



## Cast 26 – Orbital Compartment Syndrome

A 78 year old man presents to your Emergency Department with sudden vision loss in his right eye. He initially noted a diplopia and subsequently was told by his wife that his right eye was bulging.

On examination he has proptosis. Visual acuity is light perception only.

You suspect orbital compartment syndrome.

### A) List 4 pathological processes that can lead to orbital compartment syndrome. (4 marks)

Any 4 from below

- Retrobulbar haemorrhage
  - Trauma
  - Vascular malformations/tumours
  - Orbital Surgery
- Cellulitis/infection/Abscess
- Spontaneous from anticoagulant use or bleeding disorder.
- Extravasation of dyes/contrast/fluid (burns)
- Orbital malignancy (mass effect)

### B) Apart from proptosis and vision loss, list 3 further clinical examination findings that would help confirm orbital compartment syndrome. (3 marks)

Any 3 from below

- *Extraocular eye movements:* limited extraocular motility.
- *Pupils:* RAPD.
- *Tonometry:* increased intraocular pressure (IOP)
- *External appearance:* diffuse subconjunctival haemorrhage, tight eyelids (rock hard) with echymosis and chemosis.
- *Fundoscopy:* papilloedema from compressive optic neuropathy may be present, retinal artery or vein occlusion.

You confirm compartment syndrome. The patient requires a lateral canthotomy.

### C) List five (5) steps in performing a lateral canthotomy and cantholysis. (5 marks)

1. Informed consent.
2. Sedation if required, analgesia (appropriate drug, dose, route), Clean/Prep
3. Inject 1-2ml of 1% lignocaine with adrenaline into the lateral canthus. Stay away from the globe.
4. Devascularise the Lateral Canthus: Use a small clamp to clamp/crush the tissues for about 15-30 seconds.
5. Make an Incision into the lateral canthus- staying away from the globe.
6. Next cut the lateral canthal tendon by pulling the lower eyelid forward and inferior to expose the tendon.