

Cataract surgery: a guide for GPs and patients

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What do GPs need to know about cataract surgery?

The majority of patients will develop cataracts as they grow older, and about 5% will undergo cataract surgery.¹ The GP has a role – in conjunction with the ophthalmologist – in the preoperative assessment and postoperative follow up, with appropriate referral and the early identification of potential postoperative complications being integral parts of patient care.

Patients will often ask their GP about cataract surgery before they consult a specialist, and informed counselling is essential. The patient handout on pages 75 and 76 may be helpful in this situation.

Modern cataract surgery

Modern cataract surgery usually involves an incision in the cornea followed by fragmentation of the opacified lens by ultrasound (phacoemulsification) and removal by aspiration. A foldable lens implant is then introduced through the same incision. The surgery will generally be performed on a day-admission basis under local anaesthesia.

Preoperative assessment

Preoperative assessment of the patient with cataract includes consideration of concurrent medications, allergies and

any other matters that might affect preparation for surgery.

Medications

Anticoagulants such as aspirin, warfarin, clopidogrel and NSAIDs may need to be ceased prior to eye surgery in order to prevent intraoperative bleeding. The decision to stop these therapies will depend on the condition for which they are being taken. If the risk of ceasing anticoagulation exceeds the risk of bleeding (for example, in patients with artificial heart valves or deep vein thrombosis), the surgeon may elect to perform the procedure under either topical or general anaesthetic to avoid the need for a peribulbar injection. The type of anaesthesia is the operating surgeon's decision.

Allergies

All allergies need to be known prior to surgery. The most important ones include:

- topical iodine (not intravenous), which is used during preparation for surgery
- tape adhesives, which are used to apply the pad and shield after the operation
- sulfur (contained in acetazolamide, which is occasionally given for postoperative rise in intraocular pressure)
- eyedrop preservatives, such as benzalkonium chloride.

Special considerations

Cataract surgery is performed while the patient is lying supine and generally takes approximately half an hour (see

Table. Occurrence of surgical complications requiring immediate referral*

Within 24 hours

- Haemorrhage: intraocular (rare) or retrobulbar (uncommon)
- Ocular or optic nerve perforation due to the anaesthetic needle (rare)
- Acute glaucoma (common)
- Hypotony (low intraocular pressure) – may present with blurred vision and eye pain (uncommon)

Within one week

- Endophthalmitis – infection of the internal eyeball (uncommon)
- Allergic reaction to eyedrops (uncommon)
- Uveitis (uncommon)

After one week

- Ocular trauma, such as bumping the eye (uncommon)
- Sympathetic ophthalmia (very rare)
- Retinal detachment (uncommon)
- Low grade endophthalmitis (uncommon)
- Cystoid macula oedema (uncommon)

* Level of risk (in brackets) according to approximate complication rate: common (1/50), uncommon (1/100), rare (1/1000), and very rare (1/10,000).

Figure 1). Some patients with back problems or congestive cardiac failure find this difficult and need to have their treatment optimised prior to surgery and be in a semi-upright position in order to be as comfortable as possible during the procedure.

In order to maintain a sterile field, patients are covered with a drape with only their eye exposed; an oxygen pipe or nasal prongs will help to maintain ventilation. Some patients who suffer from claustrophobia get anxious in this environment and require sedation or even a general anaesthetic.



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If the procedure is performed under a monitored local anaesthetic, the patient is awake and must hold still and quiet. Some patients, particularly those under 30 years of age, find this difficult. In such cases, it is safer to perform the surgery under a general anaesthetic.

Postoperative care

The operating ophthalmologist will generally undertake the postoperative care of the patient, but occasionally patients will present first to their GP. Modern cataract surgery allows prompt recovery, with mild redness, minor or no pain and clearing of the vision over the first week. Any patient with a complaint of increased redness, pain or decrease in vision needs to be referred immediately because rapid referral and management can often remediate the complication (see Table).

