

“Emergency Oculoplastics”

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The schematics

Congenital

Acquired :

Traumatic

Inflammatory

Neoplastic

Miscellaneous

Eye casualty presentations

o Trauma

- o Eyelid Laceration involving the lid margin
- o Canalicular Laceration
- o Retrobulbar Haemorrhage

o Orbital Emergencies

- o Pre Septal & Post Septal (Orbital) Cellulitis
- o Orbital Floor Fractures
- o Thyroid eye disease
- o Other Hot Orbit

Eye casualty presentations

o Other Infections

- o Canaliculitis
- o Dacryocystitis

o Eyelid position abnormality

- o 7th nerve palsy
- o Ptosis
- o Entropion
- o Ectropion

o Lumps and bumps

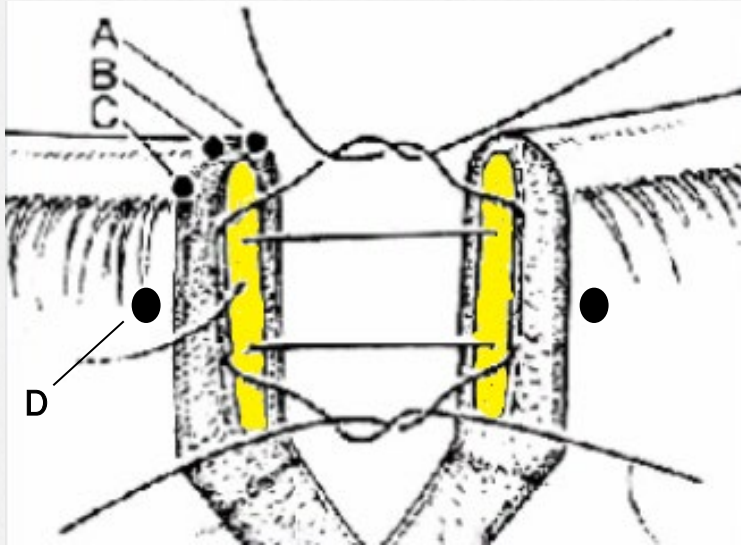
Trauma: Eyelid laceration



Priorities

1. Always **exclude** globe injury, bony injury to socket and life threatening injury first
2. Consider CT Head and orbit scan depending on clinical picture
3. Work up patient for likely general anaesthesia including NBM, anticoagulant review etc.
4. Ask about tetanus status
5. Oral antibiotics (Co-amoxiclav)
6. If available, get a picture at presentation

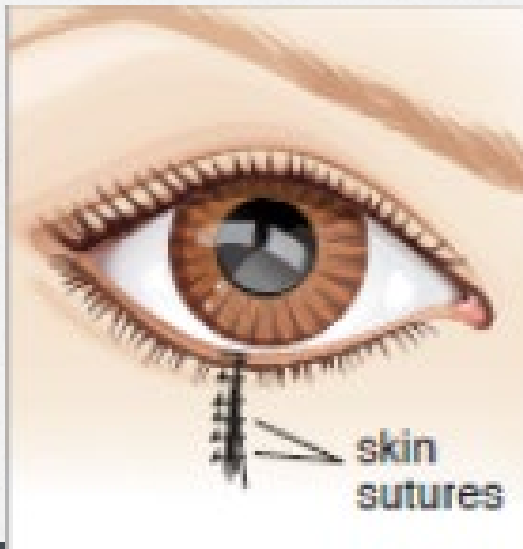
Trauma: Eyelid laceration REPAIR



Steps

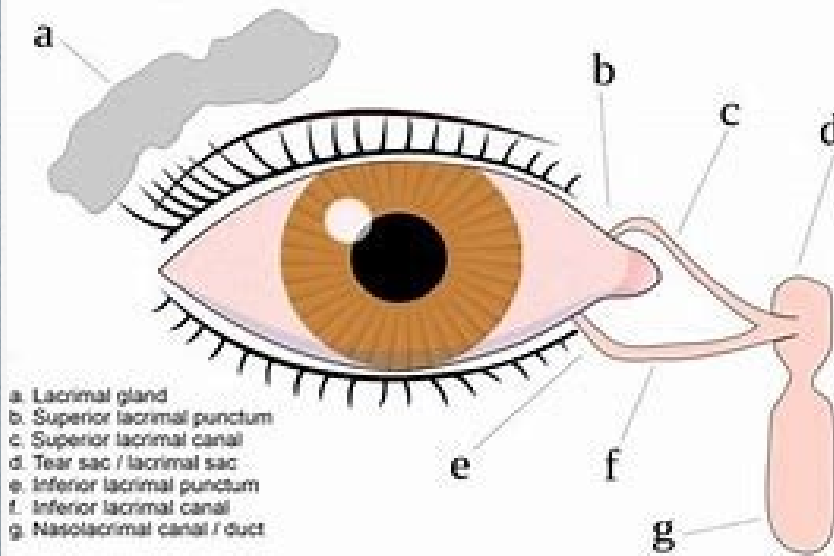
The eyelids should be apposed and the following sutures placed:

- Tarsal Plate sutures
- Mucocutaneous suture (A)
- Grey Line Sutures (B)
- Lash line sutures (C)
- Skin Sutures (D)



Long ends of lid margin sutures should be buried under skin to prevent the ends irritating the eye

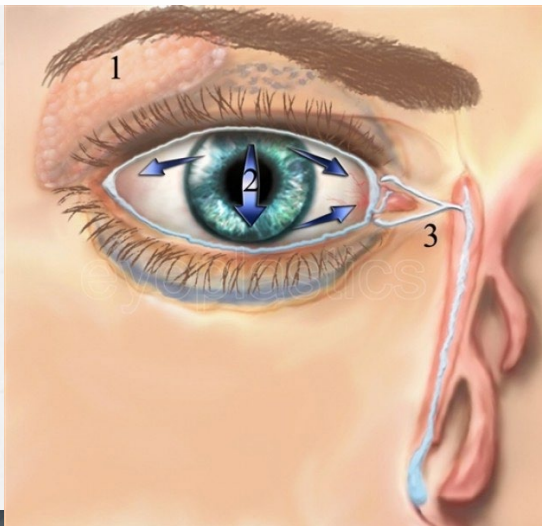
Trauma: canalicular laceration



Priorities (THE SAME)

Always check for injuries near the canaliculus with any lid/orbital trauma.

1. Always **exclude** globe injury, bony injury to socket and life threatening injury first
2. Consider CT Head and orbit scan depending on clinical picture
3. Work up patient for likely general anaesthesia including NBM, anticoagulant review etc.
4. Ask about tetanus status
5. Oral antibiotics (Co-amoxiclav)
6. If available, get a picture at presentation



Trauma: canalicular laceration repair



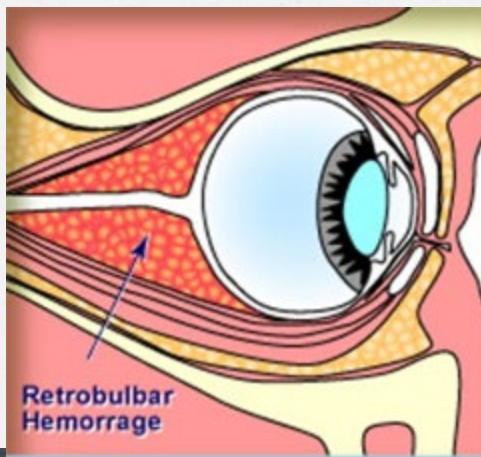
Management

1. Will need to repair within 48 hours
2. Upper lid canalicular injuries may not necessarily need repair
3. Lower eyelid canalicular injuries almost always need repair
4. Single Mini Monoka Stent used to recanalise the canaliculus
5. Suture of peri-canalicular tissue
6. Repair any associated eyelid lacerations

Trauma: retrobulbar haemorrhage

This is an ocular emergency and will need treatment within first 90 minutes to avoid sight loss.

Bleed behind the globe causes an orbital compartment syndrome causing a compressive optic nerve damage



Clinical Signs

- Proptosis
- Elevated IOP
- Evidence of compressive optic neuropathy
 - Reduced vision
 - Relative afferent pupil defect
 - Reduced colour vision
 - Optic disc swelling
 - Visual field abnormality
- CT orbit finding of retrobulbar haemorrhage (DO NOT WAIT FOR CT IF CLINICALLY EVIDENT)

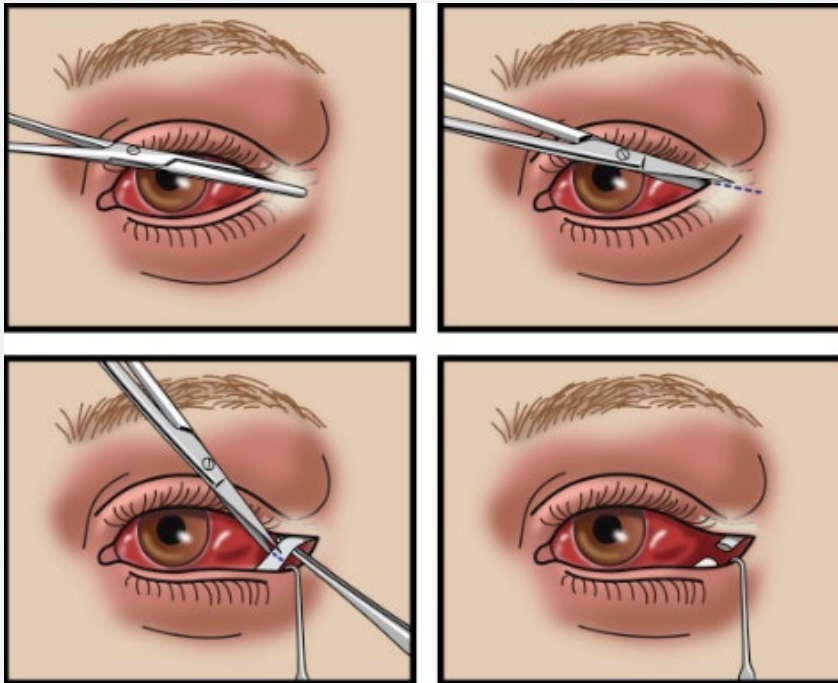
CT Scan



Trauma: retrobulbar haemorrhage

This is an ocular emergency and will need treatment within first 90 minutes to avoid sight loss.

