

# RESUS DRILLS



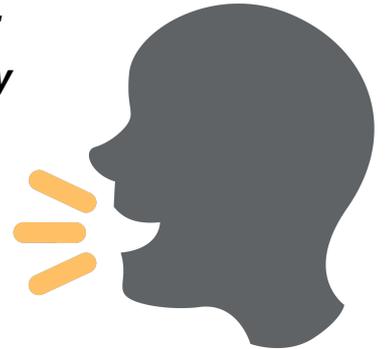
**LATERAL** **#1**  
**CANTHOTOMY**

## Drill pre-brief (instructor to read out)

*“Welcome to this Resus Drill. Drills are for situations which happen quickly, are not common, and need a time-critical response.*

*They need practice, so when the time comes, you’ve already had the dress rehearsal. This is not a Simulation. Drills are for practising teamwork and speed.*

*We will run a scenario for 5 minutes, chat and reflect on it, then run the same scenario again for another 5 minutes.”*



## Assurances

**Learning, NOT assessment:** The drill is for practice and for learning. We’re concentrating on how fast you can think, and how well you work as a team.

**Safe zone:** Learning and mistakes are shared here, not any further.

**5-min reflection rules:** Please be constructive in the debrief. We’re all here to learn. These are deliberately tough scenarios. That’s the whole point of a drill.

**Pretend it’s real:** we’ll try to make the drill realistic, but this is not meant to be a high fidelity Simulation. Although it’s not real, we need you to help us by acting as you’d do in real life, in your normal role, and we’ll try to run it in real time.

**Take-away pack:** there is some information that you can take away for further learning. We recommend “spaced repetition” for the best learning:

- make some reflective notes while it’s fresh in your mind
- make yourself read them again in a couple of weeks

## How does it work?

These ER drill packs will be laminated and left in the Simulation Bay (Bay 5) for teaching purposes, as well as “take-home” cards for those who want to brush up on their learning. The team can then choose a scenario or roll the dice to decide!

**Each Resus drill pack contains:** location of equipment, “Red call” sheet (optional), decision algorithm, scenario script, debrief questions, procedure and additional learning resources.



## S.E.T.U.P. (before patient arrives)

**SELF...** physical readiness (*stay calm*) & cognitive readiness (*accept the challenge*)

**ENVIRONMENT...** dangers, space, lighting, crowd control, appropriate equipment?

**TEAM...** initial briefing, identify Team Leader, allocate team roles

**UPDATE...** if possible, recap for the team (*and yourself*) before patient's arrival

**PATIENT...** the patient has now arrived

## Location of Equipment

**Suture packs** can be located in the Resus/ER equipment stacks opposite the *Dirty Utility* and *Pathology Hot Lab* and next to the equipment charging area.



## Indications

Facial trauma and suspected orbital compartment syndrome. Signs include:

- Markedly decreased visual acuity
- Diffuse subconjunctival haemorrhage
- Increased resistance when pushing down on eyelid
- Oculomotor palsy
- Proptosis
- Tight, hard eyeballs



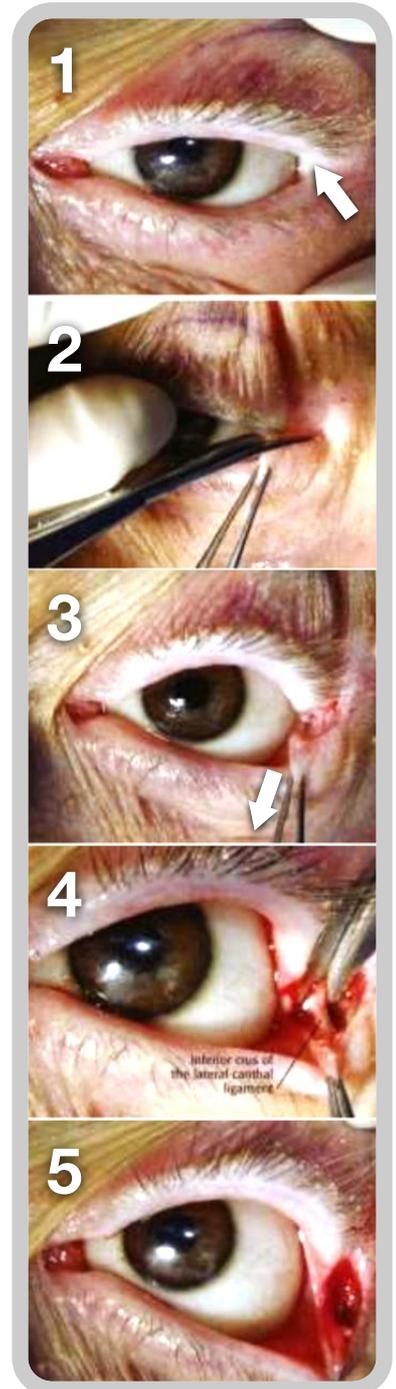
## Equipment Required

- ✓ Chloraprep applicator
- ✓ Lidocaine 1% with needle and syringe
- ✓ Tenotomy scissors
- ✓ Straight artery forceps

