



The ROYAL COLLEGE of
OPHTHALMOLOGISTS

Ophthalmic Service Guidance

Emergency eye care in hospital eye units and secondary care

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Date of review:

1 Introduction

For more than a decade there has been increasing demand for all urgent and emergency care in the UK, including ophthalmic care, due to a combination of changes in demographics/ disease prevalence and in the way patients choose to access care. It is difficult to know the national caseload but the incidence of new eye casualty attendances has been estimated at 20-30 per 1000 population per year and eye emergencies are thought to make up 1.46-6% of accident and emergency (A&E) attendances. Despite recent attempts to move towards more community based ophthalmic care, most hospital eye units will see and treat many urgent cases. This document provides consensus guidance on good practice for urgent and emergency secondary ophthalmic care. Principles for such care delivered in the community are briefly outlined at the end of the document.

Readers should also consult [The Way Forward Emergency Eye Care 2017](#) and [Commissioning better eye care: urgent eye care 2013](#) for more detailed information on changes in demand, potential service delivery models and other aspects.

2 Service guidance

Protocols

- There should be access to protocols and guidelines for key high risk emergency care e.g. acute glaucoma, endophthalmitis, orbital haemorrhage, acute central retinal artery occlusion etc.
- There should be triage guidelines for staff taking calls or initially assessing patients and ideally these should be shared with primary care and general A&E colleagues.

Cover and availability

- Every eye unit and ophthalmic surgical provider must have a plan for emergencies and urgent care 24/7, and there must be a formal agreement in place with the receiving provider to accept cases if sent off site, to cover:
 - Urgent and emergency advice and care for patients who have received care from the unit
 - Patients who come to or contact the hospital or the eye unit with an urgent problem
 - Urgent and emergency care of patients who are already in the hospital or unit for some other reason (e.g. an in-patient in a medical ward) who then develop an eye problem
 - Acutely unwell patients in eye settings
- All doctors, nurses, allied health professional (AHPs) and administrative staff in the unit, all doctors, nurses, AHPs and administrative staff in the relevant non-ophthalmic A&E departments, primary/community clinical professionals including community optometrists and GPs, NHS111, local commissioners and

ophthalmology colleagues in the region must be fully aware of the unit's arrangements and contact details

- Across the whole range of secondary eye services, from a specialist eye hospital with a fully comprehensive 24/7 ophthalmic A&E to an independent treatment centre or stand alone service only open at certain times (e.g. a mobile cataract unit), patients who have had treatment must be given written and verbal information to enable them to reliably contact a competent professional so that, if they have a problem requiring emergency advice or treatment, this can be accessed immediately

Networks of secondary care

Comprehensive, reliable emergency eye care will be provided by different eye units in differing ways. For instance:

- Wholly by the staff of the unit itself
- Wholly by the staff of the unit itself at certain times, but wholly by another unit at other times (for instance where the unit closes in the evening and/or at weekends)
- Mostly by the staff of the unit, but by another unit for certain sub-specialities at some times (for instance vitreo-retinal surgery)
- Wholly by other units
- When a unit **usually** or **routinely** directs emergency patients elsewhere, it must have agreed reliable administrative and clinical arrangements with the receiving unit (or units) so that referral/transfer is efficient and timely. It is also important that reliable arrangements for on-going follow up and information sharing are made between the units so that, after an urgent problem, patients can, where suitable, be rapidly repatriated to their original or nearest unit rather than having to travel back to where they went for emergency treatment
- The unit to which emergency referrals are made should be geographically as close as possible to the referring unit (patients do not wish to travel excessive distances, many hours travelling may adversely affect outcome, it may also deter them from making the journey and accessing essential treatment)
- Units working in networks must ensure they have systems for obtaining detailed and accurate feedback and numbers on any emergencies arising from their work cared for in other units, to ensure they can be certain of rates of postoperative complications such as post cataract endophthalmitis or retinal detachment