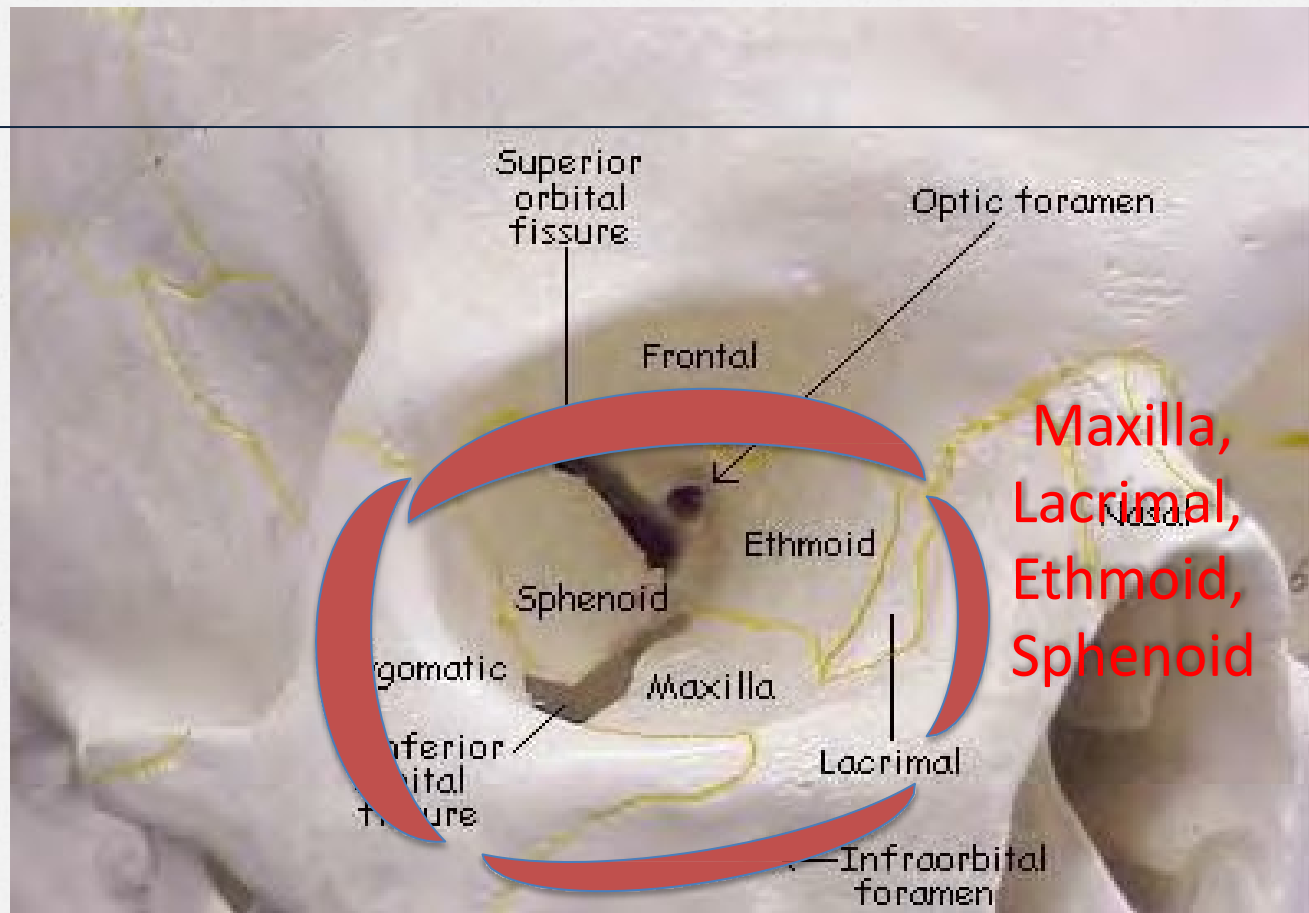
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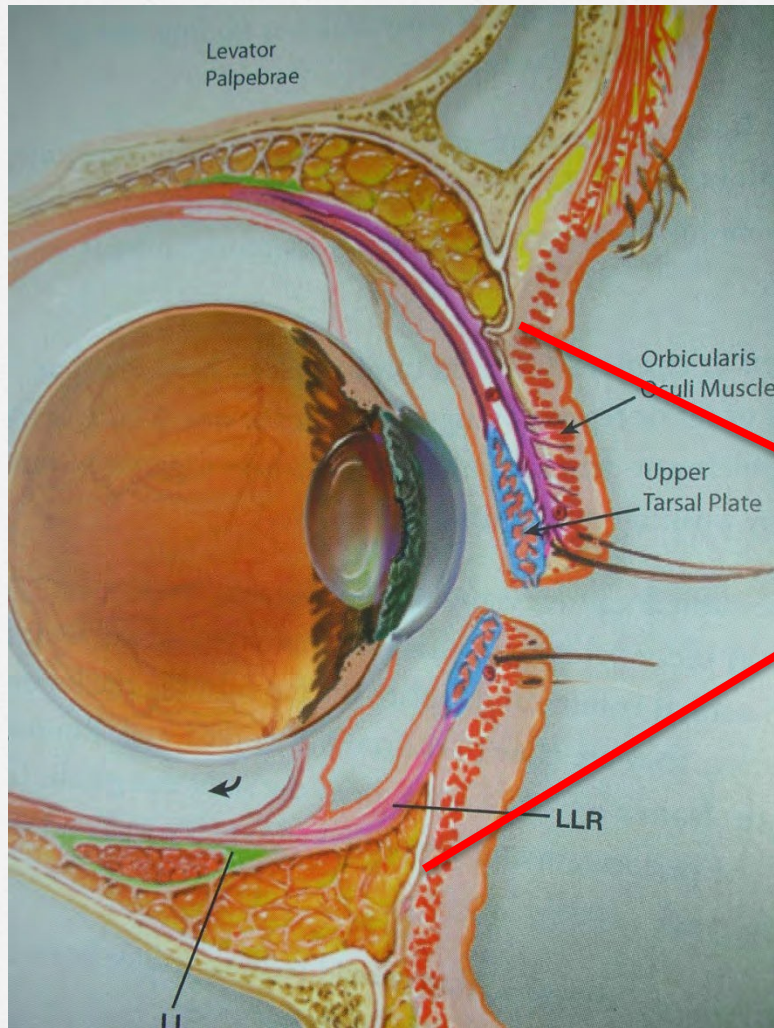