## Landmarks and Techniques

The left eye is depicted in the images (see opposite)

1. Identify the lateral canthus (see arrow). Cleanse the area with antiseptic and anaesthetise with 1 ml of 1% Lidocaine.
2. Crush the lateral canthus with the forceps for 1 to 2 minutes to reduce incisional bleeding (not shown). Then, cut through the crushed tissue with tenotomy scissors to perform the canthotomy.
3. Pull the lower eyelid away from the globe with straight artery forceps (see arrow).
4. "Strum" the tissue under the canthotomy with the scissors to identify the inferior crus of the lateral canthal ligament. Cut through this ligament with scissors to perform the inferior cantholysis. Note the scissors are directed inferiorly during this step, perpendicular to the canthotomy incision.
5. The eye after canthotomy and cantholysis. This procedure relieves increased intraocular pressure by allowing the globe and orbital contents to move forward.



**NOTE:** if intraocular pressure remains elevated after inferior cantholysis, the superior crus of the lateral canthal ligament may be released in a similar fashion.

## Orbital Compartment Syndrome (OCS) Decision Algorithm

### Bleed risk factors?

- Trauma
- Recent orbital or periorbital surgery
- Orbital vascular malformations
- Coagulopathy or pharmacologic anticoagulation

### Infection risk factors?

- Recent preseptal or orbital cellulitis
- Acute or chronic sinusitis

Yes



No



### Any of these within the last few hours?

- Decreased vision
- Diplopia
- Abnormal colour vision
- Restricted painful extraocular movements
- Proptosis (*look from above patient's head*)
- A relative afferent pupillary defect (*shine pen torch in each eye and observe both*)
- Increased intraorbital pressure (*palpate the eyeball to feel pressure and test for pain*)



**Call for help immediately!**

**Eye Casualty** in-hours (Mon-Fri, 0830-1630) & (Sat/Sun, 0830-1230)

**OOH:** on-call Ophthalmology registrar via switchboard

**Decompress within 60 minutes  
of patient's symptoms**

## Scenario Script

***“A 74-year-old man has fallen over in his garden – sustaining facial injuries. He is in the Emergency Room because he is on warfarin. His face is badly injured and his nose still oozing blood. Following EMAS handover, he says he can’t see out of his right eye very well in the last half an hour and it is painful.”***

### Minute One

Rapid assessment to include ocular movements (painful), pupillary response (sluggish) and for proptosis (*should be assessed from above – it is present*).



### Minute Two

Decision to perform a lateral canthotomy.

Call Ophthalmology for help/advice and assemble kit.

***“They say they can’t get there for at least 20 minutes – so you have to do it.”***

### Minute Three

Ask **Team Leader** to say out loud what kit they need and to task people. Wait for kit to arrive. If not explained to the patient – prompt **Team Leader** to do so.

### Minute Four

**Team Leader** to talk through what they are doing. *Expect to hear:*

- ➔ Identifying lateral canthus (lateral corner of eye) and anaesthetise with 1 ml 1% lignocaine.
- ➔ Crush this area of the lids with forceps for 1-2 minutes to reduce bleeding then make 2 mm cut with scissors.
- ➔ Pull lower eyelid away and “strum” inside the incision to find the lateral canthal ligament, identify the inferior crus of the ligament and use scissors, pointing downwards, to cut its base.

### Minute Five

Eye successfully released and patient describes improvement in pain.

## Debrief and Feedback

You should aim to cover the following points within 5 minutes, then re-run the scenario:

1. Did the **Team Leader** rapidly reach a decision to proceed (self)?
2. Did the **Team Leader** explain the situation in a way so that everyone understood it was a time-critical operative procedure?
3. Was a brief, non-frightening explanation given to the patient?
4. Was a member of staff asked to contact **Ophthalmology** urgently?
5. Did the **Team Leader** ask for the right equipment?
6. Was the right equipment provided quickly?
7. Did the **Team Leader** display knowledge of the technical skills required?
8. How did team members help the team pull together?
9. Were there any instances of:
  - a. Equipment issues?
  - b. Human factors negatively impacting communication or patient care?



## Additional Resources



**Lateral Canthotomy** (*UMEmergencyMed*) <https://youtu.be/MhGQ1ikN93M>



**How to do a Lateral Canthotomy** (*EM:RAP*) <https://youtu.be/tgQaKVGynFA>



**Lateral canthotomy and cantholysis: a simple, vision-saving procedure**  
(*Gord McInnes, MD; Daniel W. Howes, MD*) <http://bit.ly/latcanth>



**Procedural Aide Memoires – PAMs** (*MAGPAS*) <http://bit.ly/magpaslatcanth>

