NHS
University Hospitals
Coventry and Warwickshire
NHS Trust

Eye Unit

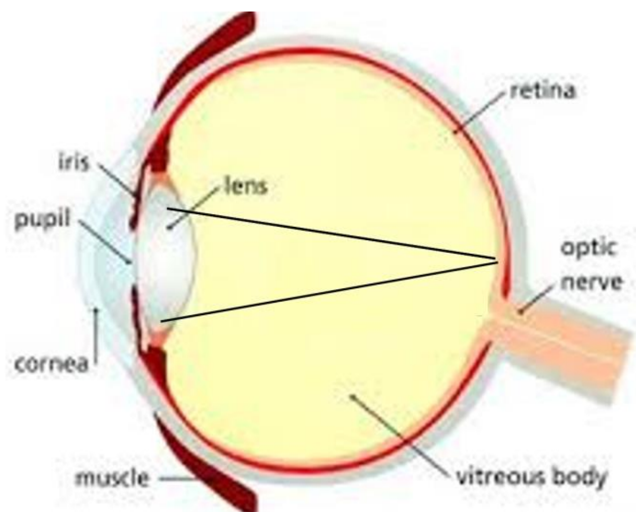
Cataract Surgery

This booklet has been designed to give you all the information you need to undergo cataract surgery.

What is a Cataract?

Cataract in simple terms is the clouding or opacity of the lens within the eye. It is helpful to learn about how the eye works in order to understand what a cataract is.

The natural lens of the eye is a transparent flexible structure suspended in the middle of the eye. The function of the lens is to focus light onto the back of the eye (retina) which sends messages to the brain allowing us to see. It also helps to focus on objects at various distances. A muscle in the eye pulls on the lens, changing its shape slightly, and this allows the eye to change focus. When cataract develops, the lens becomes cloudy and prevents the light rays from passing through.



Cataracts usually develop slowly over years causing a gradual blurring of vision, which eventually is not correctable by glasses. Cataracts usually develop in both eyes at the same time though the progression between the two eyes may vary.

The most common cause of cataract is advancing age, however cataract can also be congenital (present at birth). It can also be caused by some medications (eg: steroids), eye surgery, eye injury or caused by other less common causes.

What are the symptoms of Cataract?

Symptoms include dim, blurred or discoloured vision or double vision. These problems can make it hard to read, work on a computer, watch television, drive and do anything else that calls for clear eyesight. You could get glare in bright lights, multiple images of an object and lack of balance between the two eyes. Driving in low light may become difficult and if vision is affected in both eyes then it could lead to vision level dropping below the legal standard for driving.

What treatment is available if I am affected by Cataract?

The only treatment for cataract is surgery. It is intended to improve the clarity and quality of your vision and may also improve the doctor's view of the back of the eye

Occasionally you might need to get surgery even if your cataract doesn't bother you. Your doctor may suggest it if the cataract makes it hard to get a clear view of the back of the

eye during an eye exam, or if the cataract narrows the front part of the eye, putting your eye at risk of acute glaucoma.

Are there any alternate treatments available?

Surgery is usually recommended when up to date glasses or contact lenses do not help enough, and the reduced vision is interfering with your daily activities or lifestyle. If you do not have a problem with your vision or do not wish to have surgery for cataract then, in most cases, it can be left alone after discussion with your clinician.

How is cataract surgery done?

It is normally performed as day surgery under local anaesthesia so you are awake during the operation but should not feel any pain in the eye. You will need to lie still during the operation. There will be someone to hold your hand throughout the surgery and you are requested to squeeze their hand if you need to cough or adjust your position, so that the surgeon can be warned.

The surgery usually takes about half an hour and is performed by a process known as ‘phacoemulsification’. The surgeon makes small incisions (cuts) in the eye and uses an ultrasound probe to break up the cataract and remove it by suction. It is then replaced with an artificial lens that is made of plastic or acrylic and will stay in your eye forever. The cut is usually self-sealing and most cases do not need stitches. In some circumstances the surgeon may choose to secure the wound with fine stitches.

Who will perform my cataract surgery?

