Common Eye Condition Management
• Outline of condition
• Symptoms
• Signs
• Equipment to examine
• Procedure to follow
Schematic diagram of the Human Eye

- Upper punctum
- Plica semilunaris
- Caruncle
- Upper canaliculus
- Medial canthus
- Lacrimal sac
- Lower canaliculus
- Common canaliculus
- Cilia
- Nasolacrimal duct
- Lacrimal gland
- Limbus
- Lateral canthus
- Solera
- Posterior chamber
- Anterior chamber (aqueous humour)
- Zonular fibres
- Iris
- Pupil
- Cornea
- Choroid
- