EYE EMERGENCIES

Many patients presenting to the ED with eye problems can be managed without referral to an Ophthalmologist.

For daytime advice and acute referrals (Mon-Fri 08.30am - 4.30pm) please contact:

- Lothian - PAEP Triage desk(Princess Alexandra Eye Pavilion, Chalmers street).
- West Lothian - SJH OPD1.
- Borders - Borders Eye Centre (NB no cover at BGH on Friday, refer to PAEP).

For emergency or urgent referrals out of hours contact Ophthalmology on-call via NHS Lothian Switchboard.

For acute referrals through the night (10pm – 7am) who can be reviewed in Ophthalmology Clinic next day, please arrange appointment as follows:

- Edinburgh - Next day PAEP ARC appointment available through A&E reception.
- West Lothian - Notes to SJH OPD1 the next morning.
- Borders - Referral to Borders Eye Centre next morning.

***If next day Ophthalmology clinic is not available (eg: Friday night/ Saturday) please contact Ophthalmology on call to arrange a review.**

CONTENTS

EXAMINATION

- If the patient is in pain, put oxybuprocaine 0.4% topical anaesthetic drops into the eye. Warn the patient that this stings for a few seconds before it works.
- All patients presenting with eye problems must have their visual acuity measured and documented in both eyes, with their spectacles or a pinhole and this documented.
- If appropriate, examine eye movements and visual fields and look at the fundus.
- With the slit lamp, before fluorescein look at:
  - Lids
  - Conjunctiva
  - Cornea
  - Anterior chamber
  - Pupil
- With the slit lamp, after fluorescein with the blue light look at:
  - Cornea
- Fundoscopy
  - May be indicated

Eye problems are listed on the following pages, in order from the lids inwards.

LID LACERATIONS

- If involving the lid margin or in if in the region of the lachrymal gland, duct or sac refer to Ophthalmologist urgently.
- Get a senior to review and if felt suitable repair carefully using 6/0 nylon mattress sutures.

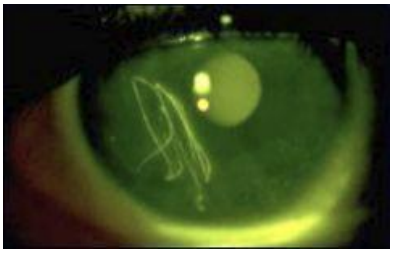
COMMON LID CONDITIONS

1. Blepharitis – Advise warm compress, lid hygiene.
2. Chalazion/stye- advise warm massage lid hygiene, advise to see GP if non resolution after 3 months.
3. Infective (*stye*) - remove eyelash if “pointing in”.

- Prescribe fusidic acid 1% eye ointment bd for 2 weeks.
- Allergic - avoid cosmetics / medication.

SUBTARSAL FOREIGN BODY

- Evert lid and remove and FB with cotton bud.
- Check for corneal abrasion with fluorescein.
- Chloramphenicol ointment TDS for 3 days.



Linear abrasion from subtarsal FB

CHEMICAL BURNS

- Alkalis including cement are generally much more serious than acids.
- Anaesthetise with oxybuprocaine 0.4% topical anaesthetic drops.
- Check pH of eye (normal 7-7.5).
- Thoroughly irrigate eye(s) with as many litres of N Saline as required until normal pH (7.0-7.5) is obtained and equal in both eyes (if other eye unaffected). Check pH 5-10 minutes after cessation of irrigation (otherwise false result).
- Remove any particulate matter.
- Look out for deceptively white eye disproportionate to injury, may be ischaemia.
- If pH normal and burn felt to be superficial and not large home with chloramphenicol ointment TDS for 5 days.
- If not completely better in 24 hours return.
- If significant area of injury or pH not improving or clinical concern refer to ophthalmology.

HYDROFLUORIC ACID BURN TO THE EYE

- Continuous irrigation with Normal Saline until 2 litmus tests show pH within normal limits (Check pH 5-10 mins after irrigation otherwise can get false result).
- Check advice on Toxbase and **discuss with an ophthalmologist urgently.**
- Potassium Ascorbate 10% every 15-30 minutes assists regeneration (has a short shelf life).
- Calcium Gluconate gel 0.5% can be used on skin.
- Ice pack can be applied to skin.

