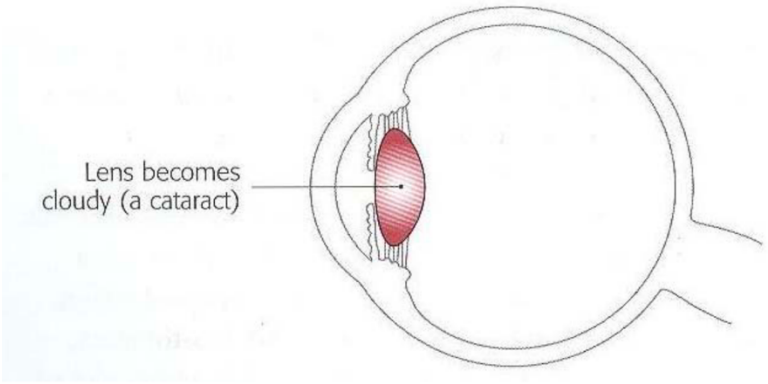
Cataract patient in formation leaflet

You have been directed to this leaflet because you have cataracts that are bothering you and you wish to have them removed. This leaflet will help to explain cataract and cataract surgery and go through the pros and cons helping you to decide whether or not to have surgery. Although this is my personal leaflet I have used evidence from several sources as well as my personal experience and outcomes, other sources are signposted at the end.

What is cataract?

Cataract is a clouding of the lens that happens over time. It usually takes many decades to develop and usually causes problems when people are over 70. However, they can rarely occur in children (Congenital) and in younger adults as well as a result of trauma or disease in the eye or elsewhere. It is perhaps best to think about the lens as a chocolate smartie sitting behind the coloured part of the eye (the iris). Over time the chocolate in the centre becomes cloudy and the aim of surgery is to remove this and put a new lens into the coloured coating (A Red 'smartie' in the diagram below!)



Reproduced from Patient Pictures: Ophthalmology, Health Press, Oxford 2001. Illustrated by Dee McLean

How does cataract affect my vision?

The lens of the eye grows from birth. As a result it becomes very slowly harder and less flexible with age. Most people first notice this in middle age when reading becomes difficult and short-sighted people take their spectacles off to read. Eventually the lens starts to become cloudy and this scatters light as it enters the eye giving rise to glare or haloes. Sometimes the power of the lens can increase resulting in increasing short-sightedness and usually as the clouding becomes worse the vision becomes more blurred even with spectacles. Most cataracts only interfere with distance vision but some rapidly developing cataracts, often in younger patients, can affect both reading and distance vision (Posterior Sub Capsular cataract- cataract just under the surface at the back of the lens). As the lens 'yellows' blue colours look less vivid over time-see Claude Monet!

When should I consider having my cataract removed?

We no longer talk about cataracts being 'Ripe'. I suspect this date back to a time when surgery was so complicated and dangerous that you would not want to embark on surgery unless your vision was very poor! Today it has been common to impose 'thresholds' of vision to determine suitability for surgery based on limited funding in a national service. In reality, like any surgery, it is a balance of risk and benefit and in order to benefit you need to have some problems you are aware of. For some people it is that they do not like wearing spectacles and decide to have a 'clear lens' removed, for others they cannot see at all and for most it is somewhere in between. If you have vision that bothers you and cataract is the cause or contributes to that poor vision and you wish to have surgery then surgery is appropriate.

What if I choose not to have surgery?

Your cataract will get worse, your vision will get worse and if you leave it a long time such that the cataract becomes mature and dense, complications of surgery increase.

What does cataract surgery involve?

Surgery is carried out as a day case procedure with topical anaesthesia (eye drops) in the vast majority of cases. After some checks by the nurse you will have the pupil dilated with drops although sometimes this can be avoided and your pupil can be dilated in theatre at the start of your operation using a drug called Mydrane. You will be sat on a theatre chair and then laid back so that you are flat. Do not worry if you cannot lay completely flat as we can generally position you in a way that makes surgery comfortable even if I end up operating standing up. Further drops are put into the eyes to numb the eye and clean the eye. If you feel particularly anxious I work with a great anaesthetist who can give you a 'G n T' in the vein (Sedation) although this will not put you to sleep. It just takes the edge off of any anxiety and you may find you forget what the operation was like afterwards! You will then have your face covered with a drape to keep the area clean and then a small clip is placed into your eye to keep it open. The drape is held off the face and an oxygen tube will blow fresh air toward you. If you are particularly claustrophobic we can use a clear drape. Most of what you fear happening will not happen; you will not feel anything, you will not see instruments approaching your eye you will not flinch! Surgery takes around 10 minutes to complete and after surgery you will have a clear shield placed over the eye to be kept on overnight the first night. If you had a stronger anaesthetic you may have an eye pad as well, keep this on overnight the first night. Small cuts are made on the surface of the eye to gain access to the cataract. The aim is to remove the centre from the lens and then place a new plastic lens inside the capsule. A full explanation and video is available on my website www.stephenlasheyesurgery.com.

What happens after surgery?

You will be taken back to the ward and have a few checks completed to ensure you are happy and well. You will get a cup of tea and be given some instructions on your drops and

some contact numbers in case of problems. This should take between 15 and 30 minutes and you will be on your way. Drops are taken for one month after surgery and usually consist of two types but sometimes others are given in specific circumstances.

