Moorfields Eye Hospital NHS Foundation Trust

NHS

How to maintain essential care in Covid

Dr Melanie Hingorani FRCOphth
Consultant Ophthalmologist, Clinical Director for External Engagement and Policy
Chair of Professional Standards, Royal College of Ophthalmologists
Chair, UK Ophthalmology Alliance

Dr Declan Flanagan FRCOphth
Consultant Ophthalmologist
Chairman Joint Research Governance Committee
Vice President, Royal College of Ophthalmologists

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Moorfields and the national response

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The UK and Moorfields

1. NHS vs private – 10% UK population have private healthcare insurance
2. Moorfields was historically self-sufficient but in recent years has made a deliberation strategic effort to engage, influence and lead the external environment
3. Highly regulated system: regional and national, with obligations and significant restrictions to decisions on how we operate
    - in recent times heavily driven by targets – financial and timing rather than clinical priority or risk
    - “internal market” and competition, with private sector bidding for NHS work
    - many NHS managers required
    - culture of mutual support
4. Ability to allow non-medical professionals to do more medical work, particularly primary care/community optometrists (opticians)
5. Longstanding capacity issues with delay to follow up causing harm, seeking national service transformation: a number of projects were being brought together under one programme
6. Educational and research arms

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Challenge 1: At the beginning

	Issue	Details
1	Initially unclear how significant and overwhelming an issue it was – or just another false alarm	• College slow to recognise the significance and need to provide materials and guidance urgently: AAO ahead • Moorfields drove a "*National Ophthalmology Covid Group*" to feed information and resources back and forth between key players nationally: NHS Improvement (GIRFT), NHS England adviser, AoMRC, Moorfields and Manchester Royal Eye MDs • Ended with a twice weekly national videocall and daily *RCOphth Covid Response Team* call • Clinical leads forum
2	When would things change?	• Awareness that something would happen but what was the date? • Ensure preparations were made now so that if happened suddenly there could be an immediate reaction • Work to warn clinical leads across the UK to prepare now and guidance particularly on risk stratification & records review all patients • UK government was criticised for slow response, "herd immunity" response • In the end cessation of all "routine and elective care" on March 24th • Private providers seconded to NHS Covid medical care or asked to cease elective eye care and be on standby to support NHS eyecare • Once lockdown confirmed, rapid development of guidance on new ways of working and efficient clinical protocols linking with major hospitals and what they were doing
3	How much disruption would there be?	Anything from virtually none to complete absence of care for eye services

RCOphth - Ophthalmic Care Risk Stratification Tool

Speciality	High Risk (Remain Face to Face)	Medium Risk Video or Phone Consultation with F2F followup rebooked for first part of recovery phase	Low risk Rebooked 6 months ahead
Glaucoma			
New	Urgent internal or external referrals with IOP >38mmHg	Not suitable as asymptomatic disease	Patient by patient triage of new referrals needed
	Urgent internal referrals with uveitis, neovascular glaucoma		
	Acute angle closure glaucoma		
Follow-up	High risk avoidable vision loss within 2 months - found by review of clinics	Post-op cataracts (no previous glaucoma Sx) done by glaucoma	Stable monitoring/Virtual clinic/Optom led clinic patients postponed 6 months ahead without review
	Post-op patients with surgery (within 6/52 of trabeculectomy; 3/12 tube)		Cons led clinics stratify by planned f/u at last appt if 6 months or over = postpone by 6 months if 3-6 months planned = postpone by 4 months if <3 months needs case by case review to identify those possible high risk needing face to face
	Consultant led clinic pts where followup interval was 4 weeks or less (suggesting high risk)		
Surgery	High pressure uncontrolled medically with risk of rapid loss of vision		Delaying surgery in this group may lead to loss of vision in some therefore needs consultant review of cases and work on retriaging and stratifying whole population before recovery phase
	High risk vision loss in only eyes inc 5% of cataract surgery for angle closure		Defer cataract surgery for 6 months
Medical Retina			
New	Referral for proliferative diabetic retinopathy, CNVM (wet AMD and others), CRVO		Delay by 3 months to Face to Face clinics - referrals from DR Screening with severe NPDR), referrals with suspicion of BRVO, recent onset CSCR.
Follow-up	Listed for R3A laser but not delivered yet		
	Newly identified wet AMD to follow protocol for treatment. AMD patients beyond first year will maintain current followup interval with less clinic journey time due to no OCT and subjective VA only in prior to	Video consultation for some patients will be considered but unclear how feasible	Delay by 4-6 months to Face to Face clinic -severe NPDR (recent progression), post-op macular oedema, chronic CSCR, any other macular oedema
	Only patients identified by a consultant review will continue injections for DMO/RVO		Delay by 6 months to Virtual clinic or Face to Face - R1M1 patients, 'stable' severe NPDR (R2) patients (no
	First follow-up post PRP for R3A/Neovascular glaucoma		
Surgery	Indirect PRP working with the VR service		Cataract surgery in MR patients can be delayed in nearly all cases
Adnexal			
New	2 week wait news / lid oncology	Moderately active thyroid eye disease	Lumps and bumps patients - chalazion/papilloma Watery eyes/lacrimal patients Most ptosis
	Visual loss secondary to adnexal conditions e.g. orbital		Mild or stable thyoid eye disease patients
Follow-up	Post-op complex surgery	Post-op simple surgery with or without sutures	Patient by patient review to check no high risk factors,
	Orbital cases with visual loss		
	Tumour cases		
	Severe inflammatory orbital cases		
	Immunosuppressed patients losing vision due to adnexal disease - review in a dedicated area (see uveitis section		
Surgery	Tumour cases or orbital with visual loss		Most other surgery could be postponed
	Lid trauma		

Ocular Oncology			
New	All new referrals but with enhanced triage by team		
Follow-up	Patients on less than 12 month follow-up interval	Patients on greater 12 month follow-up interval	Patients with no issues on video/telephone triage could be delayed further
Surgery	Expected to continue unless extenuating circumstances		
General Ophthalmology			
New	None	Triage consultation for routine referrals via	
Follow-up	None	All patients triaged via phone/video consultation	Postponement or discharge from phone/video triage
Genetics			
New	None		All patients
Follow-up	None	Small number higher risk patients	Most patients
Vitreoretinal Surgery			
New	Vitreoretinal emergency services to remain open		
Follow-up	Complex surgery post-ops	Most routine post ops	ERM, macula hole
Surgery	Surgery on patients identified by sitreoretinal emergency service Support for MR service with indirect PRP Trauma support		Routine surgery could be delayed with minimal risk but must be reviewed on a case by case basis
Cataract			
New	None		Deferred for 6 months
Follow-up	Complex post-op or complications	Routine post-op managed by telephone	Routine follow-up delayed
Surgery	Unlikely unless support for other services e.g. uveitis		
External			
New	Acute serious corneal pathology including trauma	Minor trauma eg abrasions or foreign bodies, blepharitis, dry eye etc potentially managed by optometrists or non face to face	Referrals from external sources triaged to allow longer delays
Follow-up	Post-op patients Other unstable patients on short followups e.g. under 6 weeks Immunosuppressed patients losing vision due to external disease - review in dedicated area (see uveitis section below)		Patient by patient triage needed Cross-linking could be delayed with minimal risk but must be reviewed on case by case basis
Surgery	Urgent cases, perforations etc Trauma support		Graft surgery/keratoconus surgery
Paediatrics			
New	Sight or potential life threatening conditions Cataracts causing amblyopia or under 8 months old Other conditions with rapid amblyogenic potential Orbital inflammation and infection Suspect glaucoma	Reduced vision (0.2 logMAR or worse) in both eyes Reduced vision in one eye in under age 7	Triaged on a case by case basis with clinical team but be postponed by 6 months
Follow-up	Follow-up for the conditions listed above Post-ops (major) within last 2 months Children on medication (drops or systemic) for glaucoma, uveitis, corneal disease	Patients having amblyopia treatment Paediatric oculoplastic/adnexal cases	Patient by patient triage needed Minor ops eg probing can be potentially discharged or phone review
Surgery	Surgery for High IOP, acute emergencies or acute amblyogenic conditions Anaesthesia for examination or intravitreal injections to treat CNV Cataract surgery in under 8 month olds or where causing amblyopia		
Strabismus			
New	Triage of referrals on patient by patient basis		Most are low risk
Follow-up		May be possible to get an idea of severity on video that will aid triage to delay clinics	Most can be safely deferred Toxin clinics can be delayed safely
Surgery			Can be delayed
Neuro-Ophthalmology			
New	Patient by patient triage needed	Neuromuscular disorders	
Follow-up	Patient by patient triage needed Immunosuppressed patients losing vision due to neuro-ophth condition - review in a dedicated area (see uveitis section below)	Neuromuscular disorders	Stable followup on a patient by patient basis
Uveitis			
New	Panuveitis Posterior Uveitis Retinal vasculitis Intermediate uveitis with vision loss	Anterior uveitis in A&E to be given standard 6-8 tapering drop course then telephone consult at 7-9 Clinic review in 3 months if indicated by telephone consultation	
Follow-up	Reviewed ahead of clinic by telephone triage on a patient by patient basis but potentially of patients may have to continue to attend if worsening vision Immunosuppressed patients needing to attend uveitis clinics are high risk medically and efforts should be made to review by telephone/video triage. Where this triage identifies vision loss they should be invited to attend face to face with efforts to isolate them from other patients e.g. dedicated clinic area or time period	Anterior uveitis patients (will require ability to post medication)	
Surgery	Urgent surgery to allow visualisation for diagnosis		Cataract surgery for uveitis patients could be delayed

Rapid guidance

RCOphth: Management of Ophthalmology Services during the Covid pandemic

*Please note the coronavirus situation changes rapidly. This is the most up to date advice we have at this time, please check the Gov.UK website:
https://www.gov.uk/government/collections/coronavirus-covid-19-list-of-guidance

and the RCOphth website for updated information
https://rcophth.ac.uk/2020/03/covid-19-update-and-resources-for-ophthalmologists/

Guiding principles

The risk of patients acquiring COVID-19 infection during an ophthalmology appointment must be weighed against their risk of coming to harm through failure to treat serious eye disease. The RCOphth recommends the following be implemented at NHS clinics, private practice, and independent treatment centres with immediate effect:

All routine ophthalmic surgery should be postponed

1. All face-to-face outpatient activity should be postponed unless patients are at high risk of rapid, significant harm if their appointment is delayed
2. Ophthalmology Accident and Emergency services should stay open with consultant level support for both triage and seeing patients
3. Routine diabetic retinopathy screening should be postponed, with provision made for high risk situations eg pregnancy

Prioritising and Managing Patients – Put plans in place

Hospitals and eye units need to have plans to prioritise care for patients who have sight or life threatening conditions, to deliver non face-to-face care and to defer appointments for non-urgent elective surgery, outpatients and low risk patients.