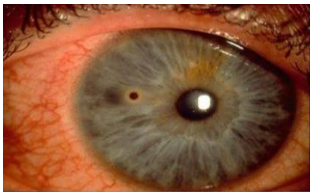
'ARC EYE' - WELDERS FLASH BURN / SUN LAMP BURN

- Intense pain and photophobia.
- Oxybuprocaine 0.4% topical anaesthetic drops stat ONLY.
- Cyclopentolate 1% drops stat to relieve ciliary spasm.
- Chloramphenicol ointment and eye pad for 12 hours.
- If no improvement in 24 hours advise to see optometrist.

SIMPLE CONJUNCTIVITIS

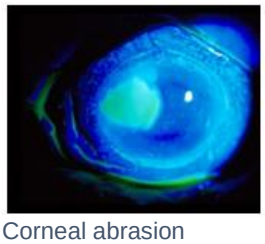
- Is usually viral, allergic or bacterial.
- If chronic or not settling may be due to Chlamydia – refer to ophthalmology.
- Usually no photophobia or pain – think of complication or alternative diagnosis.
- Exclude corneal ulcer with fluorescein.
- Clean eyes 3 x daily with clean cotton wool moistened in warm water wiping from nose outwards, new cotton wool for each eye.
- Chloramphenicol 2% eye ointment TDS for up to 7 days is second line treatment.
- Warn patient about spreading the infection – don't share towels.

CORNEAL FOREIGN BODY


Metallic FB

- Anaesthetise cornea with oxybuprocaine 0.4% topical anaesthetic drops.
- Remove with a cotton bud or green needle, under slit lamp if necessary.
- Chloramphenicol 2% eye ointment QDS for 5 days.
- Patients with rust rings remaining after removal of a metallic foreign body, should have the rust ring removed with a green needle or algerbrush. You need to fit a new burr for each patient.
- The burrs are single use and are disposable. If unable to remove bring back to the ED clinic and encourage chloramphenicol ointment use as this helps soften the rust ring.
- Patients with a history of chiselling, hammering or using an angle grinder to cut metal who present with a foreign body must have their eyeballs (globes) X-rayed to exclude an intra-ocular foreign body after any FB on the surface of the eye has been removed.

CORNEAL ABRASION


Corneal abrasion

- Demonstrate with fluorescein.
- Evert lid to ensure abrasion is not due to subtarsal FB.
- Document visual acuity.
- Chloramphenicol ointments TDS until feels better. Can also take oral analgesia (will be sore).
- Most require no follow-up but refer for review in clinic if:
  - Reduced vision in pts only seeing eye (same day or following day).
  - Significant abrasion: central involving 1/3 of cornea size or peripherally 50% of cornea (review in clinic in 2 days).
- If not better in 2-3 days advise the patient arrange review with optometrist.
- Give patient leaflet.

TRAUMATIC CORNEAL PERFORATION

- Iris appears pear-shaped due to prolapse.
- Avoid any pressure to the eyeball as this will squeeze out aqueous.
- Cover carefully with an eye shield (which may be made with folded card).
- Refer **urgently to ophthalmology.**

CORNEAL ULCER

- Usually herpes simplex infection.
- Appears as dendritic ulcers on fluorescein staining.
- Do not use steroids – you will not anyway be prescribing ocular steroids.
- Acyclovir 3% eye ointment 5 times daily and oral acyclovir.
- Refer to next Eye Clinic unless there is bacterial keratitis (see below).
- 95% heal in 10 days and those that do not are likely to become chronic or recurrent.

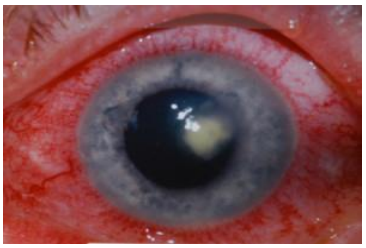

Dendritic ulcer

BACTERIAL KERATITIS

- Any white dot on cornea is likely to be a corneal abscess which needs inpatient treatment.
- Document visual acuity.
- If large ulcer (central involving 1/3 of cornea size) or acuity worse than 6/12 **refer to ophthalmology urgently.**
- If not meeting above criteria refer to Ophthalmology clinic same day, or if OOH arrange next day appointment.

