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OPHTHALMOLOGISTS

## Reopening and redeveloping ophthalmology services during Covid recovery – Interim guidance

**PURPOSE** This document aims to support decision making and, where possible, provide guidance on how to reopen ophthalmology services after the Covid pandemic lockdown. Its purpose is to support ophthalmic clinical leads, ophthalmic consultants, managers and directors of hospital eye services to plan the recovery phase whilst incorporating service transformation beneficial for long term sustainability of ophthalmology care.

We expect there will be further guidance from national and regional NHS bodies on the timing and delivery of service reopening. As ophthalmic services are already planning how elective services can restart, we are providing this interim guidance based on what we have learnt during the pandemic and input from clinical leads on the ground. It covers important principles to consider in planning the reopening of services, transforming how we operate for the “new normal” of the future. We will issue more definitive guidance once the position of NHS national bodies is clarified.

### **BACKGROUND**

All routine face-to-face outpatient care and elective surgery for ophthalmology has been stopped over recent weeks. For eye units, this is primarily to support physical/social distancing to prevent Covid spread. It also allows services to divert resources (staff, space, ventilators) to Covid care. Shielding of vulnerable patients is particularly important in ophthalmology as many ophthalmic conditions are more prevalent in the older population. Ophthalmic services differ from many other hospital specialties in that they can be largely delivered in settings segregated from the main hospital, using day case/local anaesthetic pathways for surgery. This means that we could rapidly resume work and attempt to catch up on delays, once it is deemed safe.

As we prepare for lockdown easing over the coming weeks, and to minimise harm to patients from delays in care for non-Covid conditions, trusts and health boards have started planning for the recovery period and resumption of some routine care. The new infection

control restrictions mean that the way services are provided will need to change. It is important to remember that, prior to the Covid pandemic, ophthalmology was a speciality under significant pressure with an existing backlog of patients. The pandemic situation has created an opportunity to introduce new pathways and processes to improve patient care and support staff, and to put long overdue improvements in place.

## **General considerations**

There are some overarching considerations which need to be taken into account when planning all aspects of the service.

- Any plans need to consider possible repeated cycles of resumption and cessation of work if there are further viral peaks.
- Make a communication plan to keep staff and patients up to date on changes in services, limitations and uncertainties and to answer queries.
- Plan should aim to reduce not eliminate risk. There is no guarantee of zero risk of Covid transmission to staff and patients.
- Plan how to adapt pathways and patient journeys in clinic/daycase theatre by making better use of space/time while maintaining social distancing for the foreseeable future.
- Much of what has been learnt or rapidly implemented in response to Covid is likely to be effective in permanently reducing the demand – capacity mismatch that was present pre-Covid. Do not go back to business as usual but continue to benefit from the ability to rapidly transform care pathways and introduce innovations including virtual clinics, video and phone clinics and working with primary care optometrists. For high volume subspecialties, some trusts are considering an approach of virtual and video clinics as a default for most patients.
- Consider working with other providers in a regional network of care. This can allow best use of overall resources and stabilise services in times where individual units' practice and capacity are fluctuating. It should involve commissioners, NHS HES providers and primary care optometrists and may include community diagnostic hubs, mobile vans, diagnostic kiosks and the independent sector.
- Greater direct consultant supervision of care and clinical decision-making during lockdown has proved beneficial in prioritising care and identifying low risk cases that need less frequent interventions, should never have been seen or who can be discharged. This should continue, to avoid doing things we do not need to do.
- Patients may be reluctant to attend and the consenting process will need a different discussion to pre-Covid. Patients need reassurance about what protection we can offer but, after being appropriately informed, may exercise their right to not attend or to delay.

- There could be later medicolegal challenges to decision on restricting or changing services. Clear records must be kept of:
  - decisions on how the service was delivered, what was not delivered or deferred, and why
  - individual records on discussions, communication and decisions with patients.

