



The ROYAL COLLEGE of
OPHTHALMOLOGISTS



Ophthalmic Services Document

Cataract Hubs and High Flow Cataract Lists

March 2021

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Date of review: March 2023

1 Foreword

I am delighted to recommend this document, produced jointly between Getting It Right First Time and The Royal College of Ophthalmologists.

These recommendations, based on the work that has been done across London, are vital in getting high volume cataract hubs running successfully across the country. This is essential as we look towards the recovery of the NHS following the COVID-19 pandemic. Cataract surgery is the most common operation offered on the NHS, so the opportunities are vast.

We know from the GIRFT national report into ophthalmology, released in December 2019, the difference that eye care can make to patients, helping to preserve sight and the independence which goes alongside it. As services have been disrupted throughout 2020 and into 2021, I am delighted that this report, coming so soon after the cataract pathways document also produced by the RCOphth and GIRFT, will contribute towards making a real, tangible difference for patients.

None of this would be possible without the support of clinicians and managers across the country, and so I hope that the recommendations in this document are embraced and implemented. Working together, shoulder to shoulder, we can transform services and bring improvements that will change people's lives.

Professor Tim Briggs CBE GIRFT Programme Chair and National Director of Clinical Improvement for the NHS

The Cataract Hubs and High Flow Cataract Lists guidance is welcomed at a time when all ophthalmologists are striving to restore the hospital eye service, against the growing backlog of cataract operations brought about by COVID-19 restrictions for elective care.

The principles and pathway recommendations, based on work and processes agreed in London, can be adapted by any eye unit in the UK and are needed to make high volume cataract surgery achievable. Whilst some investment and a small increase in resources is required, the improvement in capacity is possible, as the recommendations and the suggested 'hubs' do not necessarily require purpose built facilities.

The Royal College has also published a complementary cataract workforce guidance document and cataract workforce calculator tool. The workforce calculator tool has been designed to predict the staffing requirements for different patient pathways to serve the local population needs.

From referral to admission to surgery and discharge, the whole team of healthcare professionals will have a role to play in restoring cataract services. Successful implementation can boost morale and make staff feel valued. Patients will benefit as they will be able to have sight changing surgery sooner which will positively impact on their overall quality of life and further contribute to the nation's health and economy.

Bernard Chang President, The Royal College of Ophthalmologists

2 Executive Summary

The impact of the COVID-19 pandemic on practice will be felt for years to come. Despite the difficulties and challenges that we have faced, the pandemic has also acted as a catalyst for positive change with welcome opportunities to put in place patient care which will have long term benefits. As Integrated Care Systems (ICSs) develop there is a rare opportunity for closer working between commissioners and providers at a time of increasing demand and pressure on services across the NHS.

The aim of this document is to provide guidance and support for all clinical leaders, clinicians, patient groups, operational managers, executives, commissioners and regulators on the establishment and running of cataract pathways for high flow / low complexity (HFLC) cataract assessment and surgical hubs <https://www.gettingitrightfirsttime.co.uk/girft-academy-best-practice-library/>. This has been developed and supported by clinicians, and we are grateful for input from the United Kingdom & Ireland Society of Cataract & Refractive Surgeons [UKISCRS], and the UK Ophthalmology Alliance [UKOA] and The Royal College of Ophthalmologists. This document is based on the work and processes agreed across London.

Ophthalmology is one of the busiest specialties in the NHS, providing over 7.5 million outpatient appointments a year, (representing the highest volume outpatient specialty in England) and more than half a million surgical procedures – including the most common operation offered on the NHS, cataract surgery. The service is delivered collaboratively by ophthalmologists with non-medical ophthalmic practitioners.

Since the peak of COVID-19, the establishment of regional surgical hubs has become a priority for NHSE/I London as a way of tackling the increasing numbers of patients waiting for routine surgery. Under the auspices of the GIRFT programme and the Royal Colleges, the Fast Track Surgical Hubs in London are focussed on high volume low complexity procedures across six specialties, including: trauma and orthopaedics, ophthalmology, urology, general surgery, ENT and gynaecology.

In December 2019, the Getting It Right First Time (GIRFT) programme published its [National Specialty Report for Ophthalmology](#), endorsed by the RCOphth. In August 2020, the RCOphth and GIRFT jointly published '[Restarting and redesigning of cataract pathways in response to the COVID-19 pandemic](#)'. These documents together provide the foundation for the development of HFLC cataract pathways and cataract hubs.

Components of this pathway were already in place in different eye units across the United Kingdom with considerable patient benefit. The new pathway for high flow cataract surgery is end to end, from referral to discharge, bringing together the best of all that was previously known with new recommendations to support high flow efficient resource use and excellent patient care.

We hope that for all those reading this document, whether at the beginning of the journey developing HFLC cataract pathways and hubs or for those who already have this approach in place, that this guidance will be valuable. As experience grows this guidance will evolve and the document will therefore be reviewed in 2 years' time.

3 What is a cataract hub?

A cataract hub delivers an end to end pathway that facilitates high quality, high flow cataract lists, using standardised pathways that have been agreed across the region. This pathway includes streamlined referral processes, shared decision making, pre-operative assessment, pre-op dilation, consent, surgery, post-operative care, follow-up with community optometrists, and return of the data required for the National Ophthalmology Database (NOD) audit.