When can I Get back to normal?

Most importantly keep the eye clean for the first week. You may want to take it easy as you get used to your new sight especially if this is your first eye and you are awaiting the second. Only drive if you can read the number plate and the eyes are working well together. When one eye is completed the eyes are often unbalanced and you lose the ability to judge speed and distance, speak to me specifically if you have questions on this. Do now swim for two weeks but otherwise lead a normal life. See your optometrist for a test at around 4-6 weeks and continue under their care for eye health surveillance long term.

How do you know which lens to put in my eye?

For a standard single vision lens, your lens power is calculated by measuring the length of the eye and the curve of the eye and then we choose a lens that will aim for good distance vision but err on a shortsighted outcome. It is impossible to determine the outcome absolutely accurately as there are many factors that will change the effective power of the lens once it is inside the eye (It's a very educated guess!). The lens may sit forward or backward from the assumed position within the capsular bag, wounds to the eye may change its shape and change any pre-existing astigmatism (rugby ball shaped eyes). After surgery you will see your optometrist for new spectacles at around 6 weeks. Spectacles will be required to achieve the best possible vision at reading and distance although the aim of surgery is to give clear distance vision with spectacles required for reading only. You may prefer clear reading vision and wear spectacles for distance, the choice is yours but there is no guarantee of outcome. Other choices of lens are available including toric lenses to correct astigmatism and multifocal lenses to achieve distance and some reading vision and there is also the possibility of monovision where a standard lens is used with the aim of good distance vision in one eye and good reading vision in the other giving a degree of spectacle independence as in the multifocal lens but without issues of glare and haloes frequently seen with these lenses. Monovision is my preferred technique to give multifocality.

Given the above limitations we do occasionally get a 'refractive surprise' where the outcome is significantly away from the intended outcome. This is more common with extreme pre-operative prescriptions either very high short- or long-sighted prescriptions. Options include doing nothing if you are happy, or placing another lens in front of the existing lens or rarely, removing and replacing the lens.

What complications can happen during surgery?

Over 98% of cases are uncomplicated. The most common complication would be rupture of the delicate capsule that the lens sits in, this is called Posterior Capsular Rupture or PCR and this complication rate is currently tracked on a national database per surgeon. The rate is

less than 1%. As a VR surgeon I tend to operate on the more complex cases and so my personal rupture rate is higher overall but for standard cases it is the same as my other colleagues at less than 1%. If this happens I would clear the gel if any comes forward (Anterior Vitrectomy) and place the lens in the bag, if at all possible, using optic capture (trapping the lens in the bag as first intended). If this is not possible the lens would be placed in front of the bag (Sulcus fixation) or rarely placed in the white of the eye by Scleral Haptic Fixation. If the bag ruptures toric lenses and multifocal lenses are not suitable and a standard lens would be placed in the eye. Much more rare complications during surgery include severe bleeding in the wall of the eye (Suprachoroidal heamorhage) at less than 1 in 1000. This can result in loss of sight or even loss of the eye (less than 1 in ten thousand) but is usually a limited bleed and requires surgery to be completed at another time. Damage to the coloured part of the eye can occur especially with certain medications that can make the coloured part of the eye, the iris, floppy (Alpha blockers used for waterwork issues in men or certain blood pressure medications). These do not usually cause any symptoms following recovery. Minor complications include scratches on the surface of the eye that cause very short-term grittiness or discomfort.

What complication can happen after surgery?

Most eyes have no complications however there are several common and a few significant complications you should be aware of.

Common complications include bruising of the eye and dryness of the eye. The bruising will appear bright red on the white of the eye and can look dramatic but settles quickly without any issues. Dryness can be treated with artificial tears.

Swelling of the cornea is common immediately post operatively but usually settles very quickly- within days although sometimes it can persist in around 2 in 100 patients and settle over weeks. Very rarely (Especially with specific preoperative diagnoses such as loss of the cells that line the back of the cornea), this swelling can remain and require corneal surgery to correct (Corneal decompensation).

Around 2 in 100 patients can get swelling of the central retina (Cystoid Macular Oedema or CMO) and inflammation that persists and both these are usually resolved with a course of eye drops.

Around 2 in 10 patients the capsular bag can become cloudy (often years after surgery) and require a simple laser treatment to resolve, this is called posterior capsular opacification or PCO and is treated with a YAG laser Capsulotomy.

The main post-operative complication you should be aware of is infection in the eye (Endophthalmitis). This is rare at less than 1 in 1000 however it **needs to be treated urgently** even in the middle of the night. Severe pain, redness and loss of vision are the symptoms.

How successful is the operation?

Over 98% of operations are uncomplicated and vision results are excellent. It is one of the most successful procedures we have. Current national benchmarks suggest that for uncomplicated cases over 90% of people will read half way down the test chart (Driving vision) without any spectacles after surgery and nearly 50% will read 20:20 vision without spectacles. With spectacles vision is even better.

How do I decide?

If your vision is bothering you and this is as a result of cataract, the only way to improve the situation is to have surgery. If your vision is not as good as it once was but you are not bothered wait until you are bothered. 'If it ain't broke don't fix it'

Further independent information

RNIB: https://www.rnib.org.uk/eye-health/eye-conditions/cataracts

Royal College of Ophthalmologists: https://www.rcophth.ac.uk/patients/information-booklets/