## Planning capacity

Currently, many managers are looking at how long the recovery “catch up” phase will be (ie how long will it take to eliminate the backlog plus keep up with new referrals) based on capacity for pre-Covid services. This is no longer an accurate basis for decision. Planning capacity needs to take account of multiple factors such as:

- Understanding and predicting the likely timescales for availability of space and staff, thinking about further viral peaks, government lockdowns etc
- Understanding that more serious efforts to redirect, discharge or reduce the frequency of attendance of low risk work will free up capacity
- Requirements to protect patients and staff from Covid (eg donning and doffing PPE, need for physical distancing, more cleaning of equipment and rooms) will create slower workflows and reduce capacity.

## Prioritising patients

Most units have continued to offer high risk, urgent and emergency care. Plans now are needed to expand services into the medium risk category with a strategy which allows a phased approach. Most units will need senior clinicians to review all patients waiting, already booked or referred, to determine their individual risk stratification and priority as well as suitability for non-face-to-face or community assessment . Here are some of the important factors to consider when prioritising which patients to see as services reopen:

- Clinical priority
  - Likelihood of irreversible harm and rapidity of that harm from the ophthalmic condition ([link to Moorfields Risk Stratification guidance on the RCOphth Covid page](#)) - and record risk on PAS as low/medium/high.
  - Patients with greatest need of improvement: acuity, ability to work, independence, quality of life
  - Likelihood of significant benefit of care – if benefit marginal, less likely to prioritise
  - Number of patients who could benefit eg cataract surgery is usually not urgent but restarting cataract surgery would bring rapid and significant benefit to many patients

- Surgical patients new and already listed will need a consent discussion that specifically includes if they wish to proceed in the current situation.
- Risk of Covid spread
  - Risk to patients of Covid - minimise seeing patients more at risk of Covid and see less at-risk patients eg young, healthy
  - Risks to staff of Covid from activity
- Service risks
  - Consider care which is not a risk yet but, without reopening and catching up now, will generate an insurmountable capacity issue causing risk later
  - Some units are considering first operating on all patients currently on the waiting list to clear the backlog rather than opening to new referrals that add to the surgical waiting list – but this needs to be balanced against the clinical priority of waiting and new patients.
  - Prioritise surgery on clinical rather than waiting list/RTT criteria.

### Making your prioritisation plan - outpatients

Consider adapting this table to plan the prioritisation of outpatients according to the following key principles:

- Level of clinical priority
- Risk of Covid spread to patients and staff
- Where safe and effective, patients are “seen” by video or phone in preference to virtual in preference to face-to-face
- Where possible consider patients being assessed in community settings including optometry practices
- Recovery in two phases (recovery 1 interim period and recovery 2 the “new normal”) with the potential to be fluid, going back to recovery 1 or lockdown ([link to RCOphth Covid guidance](#)) depending on national situation



Patients <b>currently seen face to face</b> during pandemic (high risk eg. highly active proliferative diabetic retinopathy / choroidal neovascular membrane and emergencies eg retinal detachment)
Patients we are <b>currently seeing with other modalities</b> now during pandemic (eg. moderately active proliferative diabetic retinopathy / choroidal neovascular membrane)
Patients we will see in <b>recovery phase 1</b> of pandemic (medium risk eg. Diabetic retinopathy R2, diabetic macular oedema)
Patients we will see in <b>recovery phase 2</b> of pandemic (eg. medium risk branch retinal vein occlusion, central serous retinopathy)
Before deciding on the type of consultation, tele-triage with notes, letters, EPR, telephone,

email etc before the booked appointment.			
Consider using non-medical staff to help with the tele-triage by completing a simple proforma asking patient YES/NO questions to any change in eye condition and any problems with sight.			
Consultation / Eye disease	High Risk	Medium Risk	Low Risk
F2F (Face-to-Face)	Already happening/ Priority	Recovery phase 1	Recovery phase 2
Vir (Virtual) <i>HES, optical practices &amp; community diagnostic centres</i>	Already happening/ Priority	Recovery phase 1	Recovery phase 2
Tel (Telephone)	Already happening/ Priority	Already happening/ Recovery phase	Recovery phase 1
Vid (Video)	Already happening/ Priority	Already happening/ Recovery phase	Recovery phase 1
Co-Managed (with community optometrist)		Already happening/ Recovery phase	Recovery phase 1

Other things to implement to support this:

- Telephone and ideally video/virtual advice and guidance line for community optometrists
- Remote prescribing
- Patient initiated follow ups for some conditions
- Ensure documentation of outcome following remote consultation
- Ideally use networked EPRs and imaging platforms, made accessible to the community clinicians and hospital clinicians off site
- Consider prospective patient feedback on new ways of working.