The cataract surgery is carried out by a senior eye surgeon or a junior eye surgeon under expert supervision. We are a teaching hospital and as such have a responsibility to train the surgeons of the future. We cannot guarantee that your surgery will be performed by a particular surgeon.

What happens before cataract surgery?

You will have assessment by different people including doctors, optometrists, orthoptists and nurses. These assessments may be on different days before the surgery. A complete eye assessment is carried out after instilling some drops to dilate your pupils.

Occasionally an ultrasound examination of the back of the eye may also be needed.

When you are listed for surgery you will have a pre-operative assessment. This is to assess your fitness for surgery and to assess any special factors that may affect the way the operation is done. You should bring a list of all your medications so that they can be documented. Ideally someone should come with you. The practical arrangements for your hospital admission, transport details, and plans for your post operative care will be discussed. You will also have the opportunity to ask questions. Please discuss any regular eye drops you use. You will need to obtain a fresh supply of these drops in advance from your doctor so that you can use this fresh supply on the operated eye.

Special tests are required to determine the strength of the lens which is implanted into the eye. If you wear contact lenses, you must leave them out before having the measurements on your eyes. The amount of time you have to leave them out varies depending on the type of lens you wear; soft contact lenses – 1 week, rigid gas permeable contact lenses and hard contact lenses – 4 weeks.

Take all your medications as normal on the day of surgery, including aspirin. If you take warfarin or any other newer blood thinning agents then please inform us so that specific instructions can be given by the pre-op nurse-please bring your yellow warfarin book with you.

Please note that ambulance transport is only available for admission if there is a medical need.

Please note that appointment for your cataract surgery could either be at University Hospital site or at St. Cross Hospital, Rugby.

What happens during the surgery?

The operation is performed while you are lying on your back. A sterile sheet is placed over your face and body. If you have difficulty lying flat or you are claustrophobic, we will do our best to make sure you are comfortable before the operation starts, but please tell the nurses about this during your pre operative assessment.

Most operations are performed under local anaesthetic during which you are awake but your eye is numb. This is

done by giving an injection around your eye or by instilling eye drops. A small number of patients require a general anaesthetic, where you are put to sleep during the operation.

During the operation, the surgeon uses a microscope with a bright light. Your face will be covered with a sterile covering sheet and you do not see the operation or the details of the instruments clearly. You may see moving shapes, 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 uncomfortable but the surgeon will wipe it dry at the end.

You may hear conversations during the surgery which could be about the operation or for teaching or about other subjects. Please do not join in, as it is important that your head remains very still during the procedure.

What to expect after the procedure?

After the surgery you will have an eye pad and shield on your operated eye. You will be taken back to the Day Unit/ Ward. Tea and biscuits are offered prior to going home. Eye drops and a dressing pack will be supplied to you. It is advisable to wear the eye shield every **bed time** for at least one week.

In some cases this may be needed for longer and will be advised to you accordingly, You will need to have some surgical micropore tape (you can purchase this from your nearby pharmacy in advance). A leaflet explaining how to

clean the eye on the following morning, and when the drops need to be administered will also be given to you.

As the anaesthetic wears off, there can be a dull ache or sharp pain felt around the eye and double vision. When you remove your eye shield the next morning, you may notice an improvement in brightness and colour. Initially the vision is likely to be misty and out of focus. The eye may be red and a bit light sensitive and feel bruised or gritty.

There may be increased watering. You may also become aware of a shadow to the side of your vision often described as a half moon or a crescent. This effect is usually temporary as your eye rapidly adapts to the new lens.

You are advised not to touch or rub the eye and to seek help if you have more than mild pain, loss or worsening vision, increasing redness/ light sensitivity / sticky discharge, increasing floaters / flashing lights or enlarging shadow in your vision. Your eye usually settles over 2- 4 weeks after the surgery, although some patients take longer.

Will I need spectacles after the operation?

Your own natural lens, which helps you focus, is removed during the operation and is usually replaced with a clear plastic like lens implant. During the initial assessment the cataract team will discuss with you whether you want to have better focus for close vision or for distance vision without glasses. The majority of patients choose to aim for good distance vision after the operation, however many people still require glasses for fine focusing in the distance, and it is usual to need reading glasses.