TRAUMATIC HYPHAEMA or TORN IRIS

- Due to blunt trauma. Blood may appear as a fluid level in anterior chamber.
- Refer to Ophthalmology clinic same day, or if OOH arrange next day clinic.
- If headache and vomiting, please contact Ophthalmology on-call urgently as intra-ocular pressure may be elevated which requires urgent treatment.


Abscess

ACUTE IRITIS (ANTERIOR UVEITIS)

- Painful red eye with photophobia and blurred vision (marked reduction in acuity suggests diagnosis of posterior or pan-uveitis).
- Often recurrent so patient may have previous history of same.
- Conjunctival injection concentrated around cornea (ciliary injection).
- Pupil may be constricted or irregular due to adhesions between iris and lens (posterior synechiae).
- You may see inflammatory cells on the lining of the cornea (keratic precipitates) or floating in the anterior chamber.
- Associated with a large number of systemic disorders.
- Refer to Ophthalmology clinic same day, or if OOH arrange next day appointment.


Anterior uveitis

ACUTE CLOSED ANGLE GLAUCOMA

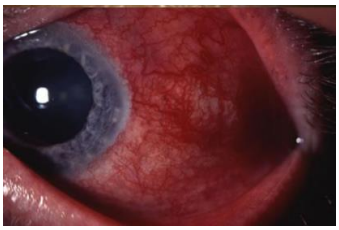
- These patients are usually pretty unwell with vomiting, headache and may holding their hand over a very painful red eye.
- Painful fixed semi-dilated oval pupil.
- Cornea may appear cloudy.
- Eyeball appears “stony-hard” on palpation.
- Analgesia - may require opiates.
- Immediate **referral to Ophthalmologist** who will admit and may suggest:
  - Pilocarpine 2% drops and / or
  - Acetozolamide (Diamox) 500 mg IV

EPISCLERITIS

- Inflammation of the episclera. Usually benign and self-limiting.
- Associated with mild pain/gritty feeling.
- Blood vessels blanch with phenylephrine 2.5%.
- Offer oral NSAIDS.
- Refer to Ophthalmology clinic same day, or if OOH arrange next day appointment particularly if uncertain of diagnosis.

