when you have a problem with your vision and you wish to do something about it.

Can anything be done to stop my cataract worsening?

There is no known method of preventing cataract.

I have cataract developing in both eyes, are both operated at the same time?

It is common for cataract to develop more quickly in one eye than in the other. The timing of an operation is agreed after discussion between you and the cataract team.

Usually, the more seriously affected eye is operated on first. Sometimes it is advisable to have your second eye operated on even if it causes you few vision symptoms, to balance the spectacle prescription so that your eyes can be used comfortably together.

Whilst it is possible to operate on both eyes at the same time this is not routinely done. Simultaneous bilateral (both eyes at the same time) cataract surgery is only performed rarely on a specific needs basis and the team in charge of your treatment will be able to advise on the suitability, as well as the risks and benefits of having surgery on both eyes at the same time.

Do I need any special tests before the operation?

Yes. Special tests are required to determine the strength of lens implant which is inserted into the eye. These tests are undertaken prior to the operation day, either at your first clinic attendance or during your booked pre-assessment appointment. Prior to your special tests, if you wear contact lenses, you must leave them out for the following time unless told otherwise:

- 1 week for soft lenses
- 2 weeks for any types of rigid lenses including gas permeable lenses

I have had previous laser treatment to my eyes. Does it matter?

Excimer lasers (e.g. LASIK and PRK) are used to reduce the need for glasses, most commonly in short-sighted younger people. If you have had laser treatment, it is very important that you tell the doctors and nurses during your assessment.

Excimer laser treatment affects the calculations that are used to determine the strength of lens implant that is inserted.

In patients who have had previous excimer laser it is more challenging to select the power of the lens implant and patients are at higher risk of being more or less long/short-sighted than planned following the cataract surgery. This may require spectacles or contact lenses to be worn in the future.

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 a special frequency ultrasound to soften the lens, which is then broken up and washed 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 your natural lens (capsule) is left behind and this holds the artificial lens in place.

The wound is very small (2.4mm) and most patients do not require stitches, although very fine stitches are occasionally needed to close the wound safely.

Are cataracts removed by laser?

New technology is available using a specially designed laser for part of the procedure. However, this type of surgery has not yet proven safer and more effective than phacoemulsification (ultrasound) removal of cataract and is therefore not performed by me.

What is it like during the operation?

The operation is performed while you are lying down on your back. Your face is partially covered by a sterile sheet. If you have difficulty lying flat or are claustrophobic, we will do our best to make sure that you are comfortable before the operation starts, but please tell the nurses during your pre-operative assessment.

During the operation, the surgeon uses a microscope and the bright light from the microscope and the covering sheet mean that you do not see the operation or the detail of the instruments but you may see moving shapes.

Usually you will be awake during the operation and will be aware of a 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 on your neck, which can be a little uncomfortable.

You might hear conversations during the operation. Please do not join in as it is important that you remain still during the procedure.

What kind of anaesthetic is necessary?

Most operations for cataract are performed under local anaesthetic, in which you are awake but your eye is numb. The numbing anaesthesia is produced by eye drops or gel applied to the eye. Most patients also receive sedation.

Will I have to stay in hospital?

Cataract surgery is performed as a day-case. This means you are admitted to hospital, have your operation and are discharged home all in the same day. You could spend several hours (3-4) in hospital from arrival to discharge.

What are my choices for vision and glasses after the operation?

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 when looking at near things such as reading a book.

During your initial assessment, the cataract team will discuss with you whether you want to have better focus for close vision

or for distance vision. Most people choose to aim for good distance vision after the operation. If you choose this option, you will usually need reading glasses and you may still need glasses for fine focusing in the distance (10%).

Some people choose 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.

Multifocal lenses

Multifocal lenses are lenses that aim to correct vision for both near and distance, but they are not covered on your medical insurance. However, they can be purchased separately (around €460 per lens/eye) and implanted during your operation.

Multifocal lenses do not work for all patients and often may cause some visual quality problems, most commonly glare and halos around lights. **Extreme perfectionists are not ideal patients for these type of implants as they are often intolerant of the side effects.**

Toric lenses (astigmatism correcting lenses)

Toric lenses are available for patients with moderate to high astigmatism undergoing cataract surgery (roughly 15% of patients will benefit from a toric IOL). A toric lens is made of the same material as a standard non-toric lens, but also incorporates astigmatism correction as well. The aim is to

improve your vision so that the need for distance glasses is minimized, but as with standard lenses, you will still need to wear glasses for close up work and may still also require distance lenses.

