

Guide to 4-week post-operative cataract follow-up by community optometrists ⊕



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Introduction

After routine cataract surgery, all patients need to have a post-operative follow-up appointment at around 4 weeks following surgery to assess the final outcome once the eye has fully healed. It is generally acknowledged that this period coincides with the stabilisation of the new refractive status of the post-operative eye. Since optometrists assess both the clinical and refractive status of patients as part of an eye examination, utilising these skills in the community setting rather than in an ophthalmological setting makes logical sense. By linking the delivery of these post-operative checks with the practice which initiated the referral, a circle of continuous care is created. This also allows suitably accredited optometrists a greater degree of involvement in their patients' care and enhanced use of core skills. The post-operative follow-up is also an ideal time to consider if a second eye operation is applicable for individual patients.

In order to maintain high standards of patient care throughout the cataract pathway, this guide provides optometrists with best practice standards for post-operative follow-up in the community, as mandated by the Newmedica Medical Advisory Committee, alongside a guide to the more common and important potential post-operative complications which may be encountered.

Purpose of the follow-up

The role of the post-operative follow-up appointment is to determine the visual outcome in the operated eye, to undertake a specific examination of the eye to rule out post-operative complications, and to act on the findings appropriately. The opportunity to re-assess the post-surgery refractive status may also be realised through a General Ophthalmic Service (GOS) sight test, which in turn, will herald the essential information for National Cataract Audit dataset to be returned to the provider (see Annex A). Suitable discussion around appropriate refractive correction and consideration of second eye surgery would be expected to follow.

At the time of booking the follow-up, ensure that the patient is aware that pupil dilation of the operated eye is an essential part of the assessment and will therefore impact their ability to drive following the appointment.

Accreditation process

Once optometry practices have satisfied the PEC/LOC criteria to be subcontracted for enhanced services, optometrists wishing to participate in the service must evidence that they have achieved the following:



Contact your local Newmedica clinic for information about the next live CET event in your area. For those who cannot attend a live event, an online lecture is available (details on request).

Clinical procedure for post-op cataract follow-up

Note that this section specifies the post-operative focus of the follow-up and does not stipulate all checks necessary to meet requirements of GOS 1 Sight Test.

Minimum examinations

- Interval H&S
- VA: unaided, aided and pinhole
- Accurate refraction
- IOP measure (GAT if >21mmHg)
- Slit lamp anterior segment
- Dilated BIO of posterior segment

Preparation

- Open the patient record and mentally note which eye has been operated on, the level of pre-op Best Corrected Visual Acuity (BCVA) and whether a good outcome was expected
- Practitioner should be aware of conditions which may have been associated with a higher surgical risk (see Annex B)
- Perform appropriate infection control procedures
- Confirm the patient identity matches the patient record and they are attending a post-operative cataract follow-up

Interim history and symptoms

Ensure the following information is sought from the patient:

- Satisfaction with surgical outcome including vision
- Current ocular discomfort
- New floaters or flashes since surgery
- Pain or discomfort since surgery
- Compliant with drops since surgery
- Sensitivity to eye drops used since surgery
- Desire for second eye surgery if appropriate
- Any other particular problems with their eye(s)

Assess vision

- Unaided distance for operated eye, plus pinhole vision if worse than 6/9
- Habitual distance visual acuity of fellow eye

Accurate refraction

- Distance sphere, cylinder and axis of operated eye and fellow eye.
- Best corrected distance visual acuity of both eyes

Pupil assessment

- Confirm pupils are round, centred and are equal size in both eyes to exclude peaked pupil
- Check direct and consensual responses to exclude relative afferent pupillary defect

Intraocular pressure

- Measure and record IOP in both eyes with available tonometer
- Repeat with Goldmann tonometer if IOP>21mmHg

Dilation

• Perform the usual pre-dilation checks (see Annex C Instilling Eye Drops by College of Optometrists) before dilating operated eye

Anterior segment examination with slit lamp

Perform a comprehensive slit-lamp assessment of the anterior eye, including assessment of:

- Lids for ptosis or bruising
- Cornea for abrasion, striae or oedema
- Wound site for leak or dehiscence. Employ Seidel test particularly if low IOP and shallow AC
- Anterior chamber contents for signs of inflammation, vitreous, lens matter, nuclear fragments or foreign material. Grade cells and flare if present (See Annex D)
- Iris for prolapse, distortion or surgical trauma
- Centration of IOL implant
- Capsule for anterior capsulophimosis (fibrosis) and posterior capsule opacification

Posterior segment examination with slitlamp binocular indirect ophthalmoscopy (BIO)

Perform complete exam of the posterior segment including assessment of:

- Vitreous for pigment, blood or inflammatory cells
- Macula for cystoid macula oedema
- Optic disc to exclude optic neuropathy missed pre-operatively
- Peripheral retina for breaks, tears or detachment

Record card

In tandem with the optometry practice-based system, record all significant findings, including normal findings, in each of the sections on the Post-Operative electronic form as detailed in the Post Cataract User Guide, provided by the Primary Eyecare Services, when you signed up to the PEC scheme. Processing the outcome of the post-operative assessment in this way will automatically trigger payment. Ensure that the minimum dataset for National Cataract Audit as stipulated by the RCOphth is included (see Annex A).

Recommendations

- Indicate your recommendations to Newmedica on the Post-operative electronic form:
- i. If local referral criteria met, list second eye for cataract surgery, indicating right or left eye
- ii. Discharge if successful surgery with satisfactory visual outcome and no second eye surgery required
- Further clinic follow-up on finding:
- i. Post-operative complication(s) requiring review (for diagnosis guide and management pathways see Annex E and F)
- ii. Best corrected visual acuity is 6/12 or worse with no known cause
- iii. Patient dissatisfied with refractive outcome (refractive surprise)
- iv. Symptomatic cataract in the other eye which may benefit from surgery but does not clearly meet referral criteria and hence requires discussion with the ophthalmologist
- v. Co-existing ocular pathology requiring ophthalmological review (check local referral criteria)

In the unlikely event of a retinal tear/detachment or endophthalmitis, the optometrist must initiate immediate emergency referral to the local ophthalmic A&E, with notification to both Newmedica clinic and patient GP.

Annex A: National Cataract Audit minimum dataset (as recommended by RCOphth)

Tests of visual outcome	Refractive outcome	Post-operative complications
Unaided distance vision	Sph/cyl/axis of operated eye	None
Best corrected distance visual acuity	Sph/cyl/axis fellow eye	Specify complication (see table below)
Pinhole distance visual acuity (if VA worse than 6/9)		

Specific Post-Operative Cataract Complications

Ptosis	Нуроруоп	Anterior capsulophimosis	
External eye infection	Endophthalmitis	Posterior capsular opacity	
Hypotony	Hyphaema	Retained soft lens matter	
Raised IOP	Vitreous to section	Cystoid macular oedema	
Corneal oedema/striae	Vitreous in chamber	Choroidal haemorrhage	
Wound leak	Iris prolapse	Retinal tear	
Wound dehiscence	Pupil block	Retinal detachment	
Shallow anterior chamber	IOL decentred/subluxed	Globe perforation	
Uveitis	IOP dislocated into vitreous	Other	

Annex B: Conditions associated with higher surgical risk

High ametropia > +/-6D	Pseudoexfoliation syndrome
Shallow AC	Fuchs' Endothelial Dystrophy
Small pupils	Mature or posterior polar cataracts
Uveitis	Medications e.g. Alpha-1 agonists and anticoagulants
Previous ocular surgery	Co-existing pathology e.g. PDR, ERM, glaucoma, amblyopia

Annex C: Instilling Eye Drops – College of Optometrists



Checking risks

A368

You must consider the cautions and contraindications for each drug you use in practice.¹³¹

A369

There is potential for interaction with some systemic drugs. For example, phenylephrine may interact with systemically administered monoamine-oxidase inhibitors and anti-hypertensive drugs.

Making the appointment

A370

If pupils are likely to be dilated, tell patients when they make an appointment that they might not be able to drive after the examination. Suggest that they bring sunglasses with them.

Administering drugs

A371

When you use drugs that dilate the pupil, you should consider whether to:

- **a** check the depth of the anterior chamber, for example using the van Herick technique, for the possibility of angle closure, and
- b measure intra-ocular pressures as appropriate, for example before and/or after dilation.

