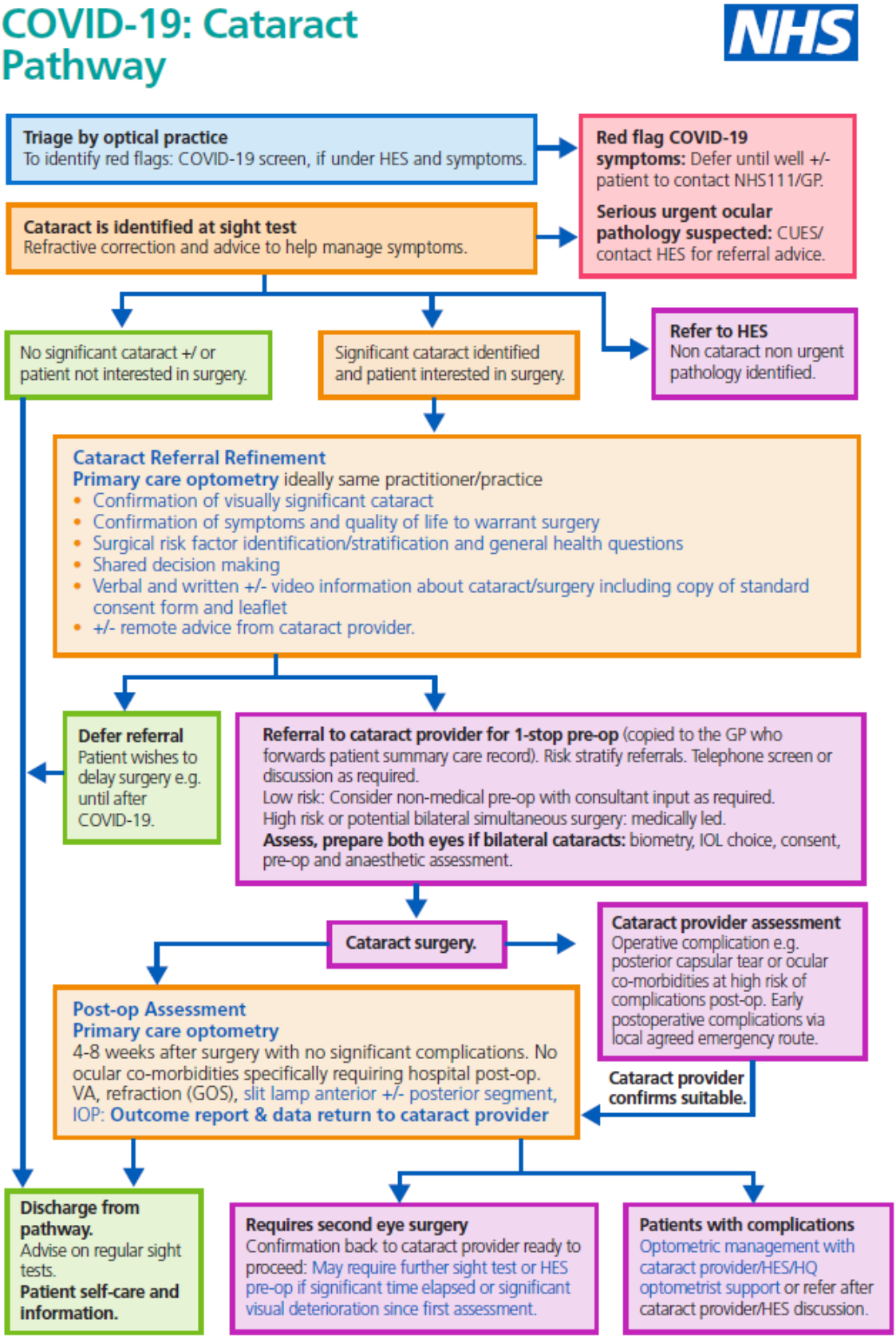
COVID-19 Cataract Pathway

Sample Protocol for Primary Care Optometrists



This service allows primary care optometrists to assess patients with cataract in the community:

- to refer those who are visually disabled by cataract, will benefit from surgery and wish to proceed with surgery directly to the secondary care surgery provider
- to undertake the post-operative assessment after surgery and return outcome data to the surgical provider.

The patient must have significant cataract affecting their vision and daily life and the patient must want surgery.

