

# Cataract

## What is a Cataract?

We all have a lens in our eye. This is positioned just behind the iris, which is the coloured ring in the eye that gives your eye its colour. The lens' function is to focus light onto the retina at the back of your eye. This is rather like how a non-digital camera has a lens that focuses light onto the camera film. A normal lens is clear. Cataract is cloudiness or opacity of this lens. We are born with a clear lens in our eye (unless there is congenital cataract), but the lens naturally and very gradually becomes cloudy as we grow older.

## What are the Symptoms of Cataract?

- 1) Blurring of vision: this usually develops very slowly over many years, although some types of cataract can progress quickly. The blurring from lens opacity is not correctible with glasses. Eventually the cloudiness can completely block your vision
- 2) Glare: this causes difficulty with seeing in bright lights, with night driving and can cause multiple images from one eye or halos around bright lights.
- 3) Change in glasses prescription: the changes in the lens can alter how it focuses light, which in turn changes the required glasses prescription. In the early stages the vision might be improved by seeing your optometrist and changing the glasses lens. However, if the required lens has to be changed fairly frequently (e.g. again after 6-9 months) cataract surgery may be appropriate.

## What are the Main Causes of Cataract?

Aging is by far the commonest cause of cataract. In fact, almost everyone will develop some degree of cataract if they live long enough, although the age at which cataract develops and becomes symptomatic varies from person to person. Other causes of cataract include diabetes, various medications such as steroids, other eye surgery (e.g. retinal surgery), trauma, congenital (present at birth) and many specific diseases.

## **Do Cataracts Occur in Both Eyes?**

The most common type of cataract that develops with aging usually occurs in both eyes, although it may be worse in one eye than the other. However, the less common types of cataracts such as traumatic and congenital may be in one eye only.

## **Cataract Assessment**

Your optometrist is likely to be the first person to tell you that you have cataract, as they should assess this when they are checking your glasses or contact lens prescription. Your optometrist should inform you that you have cataract if either your vision is deteriorating or you need to change your glasses prescription because the cataract is developing. They or your GP can then refer you to an ophthalmologist for further assessment of the cataract and discussion about cataract surgery.

In the eye clinic, I will discuss the symptoms that your cataract is causing and I will do a full eye examination, including vision assessment and drops to dilate the pupil to allow examination of the cataract and the retina at the back of the eye. **These drops blur your vision a little, and it is preferable not to drive until the drops have worn off, which takes around 2-4 hours.**

## **Do I Need Cataract Surgery?**

Cataract surgery is indicated when the cataract is causing troublesome symptoms, i.e. reduced vision, glare or frequent glasses prescription changes. Occasionally cataract surgery is done before these symptoms occur, for example to prevent or treat acute glaucoma, or to correct extreme short sightedness.

It can be difficult to decide when the symptoms are troublesome enough to proceed with cataract surgery, as the very small, but potentially serious risks of cataract surgery must also be considered. In general, if the cataract is interfering with your daily activities, hobbies, work or driving, then cataract surgery is very likely to be beneficial.

## **What Happens If I Have Other Eye Diseases?**

The presence of other eye diseases such as macular degeneration or glaucoma may affect the outcome of cataract surgery, depending on how advanced these other conditions are. However, cataract surgery can often still provide a marked improvement in vision, even if this is not restored to '20:20' because of the other diseases. I will discuss the possible outcomes in depth with you in the clinic.

## **Are There Non-Surgical Treatments for Cataract?**

There are no known non-surgical methods of treating cataract, and there are no proven methods of preventing age related cataract developing although avoidance of both smoking and heavy alcohol intake probably slows down the progression.

## **Can I Have Cataract Operations in Both Eyes Done as the Same Time?**

Although it is possible to do both surgeries at the same time, I almost never do this, because of the small risk of having a sight-threatening complication in both eyes at the same time. However, if you are having a general anaesthetic for the operation and this is thought to be relatively high risk (for example because of lung or heart disease) I would consider simultaneous bilateral surgery and will discuss possibility with you.

## **Cataract Pre-assessment**

If you have decided to proceed with cataract surgery, I will do various measurements of the eye and the lens to enable me to calculate the strength of the lens implant that will be put inside the eye to replace the cloudy lens that is being removed. I will usually do this on the same day as I assess your eye. You may also need a hospital pre-assessment appointment if you are having sedation or general anaesthetic.

If you wear contact lenses, these must be removed for two weeks (soft contact lenses) – four weeks (gas permeable or hard lenses) before the measurements of the eye are made.

## The Choice of Intra-ocular Lens

The intra-ocular lens implant can be selected to give you clear distance or near vision. Most patients prefer to have clear distance vision, and use reading glasses (often just over-the-counter ones), but it is an individual decision and may also depend on what prescription and degree of cataract you have in the other eye. I will discuss this in detail with you in the appointment. There are some intra-ocular lens implants that can give both near and distance vision, but at present, these also have a higher risk of not providing satisfactory quality of vision.

Some people have astigmatism (an eyeball that is more rugby ball shaped than round). This can either be improved with a toric intra-ocular lens implant or with partial thickness cuts in the cornea at the time of surgery (limbal relaxing incisions). I will discuss these options with you in the clinic.

## Previous Laser Surgery

If you have had previous laser surgery to correct short or long-sightedness, please let me know, as this affects the measurements and calculations that are done to select the intra-ocular lens implant and these must be carefully adjusted.