All non-urgent elective operations, low risk or non-urgent outpatient care should be suspended immediately with plans to review and rebook as required. You should discharge all in-patients who are fit to leave. For unplanned attendances, low risk patients with minor eye conditions (eg conjunctivitis) should be diverted with appropriate advice on self-management, the likelihood of spontaneous resolution and red flag symptoms. A senior ophthalmologist or consultant should supervise urgent and A&E clinics.

Urgent and emergency eye services must not cease for patients with sight or life threatening conditions who require urgent treatment. When undertaking urgent surgery, restrict general anaesthesia to cases where there is no other option but to use a general anaesthetic.

Communication systems should be put in place to manage and advise patients on their condition and care. There should always be a nominated senior ophthalmologist available to support communications with patients and provide advice to community optometrists and GPs. Eye patients should be given accurate and reassuring advice regarding risks of coronavirus infection and protecting against avoidable loss of vision, patients need to be

Draw up plans for future service maintenance for emergency-only patients should the situation seriously deteriorate. Ensure that senior trust leaders understand that some ophthalmology services for conditions which are imminently sight, eye integrity or life threatening with requirement to be treated urgently MUST CONTINUE, especially if the patient is under 70 and the only/better seeing eye is affected. These include:

- Glaucoma
  - acute glaucoma
  - uncontrolled very high IOP >40mmHg or rapidly progressive glaucoma
- Wet active age-related macular degeneration
- Sight threatening treatable retinovascular disease (proliferative diabetic retinopathy and ischaemic CVRO)
- Acute retinal detachments (macular on, macular off < 4weeks)
- Uveitis – severe active
- Ocular and adnexal oncology - active, aggressive, uncontrolled or untreated lesions
- Retinopathy of prematurity (screening and treatment)
- Endophthalmitis
- Sight threatening trauma
- Sight threatening orbital disease eg orbital cellulitis, severe thyroid eye disease
- Giant cell arteritis affecting vision

Patients within likely medical conditions which require urgent treatment eg acute third nerve palsy, Horner's syndrome, retinal artery occlusions, stroke, giant cell arteritis and papilloedema may be better served seen by the medical or general A&E team.

Managing face-to-face appointments

Before arrival in clinic

Work with your clinical lead for ophthalmology and your hospital infection control team to ensure messages reach patients that, if they are at risk or symptomatic, they should check before attending and can assess their symptoms online through the NHS 111 online symptom checker.

Communicate effectively through trust website pages, letters and text alerts, recorded messages on the hospital phone line, posters in clinic. Ensure admin staff at the front of the hospital or in reception know about eye patient protocols. Proactively call patients with scheduled appointments.

Subspecialty guidance

UPDATED 30 MAR 2020

Medical Retinal Management Plans during COVID-19

This guidance has been developed by the RCOphth COVID-19 Review Team in response to the pandemic and may be subject to change.

The Royal College of Ophthalmologists (RCOphth) has produced guidance as a pragmatic approach to maintain care for those patients who need it while deferring care for those patients who can wait. Individual eye departments may institute their own guidelines.

For patients already under review by the hospital eye service.

Wet AMD patients

Maintain all patients on 8 weekly anti-VEGF therapy with no clinic review unless they mention a significant drop in vision at their injection visit. Such patients may need OCT and VA assessments and management changed, if deemed appropriate.

DMO

Defer anti-VEGF injections and review in clinic after 4 months. Exceptions are eyes with severe NPDR and active PDR that may require anti-VEGF agents and PRP. Virtual review with OCT and wide field colour photography is the preferred option to review these patients.

BRVO

Defer review in clinic by 4 months

CRVO

For patients with macular oedema due to CRVO who have had at least 6 injections, consider PRP if required. Otherwise, review in clinic in 4 months.

Inherited retinal diseases

Delay review by 6 months or longer.

CSCR

Delay review by 6 months or longer.

Uveitis

Consultant decision on a case-by-case basis, on whether a review is required within 4 months. Most cases should be deferred by 4 months. Patients on immunosuppression should be managed virtually with blood tests done in local GP practice and following the specific Academy of Medical Royal Colleges guidance.

PRP Laser

Complete PRP but with appropriate PPE ie surgical masks and breathguard. If feasible do one more extensive PRP laser to delay need for a second PRP session.

Glaucoma Management Plans during COVID-19

This guidance has been developed by the RCOphth COVID-19 Review Team in response to the pandemic and may be subject to change.

The Royal College of Ophthalmologists (RCOphth) has produced guidance as a pragmatic approach to maintain care for those patients who need it while deferring care for those patients who can wait. Individual eye departments may institute their own guidelines.

Many units were already managing a backlog of outpatient reviews and further delay will cause anxiety for these patients and increase their risk of irreversible vision loss. Many glaucoma patients will fall into the vulnerable categories for COVID 19 including those over 70 years or older and those with co-morbidities. When deciding how to manage their glaucoma patients at this time, providers need to assess the risk of:

- visual loss for the patient from glaucoma
- population spread of COVID by people attending rather than staying at home
- loss of life of the glaucoma patient from acquiring COVID

During the COVID 'lock-down' period there will be little or no access to optometry practices and patients should not be directed there unless agreed in advance. However, use the wider workforce and your local community optometrists where you can to support the care described below, especially interim assessments and remote counselling.

Patients listed for surgery

Review clinical details of each case to identify those in need of immediate surgery and those that can wait for urgent or routine surgery, based on factors including:

- Level of vision and extent of visual field loss in the affected eye
- Is the affected eye the dominant or only seeing eye?
- Level of Intraocular pressure (IOP)
- Rate of visual deterioration
- Opportunity to temporise with additional medications

Priority for surgery should be given to those on maximal tolerated medication where IOP remains at a level likely to cause continued significant loss of vision in the short term.

Temporise if possible using additional medication (including oral acetazolamide if not contra-indicated) or diode laser or SLT. Ideally arrange medication provision in community via GP or posting prescription. Treatment effectiveness may need to be assessed – do this whilst minimising attendance and contact.

Postpone for 2 weeks operating on patients whilst symptomatic, with a temperature or in quarantine due to exposure, unless an emergency.

Chose the surgical procedure to minimise post-operative follow-up visits where safe eg convert from trabeculectomy to glaucoma drainage device or non-penetrating surgery. Procedures requiring intensive postoperative outpatient review and intervention with antimetabolite injections or suture manipulation should be avoided if possible.

Perform all cases possible using local anaesthetic and as day cases.

RCOphth COVID-19 RESPONSE

The world is experiencing unprecedented social change as a result of the COVID-19 pandemic. How we respond to the challenges we face will have a long-lasting impact on society. Our members have a combined duty to protect our patients, most of whom are elderly, whilst doing our best to preserve their vision. The College believes that this is best achieved by cancelling routine clinical activity, allowing resources available to be used to treat those identified as being at high risk of serious, permanent visual loss.

Protecting Patients Protecting Staff UPDATED 300320 sets out our core principles of organising ophthalmology services during COVID-19.

- All routine ophthalmic surgery should be postponed in NHS ophthalmology departments, private hospitals and independent treatments centres
- All face-to-face outpatient activity should be postponed unless patients are at high risk of rapid, significant harm if their appointment is delayed
- Ophthalmology Accident and Emergency Departments should stay open with consultant level support for both triage decisions and seeing patients
- Routine diabetic retinopathy screening should be postponed

On this page are relevant sources of ophthalmology specific guidance and national advice from healthcare organisations and government.

Michael Burdon
President, The Royal College of Ophthalmologists

INFORMATION WILL BE SUBJECT TO CHANGE AS GOVERNMENT GUIDANCE UPDATES

PPE Guidance

UPDATED RCOphth PPE for ophthalmology 090420
UPDATED RCOphth PPE Principles for ophthalmic staff protection 090420
NEW PPE and staff protection requirements for ROP screening and treatment 090420
NEW PPE in Oculoplastic procedures 170420
PHE guidance

RCOphth COVID-19 clinical guidance

Back to "About Us"

RCOphth COVID-19 RESPONSE

- RCOphth guidance on restoring ophthalmology services
- COVID-19 e-resources

NEW PPE in Oculoplastic procedures 170420
PHE guidance

RCOphth COVID-19 clinical guidance

RCOphth Management of Ophthalmology Services during the Covid pandemic 280320
Medical Retinal Management Plan during COVID-19 **UPDATED 300320**
Glaucoma Service Management Plans during COVID-19 270320
Vitreoretinal surgery management guidance 070420
Retinopathy of prematurity management during COVID-19 070420
Paediatric Ophthalmolgy management plan during COVID-19 090420
British Oculoplastic Surgery Society COVID-19 Prioritisation
RCOphth UKISCRS COVID-19 cataract surgery guidance 170420
Reopening and redeveloping ophthalmology services during Covid recovery – Interim guidance 290420

Guidance for immunosuppression and uveitis

Uveitis study group resources
Paediatric Ophthalmology/Rheumatology Risk Stratification/COVID-19 guidance
Rheumatology resources

Guidance for trainees can be found in Education & Training

Working with Optometrists

NHSE/I COVID-19 Urgent Eyecare Service specification (CUES)
Patient management principles between HES and the community 030420
London optometry referral triage guidance 090420
College of Optometrists