Consultant availability

- There must be supervision and availability of a consultant ophthalmologist or equivalent senior specialty doctor (SSD), such as a highly experienced and independently practicing associate specialist, who will carry ultimate clinical responsibility for emergency patients
- A consultant or SSD must be available to provide advice at all times, including being available by telephone for advice out of normal working hours and being available to come into the hospital to see patients as required. Note that in non-ophthalmic A&E practice it is the expectation that consultant involvement for patients considered 'high risk' (defined for non-ophthalmic care as where the risk of mortality is greater than 10%, or where a patient is unstable and not responding to treatment as expected) should be within one hour. It may be possible, with remote access to extensive electronic medical records and imaging, for consultants to provide this whilst off site
- Surgeons with private practice commitments must make arrangements for their private patients to be cared for by another surgeon/team when they are on-call for emergency admissions or surgery, on leave or otherwise unavailable

Senior decision makers and trainees

A senior decision maker is a clinician who can establish a diagnosis, define a care plan and discharge a patient without routine reference to a more senior clinician. There is no defined level of training at which this is achieved although it would not be expected to be achieved until at least ST3 level.

- Senior decisions makers should be able to arrive within 30 minutes and decide on emergency admission and care and be available by telephone for advice to more junior or AHP colleagues. It may be possible, with remote access to extensive electronic medical records and imaging, for decision makers to provide this whilst off site
- Patients requiring emergency opinion with possible surgical intervention must be seen at an early stage by an ophthalmologist with the required skills and competences, usually an ophthalmology specialty trainee (specialty trainee level 3 (ST3) or above) or a trust doctor with equivalent ability. This doctor must be able to assess the patient and make an initial decision about the seriousness and urgency of their condition
- Senior decision makers should review all unplanned returns within 72 hours of an A&E condition
- Trainees must not be left without any supervision or availability of a senior (consultant or equivalent) opinion

Equipment and access to investigations

There must be provision for full ophthalmic examination for which a dedicated room should be available. Examination equipment should include: standard visual acuity testing chart; near vision and colour vision testing equipment; slit lamp with tonometer; gonioscope lens; indirect ophthalmoscope plus the appropriate lenses; 20 dioptre and 90 dioptre lenses for fundal examination and an exophthalmometer. Ideally trial frames and a trial lens set should be available.

There should also be:

- Equipment for obtaining microbiology and virology specimens including culture plates and glass slides for corneal scrapes and equipment for AC and vitreous taps
- Equipment and medications for intravitreal injections for endophthalmitis
- Instruments plus suture material to deal with injuries to the globe and periocular tissues where immediate repair is appropriate
- Equipment necessary for removal of foreign material from the ocular surface and the necessary facilities to perform irrigation of the ocular surface in the case of chemical injury
- Facilities to obtain urgent blood tests such as erythrocyte sedimentation rate or plasma viscosity (CVP)
- Microbiology service to receive and process specimens for culture and provide immediate interpretation of gram stains obtained in infective conditions;
- Ophthalmic ultrasound B scan and ideally an OCT
- Ideally access to formal visual field tests e.g. Goldmann or automated perimetry
- The appropriate topical medications to perform ophthalmic examination, including: Minims of topical anaesthetic, mydriatics, and fluorescein dye
- Access to X-ray and neuro-imaging facilities
- Access to Argon and YAG lasers and/or cryotherapy so that emergency cases such as retinal tears and acute angle closure glaucoma can be treated without delay
- There should also be adequate stock of medications which may be required to treat emergency conditions where there is no pharmacy service immediately available:
 - Topical steroids, topical antibiotics (ointment and drops), mydriatics, topical anti-hypertensives (beta-blocker, apraclonidine, pilocarpine), aciclovir ointment, aciclovir tablets, non-steroidal anti-inflammatory

tablets, prednisolone tablets, intravenous steroids (methylprednisolone and hydrocortisone), intravenous acetazolamide, acetazolamide tablets, anti-histamine tablets, oral and intravenous antibiotics (including alternatives to penicillin), amikacin vancomycin and moxifloxacin, systemic intraocular pressure lowering agents; mannitol and glycerol

- Emergency care should be provided where there are facilities for resuscitation plus available trained staff that can be called in the event of a systemic emergency such as cardiac arrest. There should be access to urgent TIA/stroke services with an agreed defined referral pathway to a hyperacute stroke unit (HASU) and to acute neurology services

Guidelines for nurse practitioners, optometrists and AHPs

Where emergency care is provided by nurse practitioners, optometrists or allied health professionals (AHPs):

- Staff should have a clear training programme and sign off against the College common competency framework
- Clear guidelines regarding which conditions should be dealt with by the nurse practitioner/AHP and which should be referred to an ophthalmic specialist should exist
- Comprehensive protocols regarding treatment for specified conditions is necessary
- Nurse practitioners/AHPs providing ophthalmic care should be supervised and undergo regular appraisal and their service should be subject to audit
- Triage is a useful and effective way of prioritising patients and directing them to the appropriate professional

Paediatric emergencies

- Paediatric ophthalmic urgent cases must be seen in an appropriately equipped and staffed setting, which may be in a general A&E unit, a dedicated paediatric A&E unit, a general eye unit or a dedicated paediatric eye unit or area, with suitable facilities and staff trained in dealing with children
- Children admitted with acute eye problems should be placed on a ward with the appropriate ophthalmic and paediatric nursing expertise and with access to paediatricians. Where children are admitted with conditions with systemic implications, such as orbital cellulitis, these must be managed in conjunction with a paediatrician and an opinion should also be available. Child safeguarding pathways must be defined

For full details, see the [paediatric national service framework \(NSF\)](#) and [RCPCH emergency guidance](#).

Admission of ophthalmic emergencies

- All efforts should be made to avoid unnecessary overnight stays for ophthalmology patients
- Beds should be available for admission of ophthalmic emergencies. The bed need not be on a dedicated ophthalmic ward but staff should have experience of nursing ophthalmic cases and their number and training must be sufficient to allow the appropriate treatment to be applied, for instance, frequent topical medication
- Where infective cases are admitted, they should be isolated from admissions for routine ophthalmic surgery
- A consultant/SSD should see all emergency admitted patients, and confirm the care plan, within a maximum of 12-14 hours from the time of arrival at hospital. It may be appropriate for emergency surgical cases and admissions to be managed by senior (ST5 and above or fellow) trainees or specialty doctors, but all patients admitted as emergencies must be discussed with the responsible consultant within a maximum of 2-3 hours if urgent surgery is being considered. Again, remote access to EMR and images may help support this discussion
- Each admitted emergency patient should be discussed daily (including at weekends) with the responsible consultant /SSD and a daily early morning ward round from the senior decision maker with a view to discharge

Operating on ophthalmic emergencies

- A theatre should be available to perform emergency ophthalmic procedures where necessary. If this can only be provided within a network of care, that pathway must be clear and agreed by all providers
- The theatre should be equipped to allow intraocular and extraocular surgery and lid repair including operating microscope and the equipment and instruments necessary for cataract, corneal and squint surgery, and vitreo-retinal equipment if that surgery is provided
- Emergency ophthalmic surgery should only be performed out of hours by medical staff sufficiently experienced to manage the case, who should be assisted by supporting theatre staff with enough expertise in ophthalmology to be able to provide safe support and use of equipment
- Ophthalmic surgery is delicate requiring alert, specialist, medical, nursing and ancillary staff. Surgery should be carried out within regular theatre hours, unless

there is a compelling clinical reason for operating out of hours and it is considered safe to do so. An emergency eye unit should therefore have sufficient anaesthetic cover available to allow out of hours' surgery in the evening or during the day at weekends without having to operate between 10pm-8am because of pressure of other more general surgical and other urgent cases

- A consultant surgeon or senior fellow should be present where possible for all unscheduled returns to theatre

Accident & Emergency

- Where initial presentation of emergency conditions is to a general A&E department, the eye unit should provide adequate training and support to the doctors, nurses and AHPs staffing that department who may be required to deal with ophthalmic conditions.

Audit and governance

- There should be a consultant lead for A&E/urgent care in any unit providing A&E/urgent care
- There should be a relevant clinical governance structure with a focus on outcomes, audit and regular review of practice for emergency and urgent care
- Lessons should be learned from patients with poor outcomes and appropriate steps taken to reduce the chance of recurrence e.g. education or training issues addressed
- If care is delivered in a network, there should be regular network review of patient outcomes, incidents and experience; processes should be in place to identify and monitor network risks and critical incidents with the provision for joint investigation and learning for serious and moderate harm incidents. Clinical audit should be conducted with the facility to audit across the network
- If care is delivered in a network, ideally there should be regular joint training and governance meetings
- Key governance metrics for emergency eye care in an A&E setting or equivalent include
 - Left department before being seen for treatment rate
 - Re-attendance rate
 - Time to initial assessment
 - Time to treatment
 - Total time in A&E
 - Measures of patient satisfaction (e.g. friends and family test)