The optometrist will undertake a pre-operative assessment, working to this protocol. The aim of the pre-operative assessment is to:

- Diagnose the cataract and ensure that the patient wants surgery, using shared decision-making tools (see appendices)
- Counsel the patient with verbal and written information about cataract surgery including providing a copy of a cataract surgery specific consent form
- Identify any ocular co-morbidity that may limit the visual outcome of surgery
- Identify factors in the patient's medical, psychological or ocular state that may interfere with the ability to operate safely or to operate under local anaesthetic or may increase their COVID-19 risk
- Provide indication of factors likely to affect RCOphth Grade 1-4 of cataract risk/complexity. (see appendices)
- Discuss refractive outcome e.g. if myopic, do they wish to retain some myopia
- Counsel the patient with verbal and written information about COVID-19 situation and risks and ascertain that they still wish to proceed with surgery given the specific COVID-19 situation at the time
- Inform patients about likely timings of surgery and potential extra infection control procedures e.g. self isolation, COVID-19 testing.

Referral is via an electronic system (Name of system) with a standard electronic form or via a standard digital form to be emailed or via a standard paper referral form and will be screened by a clinician in order to identify any patients who may require an ophthalmologist's examination prior to surgery (see appendices).

Patients will attend a pre-operative assessment clinic shortly before the date of surgery, during which there will be a general health assessment, biometry will be performed and informed consent obtained, and the intraocular lens (IOL) chosen. In low risk cases this may be a non-medical health care professional delivered clinic.

The patient will meet the surgical team on the day of the surgery, if not already done so at the pre-operative assessment clinic. The surgeon will check all the details, examine the patient as required and answer any final questions.

Following surgery, the patient will leave with an advice sheet, drops and emergency contact numbers.

All patients with no complications will attend the cataract optometrist for a post-operative assessment at 1-2 weeks after finishing their post-operative eye drops (usually 4-8 weeks post-op.

If there are any complications during surgery, the patient may also need to be examined at the hospital clinic, timing to be determined by the surgeon.

Some patients with other ocular co-morbidities may need attendances in addition to their post-operative attendance at the optometrist and this should be arranged by the hospital at an appropriate time interval in the clinic which oversees this condition.

The cataract optometrist will undertake a post-operative assessment to:

- Review patient's post-operative history and any symptoms
- Undertake refraction and assess acuity
- Assess for any post-operative complications (see appendices)
- Return outcome data to the hospital.

The patient can then be referred for their second eye operation if required or be discharged by the optometrist.

PRE-OPERATIVE ASSESSMENT

History and symptoms

Visual symptoms

- General blur/reduced vision
- Glare
- Reduced night vision
- Multiple images
- Difficulty reading, driving or other specific tasks
- Difficulty with mobility (steps/kerbs etc)

Previous Ophthalmic History

- Amblyopia/strabismus
- Glaucoma
- Diabetic retinopathy
- Trauma
- Surgery or laser

Medical History

- Record all medical conditions, ask patient to bring print out from GP
- Hypertension, ischaemic heart disease, TIA, stroke. Please specify when.
- Diabetes
- COAD/asthma
- Neck/back problems
- Significant mental/psychiatric problems including dementia, learning difficulties
- Hearing impairment/ language difficulties
- Uses wheelchair or poor mobility
- Can they lie flat for the operation?

Medication

- Record all systemic medication – ask patient to bring prescription or print out from GP
- Anti-coagulant medication eg warfarin
- Alpha blockers eg tamsulosin, doxazocin
- Other relevant medication eg. Steroids, insulin
- Eyedrops

Allergies

- Allergies to any medication, latex etc.

Social History

- Occupation
- Driver especially HGV driver or drives for work

- Lives alone, dependents or carer status

Visual acuity (VA)

- Visual acuity unaided
- VA pinhole if necessary
- VA best corrected distance

Refraction

- Previous refraction or changing refraction due to cataract.
- Present refraction and BCVA

GP contact lens wearers should be advised that they must leave them out for 2 weeks prior to the pre-op assessment appointment, for soft contact lenses they must leave them out for 1 week.

Ophthalmic assessment

Slit Lamp examination of anterior segment

- Eyelids e.g. significant blepharitis, entropion, ectropion
- Cornea: scars and opacities, careful look for guttatae/ endothelial changes,
- A/C depth - Van Herick
- Pupil: adhesions, shape
- Any other abnormalities including careful look for. pseudoexfoliation

Intra-ocular pressure (& method used)
Pupil responses (incl RAPD)

Fundus Examination – dilated as required.