### Making your prioritisation plan – surgery

Consider adapting this table to plan the prioritisation of operations according to the following key principles:

- Level of clinical priority
- Risk of Covid spread to patients and staff

Priority Grading	Definition	Possible Examples
<b>1</b>	Sight threatening <3 months Emergency work Urgent cases where	Acute RRD Trauma

		irreversible loss of vision likely within 3 months Urgent oncology	Ocular oncology Retinoblastoma Glaucoma patients not tolerating diamox
2	Sight threatening <6 months	Urgent cases where irreversible loss of vision likely within 6 months	Macular hole surgery Glaucoma surgery
3a	Sight restoring high priority	Restoring vision in only eye or allows patient to return to work	Cataract only eye Some squint
3b	Sight restoring / other	Improves VA, independence, QOL, other	Cataract Strabismus

### How possible is it to separate Covid positive and negative patients and run a “clean” or “cold” ophthalmology pathway or site?

Based on NHSE plans for continuing to deliver cancer services on “clean” Covid free sites and joint surgical college guidance, these are some of the options can be considered to identify and identify and exclude Covid patients and create a clean ophthalmology stream:

- Site not part of a hospital providing care to Covid infected patients or identified segregated area where exit and entry separate from main hospital
- Active staff management including strict isolation policies for symptomatic or at-risk (contacts) staff
- Staff viral swab testing
- Questionnaire to identify affected or at-risk patients (travel, contacts, symptoms etc) pre arrival and again on arrival and defer as required
- Temperature checks on arrival – low sensitivity
- Test all surgery and procedure patients or test patients likely to generate AGPs eg phaco, vitrectomy, adnexal mucosal work, GA. For surgery, other specialties are undertaking swab testing 48-72 hours before, with surgery going ahead if negative. The false negative rate for swabs is around 30%.
- Asking patients to self-isolate, usually after negative viral swabs eg for 1 or 2 weeks.
- Calling patients in, testing and isolating in a side room in hospital pre surgery – not likely to be practical in ophthalmology
- CXR or CT scans of the chest. This is not useful as a widespread screening tool due to its low sensitivity and the low pre-test probability of disease. Where used, it is usually to identify patients whose preoperative assessment indicates that they will need level II/III Critical Care in their postoperative recovery due to respiratory compromise or in Covid cases needing very urgent surgery in order to make a

decision whether it is safe to proceed as GA can significantly further compromise the respiratory function.

If units attempt a segregation into a “clean” pathway, they may decide to reduce the level of PPE in that pathway, for example reducing to the minimum level with no FFP3 masks in most theatres, no visors or goggles (which make it difficult to see) and less requirement to space out theatre cases or maintain physical distancing.

However absolutely none of the above can guarantee a pathway being 100% Covid free, they just reduce the likelihood. This may change as more reliable swab tests or serology testing emerge.

The alternative is to continue activity as if all patients are potentially infected, identifying where AGPs or potential AGPs require the higher level of PPE and depending on the air flow of theatre a gap of 5 (laminar flow) or 20 (non-laminar flow) minutes between patients. This may slow the flow but has the advantage of consistency and no requirement for complicated testing regime and monitoring results for patients and staff.

## **Surgery**

Beyond decisions about attempting to create a Covid free pathway, a number of things can be introduced for safety and efficiency.

- Unless an emergency, defer all likely or probably positive patients until Covid free or completed their isolation
- Minimise talking by patient and staff in close proximity
- Use digital and remote preassessment methods
- Consider all-day lists
- Consider allocating theatre lists by demand rather than a routine schedule and revise job plans accordingly
- Consider accepting lower flow (fewer patients) on lists and do more lists
- Consider surgeons using multiple theatre rooms each with a scrub team with fewer patients on each but overall still good numbers on a list
- Consider bilateral simultaneous cataract surgery
- Use staggered arrivals, multiple waiting areas or spaced out waiting chairs
- Adhesive drape and/or face mask for patients to isolate nose and mouth
- Drapes adhesive to the microscope to direct air away from surgeon and staff
- Rapidly introduce the many known strategies for improving efficiency or reducing wasted time in lists:
  - Risk stratify patients for ophthalmic risk and systemic comorbidity with clear documentation and better match surgeon/list to case