Hubs provide a pooled resource to deliver a significant proportion of the high flow low complexity (HFLC) cataract surgery for a population (ICS or region) rather than just for a particular trust. The hubs use standardised operating processes and patient information which are agreed across the ICS or region by all relevant stakeholders. A facility that provides hub care should have a suitable layout to facilitate high flow clinics and theatre lists and to offer COVID-19 protected care. Where possible, hubs should ideally be set up to facilitate 3 sessions days, 7 day working, with surgical teams and patients travelling to a well-located regional site. Hubs also need to train the next generation of surgeons in HFLC surgery, and all hubs must agree to provide teaching on high flow lists.

The hub and the pathway processes are inseparable. In order to have a high flow of patients on the day of surgery, robust preoperative processes before the day of surgery are needed. These must provide all members of the surgical team with confidence in the quality of the assessment by others in the multidisciplinary team for patients on pooled waiting lists and thus avoid preoperative reassessment on the day of surgery.

The hub does not necessarily have to be a separate or stand-alone facility, away from acute trusts or other eye/main theatres. Any setting which can fulfil the key criteria and ways of working can be a hub – it is a site delivering a pathway/ process not a building. Currently in London, the majority of hubs are working as a hybrid model in pre-existing theatre complexes, sometimes only on certain lists, or days of the week, with solutions being found to resolve difficulties with existing facilities. This hybrid approach avoids the need for expensive new buildings; however, facilities which are specifically designed for HFLC cataract surgery can be more efficient while buildings or mobile units away from acute trusts offer COVID-19 separation and therefore resilience with potentially more accessibility. The appropriateness of standalone hubs for any region will depend on local geography, population need, existing facilities and other factors. Evidence from existing hubs will help to inform these decisions in the future.

An example of a good non-ophthalmic hub model is the South West London Elective Orthopaedic Centre (SWLEOC), where surgeons from across the ICS travel to a single site to perform elective orthopaedic surgery (www.eoc.nhs.uk/what-we-do.html). A similar collaborative approach across each ICS for HFLC ophthalmic surgery could be considered.

The design principles and key criteria additional to those required for any eye theatre are:

- A single direction of flow pathway to optimise infection prevention and control (IPC) and efficiency
 - An admission lounge or waiting area(s) close to the local anaesthetic room and/or operating theatre
 - Clean room with space to lay up ophthalmic surgical trolleys
 - Ideally (but not necessarily) two adjacent cataract theatres
 - Easily accessible equipment storage space
-

- Facilities for staff including changing rooms with secure storage and refreshment/ rest areas

Other essential factors:

- Geographical location / possible transport re-configuration or arrangements
- Relationships with COVID-19 testing centres
- Relationships with optometric practices and other ophthalmic services in the region
- Sufficient adequately trained staff
- Electronic patient records with the ability to share clinical information securely and ideally electronically.

From a geographical perspective, the location of a cataract hub will need to be considered carefully in the context of patient access and transport connections. However, work from the GIRFT programme across England has shown that patients are prepared to travel to access surgical treatment in some areas.

When planning hubs, it is crucial to involve and co-develop plans with all stakeholders including commissioners, optometrists, patient groups, hospital ophthalmologists and theatre teams, ophthalmic operational managers and regional improvement teams.

4 Why run cataract hubs and the high flow cataract pathway?

In 2019-2020, before the pandemic, UK NHS funded cataract surgical activity was nearly 450,000 cases per year and, with demographic changes, the demand for cataract surgery will increase significantly over the next 20 years (The Way Forward, RCOphth, GIRFT). NHS England estimates that NHS funded ophthalmic surgical activity in 2020-2021 dropped by at least 38% [200,000 cases] while outpatient activity dropped by at least 1 million. Previous provision and working practices will not meet the backlog generated by this loss of activity nor will it meet the year on year growth in demand. Cataract surgical hubs using high flow pathways are essential to provide all patients with timely access to cataract surgery.

Prior to the COVID-19 pandemic, the GIRFT report demonstrated huge and unacceptable variation between NHS eye units, with the number of cataract cases per surgical list ranging from 5 to 12. This variation was multifactorial: although some related to case complexity, most variation is not related to the surgical time needed to complete each case but to estate issues and delayed turnaround times. Lists of mixed complexity were, however, in general less efficient.

The benefits of surgical hubs have been demonstrated in other surgical disciplines, particularly the experience from the hot/cold split in orthopaedic surgery, with the key principles applicable to ophthalmology. The separation of low complexity patients with straightforward surgical and medical requirements creates a predictable and rapid workflow while minimising unexpected delays. The cataract complexity grading is adapted from RCOphth guidance and is summarised in the table below. It facilitates a standardised process applicable to all patients, which drives further efficiency while promoting safety. It helps to create teams used to working together in efficient and consistent ways who learn together to drive further improvement. It concentrates expertise and experience in high flow working, leading to better outcomes for patients while facilitating training and professional development opportunities for multidisciplinary (MDT) staff, such as the [Cataract Curriculum](#)

[in the Ophthalmic Practitioner Training \(OPT\) Programme](#). For surgical trainees, the opportunity to be trained in high flow cataract pathways will provide them with the competencies and confidence to work in and lead MDT's in HFLC cataract surgical lists when they become consultants.