Treatment

1. Emergency Lateral canthotomy and inferior eyelid cantholysis
2. Acetazolamide oral tablets as an adjunct
1. Check IOP and optic nerve indicators for progress
2. May need superior eyelid cantholysis if inadequate

ORBIT





Orbital septum is a 360° white tough barrier between orbit and lid tissues, stretching from distal tarsus border to orbital rim

pre septal cellulitis

Causes:

- Trauma
- Insect bite
- Stye

Clinical Features:

- Inflamed, oedematous lids
- No proptosis
- Full range of ocular motility with minimal pain
- No evidence of optic neuropathy:
 - No RAPD
 - Normal Vision/Colour vision
 - Normal confrontation fields



Treatment

Oral antibiotics (Co-amoxiclav) and Analgesics if systemically well

orbital: post septal cellulitis

Causes:

- Sinusitis (commoner in children)
- Trauma/ Tumor in adjoining sinuses

Clinical Features:

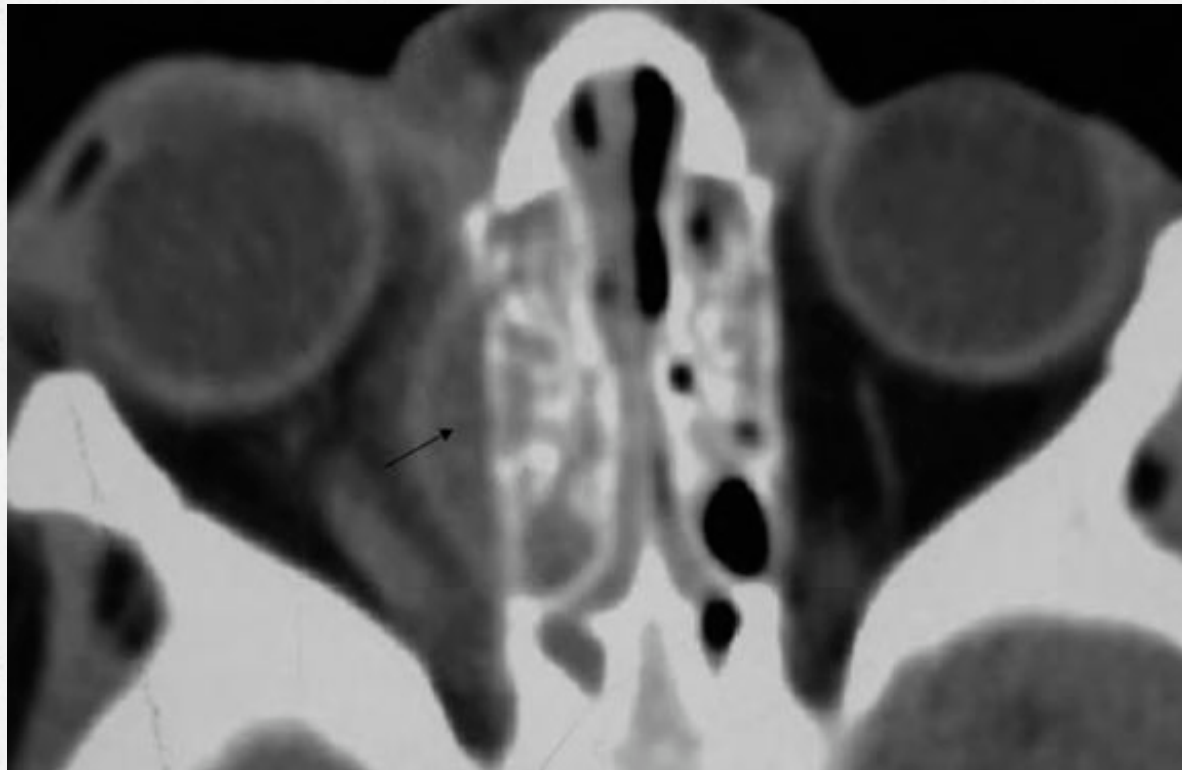
- Inflamed, oedematous lids
- Proptosis
- Painful/ restricted eye movements
- Any evidence of optic neuropathy:
 - Reduced Visual acuity
 - Reduced colour vision
 - RAPD
 - Constricted Visual field



Treatment

1. Urgent CT head and orbit with contrast
2. Needs Admission
3. Intravenous antibiotics (see your trust guidelines): Ceftazidime and Metronidazole
4. Analgesics
5. ENT referral

Subperiosteal abscess



orbital floor fracture

With any orbital trauma case, always assess the eye and orbital wall for possibility of a orbital fracture.

