



The ROYAL COLLEGE of
OPHTHALMOLOGISTS

Ophthalmic Services Document

High Flow Cataract Surgery

Version 2.0: VS January 2022

In partnership with



GETTING IT RIGHT FIRST TIME

Contents

1. High flow cataract surgery principles apply to all	3
Pre-hospital	5
Hospital – clinic	5
Hospital – before the day of surgery	7
Hospital – theatre	7
Discharge	11
2. How to support high flow surgery outside the cycle of care	13
3. Clinical governance and quality	14
4. References	18

1. High flow cataract surgery principles apply to all

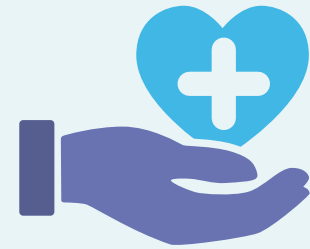
In March 2021, the RCOphth and GIRFT released joint guidance on cataract hubs, based on work in London to establish high volume low complexity (HVLC)/ high flow low complexity (HFLC) sites in several surgical specialties, led by GIRFT with the regional NHSEI team. The cataract hubs which emerged in London (1-2 per system) were not new buildings but existing units willing to work some or all of the time to the standardised high flow processes agreed by the regional stakeholders.

Since that time, further learning has emerged from other UK areas and evolution of the London hubs. The high flow process was originally envisaged as only suitable for low complexity patients. The high flow hubs were envisaged as a shared facility in a system or region, with large numbers of low complexity patients and/or surgical teams travelling to them, using rigorously consistent processes across different sites. This would free up capacity for more complex patients to have surgery in their local trust. However, the backlog from the COVID-19 pandemic has resulted in many more cases that do not qualify as “low complexity” – a combination of longer waits and higher proportions undertaken by the independent sector (IS) [at April 2021, 45% of NHS cataract surgery is being undertaken in the IS, NHS England data].

Experience has shown that mixed lists (both routine and complex cases) and complex-only lists benefit from many of the high flow principles – although the number of cases per list and planned surgical time per individual patient will be impacted by higher complexity. The level and nature of complexity need to be identified in advance to ensure the appropriate resources, such as equipment, staffing numbers, surgeon experience and patient support, are available to support higher flow. For example, Sunderland Eye Unit has a dedicated complex-sedation list in which they are able to complete 8-10 cases by applying high flow principles to every list. Stoke Mandeville run “Friends and Family” lists, in which the friends or family of “complex high need” patients are given greater access to the surgical pathway or come into theatre, to help meet the needs of these patients. In spite of this, the unit is able to deliver 100 cataract operations per 5 day week.

Many IS providers running high flow lists are now including complex patients and may only exclude those needing a general anaesthetic (GA). For example, SpaMedica’s exclusion criteria is limited to indications for GA (such as extreme claustrophobia, severe dementia and severe learning difficulties), patients with a defibrillating pacemaker and patients requiring a hoist, with all other patients accepted (personal communication to RCOphth President 2021). Some trusts have been able to develop high flow processes despite challenges in the layout of their theatre and waiting area facilities and current higher complexity case load.

At the time of writing, there are now more than 600,000 patients waiting for their first ophthalmic outpatient appointment. Most areas have not yet recovered cataract surgical activity to their pre-COVID level and analysis by NHSE for the national eye care recovery and transformation programme (NECRTP) shows that, without activity rising well above “business as usual”, it will take more than 5 years to clear the backlog and keep up with the rising surgical demand related to demographics. It is, therefore, crucial that we do everything possible to best use our resources to deliver sight restoring cataract surgery to in a timely manner.



At April 2021,
45% of NHS cataract surgery is being undertaken in the independent sector.

NHS England data



At the time of writing, there are now more than 600,000 patients waiting for their first ophthalmic outpatient appointment.

It is both the College's and GIRFT's view that high flow cataract surgery principles are applicable to all but the most highly complex cases, that high flow approaches should be used in all cataract surgery settings, and that most case complexity is deliverable in stand-alone local anaesthetic day case units. High flow cataract surgery requires enhanced health care practitioner roles within a consistent trained multidisciplinary theatre/day case and outpatient team, who regularly do high flow cataract care and who learn together to drive further improvement. This concentrates expertise and experience, leading to better outcomes for patients. It facilitates training and professional development opportunities for multidisciplinary team (MDT) staff (e.g., the Cataract Curriculum in the Ophthalmic Practitioner Training (OPT) Programme) and the opportunity for surgical training for ophthalmic trainees. Cataract surgery has its own specific requirements, which can be different from the general processes in hospitals for other surgeries, and should not be required to rigidly follow the same process as for every other operation, if this is not optimal for efficiency and patient safety. Cataract surgery has had one of the highest incidences of never events (wrong implants) and processes may need to be bespoke to ensure appropriate detailed safety checks can be undertaken without compromising high flow.

It is also important to understand that high flow on the day processes can develop only within a whole pathway approach – and that this needs to be prioritised and addressed not only by the ophthalmic clinical and operational management teams but also through a strong commitment from provider and commissioner senior leaders.

The key components that underpin high flow operating, whether in complex or lower complexity cases and whether in hospitals or standalone units, are described in this updated guidance. Where possible, there should be as much consistency as possible between all surgical providers across a system or region, which allows greater flexibility for mutual aid for addressing surgical backlogs and supports more consistency in engaging with primary care optometrist referrers.

It is crucial that all stakeholders, including trust managers and executives, theatre teams, and commissioners, and national and regional NHS England and Improvement colleagues, understand that without the appropriate senior commitment, provision of resources and prioritisation for improvement support, high flow cataract lists will not reach GIRFT level standards.

Pre-hospital

1. Standardised direct referrals from primary care optometry to surgical provider:
 - a. There should be a minimum cataract data set for all new referrals.
 - b. Primary care optometry should be engaged early in developing the pathway. For example, Stoke Mandeville utilised existing educational channels to onboard their primary care optometrists such that, when high flow changes came into effect, patients could be told what to expect from the point of referral.
 - c. Processes should be in place to provide regular feedback to referrers; for example, Fife utilised biannual meetings with their optometrists to support better referrals and shared understanding of the pathway.
 - d. Optometrists should use agreed shared decision-making resources to ensure only those patients wanting and needing surgery are referred. Some units achieve a 95% conversion rate from doing this.
2. Standardised patient information and consent materials should be provided before the pre-op assessment: these can be given by the primary care optometrist or posted by the provider upon receipt of the referral. The RCOphth provides a [cataract consent form](#).
3. Keep waiting lists lean: initiate processes to identify and remove long waiters who no longer wish to have surgery, for example with phone calls prior to their pre-op appointments, whilst also identifying patients who are having increasing difficulties with independent living due to reduced sight whose surgery needs expediting.
4. Telephone or online pre-operative assessment data collection and information provision can make the in-person pre-operative assessment more efficient.

Hospital – clinic

1. One stop assessment: patients wishing to proceed with cataract surgery should not have to attend multiple pre-operative face to face assessments, particularly for those who do not require a GA (data from the 2020 NOD showed that only 4.4% of cataract surgery is done under GA). Their face-to-face clinical assessment needs to include the eye examination, biometry & IOL selection, consent for one or both eyes, and any pre-op anaesthetic or medical health assessment that has not already been completed remotely e.g. blood pressure check. Procedure specific [consent forms](#) and standardised pre- & post-operative information should be used but need to be supplemented with details for the patient's specific situation particularly for those with higher complexity e.g. glaucoma, narrow angle, alpha-blocker drug (e.g. tamsulosin) use and pseudoexfoliation. Patients should be informed about the possibility that surgical training will take place.
2. All non-medical health care professionals including technicians and health care assistants should be enabled to instil mydriatic and other drops such as local anaesthetic in the cataract one-stop clinic unless the patient or member of staff is allergic to the drug rcophth.ac.uk/wp-content/uploads/2021/12/Eye-Drops-Instillation-by-Unregistered-Health-Care-Professionals-for-use-within-NHS-Ophthalmic-Services.pdf.

3. There must be rigorous and robust preparation of the patient so that there are no unexpected issues, and minimal repeat checks, on the day of surgery. The majority will undergo topical and intracameral anaesthetic, with sub-Tenon's anaesthetic used in specific cases. The pre-operative assessment of patients can be undertaken by a team of MDT clinician decision makers, including doctors, nurses, orthoptists and optometrists, supported by HCAs and technicians undertaking diagnostic tests, with rigorous oversight by the consultant or senior surgeon. Lower risk patients may be able to be assessed and consented in non-medically led clinics where skills and competency sign off for this have been completed. Pre-operative assessment must clearly capture the patient's medication, allergies, and underlying health conditions. The American Society of Anaesthesiologists (ASA) physical status classification system is widely used and stable ASA I, II, and III patients are suitable for high flow surgery. For local anaesthetic patients, no medication needs to be altered or stopped- in particular anticoagulants should not be stopped prior to surgery. In the case of warfarin, reasonable evidence from the patient's anti-coagulation record (yellow book) that the INR is likely to be within its therapeutic range is sufficient and no extra measurement of INR is required. If the blood pressure is elevated but not above 180/110mmHg, patients should be advised to see their GP but listing for surgery should continue. If the systolic or diastolic blood pressure is higher than this, patients should be referred rapidly to their GP or the acute medical team if indicated, and surgery delayed until this is managed. Such patients should not be discharged.

4. List planning:

- a. A cataract risk stratification tool (see example Risk stratification tool, below) and related booking form needs to be completed consistently, to provide an objective way to define case mix and enough information needs to be recorded and shared pre-operatively to ensure admin staff booking lists and theatre staff are able to ensure patients who are more complex are directed to the right list with the right surgical time allocated and with the right resources available on the day. Enough information needs to be collected and agreed threshold documented to direct patients to:
 - High flow list (10 patients, lower surgical complexity, and no anaesthetist)
 - Standard / junior trainee list (8 patients, mixed surgical complexity, and no anaesthetist)
 - Anaesthetist covered list (fewer than 8 patients, mixed surgical complexity and anaesthetist present to provide GA / sedation or monitor the medically high-risk patient e.g. implantable defibrillator).
- b. Sunderland and Fife both identified a routine "golden patient" who can be expected with a high degree of confidence to arrive on time (i.e. not reliant on transport) and be straightforward, to kick start the list on time.
- c. Specific lists can be compiled from a pooled waiting list, as long as processes are consistently followed by all staff and information is recorded properly: for example, Sunderland defined lists as high volume (10-14), complex sedation (8-10) and junior training (6-8). Stoke Mandeville run Friends and Family lists for those patients with individual needs requiring extra support.
- d. Immediate sequential bilateral cataract surgery (ISBCS) should be offered where suitable, otherwise both eyes should be prepared at the first pre-operative visit, with listing of the second eye either by the surgical provider after the first eye is completed or after any post-operative assessment.

Hospital – before the day of surgery

5. Check in with the patient 5 days prior to their operation date: confirm attendance, transport and the need for COVID-19 testing. This helps to confirm that the patient will attend, is well prepared for the events of the day, and is aware of the need to and understands how they will perform their COVID-19 test. Moorfields Cataract Drive showed that missing COVID test results were the most significant disrupting factor on the day.
6. The surgical team (if trained to do so) or lead surgeon for the list needs to be able to review the list, the list order, choice of intraocular lens implant and patient records, to ensure resolution of any issues before the day of surgery.
7. Self-application of pre-operative dilating drops can work well for suitable patients, supported by relatives and carers as required; providers should use patient leaflets to facilitate this.
8. Infection control:
 - a. All pathways must be compliant with current local and national COVID-19 guidance.
 - b. Consider whether the new guidance on using lateral flow tests for day case surgery ([gov.uk/government/publications/ukhsa-review-into-ipc-guidance/recommendation-2-change-the-pre-procedure-testing-advice-prior-to-elective-procedures-or-planned-care](https://www.gov.uk/government/publications/ukhsa-review-into-ipc-guidance/recommendation-2-change-the-pre-procedure-testing-advice-prior-to-elective-procedures-or-planned-care)) can minimise the need for before the day COVID PCR tests in some or all patients. This will allow easier short notice filling of unexpectedly available slots.
 - c. An allocated staff member should check the availability of COVID-19 swab results daily and report to the theatre list co-ordination team
 - d. There needs to be a clear method for dealing with patients who, late on the day before or on the day, do not have available PCR results. The local approach will depend on how the unit is set up – it might involve moving the patients to a non-green pathway in another theatre, being moved to the end of the list, or the surgery is deferred.