Investment in bespoke facilities for HFLC cataract surgery serves the needs of large catchment populations and does not have to be replicated within the constraints of every trust. It also provides flexible capacity across a wider geography than the catchment population of a single trust while facilitating pooling of waiting lists and mutual support between units. Separating low complexity patients means that not only do these patients have the care they need in an appropriate environment, those patients with more complex needs can have surgical care in settings with processes which are more appropriate for them. In this way, equity of access for all patients requiring cataract surgery can be improved.

Do all HFLC lists have to be performed in hubs? The purpose of these hubs is to ensure the ICS / region has the capacity to meet demand but they do not necessarily have to treat all suitable patients. The exact proportion of low complexity patients who are seen in hubs will vary depending on local factors. In addition, the experience in London has been that, where hub work takes place in a unit which also performs more complex cataract or non-cataract ophthalmic lists, the efficiency of all lists has improved, as many of the beneficial processes are applicable to other lists.

5 What is the London cataract hub pathway?

[The GIRFT diagram](#) summarises the entire London cataract hub pathway. The pathway was developed by a multidisciplinary group including ophthalmologists, optometrists, nurses, theatre staff, operational managers and pharmacists, and approved by the London Clinical Advisory Group. It has been endorsed by The Royal College of Ophthalmologists and is part of the GIRFT regional improvement programme across England.

Referral

Referrals are made either directly from the optometrist (preferred) or via the patient's GP. A referral by the patient's GP must include the optometrist's letter with refractive and visual acuity data. An agreed [patient information leaflet](#) containing a shortened shared decision-making aid (SDMA) is shared with the patient at the referral decision point during the optometric consultation. This explains the various options for managing cataracts and provides information on the risks of surgery. Three decision-making questions are included for the patient to answer, to help patients decide if they wish to be referred for cataract surgery. In London, this is provided to the patient within the optometric consultation by agreement with local optical committees.

The provider, on receipt of the referral, will send the patient a booklet about cataract surgery (e.g. Royal National Institute for the Blind booklet or comparable equivalent), a copy of the agreed SDMA, and the agreed [cataract specific consent form](#). These provide more detailed information on the options for managing cataract as well as the surgical and COVID-19 infection risks.

The GIRFT standard for the conversion rate (the proportion of patients referred to clinic for cataract surgery subsequently undergo surgery) for first eye cataract surgery is 95%. However, the GIRFT report showed a wide variation in performance on this metric across

England. Units that are able to achieve this have strong communication links with primary care optometrists, combined with a SDMA, and excellent accessible patient information provision at the point of the referral decision.

Pre-operative assessment

The preoperative assessment process is key – the flow on the day is very dependent on all the actions prior to the day of surgery being undertaken to a consistently high standard. The details of the pre-operative assessment for the HFLC cataract pathway are described in the [pre-assessment and anaesthesia \(POA\) document](#), which can be found in the GIRFT best practice library.

Patients will be called by an ophthalmic practitioner for a discussion based on shared decision making and given an indication of the potential surgical date together with any self-isolation or COVID-19 instructions. If the patient agrees to proceed with surgery, during the same call, they undergo a telephone pre-operative assessment (POA). This telephone POA improves the patient experience, reduces the amount of time the patient spends in hospital, limiting the infection risk and at the same time increasing clinic throughput. It also allows the patient to discuss surgery with a clinical member of the cataract team and may increase the conversion rate i.e. some patients will decide not to proceed with surgery after this phone call.

Outpatient Department visit

If the patient wishes to proceed with cataract surgery and meets the criteria for HFLC cataract surgery the patient attends a face-to-face outpatient appointment, where they have biometry measurements, examination, and consent prior to surgery.

If there is bilateral cataract, the patient will undergo preparations for surgery for both eyes and, where appropriate, is offered immediate sequential bilateral cataract surgery (ISBCS) or a pathway in which the second eye surgery date is also agreed or will be automatically arranged if the outcome is satisfactory after the first postoperative review.

At this appointment, the patient will have:

- vision tested
- mydriatic drops instilled*
- intraocular pressure and blood pressure measured
- all appropriate biometry performed so that a decision can be made on which lens implant power will be required for surgery

**Note: All non-medical health care professionals including technicians and health care assistants should be enabled to instil mydriatic drops including 1% Tropicamide to all patients attending the cataract one-stop clinic unless the patient or member of staff is allergic to tropicamide (www.rcophth.ac.uk/wp-content/uploads/2020/11/Eye-Drops-Instillation-by-Unregistered-Health-Care-Professionals-for-use-within-NHS-Ophthalmic-Services.pdf).*

In London, it was agreed to undertake pre-op assessment and biometry at the operating provider for best confidence in outcomes and fully electronic data capture. It was also agreed not to undertake preoperative macular OCT on all patients routinely.