Clinical Features:

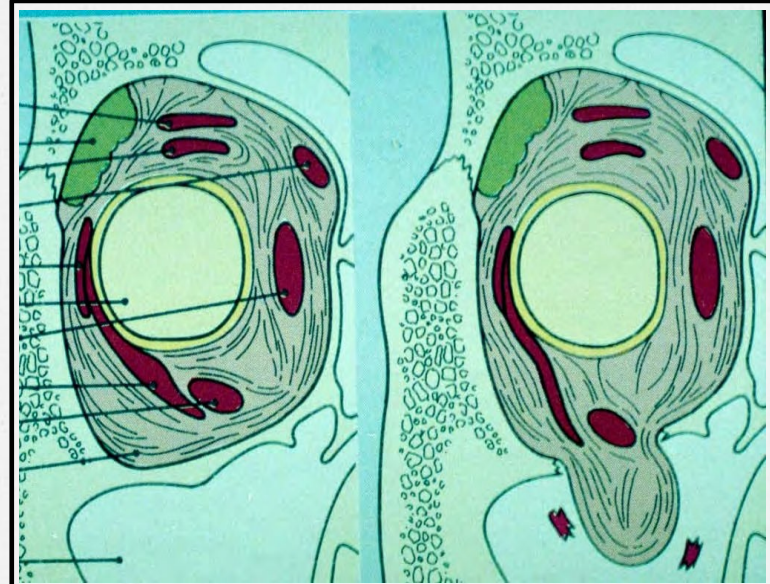
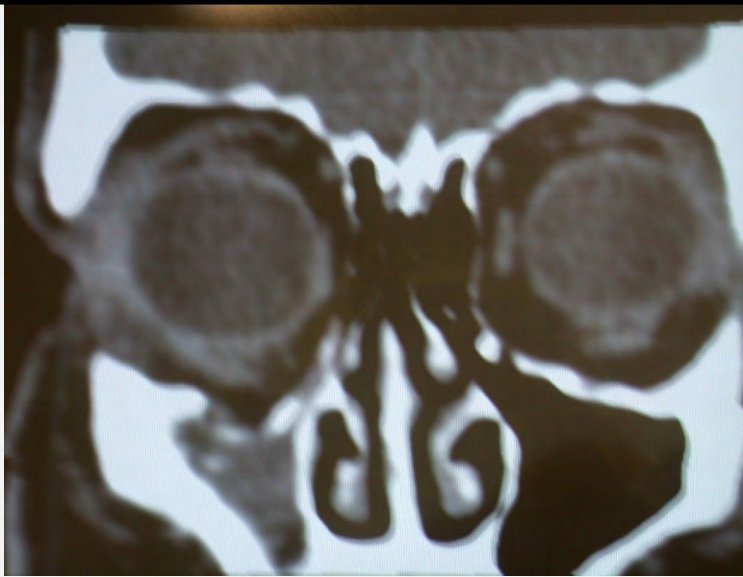
- Hypotropia
- Enophthalmos
- Restricted motility, esp. vertical gaze
- Infra-orbital anaesthesia
- Check optic nerve function

Treatment

1. Urgent CT head and orbit
2. Refer to max fax if not already done



Orbital Fracture



Orbital Floor fracture and prolapse of Inf. Rectus & soft tissues in maxillary sinus

Thyroid Eye Disease(TED)

Patients can have thyroid eye disease irrespective of whether they have hyper/hypo thyroid or euthyroid

Clinical Features:

- Spontaneous pain or pain on eye movement
- Eye lid abnormalities: eyelid swelling, eyelid redness, lid retraction, lagophthalmos
- Conjunctival abnormalities: persistent chemosis, hyperaemia especially over recti muscles
- Caruncular swelling
- Proptosis
- Diplopia
- Evidence of Optic Neuropathy



Orbital: Thyroid Eye Disease



- Thick extra-ocular (recti) muscles
- Optic nerve compression

Management: Thyroid Eye Disease

- ② Corneal exposure – treat with lubricants/ taping eyelids shut
- ② Conservative treatment: STOP SMOKING, Cold compresses, Selenium
- ② Organise CT Head and orbit with contrast
- ② Consider oral steroid or NSAID treatment
- ② Refer to thyroid eye service
- ② **If severe Thyroid eye disease** (optic nerve compromise, diplopia, corneal surface compromised) then consider
 - ② Admission
 - ② Urgent CT head and orbit with contrast and chest XR
 - ② Treatment with IV methylprednisolone (1g per day for 3 consecutive days followed by oral steroids)

Hot Orbit

Proptosis, restricted ocular motility and optic nerve compromise can occur in other conditions as well and needs to be considered:

Vascular Causes:

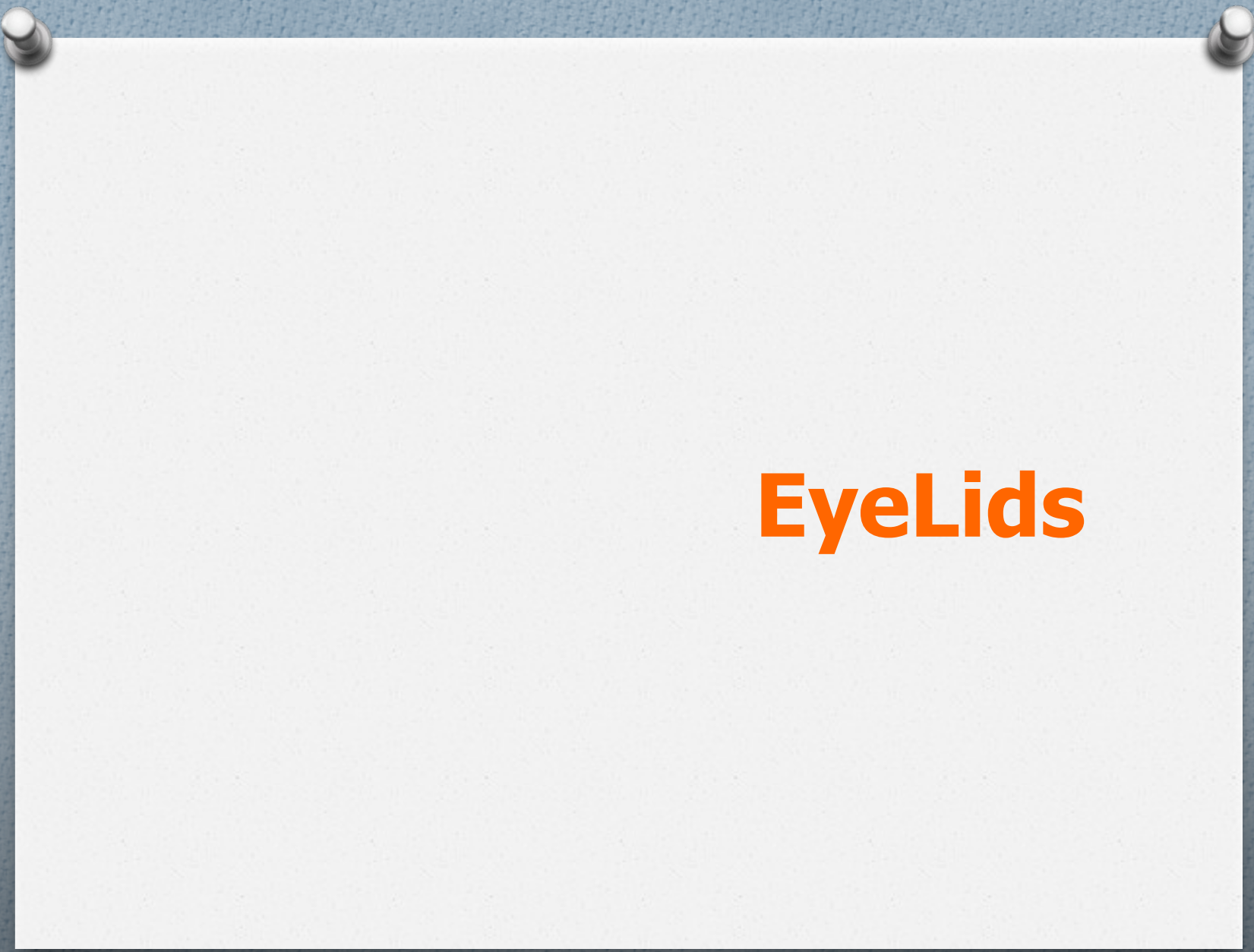
- Carotid Cavernous Fistula (CCF)
- Cavernous Sinus Thrombosis

Inflammatory:

- Idiopathic inflammatory orbital disease
- Sarcoidosis
- IgG4 related disease
- Systemic vasculitis associated (SLE)
- Orbital Myositis

Neoplastic Disease

- Orbital lymphoma
- Lacrimal gland tumours
- Sphenoid wing tumours
- Optic nerve glioma
- Optic nerve sheath meningioma



EyeLids

eyelid: 7th nerve palsy

Causes suboptimal closure of the upper eyelid

Causes:

- Infective (Viral)
- Inflammatory (sarcoidosis)
- Neoplastic (acoustic neuroma)
- Vascular (Stroke,
- Idiopathic (Bells palsy)

Clinical Features:

- Assess if upper motor or lower motor 7th nerve palsy (forehead)
- Lagophthalmos
- Dry eye
- Exposure Keratitis
- Assess Bell's reflex



Treatment

Investigate as appropriate
(Protect Cornea)