- Consistent guidelines and decision making for pooled lists
- Written clear protocols on IOL selection and INR/BM/BP
- Simple clear records and preassessment info
- Have enough support staff for rapid turn-around of patients
- Use dilating pellets instead of drops
- Nurses check and mark eye
- Establish sub-waiting areas near to theatre for the next patient
- “Golden” first patient on list
- Ensure start on time and all equipment and preparations made well in advance via an effective team brief
- Use non-medical staff to prep, drape, speculum, position microscope and draft op notes
- Patients not to get on and off operating trolleys in theatre
- Set minimum standards for surgeons on productivity
- Record time and motion and use to drive change, eg via the UKOA Eyefficiency app.
- Protect training as much as one is able, more robustly identify straightforward cases and consider separate business and training lists. Ensure all trainees have regular supported access to surgical simulation.

### ***What is an AGP in ophthalmology?***

This is uncertain. It is clear that aerosols generated from some non-ophthalmic procedures from the upper respiratory tract, including the mouth, throat, nose and sinuses, are a high risk for generating infective aerosols that can transmit Covid to those who inhale it.

It is widely agreed that adnexal procedures involving the lacrimal and nasal mucosa fulfil the criteria used by PHE for high risk AGP. There is some concern that intraocular surgery using high speed devices such as vitrectomy and phaco are AGP and, for now, it has been advocated by the RCOphth, and specialist societies to “where possible” use full PPE. In reality, it is an unknown. The Covid virus is uncommon and has a low viral load in the conjunctiva and tears even of infected patients. There is debate about the degree and type of aerosol generated and whether virus can occur in these sprays generated from intraocular contents or the ocular surface. There is some evidence that normal breathing and talking generate aerosols but it is uncertain whether these are dangerous to those remaining near the patient for some time.

Units have to take a decision on how to approach these significant uncertainties given limitations on PPE availability. Whilst it had not been a problem to take this safety first high level PPE approach during a period of very restricted surgery, it may create significant supply problems when surgery reopens.

## Outpatients

In addition to decisions on clinical prioritisation consider:

- Robust referral refinement and avoidance of unnecessary first attendances, including:
  - Integrated working with primary care optometrists
  - providing better information and self-care resources for patients
  - using OCT to screen DMO referrals
  - virtual screening, advice and guidance etc to deflect or better triage.
- Provide as much care as possible via:
  - Virtual clinics (in hospital or using community optometrists or community diagnostic hubs or, as technology improves, via patient submitted data)
  - Telephone clinics
  - Video clinics
  - Optometrist shared care pathways eg postop cataract, glaucoma, retina.

This will require consideration of a major change in staffing including the recruitment of technicians and HCAs for diagnostic data collection for virtual clinics.

- Robust discharge and follow up timing guidelines, clearly adhered to and overseen/audited/rechecked by consultants; do not see patients where there is no benefit.
- Use EPRs and imaging platforms available on and off site and ideally shared between providers, and with primary care optometrists or community diagnostic centres as much as possible to allow remote working and virtual working.
- Increase use of non-medical clinical staff in extended roles.
- Simple clear decision-making tools and protocols including for juniors, non-medical staff, primary care optometrists and GPs. For example, BIOS are creating a range of such tools for paediatric eye care.
- Utilise the many suggestions for physical distancing and minimising face-to-face or close contact detailed in the RCOphth Covid guidance eg waiting areas for more vulnerable patients, minimise or cease accompanying visitors with patients, standardised pathways and diagnostic bundles, block off 2 in 3 seats in waiting rooms, daily “huddle” to plan work etc
- Try to avoid patients attending multiple different subspecialty eye clinics
- Patients to wear masks
- Consider working longer days and weekends to spread out the work and reduce crowding.
- Good ventilation in clinical rooms and waiting areas where possible.

