PROCEDURE CHECKLIST

Lateral canthotomy and cantholysis

Sight-saving decompression of the orbit by dividing the lateral canthus and inferior crus of the lateral canthal tendon in orbital compartment syndrome, usually from retrobulbar haemorrhage.

EM Orbit

Patient reference	Date	Time	Completed by

Equipment ready

- [ ] Sterile gloves, antiseptic and drape
- [ ] Local anaesthetic with adrenaline (e.g. lidocaine with adrenaline), syringe and a fine needle
- [ ] Straight haemostat (artery forceps)
- [ ] Blunt-tipped scissors (e.g. Stevens or iris scissors)
- [ ] Toothed forceps
- [ ] Tonometer (e.g. handheld rebound or applanation)
- [ ] Visual acuity chart or finger counting, pen torch for pupils
- [ ] Gauze, saline, lubricating ointment
- [ ] Light source

Before · Recognition

- [ ] Suspect orbital compartment syndrome in any patient with periorbital trauma or recent orbital surgery who has severe pain, decreased vision, proptosis or a tense, swollen eye.
- [ ] Check visual acuity (or the ability to count fingers, perceive hand movements or light) in each eye and record the time.
- [ ] Check pupils and for a relative afferent pupillary defect, and check eye movements and proptosis.
- [ ] **Measure the intraocular pressure only if there is no suspicion of globe rupture.**
  A pressure above about 40 mmHg is the commonly cited threshold for decompression.
- [ ] **Do not delay treatment to obtain CT or specialist opinion if the clinical diagnosis is clear and vision is threatened.**
  Time-critical: irreversible visual loss can occur within about 90–120 minutes.
- [ ] Call ophthalmology immediately (and senior help) and note the time of the call.
- [ ] **Exclude open globe: look for a peaked or teardrop pupil, severe hypotony, prolapsed uveal tissue, 360° subconjunctival haemorrhage, a deep anterior chamber or Seidel positive.**
- [ ] **If globe rupture is suspected, do not perform canthotomy; protect the eye with a rigid shield, avoid any pressure and escalate to ophthalmology.**

Before · Consent and preparation

- [ ] Explain the procedure and the risk to vision of not doing it, and obtain consent, or act in the patient's best interests if they lack capacity and treatment is urgent.
- [ ] Give analgesia and antiemetic as required, and sit the patient with the head up if possible.
- [ ] Check allergies and the anticoagulant history.
- [ ] Position the patient supine or semi-recumbent with good light and access to the lateral canthus.

During · Anaesthesia and preparation

- [ ] Clean the periorbital skin and drape with minimal contact to the globe.
- [ ] Infiltrate local anaesthetic with adrenaline into the lateral canthus and the lateral third of the upper and lower lids.
- [ ] **Aspirate before injecting, and avoid injecting into the orbit or near the globe.**
- [ ] Do not delay the procedure to wait for a prolonged block; the lateral canthus is quick to anaesthetise.

During · Lateral canthotomy

- [ ] Place the straight haemostat horizontally across the lateral canthus, with the tips toward the lateral orbital rim, and clamp it closed.
- [ ] Open the haemostat, leaving a pale crush line from the canthal angle to the orbital rim, about 1–2 cm long.
- [ ] **With the blunt-tipped scissors, cut along the crush line through skin and conjunctiva to the lateral orbital rim.**
  Keep the scissors pointed away from the globe, and do not press on the eye.
- [ ] Check the lower lid: it should become looser, but may still be tight because of the inferior crus.

During · Inferior cantholysis

- [ ] Grasp the lower lid with toothed forceps and pull it anteriorly and inferiorly, away from the globe.
- [ ] Strum the lateral canthal tendon with the closed scissors to find a taut band at the lateral orbital rim, like a guitar string.
- [ ] **Direct the scissors toward the inferior orbital rim and cut the inferior crus of the lateral canthal tendon, close to the rim, using small snips until the lower lid is released and loosens from the orbital rim.**
  Keep the scissor tips away from the globe.
- [ ] Confirm that the lower lid is now free and moves away from the globe easily.
- [ ] **Control any bleeding with pressure on the wound edges, not on the globe.**
  Bleeding is usually minimal.

During · Reassess

- [ ] Recheck the eye: proptosis, pupils (RAPD), visual acuity, eye movements and intraocular pressure.
- [ ] If acuity, pupil or pressure have not improved, tell ophthalmology immediately; superior cantholysis or surgical decompression may be needed.
- [ ] Cover the wound with lubricating ointment and a gauze, and keep the head of the bed raised.

After · Care and escalation

- [ ] **Do not suture or close the canthotomy; leave it for ophthalmology to repair.**
- [ ] **Apply lubricating ointment to the eye and protect it with a shield; avoid any pressure on the globe.**
- [ ] Hand over to ophthalmology urgently with the times of onset, acuity, pupils, intraocular pressure, and the decision to decompress.
- [ ] Arrange imaging of the orbit (CT) after decompression to find the cause, and review the neck and head for other injuries.
- [ ] Review anticoagulants and give reversal if indicated, per the anticoagulation reversal protocol.
- [ ] Admit under the ophthalmology or maxillofacial team with regular visual observations.

After · Documentation

- [ ] Document the findings, time of onset, time of decision and procedure, anaesthetic given, intraocular pressure and acuity before and after, complications and the ophthalmology discussion.

A procedure checklist. Perform procedures only within your training, competence and local policy. It does not replace your clinical judgement.
EM Orbit · Emergency medicine, in one orbit · proc-lateral-canthotomy · red rows are the steps that must not be missed