SCLERITIS

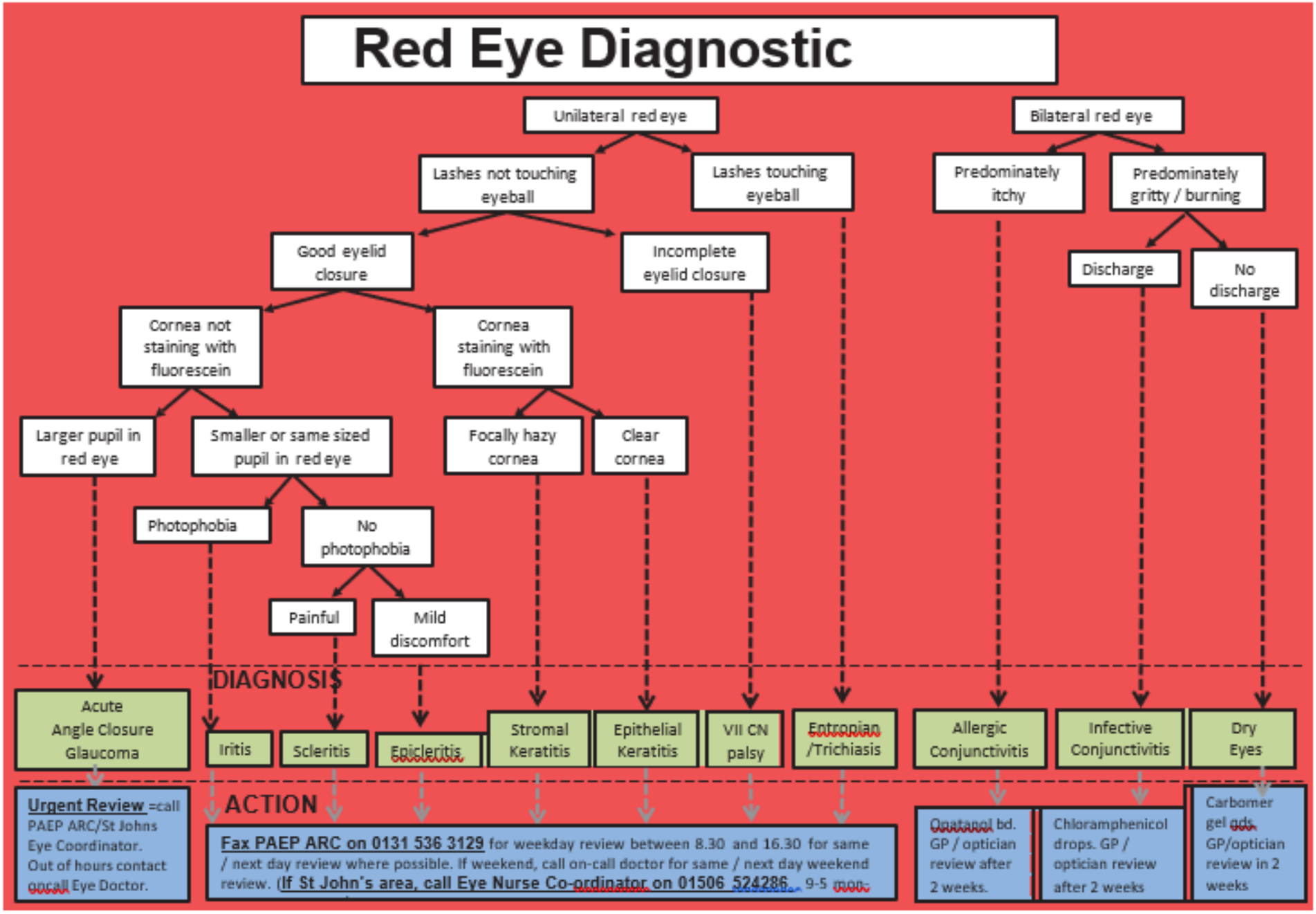
- More severe and potentially sight threatening than episcleritis.
- Usually painful and tender eyeball.
- Phyenylephrine 2.5% test shows no blanching.
- Oral NSAIDs.
- Refer to Ophthalmology clinic same day, or if OOH arrange next day appointment.