If you choose to aim for better close vision without glasses, then glasses with more power to focus in the distance will be required. In either case you should expect to wear some glasses for distance and near.

It is recommended that you wait for your three to six week appointment after surgery before visiting your local optician. If you have been advised to have cataract surgery to the other eye it might be better to wait until you have had that operation before getting new glasses. Some cases end up being more long-sighted or short-sighted than we had planned before surgery. The lens power is chosen on best measurements and calculations, which do have limits of accuracy. In that case you may need a stronger glasses prescription or a further procedure.

Are other focusing options available?

Monovision: The lens implant is generally chosen to aim for clear distance vision. It is also possible to deliberately aim for distance vision in one eye and near vision in the other. This is to try and reduce the need for glasses, and is called monovision. This option is not tolerated by everybody and some patients with monovision will still have some visual difficulties, as only one eye is used at a time; for either distance or near vision. Glasses will still be required for some tasks e.g. computer work and for your best vision for distance and near. Another option is micro-monovision where the aim is try and reduce dependence on glasses for distance and intermediate vision. These options should only be chosen after careful consideration.

Multifocal lenses: Multifocal lenses are artificial lenses that aim to correct vision for near and distance. These are not available within the NHS. They cannot be purchased separately and implanted by the surgeon during your NHS operation. However, please note that the quality and biocompatibility of standard monofocal and multifocal is the same. Multifocal lenses are more expensive simply because they are specially designed to improve both near and distance vision thereby reducing the need for glasses.

Moreover, multifocal lenses do not work for all patients. If you wish to explore them further at present then you would need to consult an Ophthalmologist offering these.

Toric lenses: Toric lenses allow correction of pre-existing astigmatism. Astigmatism is the abnormal shape of the front window of the eye which does not allow precise focussing for any distance without glasses or contact lenses. Even these are fixed focus artificial lenses. These are not available as a standard option at University Hospital Coventry and Warwickshire. If you wish to explore them further at present then you would need to consult an Ophthalmologist with experience in these types of lenses. If you have a very high level of astigmatism or other corneal condition for which toric lenses might be approved then, as a special case, these might be made available and offered to you. This usually will need further assessment and another appointment.

Are there any risks with cataract surgery?

All operations carry some element of risk; Cataract surgery is a very commonly done operation and we find that while most patients have an improvement in their vision. However on average 3 patients in 100 end up with the same level of sight as before, and 1 in a 100 are worse off because of

complications at the time of surgery or during the postoperative healing. One in 500 to 1000 may sadly actually lose all of the sight in the eye (usually through infection or bleeding).

If you have any other pre-existing eye disease or significant general health conditions this could increase chance of complications and have some affect on the final visual result.

Common (>1: 50):

- **Bruising of the eye or eyelids.** This is quite common after surgery and usually resolves without problems.
- **Raised intraocular pressure** for the first day or so that may require temporary treatment (rare with modern surgical techniques).
- **Transient visual disturbance including** crescent shaped light or dark area in the vision, flashes, increased floaters, double vision and worse vision. In some cases these may persist.
- **Posterior capsular opacification** — the back part of the lens capsule becomes cloudy causing blurred vision (may come on gradually after months or years). This is a healing response and is considered to be a natural consequence of cataract surgery rather than a complication. It can be corrected by laser treatment (a short outpatient clinic procedure).

Occasional (< 1: 50):

- Posterior capsule rupture and/or vitreous loss — a split in the thin back wall of the cataract which may allow

communication between the anterior and posterior chambers of the eye.

- Cystoid macular oedema — inflammatory fluid in the centre of the retina. This is usually mild and requires no treatment, but can be severe and require prolonged treatment.

- Refractive surprise — unexpectedly large (or different from expected) need for glasses.

- Dropped nucleus — part or the entire cataract falls through a posterior capsule rupture into the posterior segment of the eye. A further operation is usually required to remove it.

- Corneal decompensation — blurred vision due to corneal clouding.