Clinical guidance from trusts

Moorfields Risk Stratification for Paediatric Ophthalmology 290320
Moorfields Ophthalmic Risk Stratification & Implementation Guideline V2.0
Eye care in ITU (adapted from Kings College Hospital protocol)
NEW Eye Care in ITU (adapted from UH Southamptom) 090420
NNUH VR service guidelines for COVID-19

Telemedicine

Overview of digital technology and telemedicine for COVID 060520
NNUH VR service guidelines for COVID-19

Other sources of information

Haag Streit template – Perspex breathguards for specific makes of slitlamp

Join our President Mike Burdon for the NHSCC webinar below:
https://t.co/fFdgTL96yI

Latest News

The Royal College of Ophthalmologists (RCOphth) welcomes the investment by the Welsh Government in two new simulators for ophthalmic trainees

Covid-19 RCOphth news – office closure, events and examinations

See all news

Upcoming Events

Sep 01 2020 — CESR Applicant Training Day

Sep 03 2020 — Introduction to Ophthalmic Surgery Course - 3 September 2020

Sep 04 2020 — Introduction to Ophthalmic Surgery Course - 4 September 2020

Challenge 2: Protecting patients and staff

	Issue	Details
1	Fear and concern: • What is the risk especially for ophthalmic staff? • Vulnerable groups • Evidence poor • Conjunctivitis • AGPs	• Signposting to national guidance PHE (Public Health England), hospital HR, infection control • Immunosuppression – joint guidance with uveitis and rheumatologists • Staff protection – pregnancy , immunosuppression, cancer, ethnic groups • Evidence review from Moorfields academics on RCOphth website • Working with PHE – inflexible • Making the case for ophthalmology in general hospitals • Aerosol generating procedures AGPs? Specialist societies • Managing staff at home – what are they up to? Why are they off?
2	Redeployment	• Staff in Moorfields protected but can volunteer – some doctors but many nurses, orthoptists and support staff did • Trainees in other hospitals • Consultants • Support proper standards for training/induction • Changing standards for training achievements and sign off • All in conjunction with national bodies • Plans for deskilling and reskilling
3	Limitations on PPE	Guidance from PHE and government – lack of trust Moorfields relatively unaffected and generous – others followed Variability or definite lack?

03 April 2020

Guide to social distancing for rheumatology and ophthalmology patients

Based on guidelines from British Society for Rheumatology and related medical associations , created by consultant rheumatologists at Leeds Teaching Hospitals NHS Trust and adapted by UCSG

NHS
The Leeds Teaching Hospitals
NHS Trust

START HERE

Do you take 20mg or more of prednisolone a day and have done for more than 4 weeks?

OR

Have you received a drug called cyclophosphamide within the last 6 months?

OR

Have you been taking 5mg or more of prednisolone daily for 4 weeks or longer, **AND** one or more of the medications in the blue box?

No

Can you answer yes to any of the the following?

- Are you over 70 years old?
- Have you had one of the following: diabetes, lung disease, kidney disease, angina, heart attack or heart failure, or need tablets for your blood pressure? This includes involvement of your lungs, heart or kidneys from your rheumatic disease.
- Have you needed extra treatment for your underlying disease due to a flare in the last 3 months?
- Do you get recurrent infections?

Yes

No

Yes

You are at HIGH risk and we advise you to follow the government's SHIELDING recommendations at www.gov.uk/coronavirus

Do you take **ONE OR MORE** of the medications in the blue box below?

OR

Have you been taking 5mg or more of prednisolone daily for 4 weeks or longer?

Yes

No

Your risk is LOWER

FOLLOW STRICT SOCIAL DISTANCING (no work outside the house and limit face to face interaction with people outside your home). Speak to your doctor if there are additional concerns

Do you take **ONE OR MORE** of the medications in the blue box below?

OR

Have you been taking 5mg or more of prednisolone daily for 4 weeks or longer?

Yes

No

You are at **LOW** risk

FOLLOW STRICT SOCIAL DISTANCING at this time

BLUE BOX

Conventional immunosuppressant medications include: azathioprine, leflunomide, methotrexate, mycophenolate (mycophenolate mofetil or mycophenolic acid), ciclosporin, cyclophosphamide, tacrolimus, sirolimus.

Biologic/targeted synthetic medications include: rituximab (within the last 12 months); or anti-TNF drugs (etanercept, adalimumab, infliximab, golimumab, certolizumab); tocilizumab; abatacept; belimumab; anakinra; secukinumab; ixekizumab; ustekinumab; sarilumab; canakinumab, baracitinib, tofacitinib, or any biologic biosimilars, eg, Amgevita, Hulio, Hyrimoz, Imraldi.

UPDATED 9 APRIL 2020

PPE and Staff Protection Requirements for Ophthalmology

The ROYAL COLLEGE of OPHTHALMOLOGISTS

	Disposable gloves	Disposable plastic apron	Disposable fluid resistant gown	Fluid-resistant type IIR surgical mask	Filtering face piece respirator	Eye or face protection (risk-assess infection control risk against practical difficulties in using device)	Slit-lamp breathguard
Performing an Aerosol Generating Procedure (AGP)	✓ **single use**	✗	✓ **single use**	✗	✓ **single use**	✓ **single use**	✗
High risk acute areas: **theatres where AGPs are performed**, ITU, HDU **(e.g. ophthalmology review of ITU patient)**	✓ **single use**	✓ **single use**	✓ **sessional use instead of apron**	✗	✓ **sessional use**	✓ **sessional use**	✗
Theatres where AGPs not performed	✓ **single use**	✓ **single use**	✓ **single use instead of apron if splashes likely**	✓ **single or sessional use**	✗	✓ **single or sessional use**	✗
Working in inpatient area within two metres **(e.g. ophthalmology review of ward patients)**	✓ **single use**	✓ **single use**	✗	✓ **sessional use**	✗	✓ **sessional use**	✓ **if using fixed slit lamp**
Any outpatient activity **(e.g. eye clinic, eye A&E)**	✓ **single use**	✓ **single use**	✗	✓ **sessional use**	✗	✓ **sessional use**	✓

Single use = disposal or decontamination of device between each patient or procedure.
Sessional use = dispose at end of a clinical session e.g. at the end of a clinic or when leaving the care setting.

AGPs relevant to Ophthalmology in **bold**:

• **Intubation**, **extubation** and related procedures (e.g. manual ventilation and open suctioning of the respiratory tract) • Any tracheotomy/tracheostomy procedures • Bronchoscopy and **upper ENT airway procedures** that involve suctioning • Upper gastrointestinal endoscopy where there is open suctioning of the upper respiratory tract	• **Surgery procedures involving high-speed devices** • Some dental procedures (e.g. high-speed drilling) • **Non-invasive ventilation** (e.g. CPAP and laryngeal masks) • High Frequency Oscillatory Ventilation (HFOV) • Induction of sputum • High-flow nasal oxygen

PPE and staff protection requirements for ROP screening and treatment 090420

Examination setting	Disposable Gloves	Disposable Plastic Apron	Disposable Fluid Resistant gown	Fluid Resistant Surgical Mask (Type IIR)	Face Filtering Piece Respirator (FFP 3)	Eye/Face protector
No assisted respiratory support[1] **Non COVID-19** **SCREENING**	✓	✓		✓ (sessional use)		✓ (risk assess if there is a likelihood of splashing of body fluids vs difficulty in obtaining good visualisation)
No assisted respiratory support **COVID-19 suspected or confirmed**[2] **SCREENING**	✓		✓ (single use)	✓		✓ (risk assess if there is a likelihood of splashing of body fluids vs difficulty in obtaining good visualisation)
With assisted respiratory support **Non COVID-19 or COVID-19 +VE** **SCREENING**	✓		✓ (single use if COVID+ve patient seen)	✓ (if invasive ventilation, sessional use)	✓ (if non-invasive ventilation or uncertain eg CPAP)	✓ (risk assess if there is a likelihood of splashing of body fluids vs difficulty in obtaining good visualisation)
COVID-19 suspected or confirmed OR COVID negative[3] **TREATMENT**	✓		✓		✓	✓ (risk assess if there is a likelihood of splashing of body fluids vs difficulty in obtaining good visualisation)

NHS

Challenge 3: Utilising optometrists

	Issue	Details
1	Optometrists told to not deliver routine work – business model means closure	• Optometrists provide majority of referrals • Referral refinement • Minor eye care • Shared care work
2	Allowing optometrists to do more as emergency measure	• Other nations: Wales, Scotland, N Ireland – emergency contract supporting current schemes • Two Colleges principles document • England – Colleges worked to create CUES – Covid Urgent Eyecare Service - able to use video, triage, get remote advice and support and prescribing from hospital, dedicated phone line • Definitely only for Covid period but can be built on – medium risk patients getting interim checks eg glaucoma, virtual assessments • Support for PPE • Utilisation of the London guidance
3	Longer term	Morphed into transformation for the long term – minds have been changed Small working group of key players and providers Incorporate tech, community diagnostic hubs and virtual care

Ophthalmology and Optometry Patient Management during the COVID-19 Pandemic

3 April 2020

The COVID-19 pandemic has seriously affected the provision of eye care in primary and secondary care. Measures currently in place to protect people from acquiring the infection will undoubtedly lead to vision loss that, in normal circumstances, would have been preventable.

The Royal College of Ophthalmologists and The College of Optometrists are working together to minimise the risk of visual loss by maintaining essential eye care in hospitals and the community. This will require good communication between optometrists and their local eye departments, and local funding arrangements reflecting the additional work being carried out in optometry practices. This work will have an immediate benefit for patients, and pave the way for a more integrated eye care service when normal service resumes.

The management plan is based on two key principles that define the overall strategy. Operational details of how the strategy is delivered will vary across the four nations, reflecting pre-existing eye service arrangements, local commissioning agreements, and the service capacity available.

Both Colleges will be working to support national organisations with the development of more detailed arrangements.

