



# What is a cataract?

A cataract is a clouding of the natural lens of the eye which is normally clear and is situated behind the pupil. The lens helps to focus light on the back of the eye to form an image.

As a cataract worsens, it gradually reduces the amount of light entering the eye causing;

- Blurring of vision
- Colours appear to be faded
- A change in the spectacle prescription
- Glare in bright lights or when driving
- Some doubling of vision

## The cause of cataracts

Most cataracts develop as a natural result of aging, and can occur at any time after the age of forty years (although symptoms occur at a later age). This is because the lens continues to grow throughout life, and with age this causes it to harden and become more dense, hence resulting in a cataract. Cataracts can also develop following injuries, other surgeries of the eye (e.g. vitrectomy), diseases such as diabetes, inflammation of the eye and from medication (e.g. steroids). Cataracts can also run in families.

## Treatment for cataracts

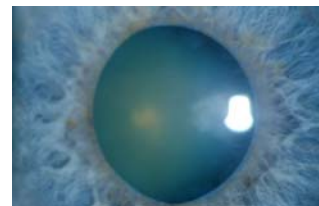
The only permanent treatment for cataract is surgery, and the method is called phaco-emulsification. However, cataracts can take many years to develop, and sometimes a change in spectacles can improve the vision temporarily. Surgery is indicated when spectacles do not improve the vision and the symptoms (as listed above) affect activities of daily living.

A cataract does not need to be fully developed (to be ripe) nowadays as surgery can be performed for early cataracts which are causing sufficient symptoms to interfere with activities of daily life.

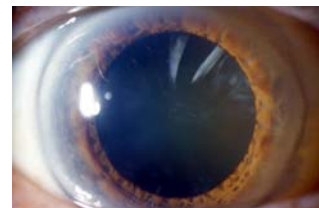
In phaco-emulsification, ultrasound emulsifies or liquefies the lens and this is removed through a small incision (less than 3mm). An acrylic implant is usually inserted through an injector that keeps the intraocular lens implant sterile while it is being inserted. These



Bilateral mature cataracts causing a divergent squint.



An age related nuclear sclerotic cataract.



An early mixed cortical and nuclear sclerotic cataract.

implants are folded so that they can be inserted through a small wound, and they then open to their full size when they are inside the eye. Sutures are usually not required at the end of surgery.

Following surgery, the vision is usually much brighter the next day although it may be blurry. The focus settles over the coming days to weeks, and some form of spectacles are required when the eye is healed, usually a month or so later. Drops are required during this time.

## Implants

The power of the intraocular lens implant to be inserted in the eye is calculated before the operation by performing biometry (measurements of the length of the eye and curvature of the cornea). A computer program works out the ideal implant power for the desired post-operative focus.

Most implants have a single fixed focus, and usually the aim is for distance images to be focused clearly. Near / reading vision needs to be improved with spectacles.

Newer multi-focal implants are available which provide focus for both distance and near vision. Due to the errors associated with biometry, spectacles may still be required for some tasks to supplement these types of implants.

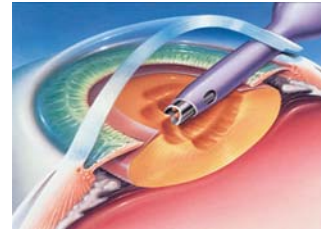
Patients with astigmatism can have the amount of astigmatism reduced by placing the incision at the appropriate angle and this can further reduce dependency on spectacles following cataract surgery. Higher amounts of astigmatism can be reduced by using a toric implant. Multifocal and toric implants can be combined.

## Risks of cataract surgery

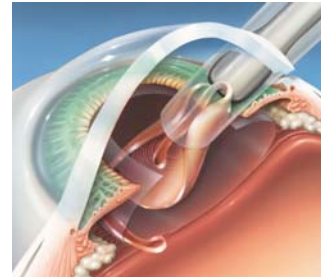
Cataract surgery is the commonest procedure performed in this country and worldwide. As with any operation, there can be some risks involved. The surgeon will take great care to reduce the chance of these occurring. During the operation, the jelly of the eye can come forwards through the membrane that holds the cataract, and this jelly may need to be removed. The chance of this happening is about 1%, but this does not usually affect the visual outcome. During the operation, bleeding can occur inside the eye. This happens in less than 0.1% of patients, but may lead to permanent visual loss.

Infection can occur after surgery, and this usually causes pain, swelling and reduction in vision within the first few days after operation. The chance of this happening is less than 0.1%, but if it does occur, it requires further surgeries and can cause permanent visual loss.

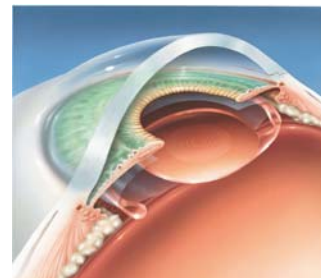
Relatively minor problems can include swelling of the front of the eye and increased inflammation inside the



Phacoemulsification – the ultrasound probe emulsifying the cataract.



An implant being inserted and unfolding in the eye.



The implant in position in the eye in place of the previous cataract.



The eye one day following phacoemulsification.



A multifocal implant – the concentric focusing rings are seen.

eye. Both of these are treated with eye drops. In the long term, the membrane that holds the implant in position can thicken and cause symptoms similar to the initial cataract. This is quickly and easily dealt with by YAG laser treatment as an outpatient.



A clear membrane behind the implant.



Thickening of the membrane behind the implant as seen through the pupil.



Thickening of the membrane behind the implant as seen from the side. This causes similar symptoms to the original cataract.



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### Ahmed's career

Ahmed qualified from the University of London in 1987, and started training in Ophthalmology in London in 1989. He was a registrar and a fellow in Nottingham, and was appointed as Consultant Ophthalmic Surgeon specialising in phacoemulsification and oculoplastics at the Manchester Royal Eye Hospital in December 1998. He has over 40 publications, more than 40 presentations, and a DM (thesis on endonasal laser DCR).

### Ahmed's roles at the Manchester Royal Infirmary & University

Ahmed interviews for the Medical School, and teaches medical and optometry students. He examines medical students, and for the MOptom. He is a member of the Local Negotiating Committee on behalf of the Manchester Royal Eye Hospital, and is a North West Representative of the Hospital Consultants and Specialists Association. He has raised money for the New Children's Hospital by arranging sponsored events. Ahmed has drafted a new mobile telephone use policy for the Trust which will become part of the hospital's policies.

### Ahmed's roles outside CMMC

Ahmed is a nominated representative of the Royal College of Ophthalmologists (RCOphth) on the General Optical Council (GOC). He is a Member of The RCOphth and a Founder Member of The British Oculoplastic Surgery Society. He is an examiner for the RCOphth as well as part of the Training The Trainers and Microsurgical Skills faculties. He has an interest in facial palsy management and is a medical adviser to the British Acoustic Neuroma association. He used to work as an Ophthalmic Medical Practitioner whilst a registrar, is a member of the Ophthalmic Qualifications Committee of the British Medical Association, and is involved with the Education Visitor Panel of the GOC.

He is active in research, a journal editor and reviewer. He is a committee member of the British International Doctors Association. He is a medical member of the Appeal Panel of The Postgraduate Medical Training and Education Board. As well as a journal reviewer, he is a reviewer for Research for Patient Benefit and Map of Medicine.

Outside medicine, Ahmed is a school governor, is involved with medical charities and community finance initiatives, and is co-chair of the Manchester Christian-Muslim Forum.

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