Patients then see a doctor or ophthalmic practitioner (supported by an ophthalmic surgeon as required) for examination, a discussion of the benefits and risks of surgery, discussion of desired refractive outcome, choosing the lens implant, and signing the consent form for one or both eyes. The clinician confirms that the patient meets the criteria for the high flow pathway using the risk stratification tool below. For patients who are found to be unsuitable

for the high flow cataract list / hub, a clear plan for their care should be made at the time of pre-assessment. The best care for an individual patient will vary depending on their needs. The patient must not be disadvantaged nor their waiting time for surgery increased. Unsuitability for the high flow cataract pathway does not constitute a “clock stop” on the Referral to Treatment 18 week pathway [RTT 18].

Patients will also be given pre-operative mydriatic drops to be self-applied prior to leaving home on the day of surgery with the regionally agreed [instruction leaflet](#).

COVID-19 testing and self-isolation are organised to comply with current local and national guidelines.

The patient will be given a date for surgery and advised about the requirement for a virtual postoperative review and/or discharge to a primary care optometrist for review.

See Appendix 6 Example below of Epsom and St Helier hub preop assessment pathway.

Risk Stratification tool

Complexity Grading	Description/Risk Factors	Suitable for Hub?
1	Routine, no risk factors	Yes
2	2 risk factors <ul style="list-style-type: none"> • Difficult access • Deep-set eye • Difficulty lying flat • Anxious / jumpy patient • Poor pupil dilation (no hooks/ring required) • Tamsulosin (alpha blockers) • Dense or mature cataract • Shallow anterior chamber • Vitrectomised eye • high myopia or high hypermetropia • >85yrs • guttate • multiple intravitreal injections 	Yes
3	3 of the above, or any of: <ul style="list-style-type: none"> • Pseudoexfoliation • Small pupil (requires hooks / ring) • Very difficult access • Severe positional or mobility issues • Nystagmus • Corneal graft 	No
4	Phacodystrophy 'Black cataract' Nanophthalmia Posterior polar cataract Previous significant trauma	No
Anaesthesia	Topical Subtenons Oral sedation (hospital with GA facility only)	Yes
	IV Sedation General Anaesthesia	No

Extract from [Guidance on the Resumption of Cataract Services during COVID](#), RCOphth, May 2020.

The day of surgery

Space and facilities

A standard operating theatre is suitable for a HFLC surgery. Whilst it is generally accepted that most cases will be performed with topical +/- intracameral anaesthetic, each theatre should have an adjacent anaesthetic room or area for the administration of sub-tenon's blocks if required. Each theatre should have a clean preparation room with enough space to lay up more than one trolley in advance.

Resuscitation requirements

As the patients suitable for this pathway will have been assessed to be of low complexity from both an ocular and systemic health perspective, there is no requirement for an anaesthetist to be present in the theatre (see [POA document](#)). However, there must be a member of the theatre team who takes primary responsibility for observing / monitoring the patient during surgery. There should be a member of staff with Immediate Life Support [ILS] training if in a theatre complex with anaesthetic support close by, or, with Advanced Life Support [ALS] training if operating at a remote site. Where there is not a full resuscitation team available on site, there must be a written Standard Operating Procedure [SOP] to transfer an unwell patient to the most appropriate hospital for ongoing care. This would usually be the nearest hospital with an A&E department via a 999 call to emergency services. This SOP must be agreed with the receiving A&E department and renewed at appropriate intervals.

Equipment

For the hub pathway, the equipment, consumables and drugs required are similar to conventional cataract surgery. It is important to try to standardise the surgical instrument and pack sets. Some units may seek to use a streamlined set suitable for straightforward surgery (with more instruments available if required single packed). There may be a role for disposable sets, but cost and environmental impact need to be considered. There needs to be sufficient cataract instrument sets and consumables to ensure lists are not delayed due to instrument sterilisation turnaround times or lack of consumables.

Theatre timings on the day of surgery

Patient arrival times are staggered with accompanying persons kept to a minimum, to minimise waiting times and numbers of people present. Suggested timings for 8 and 10 cases for a four hour theatre list are provided in appendix 2. These timings need to be amended based on the facilities being used e.g. the distance between the pre-operative area and the anaesthetic room. Patients should arrive no sooner than 15-30 minutes prior to their planned procedure. This reduced wait time improves the overall patient experience and reduces any overlap with other patients and consequently the potential infection risk.

Surgical training

The HFLC lists provide cataract surgery training opportunities, as has been the case in orthopaedics, where the development of elective hubs and a hot/cold split has led to a significant improvement reported in surgical training for both elective work and trauma. The vision for ophthalmic training is similar, to ensure that by the time their training is completed [CCT], trainees will be able to work within a high flow cataract pathway environment, both from a surgical and clinical leadership perspective.

There needs to be a local strategy to ensure that trainees receive adequate training. For example, 8 cases per list provides time for a trainee who is not yet able to complete a cataract operation within 20 minutes to undertake supervised training. Lists with 10 cases are suitable for more experienced trainees who are able to consistently complete a cataract operation within 20 minutes, and thereby not delay the pathway. The time of 20 minutes is taken rather than the surgical training level of the trainee, as it is recognised that trainees develop at different rates and not all trainees are deanery surgical trainees (ST). The cataract complexity system used by the college and in the hub (See POA document) provides a generic approach to complexity scoring. Consideration could be given to a more granular system to better assist with case selection for trainees. An example of a more detailed pre-operative grading system that reflects trainee surgical time is that used at Epsom & St Helier (Nderitu et al. Factors affecting cataract surgery operating time among trainees and consultants. JCRS 2019, 45(6):816). However, it is important that the same grading system nomenclature for cataract risk/complexity is used in different units to allow benchmarking of productivity and outcomes between units. Examples of timing of surgical lists for junior, intermediate, and senior trainees is shown in appendix 3. Clinical and educational supervisors should advise as to which lists and cases are most appropriate for an individual trainee.