Principles

- Balance risk of significant visual loss and risk of acquiring COVID-19 infection by face-to-face contact.
- Direct patient contact should take place with a clinician capable of making appropriate management decisions

Strategy

1. Continue to provide care in hospitals for patients known to have conditions putting them at risk of severe visual loss within two to three months
2. Hospital ophthalmologists to monitor deferred clinic appointments and provide telephone/written advice to patients
3. Provide consultant led and triaged A&E services for emergency and urgent conditions
4. Telephone advice for less urgent and chronic conditions. This can be done by either hospital eye departments or optometrists who are able to liaise with both primary and secondary care colleagues
5. Use of existing primary care optometry services to see patients who have urgent conditions that can be diagnosed and treated within primary care, in conjunction with hospital-based ophthalmologists as required (see flow chart in Appendix 1)

Communication

Good communication between primary and secondary care will determine the success of this plan. Hospital eye departments should provide direct telephone access to an experienced clinician. Optometry practices should establish contact with their local eye departments to discuss what support they can provide for patients. Local prescribing arrangements will need to be put in place.

Management of patients whose Hospital Eye Service (HES) appointment has been postponed

During the pandemic, an estimated 80 to 90% of routine HES outpatient activity will be postponed. This will primarily affect patients with chronic eye diseases such as glaucoma, diabetic retinopathy and age-related macular degeneration. Ophthalmologists are making individual risk assessments based on the likelihood of patients suffering significant visual loss if their face-to-face appointment is deferred for a period of three to six months.

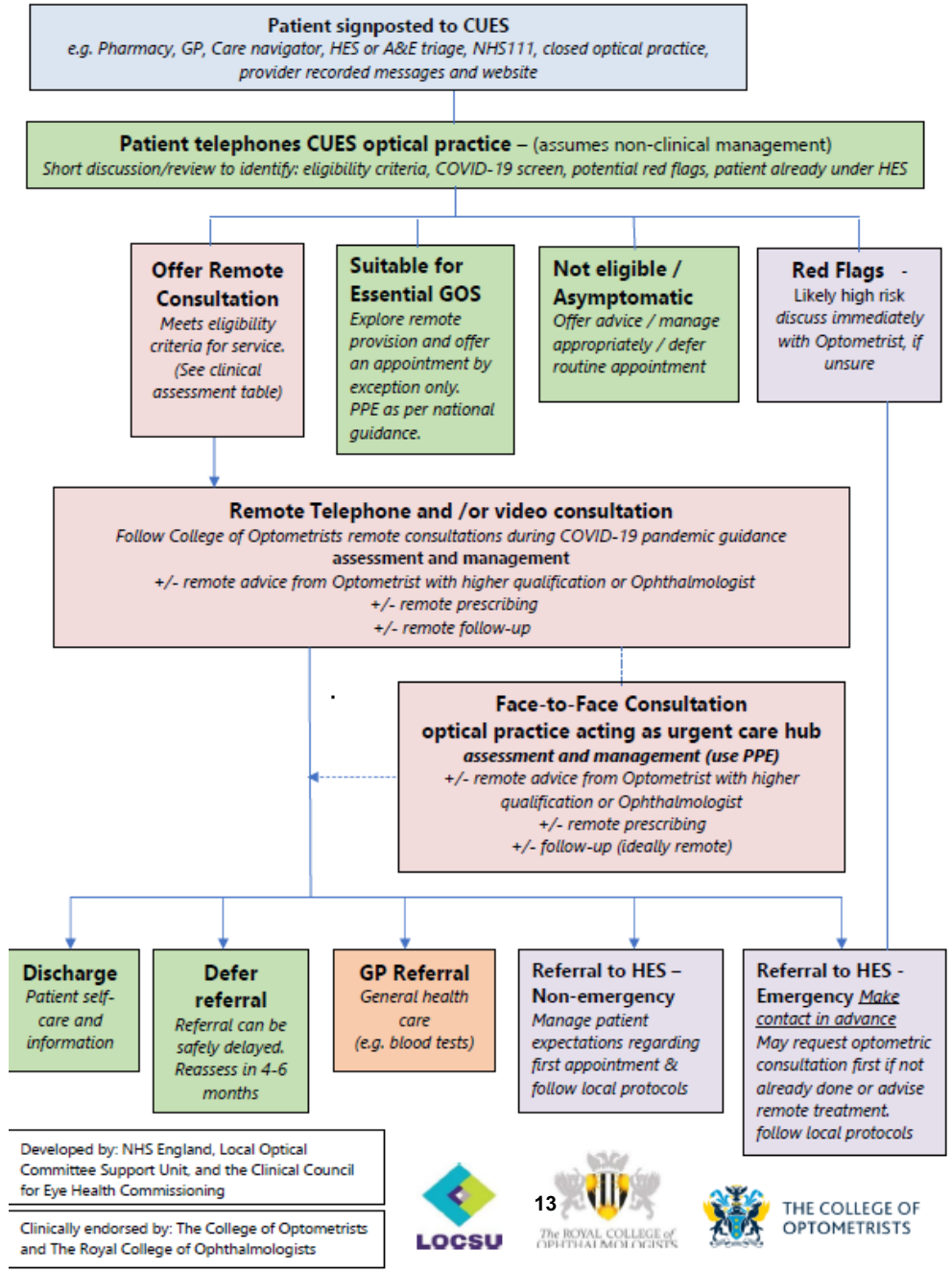
Patients at high risk will continue to be offered an appointment. Those at lower risk are receiving advice by telephone and letter, and are being asked to contact their eye department if they have any concerns. There may be local arrangements in place that formalise the role of primary and secondary care providers in managing some patients.

Some HES patients may seek help from their optometrist if they have concerns. In such circumstances, if no local arrangements exist, optometrists should:

- Encourage patients to contact their eye department. This will allow their concerns to be assessed against their ophthalmology records
- Give telephone advice where appropriate
- Only arrange a face-to-face assessment if it is clearly in the patient's best interests and, ideally, in discussion with the patient's eye department

Ophthalmology and Optometry patient management during COVID-19 030420 APPENDIX 1 FLOW CHART

CUES: COVID -19 Urgent Eye Care Service: Patient Pathway



Developed by: NHS England, Local Optical Committee Support Unit, and the Clinical Council for Eye Health Commissioning

Clinically endorsed by: The College of Optometrists and The Royal College of Ophthalmologists