- Other potential measures are:
 - % of patients who should be discharged at first visit who were discharged at first visit
 - % of patients diagnosed and managed accurately (consultant retrospective case note audit)

Facilities for eye emergencies/urgent cases seen in the equivalent of urgent care facilities (UCF) or minor injury units or for standalone eye clinics

- All UCFs should have close links with their nearest A&E
- UCFs should not receive patients who are acutely ill, injured or who require full resuscitation facilities. Where acutely ill patients self-present, staff should be competent in initial management of these patients and have protocols in place to ensure rapid transfer to an A&E
- Staff should have competency as a first responder in care of the acutely ill and at minimum BLS and primary survey assessment
- Appropriate resuscitation equipment, defibrillator and medications to treat complications of routine care, e.g. anaphylactic reactions, should be available at all units
- There should be clear guidance within the operational and governance policies specifying which patient groups or conditions can be treated in the unit and which patients require transfer to an A&E or to another specialist unit. These guidelines should be agreed with primary and secondary care providers and the local ambulance trust to ensure that there is no compromise inpatient care
- Appropriate procedures should be in place with local ambulance trusts to ensure timely response and transfer according to clinical need
- Physiological early warning score systems which identify acute systemic medical deterioration for adult and paediatric patients are recommended

Communication

- All attendances should result in a printed discharge summary/letter to GP (and where relevant optometrist) with a copy given to the patient (90% of discharge summaries should be sent to the patient's GP within 48 hours)
- All attendances should result in written information or an advice leaflet for the patient where possible
- Units should have a stock of leaflets on common urgent and emergency eye conditions for patients which should be provided to suitable patients.

3 Networks outside hospital

There are a number of more or less well established schemes in the UK involving primary and urgent care delivery by community optometrists such as PEARS (Primary Eyecare Acute Referral Scheme), ACES (Acute Community Eye-care Services) or MECS (Minor Eye Conditions Service). There are still considerable reservations from ophthalmologists about the ability of optometrist schemes to prevent unnecessary secondary care attendances and some concerns about potential patient safety risks. To mitigate this, it is important to adhere to the important principles for good quality community based ophthalmic schemes.

4 Commissioning for Innovation in Ophthalmology

Regional reconfigurations and networked care

Ophthalmology, as a specialty, recognises the need for changing and modernising the delivery of care as demand has increased incrementally year on year. It is a high-volume specialty (over 8% of all outpatients seen and 7% of all surgical activity) and relates to a variety of very different disease management requirements – from conditions that will not need any ongoing follow up, e.g. high volume cataract surgical pathways, to those that require regular assessment and treatment appointments for several years or even for life, e.g. glaucoma and medical retinal conditions.

Networked care

As ophthalmic care is increasingly being delivered in primary and community settings, or in networks between providers, or by different providers within the same unit, it is crucial to ensure potential patient safety risks are identified, and to mitigate against this. It is important for commissioners, providers and professionals to adhere to principles for good quality community based or networked or multiprovider ophthalmic services.

There needs to be:

- Engagement, cooperation and collaboration between community, primary care, secondary care colleagues and commissioners and involvement of patient representatives at all stages
- A training and accreditation process and ongoing CPD
- A performance management structure including a process for dealing with underperforming or potentially unsafe professionals

- Adherence to NICE, RCOphth, College of Optometrists and other important national guidance
- Clear evidence based protocols and recorded competencies for allied health professionals
- Suitable patient information leaflets about their condition, and symptoms of concern to look out for, given to the majority of attendees
- A discharge summary or letter to GPs, community optometrists, other relevant professionals (e.g. diabetic retinopathy services) and patients after all attendances
- Clear criteria for referrals in and out of each setting or between each provider
- Clear communication channels, including consideration of information technology issues, for sharing clinical and clinical governance information between different providers, sites and settings
- Named clinical governance leads for all parties and identified medicolegal responsibilities for all care provided
- Facilities for incident reporting and complaints, for investigating these and for sharing the learning, across the whole primary and secondary care network and between providers
- Clinical audit of care against recognised and agreed standards and processes for joint clinical audit of care across the whole primary and secondary care network and between providers
- Patient satisfaction measured regularly in all settings and for all providers
- Facilities for joint clinical governance, case review and educational meetings
- Clear, meaningful and realistic KPIs including any false positive and false negatives referrals to secondary care, unplanned return rate, outcomes of care, adherence to process
- Regular formal assessments of cost effectiveness for individual parties and across the network
- Time points for re-evaluation of any new network or scheme

Standards for best practice and innovation

There are published documents available for commissioners and providers which describe nationally mandated patient pathways, best practice and quality standards and support innovative care pathways.