Workforce including training and competences

HFLC pathways require dedicated trained ophthalmic theatre teams, as recommended in the GIRFT Ophthalmology National Report, with sufficient staff to facilitate rapid surgery and turnaround. A well trained perioperative staff team in the day case area, with sufficient staff, is also crucial to prepare patients and escort them to and from the theatre. Trained nurses are able to confirm the pre-signed consent and mark the eye. A nurse or health care assistant then accompanies the patient through the whole surgical journey. In the London pathway, nurses and other non-medical health care professionals, should be trained [with signed off competencies] to clean and prep the surgical area with iodine antiseptic, and apply the surgical drape and speculum if required. Other team members should also be trained to assist with first drafting of the operation note for the surgeon to approve.

Infection prevention and control

All pathways must be compliant with green COVID-19 secure pathway standards as well as with current local and national guidance. On the day of surgery, the patient undergoes the routine COVID-19 screening on admission, including temperature check, and is guided to the relevant waiting area. If at this point it is identified that the patient is pyrexial (>37.8), patients will not be allowed to progress any further into the admission pathway and will be rebooked when safe.

Experience has shown that COVID-19 test results for all patients are not always available on the day of surgery. There should therefore be an SOP to check the results in adequate time before surgery. If the result of the COVID swab is not available, there must be a clear pathway for these patients, who should be considered as an “Amber risk”. An example of such an SOP developed at Moorfields at St Georges is described below:

“Patients who have not received their result would be considered as Amber as they would differ from other patients on Blue pathways who have not been asked to fulfil pre-admission preparation and would be considered to be medium risk in line with the National IPC guidelines;

- Each day an allocated staff member will check the availability of COVID-19 swab results and report to the command team
- If patients COVID-19 test results are not received by 1600 on the day before surgery, the command team will agree to move patients onto amber pathways and these patients will be moved to the end of the list
- Staff will confirm the following with each patient:
 - No symptoms,
 - Adherence to social distancing
 - Strict hand hygiene
 - Isolated since COVID-19 test
- A dedicated area will be identified for these patients, should the need arise
- This will be communicated to these patients on arrival
- In the event that more than 15 patients do not have test results a decision will be made to convert the entire afternoon session to Amber. Changes will be made to the theatre lists and patients will be informed of the changes to their procedure time should the need arise”.

Complications

Post-operative complications: All patients, prior to departure, must receive the agreed [post-operative leaflet](#), with clear written contact numbers.. There must be an SOP for the management of complications to ensure that every member of the cataract pathway team is aware of their responsibilities. There must be an agreed pathway for care, so that patients and their carers can receive timely advice and treatment 24 hours a day, 7 days a week. The SOP should outline a clear pathway for optometrists to refer patients back to the hub. This SOP must be reviewed at appropriate intervals.

Intraoperative complications: The operating surgeon is responsible for the management of intra-operative surgical complications. Where a complication occurs, and the patient requires extra follow-up, the patient should be reviewed by the hub provider. Providers of cataract surgery must have a formal agreement and excellent communication channels with vitreoretinal [VR] providers to ensure that complications requiring VR surgery are assessed within 24 hours. There should also be a clear understanding of how to manage the flow of the list in the event of a complication or delay.

Discharge

At the point of discharge patients should receive a standardised discharge pack with their appropriate medications. The discharge medications should be consistent and agreed in advance for both standard cases, cases considered at higher risk of postoperative inflammation, and cases at risk of glaucoma progression. This is decided locally based on case mix. See appendix 5.

Post-operative care

The post-operative follow-up of patients who have had uncomplicated surgery, and have no significant ocular comorbidities specifically requiring a hospital post-operative assessment (i.e. most patients), is undertaken through a commissioned service in primary care optometry. The [service specification](#) can be found on the GIRFT best practice website.

Patients who have been booked for delayed sequential surgery, after first eye surgery, can have a telephone assessment between eyes, and if happy with the outcome of surgery, should proceed to fellow eye surgery without the need of a separate face to face review.

Patients who have had bilateral surgery, or only require unilateral surgery, are discharged to their own optometrist in the community. The optometrist assessment is usually undertaken 4-6 weeks after surgery. The optometrist assesses the patient on a slit lamp for possible complications of surgery. All findings from the optometrist, including patient reported outcome measures and refraction, are submitted electronically to the hub to allow the hub to audit its outcomes and return data to the National Ophthalmology Database.

Patients not originally intending to have fellow eye surgery, that subsequently decided they would like bilateral surgery, can be referred back to the hub if suitable.

The post-operative follow-up of patients who have had uncomplicated surgery, and have no significant ocular comorbidities specifically requiring a hospital post-operative assessment (i.e. most patients), is undertaken through a commissioned service in primary care optometry. The [service specification](#) can be found on the GIRFT best practice website.