Hospital – theatre

9. Infection control: staff will confirm the following with each patient upon arrival:
 - Lack of COVID-19 symptoms
 - Adherence to social distancing
 - Strict hand hygiene
 - Adherence to local COVID-19 testing or isolation requirements.
10. On the day nursing assessment
 - a. On the day of surgery there should be an assessment of whether the health, medications, and allergies of the patient have changed since their pre-assessment. The pre-operative assessment does not need a specific time cut off for validity of the assessment if this measure is in place. Assessments should use a specific local anaesthetic cataract proforma (paper or electronic) which is brief and focused only on the required checks for these patients, not determined by the extensive set of “standard” checks required by other operations or those done under GA.

- b. On-the-day measurements of blood pressure are often a reflection of patient anxiety and not a true measure of blood pressure or risk. As long as the patient has a blood pressure recorded at pre-assessment and/or confirmed by their GP to be within the safe level, then this does not need repeating on the day of surgery. Blood sugar measurements (BM) likewise do not need testing on-the-day of surgery unless the patient is feeling unwell. This should trigger BM measurement that would guide further management aimed at preventing cancellation wherever possible. If the blood sugar is less than 4mmol/l then patients should be offered something sweet with the aim to proceed with surgery when the BM is normal. A high BM on the day of surgery should not result in the cancellation of surgery unless there are concerns about hyperosmolar hyperglycaemic state (levels often over 33mmol/l) or ketoacidosis (BM greater than 13.9mmol/l with elevated ketones in blood or urine). INR, as previously stated, does not need to be checked on the day, as long as there is evidence that their anticoagulation is likely to be within its normal therapeutic range.

11. Timings

- a. Patient arrival times should be staggered on the day of surgery with patients arriving no sooner than 15-30 minutes prior to their procedure for most local anaesthetic patients who are able to instil their own drops (or done by a carer) at home. For patients who do need to be dilated in hospital, the use of dilating pellets frees up nursing time but patients will need to come in 45 minutes before the operation.
- b. Theatre start times for Team Brief and Knife to Skin (eye) should be standardised and agreed, (e.g. 8.30am for the Brief, Knife to Skin (eye) by 9am), with regular audit undertaken of the start and finish times to identify and correct factors contributing to delays.
- c. There needs to be enough time, using an efficient process and checklists **specifically suitable for cataract surgery**, for the WHO surgical safety checklist including checks on biometry, the intraocular lens implant choice and correct implant present. See [RCOphth guidance](#).

12. Multidisciplinary team:

- a. Consistent ring-fenced staffing with enhanced competencies who regularly perform high flow lists is the single most important staffing factor to maximise effective ophthalmic theatre flow.
- b. A dedicated, trained ophthalmic (and anaesthetic where required) theatre team with sufficient staff is necessary to facilitate rapid surgery and turnaround. A regular anaesthetic team would work with the ophthalmic team to maximise the throughput of the available surgical time to ensure that a mixed GA and LA list or a GA only list runs as smoothly as possible. LA lists do not need a dedicated anaesthetist.
- c. Day case area: there needs to be an experienced, well-trained perioperative staff team with sufficient experience to prepare and escort patients to/from theatre including porters. It is possible to develop the competencies and responsibilities of a range of non-nursing staff to support the pathway in this way. For example, the Stoke Mandeville model uses only one receptionist and 2 HCAs but no nurses, with a trained ODP that floats between theatre and the day case area.
- d. Some units use a daycase nurse or HCA (the so-called “primary nurse”) to accompany the patient through their whole pathway on the day to reduce handovers and improve turnaround time.