A372

The NHS Diabetic Eye Screening Programme does not consider these checks necessary when using tropicamide alone.

A373

You should check corneal integrity, if appropriate.

Annex C: Instilling Eye Drops – College of Optometrists... continued

A374

You should ask the patient if they:

- a have experienced adverse reactions to eye drops in the past
- b have a history of drug-induced adverse incidents
- c have any relevant medical conditions, or
- d take any systemic drugs.

A375

You should check for possible interactions with any systemic medication the patient may be taking.

A376

You should check:

- a that you are administering the correct drug and dosage, and
- **b** the expiry date.

A377

You should record all drugs used, including the batch number and expiry date, on the patient record.

A378

You may keep a logbook of which drugs are used on each patient. This will help you if you need to recall patients.

A379

You should explain to the patient:

- a why you are instilling the drug
- b what effects the drops might have
- c how long the effects might last
- d the side effects they might experience
- e if you are dilating their pupils, that they might not be able to drive and must not undertake any activity which is not advised after dilation, and for how long
- **f** if you are using anaesthetic drops, that they should avoid wearing contact lenses for an appropriate period of time after anaesthesia, and
- g what to do if they experience an adverse reaction.

A380

You may give the patient an information sheet.¹³²

Annex C: Instilling Eye Drops – College of Optometrists... continued

You should instruct the patient to attend the local Accident and Emergency department if you are not available to deal with any emergency or adverse reaction that may arise following the instillation of the drug.

A382

You should inform the patient's GP of any suspected adverse reaction. See also para A398.

Delegating the instillation of eye drops

A383

There is no legal restriction on who can instil eye drops to a person as the law only restricts supply of the drops.

A384

You are responsible for the instillation and if you decide to delegate this to another member of staff you must be on the premises whilst this is being done so you can intervene if necessary.¹³³ You are responsible for the management of the patient and the work of the person to whom you have delegated the procedure. See section on <u>Working with colleagues</u>.

References

¹³¹ General Optical Council (2016) Standards of practice for optometrists and dispensing opticians para

7.6 [Accessed 22 Oct 2017]

¹³² <u>College of Optometrists. Patient leaflets, instillation of eye drops, tear-off pads</u> [College members only] [Accessed 30 Oct 2017]

¹³³ General Optical Council (2016) Standards of practice for optometrists and dispensing opticians para

9.3 [Accessed 22 Oct 2017]

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Annex D: SUN Grading scheme for Anterior Chamber Cells and Flare

Grading scheme for Anterior Chamber Cells			
Grade	Cells in 1x1mm		
0	<1		
0.5+	1-5		
1+	6-15		
2+	16-25		
3+	26-50		
4+	>50		

Grading Scheme for Anterior Chamber Flare

Grade	Description
0	None
1	Faint
2	Moderate (iris and lens details clear)
3	Marked (iris and lens details hazy)
4	Intense (fibrinous or plastic aqueous)

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	Management	Same day referral back to Newmedica, contact local facility	Same day referral back to Newmedica, contact local facility	Same day referral back to Newmedica, contact local facility	Non-urgent referral Treatment typically commenced only when VA <6/12	Emergency referral to local ophthalmic A&E
	Examination technique	High mag, bright parallelepiped beam offset, focus mid-aqueous within pupil	GAT or NCT NCT: lf >21mmHg, repeat with GAT	SL high mag scrutiny of AC Dynamic vitreous view, full peripheral fundus exam	SL and BIO with med-high mag, narr o v bright beam 3mm height focused through and adjacent to fovea, look for granular effect Obvious on OCT	Dynamic vitreous view of anterior vitreous to look for pigment cells SL and BIO peripheral fundus exam
	Signs and symptoms	Cells Grade 2+ or more is significant Dull ache/pain +/- photophobia Mild red eye	Significant if >32mmHg No Sx unless very high IOP	Anterior: variable AC inflammation, +/-corneal oedema Posterior: significant ocular inflammation, pain, injection, other complications	Clear initial VA reduces as CMO develops 2-4 weeks post-operatively Suspect if VA<6/12 with no other cause Pinhole VA worse May occur with anterior uveitis	Asymptomatic to acute vision loss. Rule out typical RD symptoms in all patients Pigment cells in vitreous; retinal tear, corrugated retina, blurred retinal features
	nescale					
Complication, occurrence and tim	Complication, occurrence and tir	Uveitis: ~3% <4 weeks: normal >4 weeks: abnormal	Raised IOP ~2.5% <4 weeks: common >4 weeks rare	Retained lens fragments ~2% During surgery	Cystoid macular oedema <6 weeks: common >6 weeks: 1-2% as often self-resolving	Retinal detachment ~1% From surgery to months/years later