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Patients not originally intending to have fellow eye surgery, that subsequently decided they would like bilateral surgery, can be referred back to the hub if suitable.

5 Clinical governance and quality

Formal clinical governance arrangements involving all members of the multidisciplinary pathway are required to ensure that:

- The pathway is fully understood by all.
- Standardised processes are adhered to across the whole pathway. This is particularly important where pathways involve multiple surgical providers on different sites and large numbers of optometric practices.
- The pathway is fully supported by SOPs or memoranda of understanding between organisations.
- All ophthalmologists, ophthalmic practitioners and healthcare practitioners should have appropriate training for their role according to recognised standards (e.g.: for ophthalmologists through Ophthalmology Specialist Training (OST) or Ophthalmology Local Training (OLT), and for practitioners through Ophthalmic Practitioner Training or equivalent).
- There is a constant emphasis on improvement and learning from best practice including a regular audit cycle.

- Hubs should systematically record patient satisfaction or patient reported outcome measures.
- Regions should ensure that systems are in place to centrally record and investigate incidents and complications, to ensure that lessons are learned and disseminated to the whole multidisciplinary team across organisations, with shared learning between hubs.
- All complications and adverse events, if presenting elsewhere, must be reported back to the hub surgical provider promptly.
- All hubs must be fully compliant with, and submit data annually to, the National Ophthalmology Database Audit [NOD].
- The hub must regularly monitor the efficiency of its theatre lists, and patient arrival to discharge (journey) times, which should be within 1 hour. This can be performed with the trust's own software, or using applications such as the eye efficiency app (eyeeficiency.org) or the www.cataract-hub.com resource.

Appendix 1: GIRFT Metrics

The current GIRFT metrics for the cataract surgery are available in [the GIRFT best practice library on the GIRFT website](#):

	Metric/ Recommendation	Top Decile Performance	Peri-COVID-19 top decile performance	Service Performance
Cataract				
Referral Management	Shared decision making aid e.g. RCOphth included in pre-referral assessment of all new referrals. This should be included in all primary care optometry assessment pathways – please attach evidence	100%	100%	
	% patients seen by optometrist in community for preoperative assessment	85%	75%	
	First eye cataract surgery conversion rate – conversion from first outpatient attendance to cataract surgery	95%	85%	
	Risk stratification of patients on the waiting list by each provider using consistent scoring across the ICS – please attached evidence	100%	100%	
Theatre Flow	Standard flow theatre including complex surgery – 8 cases per 4 hour list	8.00	8.00	
	High flow theatre – 10+ cases per 4 hour list	10.00	10.00	
	Regular measurement of theatre flow e.g. EyeEfficiency app or other time in motion study			
Post-op	% patients seen in hospital outpatient clinic (with no significant ocular comorbidity) within 6 weeks of surgery	<5%	<20%	
	Submission of visual acuity and refractive data to National Ophthalmology Database (NOD) - % case ascertainment	95%	80&	
General	A dedicated anaesthetist is not present for a local anaesthetic cataract list unless there are clearly defined criteria based on patient composition and setting – please attach evidence			
	Immediate sequential bilateral cataract surgery offered to patients			

Appendix 2: Examples of Quality Hub Metrics

Metrics for 2 London Hubs, the South West London cataract hub, and the Moorfields at St Georges cataract drive, are as follows:

SWL cataract Hub at St Epsom & St Helier

Theatre productivity	National reporting requirements (CCG Outcomes Indicator dataset) and RCOphth approved indicators	Patient Reported Experience (existing national indicator plus survey)
<ul style="list-style-type: none">• Theatre utilisation• Touch time utilisation• Late starts and early finishes (minutes lost)• Late finishes• Cancelled operations on day of procedure (including reason for cancellation)• Theatre availability and time booked (prospective for 8 wks)• Arrival and discharge within one hour• Cases per list (compared to GIRFT recommendations - 8 cases per teaching list; 10 per non-teaching)	<ul style="list-style-type: none">• Ophthalmology patients on waiting list in the following cohorts: >52 weeks; >40 wks and >26wks – weekly snapshot and trend• Emergency readmissions within 30 days of discharge from hospital	<ul style="list-style-type: none">• Friends and family test• Retrospective survey / audit of patient experience (once commissioned, will be carried out by Optometrists following discharge)

Moorfields @ St Georges cataract drive

1) Activity metrics a) Number of patients attending / DNA for surgery per day/per list

- b) Number of patients who needed further dilation on arrival
- c) % of ISBCS cases
- d) Efficiency - % operating time per list / start time / finish time
- e) Cancellation on the day or day before (non-COVID related) and reasons why
- f) Patient journey time on day of surgery

2) Safety metrics

- a) Number of patient COVID-19 tests results available in time for surgery and % positive test identified
- b) Staff antibody testing data – for volunteers and staff coming from other sites only
- c) Cancellation on the day due to COVID positive / symptomatic or COVID unknown status
- d) Incidents review – number and themes
- e) Number of patients who had post-op prescriptions changed during the discharge process
- f) Number of patients without a post-op appointment
- g) Staffing levels by theatre / by list / by day
- 3) Staff and patient feedback
 - a) Staff experience
 - i) Staff survey
 - ii) Daily bulletin (Communications) to update the SGH team
 - b) Patient experience - via survey on the day and Friends & Family Test
 - i) Covid-19 testing process
 - ii) Use of self-dilating drops
 - iii) Booking process

Appendix 3: Example theatre timings

Junior Trainee list - 8 per list, consultant does 15min surgery, trainee does 3x cases at 45mins. All arrive 20mins prior to surgery, 5min turnaround.

