**Glaucoma surgery during the COVID-19 pandemic**

**This guidance has been developed by the United Kingdom & Éire Glaucoma Society (UKÉGS) faculty and the Royal College of Ophthalmologists in response to the COVID-19 pandemic and may be subject to change. The guidance has been formulated in the context of available evidence to date and guidance from the American Academy of Ophthalmology, British Medical Association, World Glaucoma Association, Public Health England, NHS England, General Medical Council and the Medical Defence Union.**

During the COVID-19 pandemic, resources and personnel may be limited and rapidly changing, and guidance repeatedly updated. This requires new and flexible approaches to the delivery of care. Urgent decisions will need to be made to maintain ophthalmic care for those patients whose need is pressing. UKÉGS faculty and the RCOphth appreciate the difficulty and complexity of the decisions that clinicians need to make regarding the timing and selection of surgical procedure for patients at high risk of glaucoma blindness during the COVID-19 crisis. Particular care should be taken in patients with only one seeing eye. Clinicians should have a low threshold for requesting opinions from colleagues.

The aim is to manage the risks to patients of permanent sight loss due to delays in treating eye conditions versus the risks to patients and their families of serious illness or death from contracting COVID-19 through contacts made in the processes of leaving home and attending at a health care facility.

Glaucoma surgery has been suspended where there is no urgent threat to

sight, due to the risks associated with COVID-19 infection. However, urgent and emergency eye services must not cease for patients with sight or life-threatening conditions who require prompt treatment. During the lockdown, units have therefore continued to perform (in reduced numbers) laser treatments, including peripheral iridotomy, selective laser trabeculoplasty, cyclophotocoagulation, and incisional surgery, including glaucoma-related phacoemulsification, micro-invasive glaucoma surgery (MIGS), trabeculectomy with mitomycin C, bleb needling revision with 5-fluoro-uracil and glaucoma drainage device surgery. Surgical teams endeavour to find new ways to provide care in keeping with the most up-to-date guidelines, especially now that plans are being made to restore elective surgery. It is particularly important for glaucoma procedures to plan for multiple outpatient visits and, whilst most glaucoma surgery is uncomplicated, for the possibilities of post-operative return to theatre or the need for in-patient stay if surgery is complicated.

There is also a need to reduce the risk to healthcare professionals of contracting COVID-19. Healthcare professionals need to be protected in line with their personal risk profile for COVID-19; for example, people with Black, Asian and Minority Ethnic (BAME) heritage are known to be at significantly increased risk of severe or fatal COVID-19 infection. All appropriate measures, including effective personal protective equipment (PPE), should be taken to protect all members of the operating theatre and out-patient department teams. The RCOphth has published updated guidance on the use of PPE consistent with the most recent guidance issued by Public Health England (PHE) which applies to ALL ophthalmology patients.

Currently, the risks to hospital staff from performing or assisting in ophthalmic surgery, and the appropriate level of PPE, are not clear. There has been significant debate as to whether some procedures are ‘aerosol generating procedures’ (AGP) and, even if an aerosol is produced, whether that constitutes an infection risk. There seems currently to be consensus that cataract surgery is not an ‘infective’ AGP. Concerns have been raised that diathermy and aerosolising blood poses an issue. The risk of infection may be greater from working in close proximity to a patient for a prolonged period of time. The duration of glaucoma surgery is usually considerably longer than cataract surgery. Performing microsurgery can be impaired by use of visors and masks which poses a further challenge.

**Recommendations:**

Decisions about the timing of glaucoma surgery should take into account the risk of permanent vision loss likely to impact the patient’s quality of life, the risk to the patient of contracting COVID-19 and the risk that the patient may transmit COVID-19. Defer glaucoma surgery where reasonable and safe. If offering an intervention, consider options with reduced close contact time and fewer attendances, if there is an acceptable long term prospect of controlling the intraocular pressure.

* Patients should be tested for COVID-19 infection where possible and undertake self-isolation before surgery. They should wear face masks during their visit which should be removed whilst under the surgical drape. Ensure adherence to all COVID-19-related preoperative guidelines.
* **Personal Protective Equipment:** At this point, we recommend that surgeons and all other theatre staff are allowed to wear filtering face piece respirator masks [FFP3] and eye protection when performing incisional glaucoma surgery, if they wish to do so for their own safety and considering their personal risk profile.
* Further steps to mitigate the risk of infection should be employed including:
	+ Performing surgery under local anaesthesia where possible as general anaesthesia is an AGP for which appropriate PPE, airflow and decontamination procedures must be followed by all staff in theatre
	+ Using additional drapes to reduce air flow from the naso-pharynx.
	+ Surgery being performed by consultants or independently operating surgeons to minimise length of the operation and complications. If elements of training are being undertaken, then careful attention should be paid to surgical duration and the risks of potential complications
	+ Non-essential staff should not enter the theatre during surgery.

**All COVID-19 guidance is subject to change.**

**UKÉGS and the RCOphth COVID-19 Review Team**

**References**

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