## **Cataract Surgery Anaesthetic**

Most cataract operations are done under local anaesthetic, i.e. numbing the eye but with you fully awake. The eye is either numbed with drops (topical anaesthetic) or with an injection around the eyeball (subtenons or peribulbar anaesthetic). In some situations, e.g. anxiety or tremor, sedation is also given, or the operation is done under general anaesthetic.

## **The Cataract Surgery Operation**

The eye is dilated with drops on the day of surgery. The eye is meticulously cleaned with sterilising fluid (usually iodine). The surgical procedure involves two or three tiny incisions (cuts) into the eyeball. The lens that has become cloudy is in a clear case

('the capsule' or 'capsular bag'). The capsule is entered and the cloudy lens is dissolved and aspirated, using a technology called phacoemulsification, which is a type of ultrasound. The intra-ocular lens implant is then inserted into the remaining part of the capsule. The incisions are tiny and rarely require stitching. An antibiotic is put in the eye.

Cataract surgery is almost always done as a day case procedure, i.e. you will go home the same day.

### After the Operation

I will put a clear plastic shield over the eye, and sometimes an eye patch as well. The clear shield and the eye patch (if used) can be removed the next morning, although it is advisable to put the shield back on each night for a further week to protect you from inadvertently rubbing the eye in your sleep.

I will give you drops to use for four weeks after the operation. These drops contain an antibiotic to reduce the risk of infection and a steroid to reduce inflammation. They are usually used four times a day for the first week, three times a day in the second week, twice a day for the third week and once a day for the fourth week.

### At Home

#### *Washing*

Avoid getting water directly in the eye for a week after surgery. A clean cloth can be used to wash around the eye from the day after surgery.

#### *Sport and exercise*

Avoid strenuous activity for a week after surgery and avoid contact sports for a month.

#### *Television and reading*

You can watch television and read as soon as it is comfortable to do so.

### Follow up

We will phone you the day after surgery to check that all is well and I will then see you in clinic 1-2 weeks later, but please do not hesitate to contact me if you have any concerns.

### New Glasses

You can see your optometrist for refraction (glasses check) around 6 weeks after surgery.

### **Is a Laser Used for Cataract Surgery?**

There is a type of cataract surgery machine called a femtosecond laser. This can be used for certain parts of the procedure, but the surgeon still needs to make an incision in the eye and use the phacoemulsification probe to dissolve the lens. Most surgeons prefer not to use the femtosecond laser as the operation takes longer and the results are not better.

### **What Does the Surgery Feel Like?**

Ideally you will be lying flat, although if this is not possible, the position of the bed and pillows can be adjusted to make you comfortable. You will not be able to see the operation, and will just see lights and colours. You may feel my hand or fingers gently resting on your face and may feel water running down your face.

### **What are the Possible Complications of Cataract Surgery?**

Cataract surgery is highly successful operation with over 97% of patients achieving an excellent outcome. However, complications do occasionally occur and can have serious effects on the outcome, with visual loss being the most serious.

- The risk of severe, permanent visual loss is around 1:1000. This usually occurs because of either infection in the eye, or a severe bleed.

- The risk of requiring additional surgery because of a problem that develops during or from the operation is around 1:100. This is usually because a retinal detachment occurs after the surgery, or because residual bits of the lens remain in the eye.
- Less severe complications that may delay the recovery occur in about 1 in 20 patients, for example, fluid build-up in the retina (macular oedema) and persistent inflammation.
- Ptosis (drooping upper eyelid): this occurs occasionally after cataract surgery. It usually settles, but occasionally needs a procedure to lift the eyelid.
- Posterior Capsular Opacification: as discussed above, the majority of the capsular bag is left in place during the operation as the intra-ocular lens implant is placed in it. The back face of the capsular bag sometime becomes cloudy over time after the cataract operation. This can easily be treated with a very quick and very safe laser procedure, called YAG laser capsulotomy.
- Dry eye and discomfort: some patients (approximately 5-10%) will have a persistently dry or irritated eye after cataract surgery. This almost always settles down but can persist for several months. It is usually relieved with artificial tear drops.

### **What Should I Look Out for After Surgery?**

The following symptoms may indicate a post-operative problem:

- Pain: mild pain is common after cataract surgery and sometimes this can be quite severe on the first night. This may feel like a scratch on the eye. This should settle by the first day after the surgery. Sometimes the eye can feel a bit gritty or uncomfortable for days, weeks or even months after the surgery. However, persistent or severe pain may represent a problem in the eye and you should contact me immediately so that I can advise you what to do.

- Increasing redness, pain, blurred vision or discharge: this may indicate infection and you should contact me or your local NHS eye department or A&E immediately.
- Blurring of the central vision: sometimes the macula (the central area of the retina) becomes a little 'water-logged' after cataract surgery. This may require some additional drops but usually fully recovers over a few weeks or months.
- Increased soreness or light sensitivity as you decrease the drops: this may indicate persistent inflammation in the eye and you may require a longer or more intensive course of drops.
- Distorted vision: this may indicate that the lens has moved position and sometimes this will necessitate further surgery to reposition the lens.
- Shadow or curtain in the vision: usually a shadow is a normal reflection that occurs from the new intraocular lens implant and will settle in time. However, a shadow or curtain can also be caused by a retinal detachment and therefore the retina should be examined.

### **Cataract Surgery on the Other Eye**

If you have cataract in the other eye it is preferable to wait until the first eye has settled. We can proceed with surgery to the second eye a few weeks after the first operation.

#### **Contact Details**

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