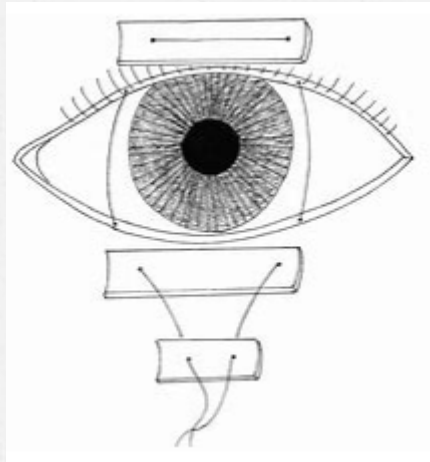
Lubricants and tape eyelid

Botox

Temporary tarsorrhaphy

Upper eyelid Gold weight Insertion

7th nerve palsy



Congenital Ptosis

- Fair to Poor LPS action
- Faint/ Absent lid crease
- Lid lag on down gaze

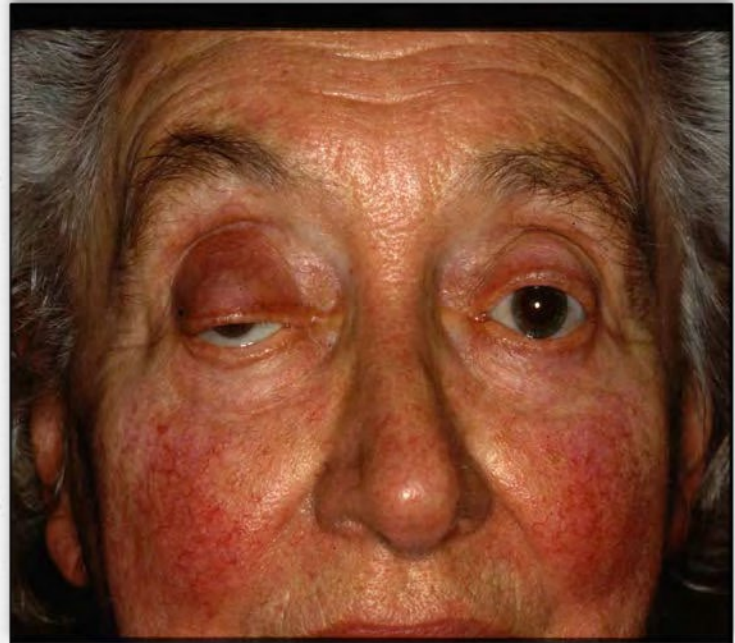
If chin elevation & frontalis overaction (s/o visual axis obstruction by ptotic lid), It needs urgent intervention, or else amblyopia develops.



Acquired Ptosis

FEATURES:

- Good LPS action
- High lid crease
- No lid lag on down gaze



Acquired Ptosis

FEATURES:

- Good LPS action
- High lid crease
- No lid lag on down gaze

Causes:

- ⊙ Involutional
- ⊙ Mechanical
- ⊙ Myogenic
- ⊙ Traumatic
- ⊙ Neurogenic



Important causes of Acquired Ptosis

Neurogenic:

- Third Cranial nerve palsy

- ⊙ Total ptosis
- ⊙ Exotropia
- ⊙ Hypotropia
- ⊙ Mydriasis



Important causes of Acquired Ptosis

Neurogenic:

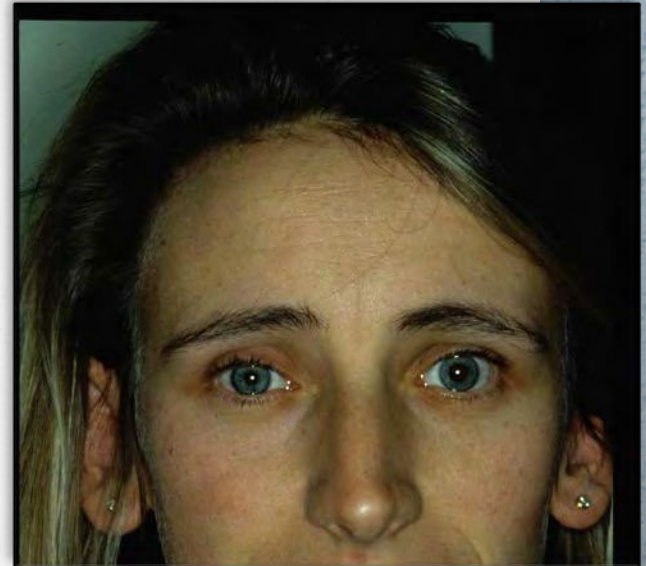
- Horner's syndrome

Note:

sympathetic innervation to Muller's affected

- subtle ptosis
- miosis

sympathetic innervation to Pupil (dilators) affected



Important causes of Acquired Ptosis

Trauma:

- ⊙ Blunt or penetrating
- ⊙ Long term contact lens wear
- ⊙ Iatrogenic

Causes of mechanical/ traumatic ptosis
may overlap



EYELID POSITION ANOMALIES

Ectropion

(eyelid margin is away from the globe)

ECTROPION

Causes:

- ⊙ Involutional
- ⊙ Cicatricial
- ⊙ Paralytic (VII CN palsy)
- ⊙ Mechanical



Prolonged ectropion leads to metaplastic changes in exposed conjunctiva

ECTROPION

Involutional

Due to laxity of canthal tendons with age



ECTROPION

Cicatricial: Traumatic scar at cheek pulling the lower lid down



ECTROPION

Paralytic (VII CN palsy)

Facial nerve supplying Orbicularis Oculi is affected:

Causes: Bell's palsy, Parotid tumor excision, Acoustic Neuroma



ECTROPION

Mechanical

Lower eyelid edema causing mechanical ectropion



EYELID POSITION ANOMALIES

Entropion

(eyelid margin rolled in)

ENTROPION

Causes:

- ⊙ Involutional
- ⊙ Trauma
- ⊙ Cicatricial



Entropion leads to trichiasis (misdirection of lashes), which may cause punctate epitheliopathy of cornea and lead to corneal ulcers.

ENTROPION

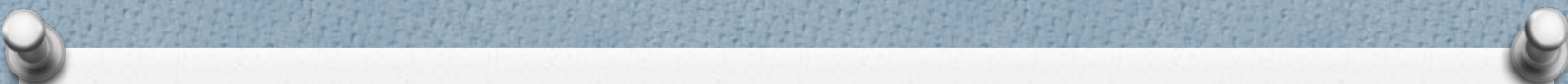
Causes:

Cicatricial

- Ocular Cicatricial Pemphigoid
- Stevens Johnson syndrome
- Trachoma (developing countries)
- Chemical injury



Contraction and thus, shortening of posterior lamella of the eyelid: which pulls and rolls in the eyelid margin along with eyelashes.



