



**RANZCO**

The Royal Australian  
and New Zealand  
College of Ophthalmologists

# Preferred Practice Patterns: Cataract and Intraocular Lens Surgery

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Approved By: Board

Date: 11/2016

These Preferred Practice Patterns have been issued by the Royal Australian and New Zealand College of Ophthalmologists (the College) for the guidance of ophthalmologists. They should not be used by any other persons or provided to patients as a replacement for medical advice.

## 1. General

Surgical management of visual impairment due to cataract continues to change as a result of advances in medical sciences. The balance of risks and benefits of surgery continue to change because of lowered rates of surgical morbidity and increasingly rapid visual rehabilitation. Surgery is effective and appropriate at earlier stages of visual disability than in the past.

These Preferred Practice Patterns are based on the assumption that all Fellows of the College and all Consultant Ophthalmologists registered to practice ophthalmic surgery in Australia are fully trained in the assessment, diagnosis, surgical management and provision of post-operative care for patients with cataract. This expertise includes the provision of ethical care to patients in all circumstances. It also includes the ability to assess the patient's suitability to undergo cataract surgery in terms of their general systemic health and to recognise the need for further assessment in that regard by other suitably skilled physicians. They are also based on the assumption that all provision of care for patients, irrespective of their diagnosis, must carry the interests of patients, singly or as a population above that of the doctor, the health care facility or health administrations.

The purpose of the Preferred Practice Patterns for cataract surgery are to assist ophthalmic surgeons in the provision of safe and ethical care for cataract patients. They are intended to provide Preferred Practice Patterns in areas of possible failure of safety or ethical care and are not protocols for provision of care. They are also designed to assist in the safe introduction of innovation in cataract surgery and allow for enhancements of care to patients arising from innovation. The guidelines should not be deemed inclusive of all proper methods of care or exclusive of other methods of care reasonably directed at obtaining the best results.

What follows includes identification of areas of cataract patient management which are prone to variations in practice that fall below the standard deemed suitable by the College.

## 2. Aim of Cataract Surgery

The aim of cataract surgery is to achieve a rapid, stable visual recovery to the preferred refractive status with minimal morbidity and risk. The following components are considered minimum requirements to achieve this aim:

- a) Identify the presence of a cataract.
- b) Quantify the impact on vision and its effect on the patient's quality of life.
- c) Counsel the patient about the risks and prognosis of the surgery.
- d) Perform appropriate surgery when indicated and desired by an informed patient.
- e) Provide necessary post-operative care, rehabilitation and treatment of any complications.

## 3. Pre-operative assessment of the cataract patient

### General

The pre-operative assessment of the cataract patient should be performed by the ophthalmic surgeon who is to perform the surgery or by an ophthalmic colleague, provided that appropriate communication of clinical details between the diagnosing and operating surgeon has taken place. Surgery should be arranged only after an assessment by an ophthalmologist. The ophthalmic surgeon should fully assess the complete ocular status as well as the general health of the patient to determine the need for surgery and the patient's suitability for day surgery.

Reassessment of the patient should occur if the patient is on the waiting list for longer than 12 months.

### Diagnosis of cataract

Diagnosis of cataract is made by observation of the presence of lens opacity which contributes to or solely causes visual impairment.

### Assessment of Visual Impairment in the Cataract Patient

No single assessment or test adequately describes the effects of cataract and the impact on the patient's visual status or functional ability.

Relevant patient symptoms would include: blurred vision, photophobia, monocular diplopia, glare, change in colour perception, history of significant refractive shift. Symptoms of disturbance of

either near or distance visual acuity can be re-graded as of equal importance.

Measurement of visual acuity may not fully reveal the level of visual impairment from cataract. In addition to the patient's symptoms and visual acuity, practitioners could give consideration to the use of contrast sensitivity and glare testing to document visual disability objectively.

### Comprehensive Pre-Operative Eye Examination

Should include, examination of both eyes as well as accurate corneal refractive power and axial length measurements.

Macular OCT should be considered in selected cases, for example when considering using multifocal intraocular lenses, or in cases of suspected macular pathology, such as in diabetic patients or patients who are known to have posterior segment disorders.

### General Medical Conditions

The patient's suitability for the surgery should be assessed. Some examples would be the patient's ability to lie supine for the surgery, the patient's current diabetic control or anti-coagulation therapy. It is desirable that the patient's general medical practitioner be advised that surgery is to be undertaken. Cessation of anti-coagulation may be associated with systemic morbidity and should only be undertaken in consultation with the appropriate managing physician and judged on individual circumstances. Knowledge of the current status of anticoagulant therapy at the time of cataract surgery is necessary to determine the type of anaesthesia, the surgical technique and the timing of surgery.

### Informed Consent

Medical and financial informed consent should be obtained prior to surgery.

## 4. Indications for Surgery

### Threshold for Surgery

Cataract surgery is indicated when the ophthalmologist decides visual symptoms are completely or partly due to cataract. The decision to advise a particular patient to proceed with cataract surgery should occur after all factors have been considered and the benefits for the patient are felt to outweigh the risks. Factors to be taken into account include the patient's age, occupation, home conditions, family circumstance, hobbies, general health, ability and need to drive a motor vehicle and ophthalmic co-morbidities.