- Pupil: degree of dilation or note if abnormally small
- Look again for pseudoexfoliation if dilated
- Lens: type and density of cataract (indicate if dense brown/white or no fundal view).
- Optic disc – cup-to-disc (CD) ratio, pallor etc
- Macula – signs of pathology eg AMD, DR, ERM
- Fundus – any abnormalities

Note for direct listing a dilated fundus examination is required.
For non-direct listing, dilate patients based on your professional discretion for example for the following: near -distance visual acuity discrepancy, inadequate view of fundus, use of alpha blockers to check pupil dilatation, previous history retinal disorders, symptoms suggesting posterior segment disease etc.
Record whether or not dilated.

Any other abnormalities found

EXCLUSION CRITERIA

Please do not undertake an Integrated Cataract Pathway referral if the patient is clearly not suitable/ready/willing for surgery.

Before Referral, please check:

Does the patient want cataract surgery?
-Discuss the process, and the risks and benefits of surgery
-Discuss the COVID-19 situation, any effect on likely waiting time or extra requirements for the patient e.g. testing, specific medical risks for the patient and their close contacts, and their attitude to having the surgery at this time
-Undertake the shared decision-making process using the leaflet
-Reduced visual function caused by cataract must be interfering with daily activities in order to be considered for surgery
-Only refer if they want surgery

Identify potential problems for tolerating local anaesthetic surgery or surgery complexity:
-Are they able to co-operate & communicate for local anaesthetic (lie flat & keep still and follow instructions for 30 mins etc)?
-Any problems with positioning (e.g. back, neck, breathing, cough)?
-Are there any significant communication/comprehension/anxiety concerns?
-Patient requesting sedation or GA
-Factors affecting grading of cataract surgery risk/complexity 1-4

Patient information
-Discuss visual needs of patient, refractive aims and record (default is emmetropia to very low myopia e.g. -0.2 to -0.6D). Those who may require toric lenses or monovision will be seen in the hospital consultant clinic before decision made for surgery.
-Offer choice of hospital provider: *note that if patient is already under a provider for a chronic eye condition e.g. glaucoma or wet AMD or DR, do NOT send routinely to another provider for cataract surgery. Either refer to current hospital or liaise with current hospital before referring elsewhere to discuss the referral and any potential impact on their chronic eye condition and to facilitate clinical information sharing.*
-Provide information leaflet
-Provide consent form
-Advise about referral process
-Ask patient to agree to be referred for surgery - Advise any surgically high risk or complex patient they will usually be seen in hospital eye clinic before making a final decision for surgery with an ophthalmic surgeon.

Provide information on hospital requirements:
Interpreter required: if so detail language
Transport required
Surgery for first or second eye
Surgery for right eye or left eye (usually do worse VA eye first or otherwise which one patient wants)

To Refer for Surgery

Complete the electronic or paper Referral for Cataract Surgery form but do not send
If you do not hear back from the patient in 1 week, complete the referral form and make the referral.
Retain a copy of the assessment for your own records.

POST-OPERATIVE ASSESSMENT (1-2 weeks after finishing their post-operative eye drops, usually 4-8 weeks post-op).

History and symptoms

Perception of visual improvement
Any significant problems/symptoms e.g. pain or discomfort, visual problems
Compliance with drops (standard drop regime lasts 4 weeks, dark eyes may be given a longer course)

Refraction and acuities

Unaided acuities
Refraction and BCVA (distance and near)

Slit Lamp examination

- Degree of redness
- Wound
- Corneal clarity/oedema
- Degree iritis/AC activity
- IOL position
- Significant posterior capsule opacity
- Pupil/iris abnormalities
- IOP (and method used)
- Fundoscopy usually undilated
- Dilated fundoscopy at professional discretion if vision not satisfactory, if symptoms warrant (e.g flashes and floaters) or posterior segment pathology known or suspected requires detailed assessment.
- Record if dilated on post-op assessment form.

Refer for second eye if required
Ensure pre-operative assessment data all completed and recorded
Need to undertake again reminder of risks and benefits, and shared decision making tool
Please indicate if patient needs to be listed for the 2nd eye.
Please discuss and indicate refractive aims for the 2nd eye.

To Return Post-Operative Assessment Form

Complete the (paper or online or email) postoperative form and if referring for second eye surgery, any outstanding information requirements.
Maintain a copy of the assessment for your own records.