- e. In theatre there should be a minimum of 2 scrub practitioners and 1 runner, each trained with signed off competencies, per list. The cataract drive at Moorfields benefited from an extra scrub nurse, with 3 per list. Sunderland, widely regarded as a gold standard case study of high flow cataract surgery, were able to supplement their 2 scrub practitioners and 1 runner with an additional 4-5 primary nurses on high volume lists and 3 on training lists. Fife and Stoke Mandeville, however, both deliver high flow lists using only the minimum 3 staff, notwithstanding Stoke Mandeville's floating ODP. Some units are pursuing the use of dedicated cataract scrub technicians to expand the workforce.
 - f. Trained nurses should confirm the pre-signed consent and mark the eye. This is an important factor contributing to flow in Sunderland and elsewhere.
 - g. Scrub professionals should be trained and able to prep the skin, drape and insert the speculum. This is another important factor contributing to flow in Sunderland.
 - h. In addition to surgeons and anaesthetists, members of the MDT can be upskilled to deliver sub-Tenon's blocks. For example, a trained ODP administers blocks independently in Stoke Mandeville.
 - i. Theatre or nursing professionals should complete a first draft of the operation note for the surgeon to approve. This is another important factor contributing to flow in Sunderland. If a provider does not have access to an ophthalmic specific electronic patient record, a standard operation proforma can be used.
 - j. Surgeons performing cataract lists, or members of the surgical team specifically trained and competent in this area, need a specifically timetabled opportunity in their job plan to review the list and patient documentation prior to the list, with enough time to confirm suitable list order, intraocular lens choice, and address and correct any anomalies.
 - k. In some units, staff are used flexibly with regular time spent in the ward, theatre and outpatient as part of one cataract team, so that all understand the impact of the whole pathway in safety and productivity on the day in theatre.
- 13.** Surgeon welfare and resilience: high flow operating is recognised as having the potential to cause fatigue, and in the long-term this approach without variety can become unsustainable. Stoke Mandeville worked this into their service, with job plans amended to limit surgeons to a half day rather than entire day session, when assigned to a high flow list.
- 14.** For low risk patients, there is no requirement for an anaesthetist to be present in the theatre. Where there is no anaesthetist, 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.
- An anaesthetist is required for patients with systemic complexity as guided by ASA grading.

15. Training

- a. It is increasingly recognised that surgical training can be undertaken during high flow lists. Feedback to the College from trainees via the College Ophthalmic Training Group (OTG) has confirmed that trainees welcome the training opportunities available both to complete surgical competencies and develop the skills to undertake high flow lists. All providers of NHS commissioned cataract surgery should have the requirement to train incorporated into the contract.
- b. 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 both for more experienced trainees who are able to consistently complete a cataract operation within 20 minutes and for less experienced trainees using modular training to focus on specific skills. Stoke Mandeville was able to maintain training after their transition to high flow operating and the cataract drive at Moorfields included provisions for training and was rated as enjoyable by the trainees.
- c. The cataract complexity system below provides a generic approach to complexity scoring and consideration could be given to a more granular system to better assist with case selection for trainees or to direct to specific list types.
- d. See the [College guidance on training in high flow lists](#) for more details.

16. Facilities

- a. There needs to be enough waiting area, even with staggered arrival times, to accommodate patients waiting whilst respecting distancing and IPC requirements, to ensure no delays in taking the next patient to theatre.
- b. The layout of high flow eye theatres should include an adjacent anaesthetic room or area for the administration of sub-Tenon's blocks and allowing patients to get onto the operating trolley or couch outside of the theatre room, a clean preparation room with enough space to lay up more than one trolley in advance and a waiting area / day case area very close to the anaesthetic room and theatre. Patients should be on the trolley /surgical couch and comfortable prior to entering the operating room where possible and not climbing on and off the trolley in theatre.
- c. However, the lack of bespoke cataract theatre layout should not preclude a high flow approach being developed, with use of any available suitable space to keep the next patient nearby and ready to enter theatre and staff proactively sending for the next patient in a timely manner to maintain flow.
- d. Sterilisation turnaround times and stock levels (sufficient instrument sets and consumables) need to support high flow lists. 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.

17. Intraoperative complications:

- a. There should also be a clear understanding of how to manage the flow of the list in the event of a complication or delay: a written process should be in place detailing a locally agreed protocol for example use of second theatre, limitations on how much vitrectomy is done, and when and how to cancel other patients.
- b. Providers must have internal vitreoretinal surgeons available or a formal agreement and excellent communication channels with nearby vitreoretinal providers to ensure that complications requiring VR surgery are assessed within 24 hours.