- Detached retina may occur weeks or months after surgery. It is more likely to occur if vitreous loss has occurred, or in very short-sighted eyes. It can lead to loss of vision and shrinkage of eye ball.

- Dislocation of the lens implant.

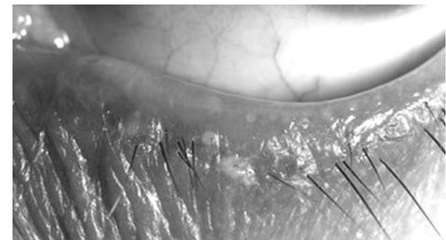
- Chronic inflammation or raised eye pressure (glaucoma).

Very uncommon (< 1: 500): Infective endophthalmitis- severe and usually painful infection inside the eye. This may lead to total loss of sight or loss of the eye.

Rare: Suprachoroidal haemorrhage — bleeding inside the eye which may require the operation to be completed on another day; loss of the eye

Very rare: Inflammation of the other eye: "Sympathetic Ophthalmia" which can affect sight.

How do I do clean my eyes before cataract operation (Lid Hygiene)?



It is advisable to perform regular **lid hygiene** to optimize the health of the eyelid margins and to treat any Blepharitis (inflammation of the lid margin) for at least a fortnight before the cataract surgery. This helps to minimize the risk of eye infection during and after cataract surgery.

Lid cleaning: Use a lid wipe to gently clean the edge of your lower lid. Many lid wipes are available from chemists/opticians (e.g. Lid Care, OCuSOFT, Blephasol, Blephaclean, Supranettes). Alternatively you can mix a few drops of baby shampoo in a tablespoonful of water. Dip a cotton wool applicator in the solution, squeeze it, and use it to clean the root of the eyelashes. Wipe your eyes with clean water afterwards.

Warm compress It can be performed either by carefully soaking a flannel or cotton wool in fairly hot water that one can withstand without burning oneself and hold it against closed eyes for 5-10 minutes (re-warm the cloth as required).

Lid Massage (*if advised):* Massage your eyelids (not eye ball) by gently rolling a cotton bud over them in a circular motion. Firmly stroke the skin of the lids towards the lashes i.e. downwards for the upper lid and in upward motion for the bottom lid. This helps to push out the oil from the tiny eyelid glands.

Antibiotic drops (as prescribed): In some severe cases, the doctor may advise eye drop or ointment. Drops will need to be applied inside the lower lid and ointment to be rubbed on to the lid margins by placing some on your clean fingertips, after performing lid cleaning.

*****Please avoid eye make up for at least three days before surgery*****

*****If you feel you have an eye infection or Red eye before the operation then please inform at least 3-4 days in advance*****

Information about your eye drops

You will be given eye drops to help reduce the risk of infection and inflammation after surgery (for a minimum of one month)

- If you are likely to run out of drops please contact your GP for more *before you run out*

- Please continue to use your glaucoma or any other regular eye drops unless we specifically advise you not to do so. You will need a fresh separate bottle to the operated eye to avoid cross contamination from the other eye.

How to apply your eye drops:

1. Wash your hands thoroughly with soap and water.
2. Check the dropper tip to make sure that it is not chipped or cracked.
3. Avoid touching the dropper tip against your eye or anything else as eye drops and droppers must be kept clean.
4. While tilting your head back, pull down the lower lid of your eye with your index finger to form a pocket.

5. Hold the dropper (tip down) with the other hand, as close to the eye as possible without touching it.
6. While looking up, gently squeeze the dropper so that a single drop falls into the pocket made by the lower eyelid. Remove your index finger from the lower eyelid.

7. Dab any excess liquid from your face with a tissue.
8. If you are to use more than one drop in the same eye, wait at least 10 minutes before instilling the next drop.
9. Replace and tighten the cap on the dropper bottle. Do not wipe or rinse the dropper tip.

If you are concerned that you won't be able to instil your eye drops, discuss this with the nurse at your pre-op assessment appointment.

What can I usually do after the operation?