## A&E

- NHS Wales, Scotland and Northern Ireland have established national emergency contracts and business continuity planning to keep optical practices open for emergency general ophthalmic services (GOS) and potentially eye care via independent prescribing optometrists for a range of acute eye conditions.
- NHS England is advising all commissioners to ensure they have systems to allow optical practices to be open and support acute eye care and help prevent referrals. For places where there is no such scheme and issues with accessing urgent eye care, NHSE/I has published a service specification for an emergency CUES (Covid urgent eyecare scheme). This allows optical practices to link with HES to provide more acute eye care through phone, video and some face-to-face consultations, seeking advice, guidance and remote prescribing from hospital ophthalmology colleagues.
- It is crucial that the hospital eye service has a well-staffed phone line with advice available, including rapid availability of a consultant, to advise optometrists who wish to refer or to advise them on providing care in their practice and remote prescriptions.

## Conclusions

All of the decisions we now have to take on reopening care are simply a largescale exercise in risk–benefit analysis, in an environment of great uncertainty informed by limited evidence. This has always happened in our daily clinical ophthalmic practice but it is very important to clearly document discussions and decisions not only on individual patient management but also decisions on service provision.

Ophthalmologists, particularly clinical leads, need to work with managers, the ophthalmology multidisciplinary team, and commissioners and local optometrists, to plan how to reopen services. They need to consider how to incorporate implementing changes beneficial for longer term service sustainability.

Key points to consider are:

- Whether to attempt a Covid-free “clean” ophthalmology stream or to continue treating all patients as potentially infected.
- Adapt surgical and face-to-face outpatient visits to support shielding and physical distancing.
- Incorporate new ways of working – phone / video consultations, virtual telemedicine, shared care with primary care optometrists.

- Ensure all existing and new patient records/data are assessed by consultants to be stratified by clinical priority (based on local adaptation of RCOphth guidance), risk of spreading Covid and potential modality/site of assessment
- Ensure significant continued consultant input into referral triage, clinical decisions and discharge.
- Reassure ophthalmic clinicians that potential risks from ophthalmic aerosol generating procedures and prolonged close proximity with patients' faces are being addressed and mitigated as far as possible.
- Potential for a regional approach linking several providers with community optometrists and community diagnostic hubs to optimise resource use and maintain services during fluctuations in individual units' capacity.
- The current situation requires significant, sustained consultant input, a willingness to mitigate rather than eliminate risk, and this is a major logistical task. However, it is also an opportunity to rapidly innovate and drive a long overdue transformation in ophthalmic services to match capacity to demand and prevent harm from delayed care.

## References

Covid-19 clinical guidance for ophthalmologists. RCOphth 2020.

<https://www.rcophth.ac.uk/2020/04/covid-19-update-and-resources-for-ophthalmologists/>

Coronavirus guidance. PHE. <https://www.gov.uk/government/collections/coronavirus-covid-19-list-of-guidance>

NHS England specialty care guides 2020.

<https://www.england.nhs.uk/coronavirus/publication/specialty-guides/>

Intercollegiate guidelines for surgery 2020: <https://www.rcsed.ac.uk/news-public-affairs/news/2020/april/intercollegiate-guidance-for-pre-operative-chest-ct-imaging-for-elective-cancer-surgery-during-the-covid-19-pandemic> and

<https://www.rcseng.ac.uk/coronavirus/joint-guidance-for-surgeons-v2/>

Clinical guide for the management of essential cancer surgery for adults during the coronavirus pandemic. AoMRC, NHSE 2020. [https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/04/C0239-Specialty-guide-Essential-Cancer-surgery-and-coronavirus-v1-70420.pdf?utm\\_campaign=1366433\\_COVID-19%20Special%20Update%3A%20Issue%202&utm\\_medium=dotmailer&utm\\_source=emailmarketing&dm\\_i=4D4N,TACH,1183ZU,3J86T,1](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/04/C0239-Specialty-guide-Essential-Cancer-surgery-and-coronavirus-v1-70420.pdf?utm_campaign=1366433_COVID-19%20Special%20Update%3A%20Issue%202&utm_medium=dotmailer&utm_source=emailmarketing&dm_i=4D4N,TACH,1183ZU,3J86T,1)