Scleritis

NHS Lothian

RED EYE



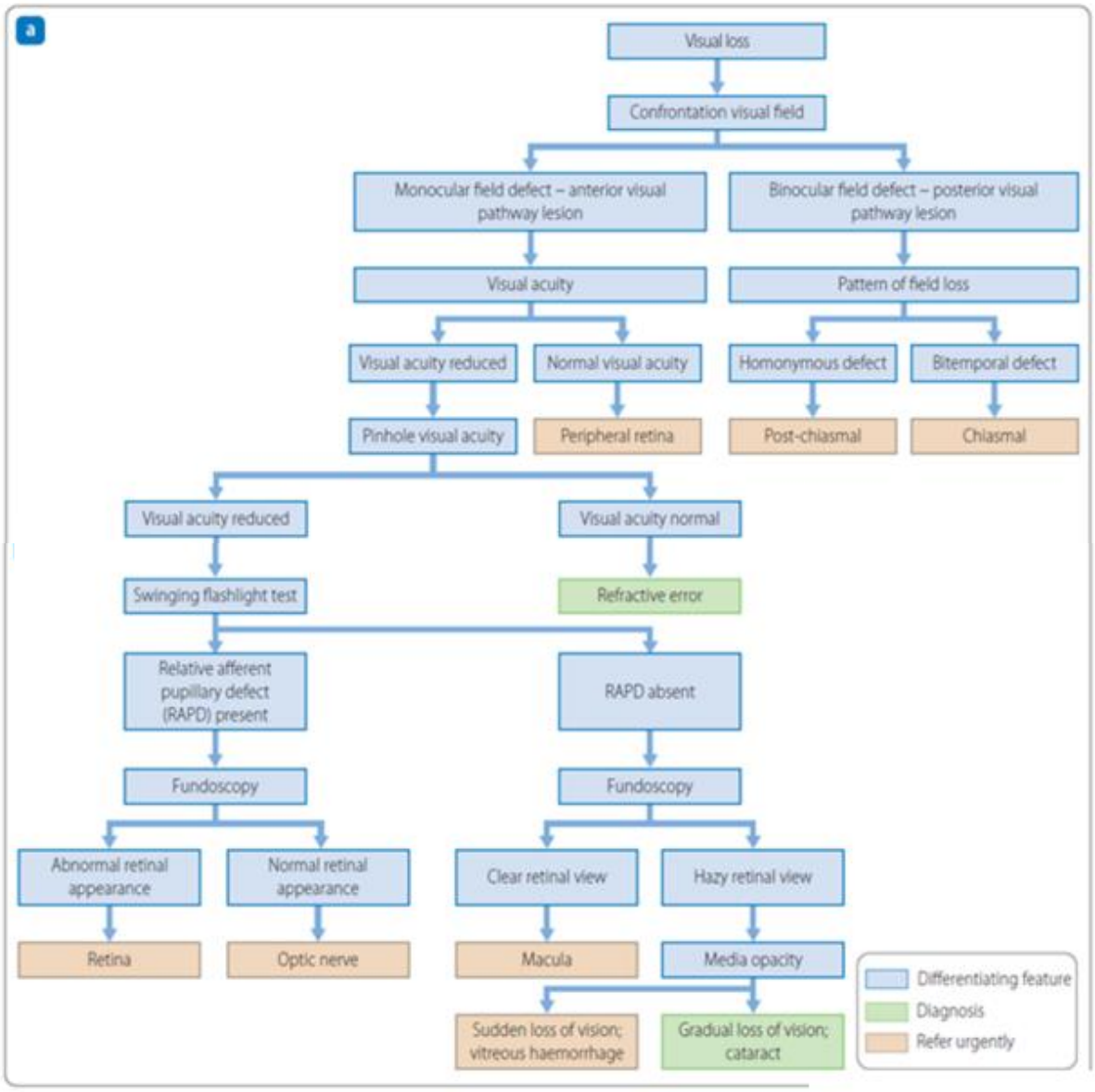
VISUAL LOSS

EXAMINATION

Central vision	acuity
Peripheral vision	confrontational visual fields
Is optic neuropathy present?	relative afferent pupil defect** decreased brightness perception red desaturation

Fundoscopy - to confirm your diagnostic suspicions.

** this means that the pupil transiently dilates rather than constricts when you swing pen light between the eyes



SUDDEN PAINLESS LOSS OF VISION

Flashers and floaters

- These patients typically present complaining of unilateral floaters/ spiders-web/ flashing lights. Commonly this is due to Posterior Vitreous Detachment which does not require any treatment.
- If no fixed visual field defect on examination, direct patient to optometrist for dilated eye exam next day/ within 24 hours.
- If fixed VF defect, refer to Ophthalmology clinic same day, or if OOH arrange next day Ophthalmology clinic.

Optic neuritis

- Associated with a large number of systemic conditions (including MS so consider looking for other neurology).
- Poor central vision – seeing faces.
- May also have eye pain.
- Loss of red vision.
- Optic nerve appears blurred or pale (in retrobulbar neuritis appears normal).
- Refer to next Eye Clinic.

Retinal vein occlusion

- Typical appearance with papilloedema and haemorrhages on ophthalmoscopy.
- Refer to next Eye Clinic.

Retinal artery occlusion

- Total dramatic loss of vision.
- May have a dilated pupil and absent direct but normal consensual reaction to light.
- The retina appears cloudy and pale apart from the “cherry red macula”.
- Discuss with Ophthalmologist urgently.
- If less than 2 hours since onset:
  - Massage eyeball for 5 seconds every 1o seconds.
  - Acetozolamide (*Diamox*) 500 mg IV.
- Stroke bloods, BP and ECG.

SUDDEN PAINFUL LOSS OF VISION

- Exclude Temporal arteritis by measuring ESR.
- Discuss with Ophthalmologist.

RETROBULBAR HAEMORRHAGE

If significant proptosis after trauma or a spontaneous bleed is accompanied by reduced vision and an RAPD **this is sight threatening and requires urgent management.**

1. Highlight patient to senior ASAP.
2. Will likely require lateral canthotomy and inferior/superior cantholysis.
3. Acetazolamide 500mg IV can be given if good renal function and no contraindications but should not delay the above procedure.
4. Refer to ophthalmology urgently.