The surgery is the same as standard cataract surgery except, once the toric lens has been inserted, it is carefully rotated to the correct position for each patient. The cost of a toric lens is not covered by private health insurance and usually adds €250-475 per eye to the cost of the surgery (depending of your degree of astigmatism).

How accurate are the results of cataract surgery?

The pre-operative measurements usually allow your surgeon to choose a lens implant which gives the desired near or distance vision, but individual patient responses vary and it is **not** possible to guarantee absolute accuracy. Sometimes, patients can have an unexpected need for moderately strong glasses following surgery despite correctly taken measurements and uncomplicated surgery.

Colour vision

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 ultra violet (UV) blocking built in, but you can use sunglasses when outdoors in bright sunlight to block excess UV light reaching the retina. If you have an occupation where colour vision is critical, you should seek specific advice.

Can anything go wrong with the operation?

All surgery carries risks, and cataract surgery is no exception. Problems can arise during or after the operation that results in your eyesight not improving as much as we hoped.

Some of the serious or frequent risks of surgery include:

- 1 in 1,000 risk of severe and permanent loss of vision, for example due to:
 - ◇ Severe infection or
 - ◇ Severe bleeding
- 1 in 10,000 risk of a complication leading to loss of the eye
- 1 in 100 risk of requiring additional surgery to manage a complication
- A significant portion of patients require laser treatment to deal with clouding of the lens capsule 6 months to several years after cataract surgery.

Brief explanations of some of the specific complications are detailed below:

1. Severe infection is a rare complication. Strict precautions are taken and antibiotics are used at the end of surgery to reduce the risk of infection, but every so often germs get into the eye and cause infection. Infection in the eye after cataract surgery is very serious and requires prompt treatment with antibiotics. For this reason we always advise that you contact us if your eye gets very inflamed or very painful in the two or three days after surgery. Infection

can occur later than that, but most infections occur quite quickly. With treatment the infection can be managed and the eyesight preserved, but some eyes are damaged afterwards.

2. Very rarely there can be bleeding into the eye during the operation. We may have to stop the surgery if there is too much bleeding. This is one of the rare causes of very poor vision after cataract surgery.
3. When we take out the cataract we leave behind a small part of your original lens called the capsule. The capsule holds the new plastic lens in place. Sometimes (1% of cases) this capsule breaks during surgery. Behind the capsule is a jelly material called the vitreous. If the capsule breaks, the vitreous may come forward into the pupil and we may have to remove some of it to put a different type of lens implant into the eye. Mostly this does not cause any problems. Very rarely this complication can predispose the eye to other problems such as retinal detachment in the future. Very rarely, this complication can cause loss of some or all of the cataract into the back of the eye requiring a further operation at a later date which may involve a general anaesthetic. In very rare circumstances the surgeon may be unable to insert the new lens during surgery and in this instance there will be a follow up surgical procedure to insert the lens.

Rarely the new lens can become dislocated at some stage after surgery and may require further surgery to adjust or remove it.

4. Some patients (2-5%) may develop fluid in the centre of the lining at the back of the eye called “cystoid macular oedema” which causes reduced vision several weeks after the surgery. This is commonly mild and treated with drops but can rarely be severe and require prolonged treatment. This complication is seen more commonly in diabetic patients.
5. Rarely, there may be a need for a different strength prescription for your glasses than expected after the surgery. Measurements of your eye are taken before the surgery to help calculate the strength of the lens implant to insert into the eye. For most people, this will result in good distance vision, but glasses may be required for sharp distance vision and reading glasses are usually needed as well.
6. Clouding of the normally clear front window of the eye may occasionally occur (corneal oedema) This may require further surgery if it does not clear.
7. The risk of the developing a “detached retina” or a peeling off of the seeing layers of the back of the eye resulting in loss of vision and need for further surgery is increased after cataract surgery. The risk is approximately 1 in 3,000 but can be much higher if you are very short sighted to begin with or if a complication occurs during the surgery.
8. Some less serious complications after cataract surgery include:
 - Bruising of the eye or eyelids
 - Raised pressure in the eye in the first day or so after surgery that may require temporary treatment with medication

- Allergy to the drops used after the surgery resulting in a swollen, itchy eye until the drops are stopped or changed
- Clouding of the lens capsule behind the lens implant causing blurred vision months to years after the surgery. This can be easily treated with a painless laser procedure in the office.
- Drooping of upper eyelid and can be repaired later on if needed.