Intermediate trainee list, 8 cases. Arrive 20mins prior to surgery, 25min procedure, 5min turnaround, leave 10min later - 1 hour arrival to discharge.

Consultant / experienced trainee 10 cases. Arrive 20min prior to surgery, 20min procedure, 5min turnaround, leave 10mins later - 55min arrival to discharge.

Appendix 4: Standardised Drop Advice

Moorfields Eye Hospital Pre & Post Op Advice

Pre-Op: Dilate at Home Pathway

Table 1 Write caption here

	Standardised regimen
Tropicamide 1% Minims prepack (pack of 4 minims)	Put ONE drop every 15 minutes into the EYE TO BE OPERATED ON. Begin the drops 1 hour before you arrive at hospital. The last drop (4th) can be instilled upon arrival in hospital. Allow a 1 minute gap between this and other dilating drops you were sent.
Phenylephrine 2.5% Minims prepack (pack of 4 minims)	Put ONE drop every 15 minutes into the EYE TO BE OPERATED ON. Begin the drops 1 hour before you arrive at hospital. The last drop (4th) can be instilled upon arrival in hospital. Allow a 1 minute gap between this and other dilating drops you were sent

Post Op: Discharge

	Standardised regimen
Prednisolone (Predforte) 1% eye drops	Put ONE drop into the OPERATED eye (s) FOUR times a day for TWO weeks, then TWICE a day for TWO weeks.
Ketorolac (Acular) 0.5% eye drops For Diabetic Cataracts Only	Put ONE drop into the OPERATED Eye(s) THREE times a day for FOUR weeks.
Chloramphenicol 0.5% eye drops with preservative OR	Put ONE drop into the OPERATED EYE(s) FOUR times a day for ONE week
Chloramphenicol (Eykappo) 0.5% PF eye drops	Put ONE drop into the OPERATED EYE(s) FOUR times a day for ONE week.

High Risk Post Op Drop Regime / Leaflet

Patients are routinely prescribed:

Drug	Frequency	Weeks
g. Chloramphenicol	qds 2 weeks and stop	Weeks 1 & 2
g. Dexafree (Dexamethasone 0.1%)	2 hourly for 2 weeks and stop (then start Maxidex)	Weeks 1 & 2
g. Maxidex 0.1% (Dexamethasone 0.1%)	qds 2/52 tds 1/52 bd 1/52 od 1/52 (while patients are prescribed qds for 4/52, they are instructed to tail off g. maxidex as above)	Weeks 3-7
g. Nevanac 0.1%	tds FOR ALL Diabetics	Weeks 1-4

- Please note:
 - Eye drops are prescribed for 6 weeks to prevent the patients from stopping the steroid eye drops suddenly before the 4 week follow up appointment.
 - For 2nd eye post op, please look at first eye drops regime (e.g. they may have been tailored off a drop every two weeks)

How to take your eye drops:

Please apply the drops that are marked

Date: / /

for the eye(s) circled O

Date of surgery:

**Dexafree 0.1% (dexamethasone without preservative)****Right eye / Left eye / both eyes**Apply one-drop every __ hours, daily for __ week(s), **then**Apply one-drop __ times a day for __ week(s), **then**Apply one-drop __ times a day for __ week(s), **then**Apply one-drop __ times a day for __ week(s), **then**Apply one-drop __ times a day for __ week(s), **then STOP****MAXIDEX 0.1% (dexamethasone with preservative)****Right eye / Left eye / both eyes**Apply one-drop every __ hours, daily for __ week(s), **then**Apply one-drop __ times a day for __ week(s), **then**Apply one-drop __ times a day for __ week(s), **then**

Apply one-drop __ times a day for __ week(s).

Apply one-drop __ times a day for __ week(s), **then STOP****Acular 0.5%****Right eye / Left eye / both eyes**Apply one-drop __ times a day for __ week(s), **then**Apply one-drop __ times a day for __ week(s), **then**Apply one-drop __ times a day for __ week(s), **then STOP****Nevanac 0.1%****Right eye / Left eye / both eyes**Apply one-drop __ times a day for __ week(s), **then**Apply one-drop __ times a day for __ week(s), **then**Apply one-drop __ times a day for __ week(s), **then STOP****Chloramphenicol 0.5%****Right eye / Left eye / both eyes****Continue 1 drop 4 times a day for __ week(s)/days.****OR****Stop drops on __ / __ / __**

Appendix 5: Quality Standards for High Volume Cataract Hub



NHS England
NHS Improvement
A horizontal blue bar with a white circular link icon in the center.

Quality Standards for High Volume Cataract Hub

During the COVID-19 pandemic, the establishment of regional surgical hubs has become a priority for NHSEI London, as a way of tackling both the COVID-related backlog and year-on-year increasing numbers of patients requiring cataract surgery. Under the auspices of GIRFT, with support from the National Outpatient Transformation programme and the Royal Colleges, fast track surgical hubs were developed in several specialties. The development of these programmes occurred with engagement from commissioners, hospital managers, medical and nursing staff, and primary care professionals.