To Refer back to Eye Clinic

Patients should be referred back to the Eye Clinic if there are signs of undiagnosed pathology or unexpected abnormalities. Anything other than emergency (same day) or urgent (up to 1 week depending on the situation or potential diagnosis) referrals can be referred using the post-op assessment form.

Emergency

- Suspected endophthalmitis

Urgent

- Significant refractive surprise
- Retinal detachment/retinal tear/flashes and floaters
- Wound closure problems
- Marked or moderate iritis
- IOP>28mmHg
- Corneal oedema
- Unexpected IOL displacement
- Severe diabetic retinopathy
- Cystoid macular oedema
- Drop allergy

Routine

- Mild iritis
- Significant symptomatic PCO
- Patient not happy with vision/refractive outcome/comfort following discussion with community optometrist

For urgent enquiries:

Office hours please contact XXXXXXXXXXXXXXXXXXX

Out of hours contact XXXXXXXXXXXXXXXXXXXXXXX

Optometrist helpline / email for routine enquiries XXXXXXXXXXXXXXXXXXX

Appendix: Relevant preoperative factors to be identified

Factors that may interfere with the patient keeping still or lying flat or tolerating a local anaesthetic (or may interfere with the capacity to consent in mental or psychiatric issues)

- Anxiety, dementia, learning difficulties, psychiatric problems, severe deafness, comprehension problems, communication problems, claustrophobia
- Cough, breathing problems/chest disease (e.g. asthma, chronic bronchitis), severe heart disease, neck stiffness, spinal curvature (Ask patient can you lie flat and still for 30 mins?)
- Young patients (<50 years)
- Patient requests general anaesthesia or sedation

Factors the surgical team need to be aware of before booking on local anaesthetic list

- On alpha blockers
- Lid squeezers

Medical factors that may make it unsafe or difficult to perform surgery

- Severe angina, severe chest disease, uncontrolled diabetes, uncontrolled hypertension, recent heart attack or stroke
- On warfarin or other anticoagulants
- Any active infection (eg leg ulcer, urinary tract infection)

Conditions of the eye that may limit the visual outcome

- Glaucoma
- Age-related macular degeneration
- Diabetic retinopathy
- Previous retinal detachment
- Amblyopia
- Optic atrophy
- Dense cataract precluding visualisation of the fundus
- Previous eye trauma

Conditions of the eye that may interfere with the ability to do the operation safely

- Blepharitis
- Lid position abnormalities especially entropion
- Corneal opacities
- Corneal guttatae or Fuch’s endothelial dystrophy
- Shallow anterior chamber
- Pseudoexfoliation
- Poorly dilating pupil
- Posterior synechiae or previous uveitis
- White cataract
- Very dense brown nuclear cataract
- High myopia or hypermetropia
- Previous major eye surgery

Appendix: HIGH RISK CRITERIA Likely to require review in hospital consultant eye clinic

- Previous refractive surgery or laser
- High myopia / High hypermetropia (+/-5.00DS), axial length <21mm, > 28mm
- Shallow AC <2.3mm
- Previous retinal detachment surgery or vitrectomy
- Multiple intravitreal injections
- Other major eye surgery e.g. corneal graft, trabeculectomy, tube
- Significant corneal disease (eg keratoconus), opacity or scarring, Fuchs dystrophy or multiple guttatae
- Eye lid problems eg entropion, ectropion, trichiasis, severe blepharitis, marked epiphora
- Other serious or undiagnosed ocular pathology eg uncontrolled glaucoma, marked macular degeneration, active diabetic retinopathy etc
- Dense or white cataract, no fundal view
- Posterior polar cataract
- Previous history of eye trauma (risk phacodonesis/weak zonules/very deep AC etc)
- Pseudoexfoliation
- Small pupil (<6mm dilated), posterior synechiae
- Head tremor, nystagmus
- Dementia, learning disability or other significant reduced mental capacity (inability to consent for themselves)
- Young Patient (<50years)
- Issues potentially significantly compromising positioning (eg unable to lie flat), communication (eg deafness, language difficulties) or co-operation (e.g highly anxious, psychiatric disease, dementia) with surgery
- Complications in first eye surgery
- Only seeing eye (vision irreversibly less than 6/12 in worse seeing eye)
- On tamsulosin, doxazocin or other alphablockers
- Patient requesting monovision
- Patient with astigmatism of >2.0D (may require toric lens)
- High visual needs e.g. pilot
- Other complicating factors at discretion of optometrist or surgical provider