The National Institute for Clinical Excellence (NICE) approved interventions for the management of [age related macular degeneration](#), [diabetic macular oedema \(DMO\)](#), [retinal vein occlusion \(RVO\)](#), and the [NICE guidance for the management glaucoma](#) and [NICE quality standards for glaucoma](#) contain both recommendations for specific treatments and extensive advice on treatment pathways. Commissioners and providers can use NICE quality standards to self-assess the quality and appropriateness of their services hence informing commissioning decisions and agreements.

In addition, **The Royal College of Ophthalmologists** has produced Commissioning Guidelines for [Cataract](#) and [Glaucoma](#) using NICE accredited methodology. The commissioning guidance documents aim to improve the health and wellbeing of people and communities, and support local service redesign to ensure the provision of high quality, cost effective services that meet the needs of the local population and take into account patient experience. They contain detailed evidence and recommendations to aid commissioning conversations and contract agreements.

The RCOphth has also published [The Way Forward](#) which summarises a range of possible delivery solutions across a broader range of ophthalmic subspecialties. These can be adopted and adapted to produce services responsive to local need and capacity. Further examples will emerge from the ongoing ophthalmic [Getting It Right First Time \(GIRFT\)](#) project which has the dual aim of sharing best practice and reducing unwarranted variation in England.

The RCOphth recognise that innovation requires a **highly skilled multidisciplinary work force**. It has therefore published advice on developing skills and manpower to support new pathways. This can be found in the [Common Clinical Competency Framework](#) for eye care professionals.

The relationship between primary and secondary care is different in the eye care sector compared to other sectors of the healthcare economy. This is due to the presence of optometrists and their role in case finding and referral rights to secondary care. **Commissioning Frameworks** produced by the [Clinical Council for Eye Health Commissioning \(CCEHC\)](#) dealing with [Community](#) and [Primary Care](#) ophthalmology offer a basis for understanding and commissioning across the optometric and ophthalmic sectors.

There are multiple other sources and examples of innovation. These include documents produced by the [Local Optical Committee Support Unit \(LOCSU\)](#) and within appendix 1 of the RCOphth's [outpatient commissioning](#) document.

In addition, the RCOphth provides an extensive suite of guidance documents and self-assessment tools for ophthalmic practice in secondary care, including *Clinical Guidelines*, *Ophthalmic Services Guidance* and *Quality Standards*, and guidance on innovative care including *Standards for Virtual Clinics in Glaucoma Care*, and which contain useful information for providing high quality ophthalmic care in any setting by any clinical professional.

In summary, there is a wide variety of possible new pathways to improve patient access, care and outcomes. Close working between commissioners and providers from all disciplines in the ophthalmic sector (optometry, medical, nursing, orthoptic, ophthalmic technicians) together with the NHS England Local Eye Health Networks and involvement of patients is

essential to ensure good clinical governance and appropriate KPIs for innovative and networked pathways.

- Engagement, cooperation and collaboration between community, secondary care colleagues and commissioners
- A training and accreditation process and ongoing CPD
- A performance management structure including a process for dealing with underperforming or potentially unsafe professionals
- Clear evidence based protocols
- Suitable patient information leaflets about their condition and any causes for concern given to the majority of attendees
- A discharge summary or letter to GPs after all attendances
- Clear communication channels for sharing clinical and clinical governance information between primary and secondary care ophthalmology
- Clear named clinical governance leads and identified medicolegal responsibilities for all care provided
- Facilities for incident reporting and complaints, for investigating these and for sharing the learning, across the whole primary and secondary care network
- Clinical audit of care against recognised and agreed standards and ideally processes for joint clinical audit of care between primary and secondary care
- Patient satisfaction measured regularly
- Ideally facilities for joint clinical governance, case review and educational meetings
- Clear, meaningful and realistic and KPIs including any false positive and false negatives referrals to secondary care, unplanned return rate
- Regular formal assessments of cost effectiveness involving the commissioners

5 Key guidelines or references

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