



## CLINICAL GUIDELINE

# Open Globe Injuries and Lacerations Management Guideline

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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### Important Note:

The Intranet version of this document is the only version that is maintained. Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

## Management of Open Globe Injuries and Conjunctival, Corneal and Scleral Lacerations

Suspected open globe injury requires prompt assessment to identify all significant ocular trauma and any extraocular injury. Prompt treatment is required to minimise the risk of acute complications and prepare the patient for presumed theatre. Care should be taken to exclude intracranial / non-ocular injury requiring urgent treatment and referral.

### History

#### History:

- Details of Injury
- Other non ocular injuries
- Pre-injury VA
- Past ophthalmic history
- Past medical
- Drug history
- Tetanus status
- Time of last meal

#### Details of Injury:

- Object causing trauma
  - ✦ Size, shape, velocity & direction of injury
  - ✦ Composition of object
  - ✦ Consider if intraocular foreign body (IOFB) possible
- Number of times globe was struck
- Use of protective eye wear

#### Symptoms:

- Change in VA – may be unchanged
- Pain – variable
- Pain on eye movement
- Photophobia
- Diplopia
- Redness / swelling
- Associated visual disturbance

### Examination

Some open globe injuries may be obvious with the appearance of a misshapen or collapsed globe, protrusion of uveal tissue from a scleral or corneal wound or a visible IOFB. A systematic approach to assessment is necessary if the diagnosis is uncertain.

Orbits	Evidence of fracture, muscle entrapment, orbital foreign body or enophthalmos
Lids	Assess deep injuries for possible extension to involve globe
Conjunctiva	Lacerations may hide scleral injury 360° subconjunctival haemorrhage may represent globe rupture
Cornea / Sclera	Prolapse of uveal tissue. May be partial or full thickness Positive Seidel Test
Anterior Chamber IOP	Shallowing compared to other eye, hyphaema May be low – only perform if uncertain globe is intact as contraindicated in definite open globe injury. Avoid compression
Pupil	Peaked or distorted, poor reactivity, RAPD, iris transillumination or iridodialysis
Lens	Traumatic cataract or dislocation
Retina	Dilated fundal examination essential. Reduced red reflex from vitreous haemorrhage, retinal or choroidal tear. Blunt trauma can cause posterior segment rupture and leave anterior segment intact

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### Investigations

#### **CT scan – 1mm slices**

- Can demonstrate globe rupture if adequate examination not possible due to periorbital oedema. Can also demonstrate optic nerve injury
- Will show possible unvisualised IOFB. Caution - CT may miss small IOFBs or plastic

#### **B-scan Ultrasound**

- Contraindicated if globe obviously ruptured or AC collapsed. Avoid globe compression
- Examine for retinal detachment, subluxed lens, IOFBs
- Small IOFBs / wood / vegetation may be missed. Gas / air may be mistaken for IOFB

**Plain X-rays** are of no value in assessing globe injury and are poor at identifying and locating IOFBs

**MRI** can assess globe but is contraindicated when metallic IOFB can not be excluded

### Management

#### **Conjunctival Laceration – no orbital or globe injury with clear visualisation of sclera**

- Chloramphenicol ointment QDS up to 1 weeks.
- Large lacerations may need sutured. Consult with senior. Otherwise discharge

#### **Conjunctival Laceration – unable to clearly visualise sclera but no features of open globe injury seen**

- Chloramphenicol ointment QDS for 1 weeks
- Primary care review clinic 1 week / SOS for adequate examination to exclude open injury

#### **Conjunctival Laceration – unable to visualise sclera but features of open globe injury**

- Treat as open injury – see below and discuss with senior

#### **Small, self-sealing full thickness corneal laceration with formed anterior chamber**

- Bandage contact lens
- Preservative free chloramphenicol QDS
- Daily review
- Consult with senior regarding further management and appropriate follow up

#### **Obvious open globe injury / scleral or corneal full thickness laceration**

- Inform consultant / on call team
- Admit to ward 1C, Gartnavel General, and prepare for planned primary surgical repair (GA)
- CT scan as above if indicated
- Rigid eye shield to protect globe
- Analgesia and antiemetic as required
- Preservative free chloramphenicol 0.5% eye drops QDS
- Intravenous antibiotics may be necessary – consult with senior
- Anti-tetanus toxoid if indicated

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