Appendix: Post-operative problems requiring referral to hospital

Refer: Emergency- immediate

- **Endophthalmitis**

Infection inside the globe. Presents as painful, red eye with poor vision. Severe iritis usually with hypopyon. Opaque vitreous with poor view of fundus

Refer: Urgent- let HES know the same day

- **Marked or moderate iritis**

Uncomfortable and slight blurring of vision. Ciliary injection, marked cells and flare. Sometimes a problem as tapering drops. Can be start of endophthalmitis

- **Significant Wound Closure Problems**

May be asymptomatic.
Wound edges may not seal together which presents as a wound gape, a wound plugged with prolapsed iris tissue, or may be Seidel test +ve.
If severe leakage from eye, IOP will be low and AC shallow.

- **Retinal detachment and retinal tear**

Presents as flashes and floaters, and possibly visual field loss or reduction in acuity (if retina detached). Maybe a PVD, but need referring if shortly after cataract surgery.
Higher risk in high myopes, and those with serious operative complications.

- **Raised IOP >28mmHg**

Usually occurs in first few days following surgery, but can persist longer. If severe may be associated with reduced acuity and corneal oedema

- **Corneal oedema**

Presents as blurred vision and corneal opacity with sometimes visibly increased corneal thickness and Descemet's membrane folds. Mild corneal oedema is common in first few weeks following surgery. Usually resolves over time.
Must ensure not caused by raised IOP. Rarely does not recover and requires corneal graft.

- **Drop allergy**

Presents as sore, itchy red eye +/- skin rash on lids

- **IOL displacement**

Presents as reduced vision, increased astigmatism and monocular diplopia. IOL may be partially or completely displaced from central position across the pupil (up/down or occasionally forwards/backwards). May see part of the IOL in front of pupil/iris, or iris trapped behind part of IOL. Pupil may be distorted. More obvious with dilated pupil

- **Cystoid macular oedema**

Presents as blurred vision, usually delayed onset after surgery. VA reduced, may be Amsler distortion, and swelling or cysts visible at macula. More common in diabetic, even if no retinopathy.

- **Deteriorating diabetic retinopathy**

Diabetic retinopathy can sometimes deteriorate rapidly after surgery, even to the point of frank maculopathy or new vessels requiring laser treatment.

Refer: Routinely

- **Very mild anterior uveitis (iritis).**

Very occasional cell can occur once stop drops. If asymptomatic and the examination seems satisfactory usually nothing seriously wrong.

- **Posterior capsular opacification**

The commonest complication causes reduction in vision and loss of transparency behind the IOL. Usually occurs after several months – years, but occasionally occurs early. Can be treated with

simple laser therapy if significant symptoms and opacity. **All patients being discharged from care should be warned of the possibility of this complication.**

- **Significant Refractive Surprise**

Patient's refraction does not match the predicted outcome, or there is significant unplanned anisometropia. Anisometropia in between surgery for first and second eye is common.

Appendix: RCOphth Factors influencing complexity, risk and required theatre time for phacoemulsification surgery

This tool identifies in a consistent terminology a grading of patients to identify higher risk/complexity/need patients likely to require **more theatre time** *and/or* a **more experienced surgeon** to perform their cataract operation, through provision of a consistent grading score. This will support scheduling and benchmarking of productivity between units.

Grading of cataract surgery complexity

Overall Grading	**Description**	**Example**	**This patient**
1	Very straightforward case, suitable for a novice phaco surgeon	No factors, score 0	
2	Straightforward case which should cause an experienced surgeon no difficulties (registrar, junior fellow)	One or two of the following: difficult access, deep-set eye, limited pupil dilation, on tamsulosin, difficulty lying flat, anxious or jumpy patient, a dense or mature cataract, high myopia or hypermetropia, older age (>85), endothelial guttae etc. Typically score from 1 to 3 inclusive.	
3	More challenging case for an experienced surgeon, likely to take longer and carrying a higher risk of complication (consultant / senior fellow)	3 or more of the above, or any of the following; PXF, poor dilation requiring Iris hooks, very difficult access, severe positional / mobility issues Typically score 4 or more	
4	A very challenging case with a very high risk of major complication (consultant with special interest in cataract surgery, VR refer)	Many of the above and/or any of: phacodonesis, “black cataract”, nanophthalmic eye, posterior polar cataract, previous significant trauma Typically high score 8 or more, or specific factors	
Anaesthesia	LA topical, LA block, GA, sedation	Record which anaesthesia	