Ophthalmology has focused on a single procedure, cataract surgery, for its high volume surgical hubs in London. A number of documents have been developed to support this pathway, and are available on the GIRFT best practice library, available at www.gettingitrightfirsttime.co.uk/best-practice-library-ophthalmology/. Components of this pathway are already in place in different eye units across the United Kingdom with considerable patient benefit. The new pathway for high flow cataract surgery is end to end, from referral to discharge, bringing together the best of all that was previously known with new recommendations to support high flow efficient resource use and excellent patient care. The separation of low complexity patients with straightforward surgical and medical requirements creates a predictable and rapid workflow while minimising unexpected delays, improving efficiency in these lists which frees up capacity elsewhere to treat more complex surgical patients.

To have a high flow of patients on the day of surgery requires a minimal level of resource in terms of estates, facilities, and staffing, as well as robust processes before, during, and after the day of surgery. This self-assessment tool is designed to support, plan, and monitor the pathway changes required for a successful high flow ophthalmology surgical hub.

Resources and commitment

Leadership, culture & pathways	Yes	No
Regionally agreed all stakeholders (trusts, commissioners, regional teams, primary care optometrists, etc) desire to operate cataract hubs		
Trust leadership, ops managers, nursing, and ophthalmology commitment for trust to operate a cataract hub as part of whole pathway		
Trust commitment to training future surgeons on high flow lists		
Commitment to offer immediate and delayed sequential bilateral cataract surgery		
Anaesthetists agree with “anaesthesia in cataract hubs” document		
Clear pathway for the management of the acutely unwell patient		
Clear pathway for patients not suitable for hub, that does not disadvantage patient		
Process in place to manage flow of list in event of delay / complication		
Process in place with vitreoretinal teams for review within 24 hours if required		
Commissioned optometrist post-operative pathway		
Agreement and process for optometrists and surrounding ophthalmology units to notify hub of postoperative complications presenting elsewhere		

Resources	Yes	No
Electronic patient records (EPR) suitable for ophthalmology available in trust		
Electronic patient records (EPR) or connectivity with optometrists available for entire pathway (electronic referral, postop data returns)		
Covid secure operating suite available, allowing patients a short walk to theatres, and discharge within 1 hour of arrival		
Single member of staff to admit and follow patient through pathway		
Nurses trained to confirm consent & marks eye(s) to be operated and routinely available		
Scrub professionals trained and able to clean (prep), drape, and insert speculum available		
Consistent trained ophthalmic cataract theatre team		
Theatre / nursing professional trained and able to complete 1 st draft of EPR operation note routinely available		
Member of theatre team with primary responsibility to monitor patient trained and routinely available		
Minimum of 2 scrub nurses and 1 runner in theatre, plus ward nurse following patient through pathway		
Regionally agreed postop drop regimens and associated patient leaflet with local postop urgent contact details		
Regionally agreed preop drop self instillation process with supporting leaflet agreed		
Regionally agreed risk rating for cataract surgery used to identify suitability of patients for hubs, and adaptation of list numbers to suit level of trainee experience		

KPIs:

GIRFT Peri-COVID Gateway framework for elective operating

Cataract	
Ref management	Shared decision making aid e.g. RCOphth included in pre-referral assessment of all new referrals. This should be included in all primary care optometry enhanced assessment pathways. - please attach evidence
	% Patients seen by optometrist in community for preoperative assessment
	First eye cataract surgery conversion rate - conversion from first outpatient attendance to cataract surgery (S)
	(S) Risk stratification of patients on the waiting list by each provider using consistent scoring across the ICS - please attach evidence
Theatre flow	(S) Standard flow theatre including complex surgery - 8 cases per 4 hour list
	(S) High flow theatre - 10+ cases per 4 hour list
	Regular measurement of theatre flow e.g EyeEfficiency app or other time in motion system
Post-op	(S) % patients seen in hospital outpatient clinic (with no significant ocular comorbidity) within 6 weeks of surgery
	Submission of visual acuity and refractive data to National Ophthalmology Database (NOD) - % case ascertainment
General	A dedicated anaesthetist is not present for a local anaesthetic cataract list unless there are clearly defined criteria based on patient composition and setting - please attach evidence
	Immediate sequential bilateral cataract surgery offered to patients

Cataract Hub Metrics

% Patients given shared decision making aid
% patients seen within 4 weeks of referral to hub
% 1 st eye cataract conversion rate
% patients listed for ISBCS
Number of cases per 4 hour training list or high flow list
Average time patient in eye hub (arrival to discharge). Target: 60 minutes
Regular measurement of theatre flow, e.g. eye efficiency app or other tool
% posterior capsule rupture
All data capture via EPR
VA and refraction data, complications, and patient satisfaction regularly audited
% patients that have community optometrist data returns
Required dataset returned to NOD
% patients followed up in community within 8 weeks
Commitment to training
Written process of managing any complication or delay and flow of the list
Vitreoretinal pathway with availability to operate within 24 hours

Appendix 6 Epsom and St Helier hub preop assessment pathway