Clinical guide to surgical prioritisation during the coronavirus pandemic. RCS England, RCS Edinburgh, RCSP Glasgow 2020. [https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/C0221-specialty-guide-surgical-prioritisation-v1.pdf?utm\\_campaign=1366433\\_COVID-19%20Special%20Update%3A%20Issue%202&utm\\_medium=dotmailer&utm\\_source=emailmarketing&dm\\_i=4D4N,TACH,1183ZU,3J86T,1](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/C0221-specialty-guide-surgical-prioritisation-v1.pdf?utm_campaign=1366433_COVID-19%20Special%20Update%3A%20Issue%202&utm_medium=dotmailer&utm_source=emailmarketing&dm_i=4D4N,TACH,1183ZU,3J86T,1)

COVID-19 precautions needed in ophthalmology. *Medscape* Apr 16, 2020.

<https://bit.ly/3eteKTq> Ophthalmology.

Important coronavirus updates for ophthalmologists. American Academy of Ophthalmologists.

<https://www.aao.org/headline/alert-important-coronavirus-context>

Local Resumption of elective surgery guidance. American College of Surgeons 2020.

<https://www.facs.org/covid-19/clinical-guidance/resuming-elective-surgery>

Covid-19 urgent eye care specification (CUES) in England. NHSE/I 2020.

<https://www.college-optometrists.org/the-college/media-hub/news-listing/nhs-england-covid-19-urgent-eyecare-service-cues.html>

Scottish Government: Information and resources regarding novel coronavirus (COVID-19) for all community optometry practices and practice staff in Scotland.

<https://www.sehd.scot.nhs.uk/index.asp?name=&org=&keyword=PCA%28O%29&category=7&number=10&sort=tDate&order=DESC&Submit=Go&offset=0>

Welsh Government: Guidance on the provision of urgent and essential eye care and financial support during Covid-19

<https://www.college-optometrists.org/uploads/assets/effe2e69-1321-4f59-8bdb9d17a0354ef2/Welsh-Government-Optometry-Practice-Services.pdf>

HSCNI (Northern Ireland government) Coronavirus (COVID-19) support. for optometrists.

<http://www.hscbusiness.hscni.net/services/3120.htm>

Evaluation of coronavirus in tears and conjunctival secretions of patients with SARS-CoV-2 infection. Xia, J., et al.,. *J Med Virol*, 2020.

Characteristics of Ocular Findings of Patients With Coronavirus Disease 2019 (COVID-19) in Hubei Province, China. Wu, P., et al., *JAMA Ophthalmol*, 2020

Influenza virus in human exhaled breath: an observational study. Fabian, P., et al., *PLoS One*, 2008. 3:e2691.

Exhalation of respiratory viruses by breathing, coughing, and talking. Stelzer-Braid, S., et al. *J Med Virol*, 2009. 81:1674-9.

## **Summary of key points for directors and non-ophthalmologists**

Ophthalmology is able to be segregated from other specialties and reopen services rapidly for a wider group of patients including sight restoring surgery such as cataract operations.

Services need to decide whether to attempt a Covid-free clean stream or to continue treating all patients as potentially infected

As a very high-volume specialty dealing with many elderly patients, surgical and face-to-face outpatient visits need adaptations to support shielding and physical distancing.

Ophthalmology is very suitable for new ways of working, which can be the default approach in some subspecialties – phone / video consultations, virtual telemedicine, shared care with

primary care optometrists. There is a significant opportunity to establish long-term beneficial service transformation as part of Covid recovery planning.

All existing and new patient records/data need to be assessed by consultants to be stratified by clinical priority (based on local adaptation of RCOphth guidance), risk of spreading Covid and potential modality/site of assessment

Significant continued consultant input into referral deflection, timing and modality of follow ups and discharge is required, backed up by simple decision making and pathway documents.

There is limited evidence on the risk to ophthalmic clinicians from ophthalmic aerosol generating procedures and prolonged close proximity with patients' faces. Staff of all disciplines will need reassurance that these risks are being addressed and mitigated as far as possible.

A regional approach linking several providers with community optometrists and community diagnostic hubs optimises resource use and makes it easier to maintain services during fluctuations in individual units' capacity. It is the recommended model for longer-term service development and sustainability.

This document provides detailed guidance on how to approach reopening services and preparing for a fluid approach to phased recovery interrupted by potential further lockdowns.