The decision to proceed with cataract surgery may vary from patient to patient depending on a variety of circumstances.

Cataract surgery is not indicated just because of the presence of cataract.

### Cataract Surgery in the One Eyed or Monocular Patient

While the indications for surgery are the same as for the two eyed patient, the threshold for intervention may be different. The ophthalmologist must explain the risk of total blindness if severe complications should occur.

### Other Indications for Cataract Surgery

The presence of, or risk from, lens diseases: for example, phacolytic glaucoma, the need to visualise the fundus for treatment of retinal disorders and the management of other intraocular pathology.

### Cataract Surgery in the Second Eye

The indications for cataract surgery are identical to the first eye. Furthermore, improvement in visual function from binocular summation is, in itself, a valid consideration when contemplating second eye cataract surgery.

Where possible, suitable time after the first eye surgery should be allowed for the onset and treatment of any of the immediate post-operative complications which may occur before second eye surgery. However, some circumstances may weigh in favour of immediately sequential bilateral cataract surgery where there is benefit to the patient. Such circumstances might include risk from delay of the second surgery or repeated anaesthetic procedures. If bilateral, immediately sequential surgery is proposed, appropriate precautions to minimise the possibility of bilateral simultaneous complications must be undertaken.

## 5. Delivery of Surgery

### Technique

The preferred type of surgery is extracapsular cataract extraction either by manual removal of the nucleus or phacoemulsification. The intracapsular technique is inappropriate in routine cataract surgery.

The intraocular lens implant is usually inserted in the capsular bag.

### Per-operative Intra-cameral antibiotic

Following the evidence in the peer reviewed literature of a substantial decrease in risk of post-operative bacterial endophthalmitis, the College endorses the principle of the use of intra-cameral antibiotic at the end of cataract surgery. In the absence of a commercially available, pre-prepared dosage system, the possibility of dosage errors or errors in compounding are acknowledged. A surgeon may deem the risks of these adverse events as too high in their circumstances and may withhold such prophylactic intervention if such excessive risk can be substantiated. The usual precautions that apply to allergy to any drug, of course, apply to intra-cameral antibiotics and they should also be withheld if there is a risk of damaging allergic reaction.

### Facility

The surgical facility should satisfy requirements set by the relevant National, State or Territory Health Departments.

### Anaesthesia

The anaesthetic technique used depends on many factors, including the surgical technique and the patient's health status. The surgeon should discuss the choices with the patient and the preference of the patient is an important consideration. The surgeon's final decision may require discussion with the anaesthetist.

## 6. The outcome of Cataract surgery

A satisfactory outcome can be measured by functional improvement, visual rehabilitation and patient satisfaction, but there is no universal method of measurement of these parameters. The surgeon should discuss refractive outcomes with the patient.

All appropriate IOL options should be discussed with the patient.

## 7. Post-Operative Care

Post-operative care should provide for the supervision of visual rehabilitation and the early detection of complications. The surgeon should instruct the patient regarding access to emergency care, especially if the visual acuity deteriorates or fails to improve. It is the responsibility of the surgeon to ensure appropriate emergency care is available to the patient during the post-operative period. In the time period immediately following the procedure, intraocular pressure should be monitored and a rise in intraocular pressure treated when necessary.

The surgeon's obligation to the patient continues until post-operative rehabilitation is complete.

The College is opposed to any payments by a surgeon to any party who refers a patient or patients to that surgeon. The fundamental principle is that payment to the attending practitioner (either the referring practitioner or the practitioner receiving the referral) is from third party payers or from the patient and not between practitioners.

The frequency of post-operative patient review will depend on the surgical technique, operative and post-operative complications. Post-operative visits are necessary to determine the progress of and completion of post-operative rehabilitation.

The minimal frequency of patient review following phacoemulsification and implant lens surgery is generally established on historical practice rather than evidence from peer-reviewed literature. While the preponderance of surgeons include review within 3 days of surgery, some evidence exists for deferral of initial examination for 2 weeks in patients not at risk from postoperative intraocular pressure increase. It is acceptable for a surgeon to vary early assessment to a pattern that is demonstrated as safe in the peer-reviewed literature.

Post-operative care should be rendered by the operating surgeon or by a designated other surgeon or where this is not in the patient's best interest, due, for instance, to inaccessibility of care in regional or rural areas to an appropriate ophthalmic health care provider. This provider must have pre-operative assessment and surgical information on the patient available to him or her, be sufficiently trained to recognise post-operative surgical complications and have access to urgent referral if need arises. This provider must be a medical practitioner or optometrists

registered with AHPRA. The operating surgeon must see the patient themselves at some time in the first 4 weeks after surgery. Should this not be possible, suitable arrangements need to be made, for example when servicing rural and outback patients.

### Posterior Capsule Opacification and laser capsulotomy

Nd:YAG laser capsulotomy is the recognised technique for treating capsular opacification or visually disturbing fold formation. Its timing should be at the discretion of the surgeon in consultation with the patient. However, it should only be carried out to ameliorate the effect on vision of opacification or folding of the membrane. It should not be a routine part of post-operative care. Informed consent should be obtained.

## 8. Record of amendments to this document

Page	Details of Amendment	Date amended
Entire document	Reviewed and rewritten	28/09/2016