Common Eyelid Lesions

Benign Eyelid Lesions

◎ Chalazion

- Chronic, granulomatous inflammation of meibomian glands
- Involving posterior eyelid lamellae

Treatment:

- Warm compresses/ antibiotic ointment, if recent onset
- Incision & Curettage in resistant cases



Benign Eyelid Lesions

Stye

- Tender, acute inflammation of sebaceous glands of Zeiss or sweat glands of Moll at the base of eyelashes in anterior eyelid lamellae

Treatment:

- Warm compresses, antibiotic ointment
- Expression of pus $\pm$ lash removal



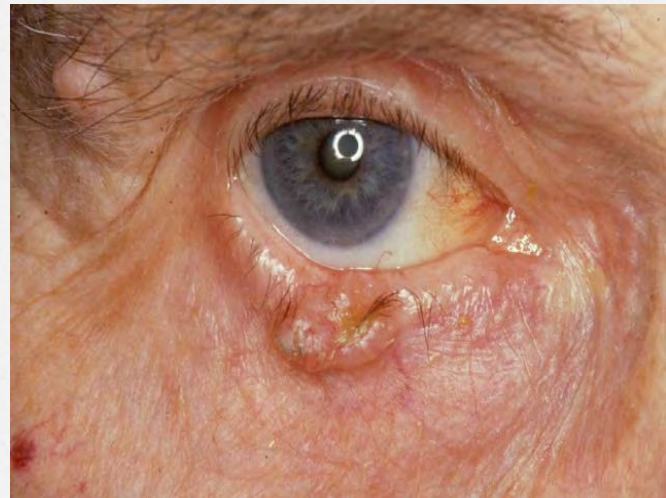
Malignant Eyelid Lesions

Basal cell cancer

- Commonest lid malignancy (90%)
- Risk factors:
 - Fair skin & UV exposure

Features:

- Nodular/ulcerative with rolled edges
- Loss of lashes
- Telangiectatic blood vessels on surface



Treatment: Excision with wide margins ± Cryotherapy

Malignant Eyelid Lesions

Squamous cell cancer

- Fast growing skin cancer

Features:

- Nodular
- Hyperkeratotic surface



Treatment: Excision Biopsy with wide margins $\pm$ radiotherapy depending upon the depth of involvement

Malignant Eyelid Lesions

Malignant melanoma

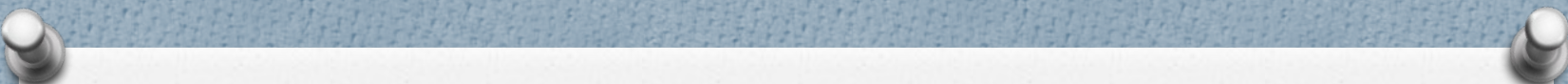
- Highly malignant and metastatic skin cancer

Features:

- Pigmented or non pigmented
- Itching and bleeding are signs of malignant conversion.



Treatment: Excision Biopsy with wide margins $\pm$ adjuvant chemotherapy and urgent referral to MELANOMA MDT



Common Lacrimal Disorders

Infections: Canaliculitis

Infection of the lacrimal canaliculus

Causes:

- Obstruction (stone)
- Foreign Body (plug)
- Trauma

Clinical Features:

- Erythema, oedema of the medial eyelid adjacent to canaliculus
- Mucoid discharge from canaliculus when pressed with cotton bud
- Pouting punctum



Treatment

Broad spectrum antibiotics
Canaliculotomy with topical antibiotic drops



Congenital Naso-lacrimal Duct Obstruction

- Symptoms start soon after birth
 - Watering $\pm$ discharge



- Fluorescein dye disappearance delayed



Congenital Naso-lacrimal Duct Obstruction

● Treatment Options in order of preference:

- a) Conservative [Lacrimal Massage $\pm$ Antibiotics]
- b) Probing & Syringing
- c) Intubation/ Balloon Dacryoplasty
- d) Dacryocystorhinostomy



Nearly 95% resolve conservatively by the end of one year of age

Acquired Naso-lacrimal Duct Obstruction

- Commoner in females > 40 years of age
- Delayed Fluorescein dye disappearance test
- Syringing:
Complete/ partial regurgitation of fluid



Treatment:

- Dacryocystorhinostomy [external/ endoscopic]
± silicon intubation

Infections: Dacryocystitis

Inflammation of the lacrimal sac

Causes:

- Nasolacrimal duct obstruction
- Nasal pathology (nasal septum deviation)
- Presence of dacroliths

Clinical Features:

- Pain, erythema and redness overlying lacrimal sac
- Pain on pressing over sac (be careful)
- Fistula from sac to skin
- Conjunctival injection
- Pre septal or orbital cellulitis



Treatment

Hot fomentation
Broad spectrum antibiotics
Percutaneous abscess drainage
In recurrent cases : DCR after acute infection resolves

Summary

- o Assess life threatening / sight threatening conditions.
- o Work up the patient and inform Seniors
- o Seek multidisciplinary approach if required
- o Time is of essence
- o Don't be afraid to ask for help

EMERGENCY



TRIAGE NURSE
*Being the worst
makes you first.*