LOCSU

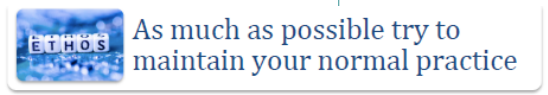
The Royal College of Ophthalmologists

THE COLLEGE OF OPTOMETRISTS

Service Specific	High Risk	Optometry Action		Medium Risk	Optometry Action	Low risk	Optometry Action
EYE EMERGENCY (note service specific							
Immediate (incl. out of hours)	**Chemical injury** (alkali more severe than acid). For any chemical injury, perform first aid:- irrigate in practice; assess eye and determine seriousness of injury.	In **severe cases** (limbal ischaemia or loss of corneal transparency) refer to ophthalmology	Telephone local ophthalmology unit first before referral. **Including out of hrs**. Be prepared to discuss case.	In **moderate cases** (no limbal ischaemia, mild-moderate corneal epithelial loss, normal corneal transparency).	Telephone local ophthalmology unit for advice & guidance. Advise treatment with chloramphenicol drops/ointment (from pharmacy).	In **mild cases**, e.g. contact lens solution accidents.	Do not refer. Telephone local ophthalmology unit for advice & guidance. If there is a corneal abrasion, treat with chloramphenicol drops/ointment (from pharmacy). Give ocular lubricants (preferably unpreserved) for symptomatic relief. For pain or photophobia, advise systemic analgesia and darkened room.
	Penetrating injury / High velocity injury	Refer to ophthalmology					
	Acute angle-closure glaucoma (AACG) Symptoms:- severe intense eye pain, blurred vision, rainbow-coloured halos around lights, nausea, and vomiting. Examination:- high IOP, mid-dilated sluggish pupil, corneal oedema.	Refer to ophthalmology					
	Endophthalmitis	Refer to ophthalmology					
	Severe eye pain with no relief from oral analgesia +/or vomiting (including post-op)	Refer to ophthalmology					
	Giant cell arteritis + vision affected	Refer to ophthalmology					
	Sudden complete loss of vision < 4hrs (CRAO)	Refer to ophthalmology		**Sudden complete loss of vision > 4hrs** (CRAO)	Communicate with ophthalmology to start management as per local stroke pathway (confirm in advance of setting up the service). **NB.** urgent blood tests (ESR/CRP) to exclude GCA must be done.		
	Orbital cellulitis:- acutely unwell adult or child with ocular symptoms, very swollen red lids, pyrexia, proptosis, limited eye movement.	Refer to ophthalmology (who will start the patient on main A&E, ENT or paediatric pathway)		**Pre-septal cellulitis:-** adult or child with swollen red lids BUT not acutely unwell, no proptosis, full eye movements.	For adults, contact local ophthalmology unit for advice & guidance to start antibiotic treatment. For children, contact local ophthalmology unit who will start the patient on the paediatric pathway.		
	3rd Nerve Palsy:- acute onset of painful ptosis, +/- pupil involvement (large pupil), diplopia and ophthalmoplegia.	Refer to ophthalmology (who will start the patient on urgent neurology, neuro-ophthalmology or medical pathway)		**Possible acute onset or recently noticed anisocoria**, no pain, no ptosis, no visual symptoms.	Contact local ophthalmology unit for advice & guidance.	**Long standing anisocoria and/or ptosis**	Do not refer
	Horner's Syndrome:- Acute onset +/-painful ptosis and anisocoria (small pupil).						
Same Day (within social hours)	**Blunt trauma:-** visual loss, hyphaema, traumatic mydriasis, very red/elevated subconjunctival haemorrhage (could indicate area of globe rupture), lid swelling and bruising.	In **severe cases** refer to ophthalmology	Telephone local ophthalmology unit before referral **within social hours**. Be prepared to discuss case.	In **moderate cases** consider following treatment; Lid oedema:- cold compress to ease swelling. Pain:- systemic analgesia e.g. paracetamol or NSAID. Significant tissue swelling:- consider NSAIDs. Corneal abrasion:- topical antibiotic. **Large/severe/non-resolving corneal abrasions**	Manage in practice. Contact local ophthalmology unit for advice & guidance and remote prescribing (if required).	In **mild cases** offer alleviation or palliation.	Do not refer. Manage in practice.
	Lid laceration	Refer to ophthalmology					
	Corneal foreign body (FB) unable to remove	Refer to ophthalmology					
GLAUCOMA							
	AACG (see above)	Contact local ophthalmology unit before referral. Be prepared to discuss case and if necessary arrange an appointment.		**IOP 20-30mmHg with advanced disc changes**	Refer to local ophthalmology unless direct imaging...		
	Rubeotic glaucoma						
	Uveitic glaucoma						
	Uncontrolled IOP >30mmHg with advanced disc changes						
MEDICAL RETINA							
	Suspect wet AMD	Contact local ophthalmology unit before referral. Be prepared to discuss case and if necessary arrange appointment.		**Uncertainty if wet AMD**	Contact local ophthalmology for guidance... imaging (id... patient that... seeing urge...		
	Active proliferative diabetic retinopathy (R3A); especially if new vitreous haemorrhage			**Pre-proliferative diabetic retinopathy or diabetic maculopathy (R2 or M1)**			
	Other proliferative retinopathy			**Central serous chorioretinopathy (CSCR)**			
	CRVO			**BRVO**			
				Macular oedema (e.g. post-op)			
ADNEXAL							
	Suspicious lid lesions - 2 week wait pathway	Contact local ophthalmology unit before referral for advice & guidance about 2ww pathway. If possible send images (ideally securely).					
	Visual loss secondary to adnexal conditions, e.g. orbital compression, severe thyroid eye disease (TED)						
OCULAR ONCOLOGY							
	Highly suspicious ocular tumour	Contact local ophthalmology unit for advice & guidance.					
VITREORETINAL							
	Retinal detachment - macula on	Contact local ophthalmology unit before referral for advice & guidance. Be prepared to discuss case and if necessary arrange appointment.		**Retinal detachment - macula off**	Contact local ophthalmology unit before referral for advice & guidance. Be prepared to discuss case and if necessary arrange appointment.	**Retinal hole - asymptomatic**	Give RD warning and manage in practice. Provide clear advice in writing or with leaflet. Consider review in practice in 3 months.
	Retinal holes - symptomatic					**Recent Floaters and Flashes -** Full history and dilated SLBIO	
						Epiretinal membrane	Do not refer. Consider referral to local ophthalmology unit via GP if worsening of symptoms after pandemic
						Lamellar hole	
						Full thickness macula hole	
						Lattice/snail track/holes in lattice	Do not refer
CATARACT							
	Dense cataract causing blindness in both eyes or only seeing eye	Contact local ophthalmology unit before referral for advice & guidance. Be prepared to discuss case and if necessary arrange appointment.		**Symptomatic cataract**	Use patient decision aid (PDA) to establish impact on quality of life. Maintain a list in practice of patients that want surgery. ONLY refer using local guidelines once Coronavirus pandemic is over. Advise patient of a long wait and delay in surgery.	**Cataract which is asymptomatic:-** Quality of life not significantly affected or patient does not want surgery	Do not refer. Recall as appropriate for routine sight test after pandemic.
PAEDIATRICS							
	Serious trauma	Contact local ophthalmology unit before referral and be prepared to discuss case.		**Leucocoria**	Contact local ophthalmology unit before referral for advice & guidance. Be prepared to discuss case and if necessary arrange appointment.	**Refractive amblyopia**	Manage in practice with cyclo-refraction and advice from local ophthalmology unit. Treat with appropriate refractive prescription. Refer routinely if deviation not adequately controlled.
	Non-accidental injury (NAI)			**Cataract causing amblyopia or under 8 months old**		**Accommodative esotropia**	
				Reduced vision (0.2 logMAR or worse) in both eyes		**Intermittent exotropia**	
				Reduced vision / strabismus in one eye under 7 years old			
NEURO-OPHTHALMOLOGY							
	Swollen optic disc +/- headache	Contact local ophthalmology unit before referral and be prepared to discuss case.		**Suspicious optic disc**	Contact local ophthalmology unit before referral for advice & guidance. If possible send fundus/disc & OCT images (ideally securely).	**Ocular migraine** (visual aura lasting 20 mins)	Do not refer to GP. Recall as appropriate for routine sight test after pandemic.
	Sudden onset squint /diplopia in child or adult			**Bell's palsy with red eye**			

Challenge 4: Telemedicine and virtual consultations

4	Issue	Details
1	Most work stopped but staff and patients available	
2	Video consultations pilot very small so far	• NHS “approved” Attend Anywhere • Moorfields CEO appointed remote consultation lead for NHS London • Guidance document
3	Virtual	Big Picture Opera
4	Teaching, meetings, disseminating information	Webinars with Colleges, hospitals, NHS England, commissioners Regional trainee teaching Hospital and College meetings MS Teams



Overview of Digital Transformation and Telemedicine during COVID19

9th April 2020

Introduction

The SARS-CoV-2 (COVID-19) global crisis has served as a catalyst for transformation of digital healthcare and telemedicine. By necessity, healthcare providers are having to accelerate development and implementation of these tools in order to maintain services. The World Health Organisation describes telemedicine (the ability to diagnose and treat patients remotely via telecommunications technology) as an essential service for clinical services and decision support [1]. This is particularly relevant in ophthalmology for two reasons:

- prolonged exposure in close proximity between doctor and patient on the slit lamp which may increase the risk of transmission and viral load [2,3]
- the ability to make clinical decisions on structured examination metrics (such as palpebral aperture, intraocular pressure or cup disc ratios) and images.

There are a number of classes of digital tool available, in addition to video-conferencing platforms, which can support care and working during this unprecedented time:

1) Communication

Videoconferencing

Virtual triage/referral refinement

Secure messaging platforms

2) Patient self-monitoring

Home vision assessment

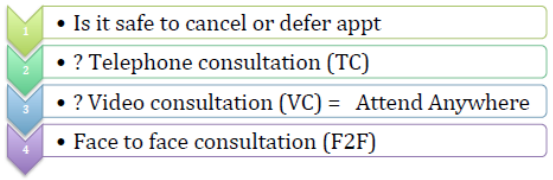
Smart phone based self-monitoring tools

Smart phone based imaging tools

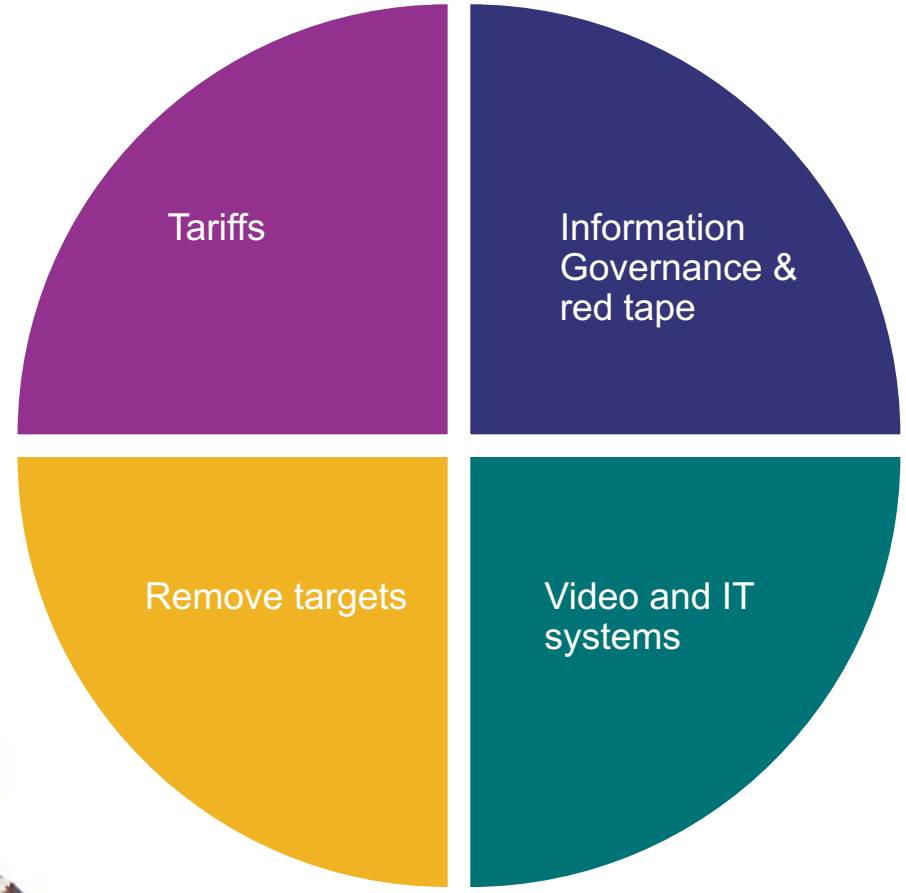
3) Management and team Planning

4) Mental health and holistic support

Consultation Selection Flowchart



National and regional enablers



? Wild west?