Day surgery requires that the patient

be accompanied home and that a responsible person remains with him or her during the first night after the operation. Although complications are unusual, the operated eye will be covered and the patient may need help with mobilising, especially if his or her vision in the other eye is poor. Patients with no assistance available at home may need to be admitted to hospital overnight.

Most patients are reviewed on the first day after the operation. The eye pad and shield will be removed and the eye cleaned; vision and the eye itself are checked. Patients are given postoperative instructions, and any questions they have about the surgery will be answered. Those who live a long distance away will need to find more proximal overnight accommodation.

Some patients have trouble with small

eyedrop bottles and are not able to put drops in their eyes. A responsible person such as a spouse may need to administer the drops; otherwise, domiciliary nurses need to be arranged.

Conclusion

Cataract surgery is a good operation that has a high rate of patient satisfaction. Like all surgical procedures, however, there are risks and other factors to be considered. It is important for GPs to be able to discuss cataracts and cataract surgery with patients and to assess their need for referral. MT

Reference

1. Mitchell P, Cumming RG, Attebo K, Panchapakesan J. Prevalence of cataract in Australia: the Blue Mountains eye study. *Ophthalmology* 1997; 104(4): 581-588.

Cataracts and cataract surgery – information for patients

What is a cataract?

A cataract is an opacity (haziness) in the lens of the eye that causes vision to become less clear (Figure 1). As a cataract develops, certain activities become more difficult, such as driving, reading, watching television, and seeing faces or signs from a distance (Figure 2). Glare, sensitivity to light and haloes around lights can also occur.



Figure 1. A cataract (right) compared with a clear lens (left).



Figure 2. A normal clear view (left) compared with a view with a cataract (right).

What causes a cataract?

The most common cause of cataracts is age. Most people over 60 years of age show signs of cataract formation. Other causes include diabetes, injury and use of steroids.

How can a cataract be treated?

The only way to improve cataract-related visual loss involves surgery. The procedure involves removing the hazy lens and replacing it with an artificial lens. These artificial lenses are commonly made of

acrylic or silicone, and they are designed to remain in the eye permanently (see Figure 3).

First, a small cut is made into the cornea. The cataract is broken up with ultrasound, and the pieces are removed under suction (Figure 4a). This is known as phacoemulsification. Then, an artificial lens is implanted in the position of the original lens (Figure 4b).

Prior to surgery, an ultrasonic scan is performed to calculate the power of the lens needed to be implanted (Figure 5). The aim is to achieve clear vision for distance; glasses will usually be required for close work.

GP or optometrist will refer you to an ophthalmologist for an assessment of your eye and general health. The ophthalmologist will aim to examine the state of the eye, determine how much the cataract is contributing to the loss of vision, and decide whether there would be benefit in removing the cataract. Other causes of visual loss need to be excluded (e.g. glaucoma, macular degeneration, retinal detachment) – if these are causing visual loss, cataract removal may not improve your vision.

Your general medical condition is an important consideration to the decision to proceed with surgery and the type of anaesthesia, as are the medications you take. Medications that may influence the surgery include aspirin, warfarin and anti-inflammatories, as these may increase the risk of bleeding. Your specialist will advise whether these medications will need to be stopped prior to surgery.



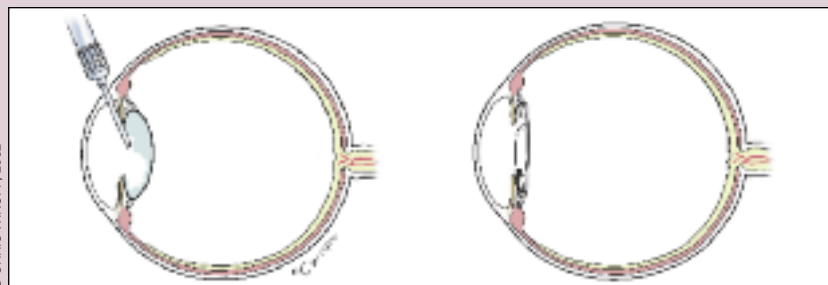
Figure 3. The size of an intraocular lens compared with a \$2 coin.