The majority of patients can resume normal routine *non-strenuous activity* within a day or two. You will be provided specific instructions after surgery if there are any specific activities you should avoid. You can continue to do most normal non strenuous daily activities :

- ✓ Walking in and out of the house. (Take care on stairs and when bending)
- ✓ Watching television, reading and using computer
- ✓ Wear sunglasses outside in windy weather and/or bright sunlight
- ✓ Sexual relations should be limited to a kiss and a cuddle until the eye is healed.

What should I avoid after the operation?

- x Rubbing your eye for two weeks
- x Splashing water into the eye. (Please shower from the neck down.
- x If you need to wash your hair for the first two weeks then wash it backwards. This is to avoid getting soap or shampoo in the eye.
- x Any vigorous activity including contact sports, squash, badminton,
- x Swimming, heavy gardening and vacuum cleaning until the eye has settled.

- x Driving for about one to two weeks after the operation, until the eye has settled and you able to read the new style car number plate at 20 metres without double vision.
- x Eye make-up for four weeks.
- x Dusty atmospheres for about two-four weeks.

When can I get back to work?

This will depend on the type of your work you do. Generally two weeks off work are adequate unless you do heavy manual work. It is advisable to discuss this in advance with your surgeon.

Travelling abroad

It is advisable to discuss in advance with the surgeon. Ideally avoid travelling abroad before your review appointment unless you are visiting a place where good emergency eye care is available if you develop a post-operative problem.

When do I need to contact hospital urgently?

Before operation:

- If you have an eye infection or Red eye.
- Any active infection anywhere in the body (e.g. urinary or chest infection).
- Your blood pressure, blood sugar or INR has become uncontrolled.
- Other serious health issues.
- If for unforeseen circumstances you cannot attend for your operation.

In case of any of these please inform *us at least 3 days* in advance.

This will allow us to give you any relevant advice, prevent disappointment on the day and usage of your appointment slot.

After operation:

Please contact hospital urgently if:

- Your eye becomes **more red** or **more painful**
- Your eye develops a sticky discharge
- Your vision begins to deteriorate
- Your eyelids become swollen

You get sudden floaters, flashes or new visual symptoms

Continued care of other eye problems

If you are being regularly followed by the eye department for *other eye problems (such as glaucoma, problems with retinal, corneal or other parts of the eye) then these need to continue as usual* ***while you are awaiting cataract surgery****. If you don't receive your normal follow up appointments then please contact hospital and ask for respective secretaries of your consultant in-charge.*

Contact Numbers

For emergency/ very urgent concerns please contact 02476964800 or 02476964802 or the hospital switchboard on 024 7696 4000

Open Monday to Thursday 8.30am to 4.30pm;

Friday 8.30am to 4.00pm; Saturday 8.30am to12.00pm

Outside these opening times please attend the General Accident and Emergency Department at University Hospital Coventry which offers a 24hr service.

Other contact details:

Pre-Operative Assessment Service for Local Anaesthetic Cataract Patients

University Hospital Coventry Clinic 6 Outpatients: Nursing enquiries 02476 96 6352 (answer machine).

Rugby St Cross Outpatients: Nursing enquiries 01788 663887 (Monday – Friday 8.00am-6.00pm)

Appointment enquiries: 02476 966352 (Monday – Friday 8.00am-4.00pm)

General anaesthesia and cataract surgery combined with other surgical procedures: 02476 96 6612 has answer machine (Monday-Friday: 9.00am - 4.00pm).

University Hospital Coventry Ophthalmology day- case unit Tel: 024 7696 5923 (Monday-Friday 7.30am to 5.30pm)

St. Cross Hospital Rugby Ophthalmology day- case unit Tel: 01788 663264. (Monday-Friday 7.30am to 5.30pm)

Post-Op service: 02476 966516 (Monday-Friday 9.00am to 5.00pm)

Any queries about information in this leaflet please contact:

Mr Atul Bansal (Clinical Lead for Cataract service)

Jane Kempton (clinical Lead for Cataract optometrists) ext 26516

The Trust has access to interpreting and translation services. If you need this information in another language or format please contact 024 7696 6531 and we will do our best to meet your needs.

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