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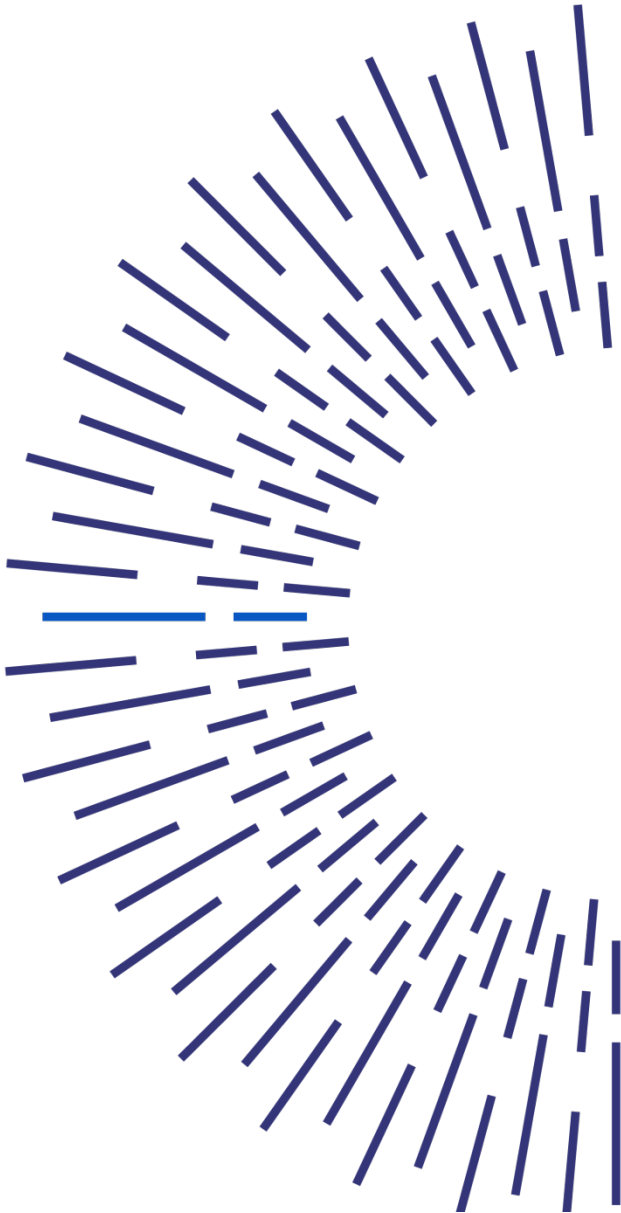
Moorfields internal response

Declan Flanagan FRCOphth
Consultant Ophthalmic Surgeon
Chairman Joint Research Governance Committee
Vice President Royal College of Ophthalmologists



The Moorfields Emergency Operational Model following UK "Lockdown" on 24th March

- **Clinical Risk Stratification by clinical review of all patients records**
  - Restrict services to only patients at high risk of permanent loss of vision within 3 months – end of June 2020
- **Reduce from 26 to 7 clinical sites across London**
  - Balance risk of Covid infection v loss of vision
- **Three division devolved structure replaced by a single:**
  Gold , Silver, Bronze "Command & Control" structure
- **"Hot" & "Cold" team working – alternating weeks**
  - Hot – maintain acute services
  - Cold – patient triage & remote consulting

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The Moorfields Emergency Operational Model following the “Lockdown” on 24th March

- **Surgery at central London site only – does 40%+ of activity normally**
- **Outpatient and injection services at 6 other sites – the bigger sites**
  - Maintain accessibility fro patients
  - Minimise travel and therefore risk for patients at higher risk of Covid
- **Ophthalmic clinical and support staff redeployed to support acute medical services ~ 200**
  - Local hospitals – trainees, nurses and some senior surgeons
  - Medical training for eye doctors and nurses provided
  - New 4000 bed “Covid” hospital in East London – anaesthetists

- **Withdrawal to one site only if whole Health Service overwhelmed**

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Clinical Risk Stratification based on likelihood of permanent loss of vision within 3 months

- **High risk – particularly surgical**
  - Macula on" retinal detachment
  - Trauma
  - Neovascular age related macular degeneration
  - Retinoblastoma & choroidal melanomas
  - Aggressive eyelid cancers
  - Uncontrolled severe glaucoma [>5% of 100,000 annual visits]
  - Retinopathy of prematurity screening & treatment – 42 cases treated last year

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Clinical Risk Stratification

- All records of patients with appointments in next 6 months reviewed
- 100,000 + appointments cancelled until the end of June 2020
- All patients informed by administrative staff
- Video consultation with a clinician offered if patient concerned
- Detailed documentation to avoid patients being “lost to follow up”

- Medium risk patients will start to be at increasing risk after 3 months
- Reassess and prioritise these patients when “Recovery” starts.

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Clinical Risk Stratification based on likelihood of permanent loss of vision

- **Medium risk 3 – 6 months particularly**
  - Previously controlled treated glaucoma
  - Uveitis & Scleritis – 22,000 / year particularly if on steroids
  - Childhood amblyopia
  - Keratoconus – cornea become too thin for Cross linking
  - Macular oedema from diabetic retinopathy & central retinal vein occlusion
- **Low risk – over 4 - 6 months**
  - Macular hole
  - Epiretinal membrane

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What does Moorfields do at front door?

For patients and staff:
All doors but main entrance sealed
Brief questionnaire(symptoms/contact/travel)
Temperature check

If +ve – staff go home
If +ve – patients sent across road to “Cayton Street” clinic, discussed and sent home if possible, maybe later video clinic.
See with PPE if really urgent. Very few have needed seeing who cannot wait.

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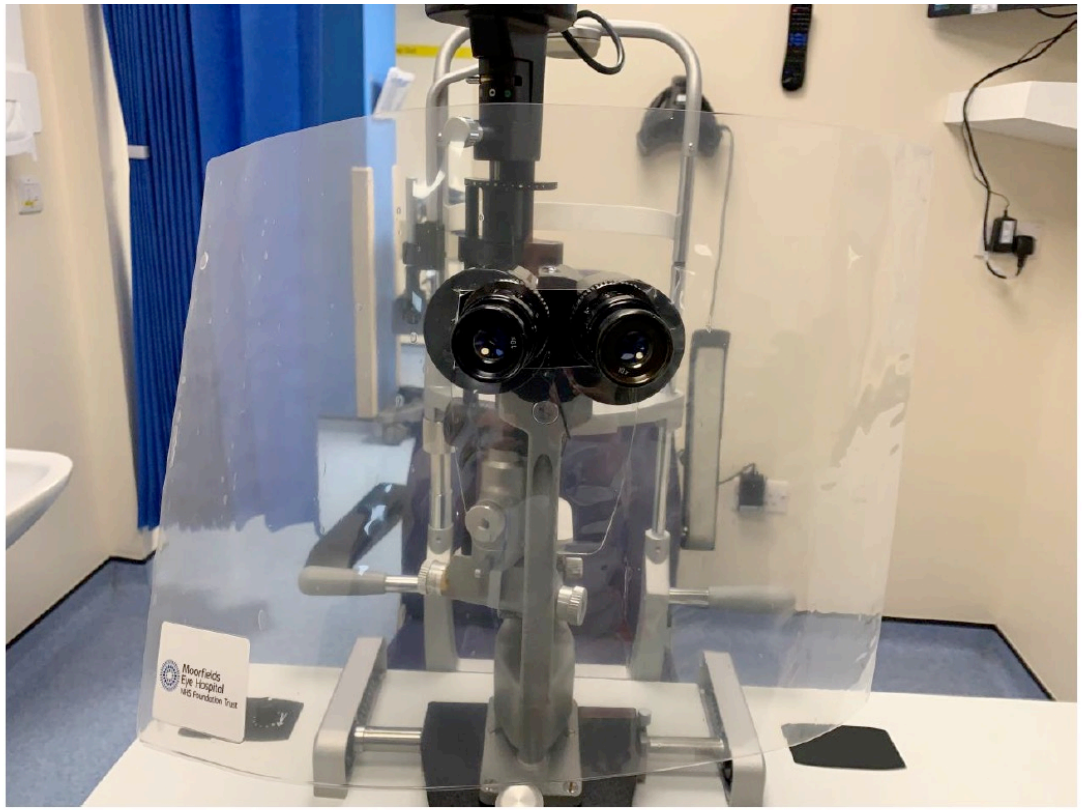
NO Access
To the Main hospital via this route.
Please use the Main hospital entrance.
Please go out the main A&E doors and turn right to the Main entrance.
CORONAVIRUS
Automatic door
4


NO Access
To the Main hospital via this route.
Please use the Main hospital entrance.
Please go out the main A&E doors and turn right to the Main entrance.
CORONAVIRUS
4
BAG