How can I decide whether to have cataract surgery?

Your decision about whether to undergo cataract surgery will depend on your answers to two key questions:

- does your vision limit your activities?
- are you willing to have an operation?

If visual loss is limiting your activities, your



Figures 4a and b. Cataract surgery. a (left). Removing the cataract by phacoemulsification. b (right). Position of the implanted artificial lens.



Figure 5. Ultrasonic measurement being performed to calculate the required power of the artificial lens to be inserted.

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Cataracts and cataract surgery – information for patients (continued)

How should I prepare for surgery?

To be most comfortable during surgery, it is advisable to wear loose clothing. Facial make-up should be avoided.

What will happen on the day of surgery?

Prior to the operation, an anaesthetist will insert an intravenous line into your arm in case any medication is required during the procedure. He or she may also give you a light sedative, particularly if you feel anxious. Dilating drops to enlarge your pupil will be put in the eye prior to surgery to enable access to the cataract, and the pupil will generally remain enlarged for a further 24 to 48 hours.

Cataract surgery can be performed using an injection to 'freeze' the eye or using numbing drops. Your ophthalmologist will decide and discuss which is the most suitable technique for you before surgery.

The operation generally takes about half an hour. You will be lying flat on the operating table and covered by drapes to keep the operation site sterile (see Figure 6), with a speculum to hold your eyelids open. There will be adequate ventilation under the drapes to ensure you will not have any trouble breathing. Your anaesthetist or the anaesthesia staff will monitor you throughout the operation, and you can indicate any concerns to them.

It is very important to remain as still as possible during the procedure. Conversation needs to be kept to a minimum because you will make your head move if you talk. If the procedure is performed under local anaesthesia, you may see movement and light but you will not be able to see the surgery.

When the operation is complete, you will be taken to a postoperative area for monitoring and offered a drink and food. Prior to leaving the day surgery, a follow up appointment will be arranged for you to see the ophthalmologist the next day.



Figure 6. Cataract surgery being performed under local anaesthesia.

What will happen the next day?

You will be prescribed a postoperative antibiotic eyedrop to prevent infection and a steroid drop to settle any inflammation. Your ophthalmologist will instruct you in the dosing frequency of the eyedrops and the duration of use (usually about one month).

A pair of new glasses can be obtained when the eye has recovered after the first month, and may be required for reading only.

What are the risks of surgery?

Cataract surgery has a high rate of patient satisfaction and a 95 to 98% chance of improving vision. However, patients should be aware of the risks involved, including:

- infection
- bleeding
- high pressure within the eye
- retinal detachment
- sympathetic ophthalmia (inflammation in the fellow eye)
- anaesthetic complications.

If any of these complications occur, your vision may be impaired or even lost following the surgery. Fortunately, vision loss is a rare occurrence.

Sometimes it is not possible to fully remove the cataract with a single operation. Occasionally, a second operation will be required.



Figure 7. Shield over the operated eye.

What can I do after the operation?

After the operation, you may be given a shield to wear at night for the first week (Figure 7); a pair of sunglasses or normal glasses can be worn during the day. Things will appear brighter and it will take time to adjust.

It is best not to perform strenuous activities for two weeks (e.g. heavy lifting or physical exercise) and to avoid swimming until you have finished the course of postoperative eyedrops. Bending over is not a restriction, but should be minimised. Hairwashing is permitted, provided that fluid and shampoo do not come into contact with the eye. Any rubbing or pressing on the eye is to be avoided.

If your eye becomes more red or painful or your vision worsens, you should contact your ophthalmologist as soon as possible. These symptoms can be indicators of infection but may be treated with early management.

Where can I get further information?

Your ophthalmologist will be able to answer questions regarding cataracts and cataract surgery. In addition, the Royal Australian and New Zealand College of Ophthalmologists has prepared useful patient information, *Cataract surgery: a guide for patients*, which is available on the College's website (www.ranzco.edu/eyehealth/cataract.php).