Management	Same day referral back to Newmedica, contact local facility	Same day referral back to Newmedica, contact local facility	Same day referral back to Newmedica, contact local facility	Emergency referral to local ophthalmic A&E	Non-urgent referral. Treatment typically commenced if significant at 4–6 weeks post-op	Routine referral indicated when level of patient's vision impairment from PCO does not meet functional needs) present following e documented in the
Examination technique	Partial dislocation: dilated retro SL view Full dislocation: SL BIO inferior vitreous	SL scrutiny of pupil margin – peak may be subtle. Due to vitreous strand, IOL loop entrapment, surgical iris trauma, iris prolapse into wound	High mag SL at wound site Seidel test: Undiluted fluorescein directly onto site – watch for dilution by leak	SL anterior segment exam, check IOP High mag, bright parallelepiped beam to look for cells anterior and posterior segments Hypopyon height in mm	Direct, indirect, sclerotic scatter SL illumination GAT underestimates IOP, more accurate with Tonopen and icare	Direct or retroillumination of IOL, extent best viewed under dilated pupil	optical imbalance (anisometropia or anisekonia) aract and the likely benefit from surgery must be
Signs and symptoms	Vision change: blur, diplopia, lens edge awareness VA drop mild–severe IOL edge apparent within pupil	Asymptomatic to reduced VA, glare, pain, redness, uveitis Peaked or distorted pupil	Asymptomatic to vision drop, watery eye Low IOP <8mmHg, shallow or flat AC	Key Sx: Severe pain and reduced VA Variable redness, AC inflammation and hazy media (depends on pathogen). Hypopyon may be present	Blurred or "frosted glass" vision Poor VA, central oedema, Descemet's membrane folds Poor outcome with FED present	Gradual VA reduction, increased glare Proliferation of lens epithelial cells forming pearls, or fibrosis of the capsule	r the same for 1st eye surgery, plus if significant vision and lifestyle are adversely affected by cat
nescale							Referral criteria is generally 1st eye surgery Reasons why the patient's v clinical records.
complication, occurrence and tin	Dislocated IOL ~1% Days to years	Pupil distortion <1% During surgery	Wound leak ~0.8% Immediate post-surgery	Endophthalmitis ~0.1% Typically 72hrs to 2wks Chronic cases >6wks (very rare)	Corneal oedema <1st week: common >6 weeks: rare ~0.3%	Posterior capsular opacification <3 months: uncommon 2 years post-op ~10%	Referral for 2nd eye surgery See local criteria

Annex F: Post-op follow-up outcome pathways



Annex G: Further Information

Recommended reading

Allen D & Vasavada A. Cataract and surgery for cataract: A Clinical Review BMJ 2006;333:128-32 ncbi.nlm.nih.gov/pmc/articles/PMC1502210/

Chan E, Mahroo OAR & Spalton DJ. Complications of cataract surgery. Clin Exp Optom 2010;93:6:379-389 https://onlinelibrary.wiley.com/doi/full/10.1111/j.1444-0938.2010.00516.x

NICE Guidance 77 Cataract in Adults: Management nice.org.uk/guidance/ng77 (particularly Section 1.1 Patient Information & 1.2 Referral)

Patient information

RNIB website section on cataracts includes downloadable patient information leaflets and "What to expect during cataract surgery" video. rnib.org.uk/eye-health/eye-conditions/cataracts

College of Optometrists produce free patient leaflets including Cataracts to all members. college-optometrists.org/ Homepage > Membership > Free Patient Resources

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