Triage area screens/room dividers

Evolution of slit lamp breath guards: home made initially



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VR drape evolution

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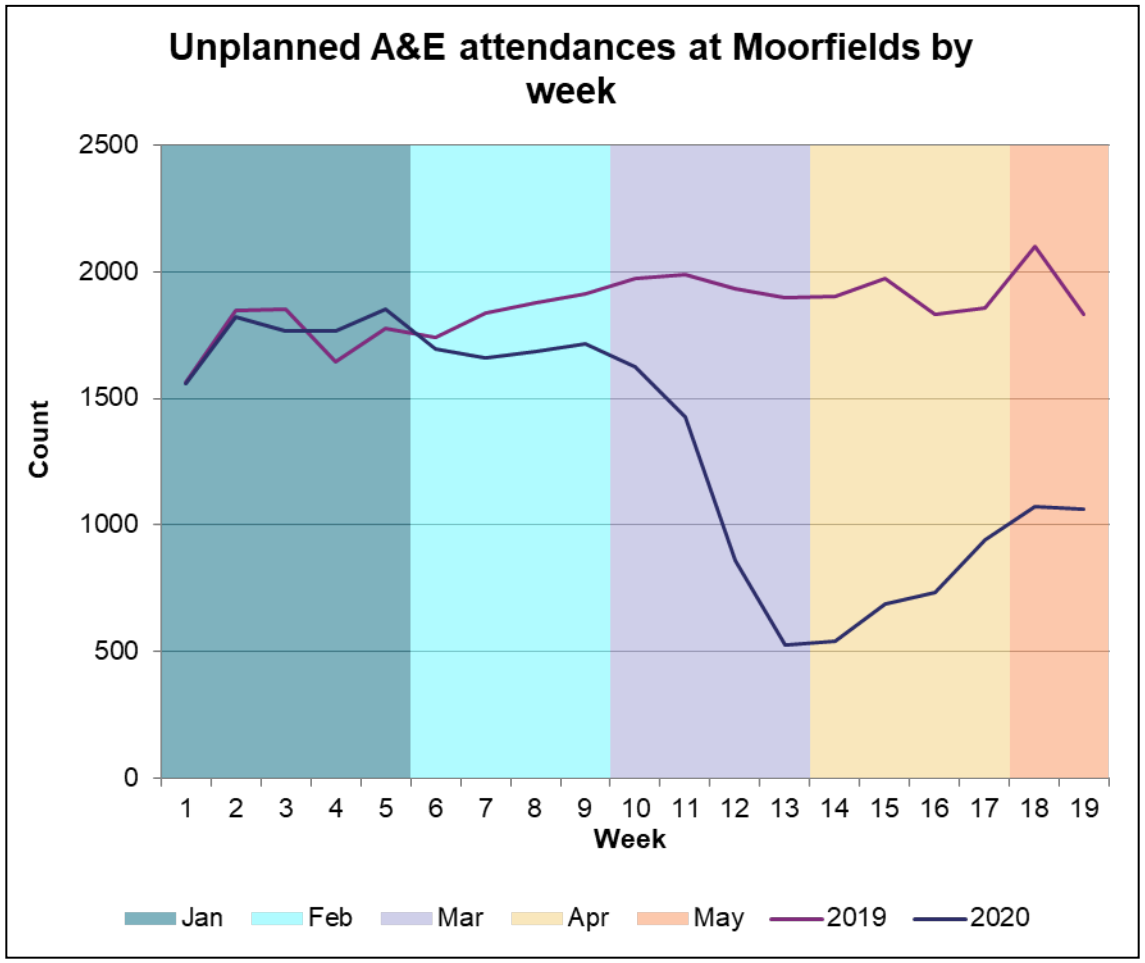
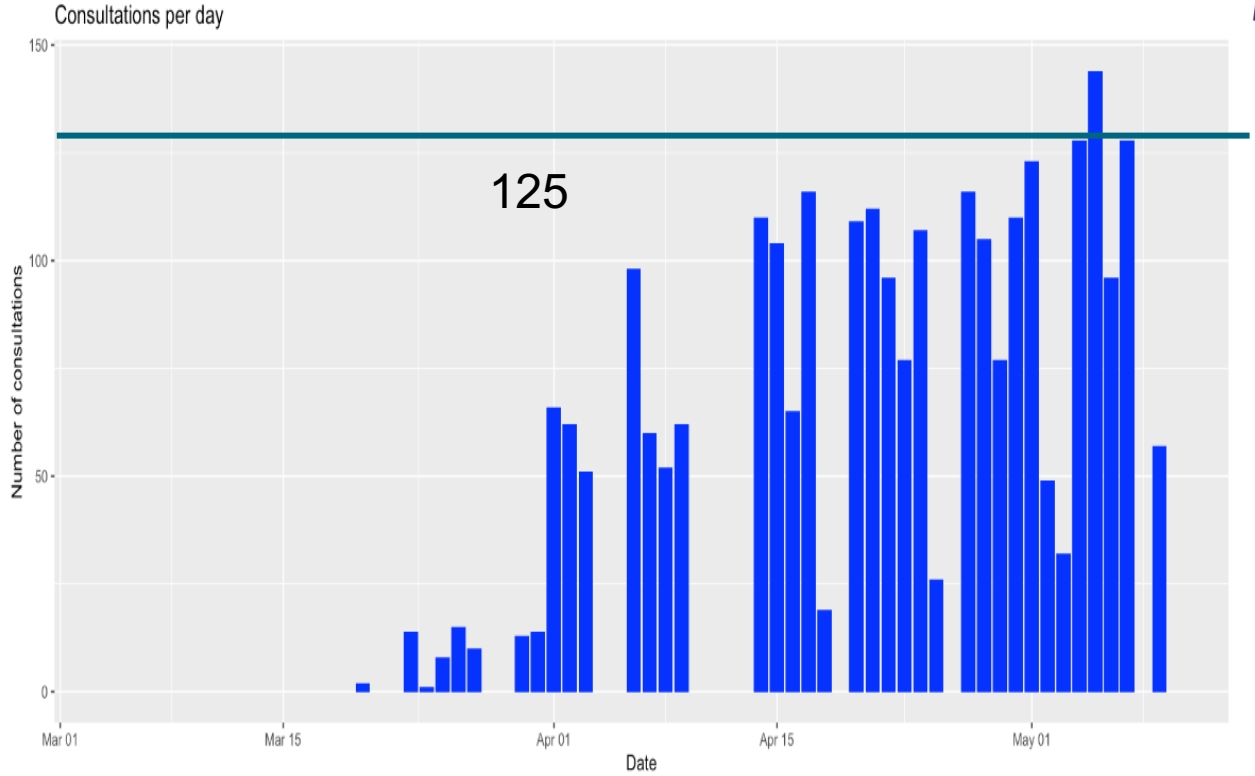
Impact of isolation measures on attendance at A&E



A & E Video consultations / day



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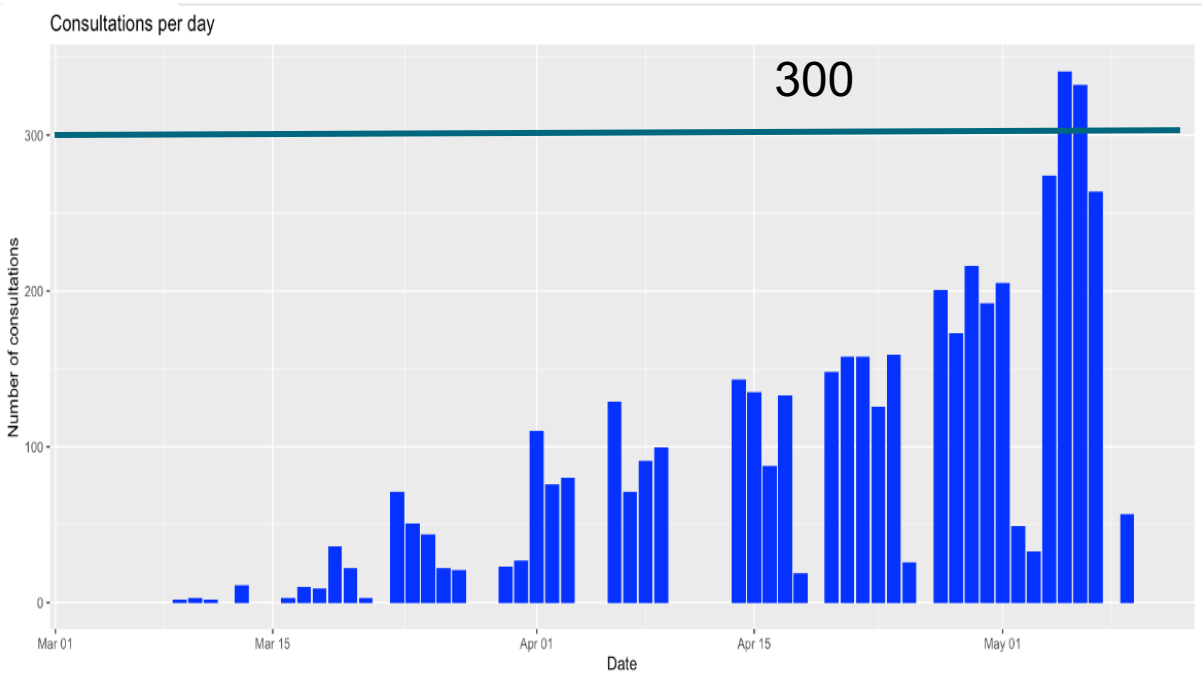
Total Video consultations / day with bespoke software



- Minimal use until March
- Up to 350 / day now
- Very high patient satisfaction rates
- Practice will change forever
- More progress in 5 weeks than in previous 5 years

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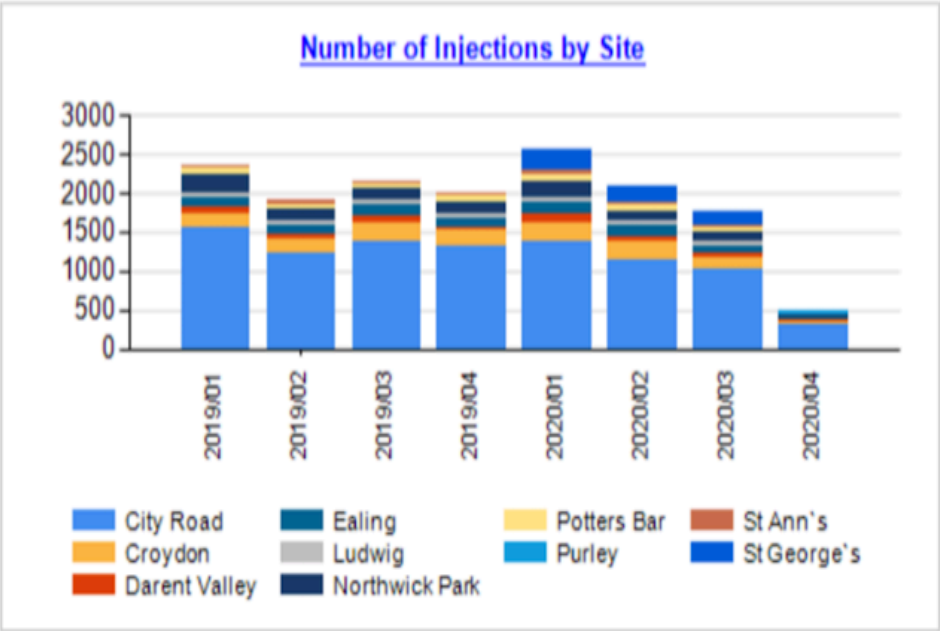
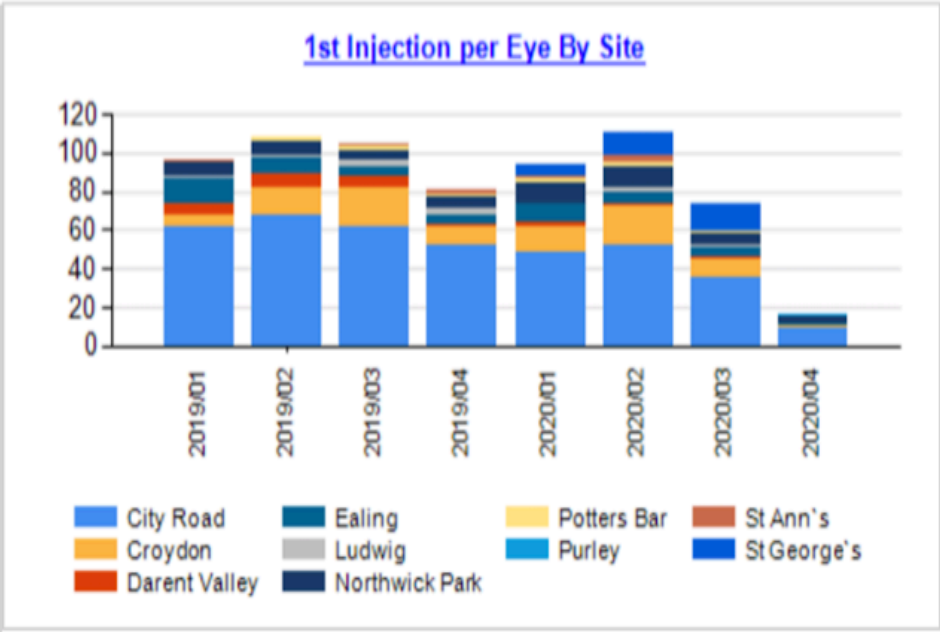
Number of injections performed across Moorfields Eye Hospital showing the impact of isolation measures on attendance and first injection rates.