Discharge

18. Extra steps that are not evidence-based should be eliminated; for instance, eye shields do not need to be used routinely for all lower risk patients.¹ Sunderland and Fife both removed this step, making savings on cost, time and carbon footprint without detriment to the patient.
19. Local anaesthetic patients do not need nursing observations (e.g. BP) done prior to discharge unless their general clinical condition deteriorates. As for on arrival, there should be a specific local anaesthetic cataract proforma (paper or electronic) for discharge which is brief and focused only on the required checks for these patients, not determined by the extensive set of “standard” discharge checks required by other operations or those done under GA.
20. Standardised discharge pack with appropriate medications and a post-operative information leaflet should be provided at point of discharge (See Appendix 1): agreed locally based on case mix in advance for: standard cases; increased or longer time for medication for those at higher risk of post-operative inflammation; and with additional medication to reduce the risk of an adverse event e.g. to prevent an IOP rise in glaucoma patients or cystoid macular oedema (CMO) in those at risk.
21. Post-operative complications: there must be an agreed pathway for care and advice, so that patients and their carers can receive timely advice and treatment 24 hours a day, 7 days a week, to include contact numbers that work. Staff taking calls must be trained to recognise key red flag symptoms, including those of endophthalmitis, and take appropriate action to ensure patients can receive emergency care through the agreed pathway.
22. Post-operative care: for routine, uncomplicated cases, patients should not be seen postoperatively in hospital. These patients should be discharged to a sight test at their local optometrist at approximately 4 weeks with return of the post-operative outcome data to the surgical provider rcophth.ac.uk/2021/06/interim-recommendations-uncomplicated-cataract-surgery/; some patients may need additionally an early return to the hospital e.g. for an IOP check in some glaucoma patients. If patients are being discharged, it is important to ensure patients have enough post-operative steroid drops to be able to complete their full course without running out of drops. Some providers consider more routine use of NSAIDs to reduce post-operative CMO but the danger of corneal melt needs to be taken into account.
23. In some areas, optometrists already provide a commissioned enhanced post-operative assessment, and some post-operative care for more complex patients can be delivered in commissioned optometry services. For example, a patient who is over 85 years old with a history of multiple intravitreal injections and corneal guttate would be considered complex, however their post-op care following uneventful cataract surgery could still be handled by an appropriately trained primary care optometrist who may be able to list for the second eye.

24. For the most complex cases, discharge to a primary care optometrist for enhanced assessment or sight test may not be appropriate. A plan must be in place to identify such cases in advance, made at the time of their one stop assessment visit.
25. For cases that are seen by an optometrist, whether in a commissioned enhanced post-operative assessment service or where the patient is discharged to a sight test, the key post-operative outcome data of best corrected visual acuity and refraction, should be returned (ideally electronically) to the provider to allow them to audit outcomes and return data to the National Ophthalmology Database (NOD).

2. How to support high flow surgery outside the cycle of care

- **Scoping exercise:** providers and commissioners should start with assessing their cataract referral demand and current and future population need, before looking at their theatre activity. This is how Stoke Mandeville's journey began. When assessing efficiency, it may be beneficial to go to a more granular level. For example, Fife performed time and motion studies to identify where their delays were.
- **Leadership & teamwork:** the appointment of a cataract clinical lead provides someone with an overview of the problem who is tasked with providing a coherent vision of the solution, and this named individual gives consistency throughout the change process. Interestingly, Stoke Mandeville appointed two co-leads and the benefit of this was that it provided some flexibility to attend meetings, etc. in case of leave or sickness. Fife performed a facilitated team building exercise, and while they faced difficulties getting everyone together in one place, this was felt to boost morale and get everyone behind an agreed vision.
- **Consider the wider trust:** early engagement of the entire trust is crucial in planning for elective activity expansion. For example, Stoke Mandeville were quick to involve everyone from pharmacy, to waste disposal services, the resuscitation team and even the IT department.
- **Consider a pilot:** a pilot high flow initiative can be used as a tool to test proposals ahead of a department-wide implementation of radical changes. For example, Stoke Mandeville rented a Vanguard mobile surgical unit for 12 weeks to demonstrate the feasibility of their pathway and create evidence to populate their business case for a permanent dedicated cataract surgical unit, undertaking 1000 cataract operations. However, the Stoke Mandeville example highlights how language is key here. Pilots should be presented as pilots of a “strategy for a sustained increase in elective activity” as opposed to a simple, “waiting list initiative”. This is because the former can be presented to commissioners as part of a business case for a long-term goal, whereas the latter can be interpreted as a standalone “one-off”.

3. Clinical governance and quality

Formal clinical governance arrangements involving all members of the pathway MDT 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 and ophthalmic health care professionals 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.
- 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 surgical provider promptly.
- All providers must be fully compliant with, and submit data annually to, the NOD audit
- The provider must regularly monitor the efficiency of its theatre lists, and patient arrival to discharge (journey) times, which should be within 1 hour for routine cases and for non-routine, the increased duration should be proportionate to the degree of complexity. This can be performed with the trust's own software, or using applications such as the eye efficiency app eyefficiency.org or the cataract-hub.com resource.