It must be remembered that the vast majority (95-98%) of patients who undergo cataract surgery achieve an excellent result without suffering any of the above complications.

What to look out for after surgery

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 (water logging of the central part of the retina).

Red sore eye after stopping drops.

This can be due to a recurrence of postoperative inflammation inside the eye.

Distorted vision

The implanted lens can move from its original position, causing distorted vision, though this is unusual. If this happens, you might need further surgery to reposition the displaced lens.

A shadow, lights or floaters in your field of vision

Floaters are much easier to see or may develop after cataract surgery. Although these may irritate they do not affect the sharpness of vision and most patients soon learn to ignore them. The most common cause of a shadow or lights in the peripheral vision is due to the different way that 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 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.

If you experience any of the above, or you are worried about your eye, you must contact the office on 01 2064596 during office hours or main reception in Blackrock Clinic or the Hermitage Clinic outside of office hours.

AFTERCARE

Will my eye be covered after the operation?

Your operated eye will be covered with a protective clear plastic eye shield. If you leave hospital with a pad you will be told when to remove it yourself and when to start to put in your eye drops. The majority of patients are advised to wear the protective plastic eye shield when sleeping for approximately one week. Specific advice will be given.

How soon after the operation may I go home?

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

How will my eye feel after the operation?

As the anaesthetic wears off, there can be a dull ache or the sensation of something in your eye. If it is bothersome you can use over the counter pain relieving medications, for the first twenty-four hours. Your eye will also be red, watery and your vision may be very blurred.

Your eye usually settles over two to four weeks after the operation although some patients take slightly longer. A slight

feeling of grittiness or a feeling of 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 is getting worse rather than better.

How do I put in the eye drops?

A nurse will teach you how to look after your eye. You will be shown how to clean your eye and put in the eye drops correctly. In some circumstances, family and friends can be taught how to do this so they can help you.

How to put in the drops

1. Tilt your head back
2. Gently pull down your lower lid with one hand
3. Look up and allow drops to fall inside lower lid
4. Do not let the tip of the bottle come in contact with your eye

The eye drops help reduce the risk of infection and inflammation after surgery and may be necessary for one to two months.

Is there anything else I have to do to care for my eye?

You should avoid rubbing or touching your eye. This is extremely important in the first one to two weeks after the operation. You might find you are sensitive to light, so it is useful to have a pair of plain dark glasses in case you need them. 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. The majority of patients can resume normal physical activity within a day or two. Your eye takes a few weeks to settle and achieve its best vision.

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

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

When can I see my optician for an update to my spectacles?

You will be advised about tests for spectacles to improve vision (refraction) at your clinic appointment after the operation, but you can usually have your eyes checked for new glasses by your own optician about four weeks after the operation.

Prior to receiving 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 spectacle prescription between the two eyes.

During this time, you may choose to use or not use your old glasses, or for your optician to remove the lens in one side of the glasses, until your final pair of spectacles are ready or you have had the operation in both eyes.

Does the cataract recur?

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. This occurs in approximately 20% of cataract surgery patients. This condition is known as posterior capsular opacification and causes blurring of vision.

Posterior capsule opacification can be treated as an outpatient with a laser procedure, known as YAG laser capsulotomy. This involves one outpatient visit. It is usually very effective, painless and quick, but can very occasionally cause complications such as retinal detachment or waterlogging of the central part of the retina. The risks of YAG laser treatment are much smaller than the risks of the original cataract procedure

We hope that this information is helpful to you. If anything is unclear or you have any other questions you would like to ask, please do not hesitate to contact us.

Mr Paul O'Brien

Consultant Ophthalmic Surgeon

MB BCh BAO FRCSI(Ophthal) MRCOphth MMedSci

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Phone: 01 2064596

Email: info@eyesurgeon.ie

Website: www.eyesurgeon.ie