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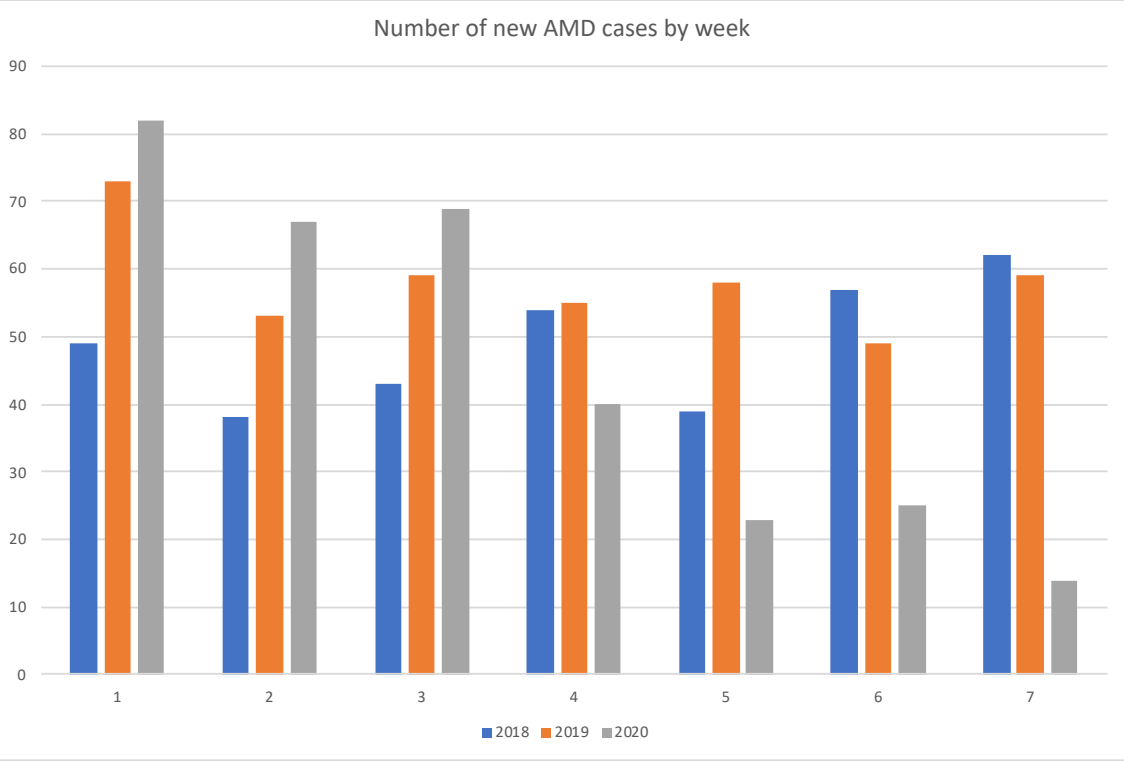
Change in number of new neovascular AMD cases / week



- The number has dropped from 60 to 15/ week
- 32 % of patients with follow up injections are failing to attend
- Fear of catching Covid 19 at the injection visit
- Public Health campaign needed to inform patients of the benefits of treatment

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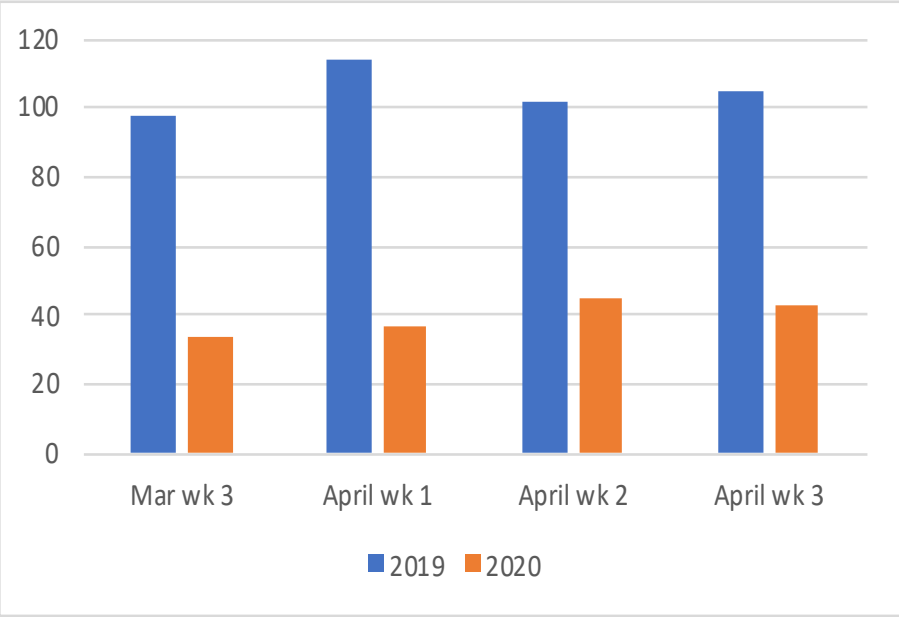
Retinal Detachment

Numbers of patients attending the Vitreo retinal emergency clinic / week



- Surgery for retinal detachment has dropped from ~ 30 to 14 / week compared to previous year [62 %]
- Routine VR practically zero

- Fear of catching Covid 19 at the hospital visit
- Public Health campaign needed to inform patients of the benefits of treatment

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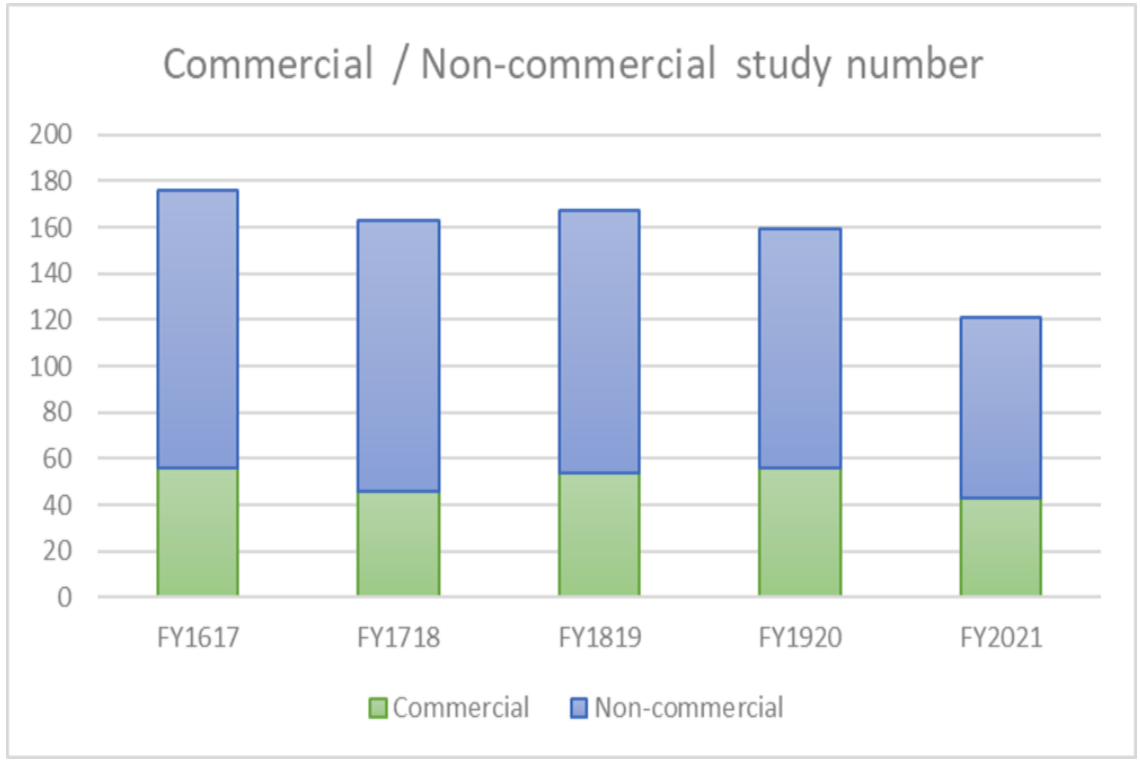
Impact of Covid Response on UK & Moorfields Research
Only Covid related medical trials are supported



- All recruitment paused
- No new studies started
- Follow up stopped
- Assisting Covid medical trials

Exceptions

- High risk of visual loss
- High risk of death
  - Part of systemic oncology trials
- Switch to telephone follow up
- Analysis of completed data sets

130 new trials ready or in preparation

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Recovery

- **Maintain patient & staff safety**
- **Reassure patients & staff that eye clinics are safe**
- **Treat patients at medium risk of permanent visual loss**
  - Glaucoma
  - Amblyopia etc
- **Restart elective surgery**
  - Cataract
  - Oculoplastics etc
- **Utilise telemedicine for consultation and education**
- **Reopen clinical trials**

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