Risk stratification tool

Complexity Grading	Description/Risk Factors
1	Routine, no risk factors
2	2 risk factors: <ul style="list-style-type: none"> • Difficult access • Deep-set eye • Difficulty lying flat • Anxious / jumpy patient • Communication issues (language, deafness, dementia) • Multiple intravitreal injections • Poor pupil dilation (no hooks/ring required) • Tamsulosin (alpha blockers) • Dense, mature or brunescent cataract • Shallow anterior chamber • Vitrectomised eye • High myopia or high hypermetropia • >85yrs • Corneal guttata or early Fuchs • Previous complications with first eye cataract surgery.
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 or previous trabeculectomy
4	Phacodonesis 'Black cataract' Nanophthalmia Posterior polar cataract Previous significant trauma
Anaesthesia	Topical Subtenons Oral sedation (hospital with GA facility only) IV Sedation General Anaesthesia

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

High flow checklist

Leadership, culture and pathways	Yes	No
All stakeholders (trusts/surgical providers, commissioners, regional teams, primary care optometrists, etc) desire to work together to operate high flow lists		
Trust appointed clinical lead(s) for cataract, ops managers, nursing, and ophthalmology commitment for trust to operate high flow working as part of whole pathway		
Trust / surgical provider commitment to training future surgeons on high flow lists		
Commitment to offer immediate and delayed sequential bilateral cataract surgery		
Clear pathway for the management of the acutely unwell patient		
Process in place to manage flow of list in event of delay / complication		
Process in place for vitreoretinal review within 24 hours if required		
Process in place for discharge to sight test for routine patients with return of outcome data by optometrist		
Commissioned optometrist post-operative pathway for suitable patients who cannot be discharged to sight test		
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, post-op data returns)		
Ophthalmic operating suite available, allowing patients a short walk to theatres, theatre adjacent wait area or room for anaesthesia and to be positioned on trolley / couch, and discharge within acceptable time of arrival		
Single member of staff to admit and follow patient through pathway		
Nurses trained and routinely available to confirm consent & mark eye(s) to be operated		
Scrub professionals trained, routinely available and able to clean (prep), drape, and insert speculum		
Consistent, trained ophthalmic cataract theatre and day case team routinely available		
Consistent ophthalmic anaesthetic team for sedation or GA lists routinely available		
Theatre / nursing professional trained and able to complete 1st draft of 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 good availability of staff to move / accompany patients to and from theatres		
Agreed post-op drop regimens for standard and complex / specific scenarios (eg to prevent post-operative IOP spike) and associated patient leaflet with local post-op urgent contact details and discharge to optometrist explained		
Agreed pre-op drop self-instillation process with supporting leaflet		
Agreed risk rating for cataract surgery and booking proforma used to inform list numbers to suit level of trainee experience and type list/numbers on list.		

Example standardised discharge drop regimens

Standardised regimen		
Drug	Frequency	Weeks
g. Chloramphenicol (*without preservative if definite preservative allergy)	qds	Weeks 1 & 2
g. Dexamethasone 0.1% (*without preservative if definite preservative allergy)	qds 2/52 bd 2/52	Weeks 1 – 4
For Diabetic Cataracts or those at High Risk of CMO Only g. Ketorolac (Acular) 0.5%	tds	Weeks 1 – 4
For those at High Risk of IOP Spike Only g. Iopidine (Apraclonidine)1%	tds	Days 1 – 3
High risk regimen		
Drug	Frequency	Weeks
g. Chloramphenicol (*without preservative if definite preservative allergy)	qds	Weeks 1 & 2
g. Dexamethasone 0.1% (*without preservative if definite preservative allergy)	2 hourly 2/52 qds 2/52 tds 1/52 bd 1/52 od 1/52	Weeks 1 – 7
For Diabetic Cataracts or those at High Risk of CMO Only g. Ketorolac (Acular) 0.5%	tds	Weeks 1 – 4

4. References

1. Shield or not to shield? Postoperative protection after modern cataract surgery, Lindfield D, Pasu S, Ursell P. [Eye \(Lond\)](#). 2011 Dec; 25(12): 1659-1660.

18 Stephenson Way
London, NW1 2HD

T. 020 7935 0702
contact@rcophth.ac.uk



rcophth.ac.uk
[@RCOphth](https://twitter.com/RCOphth)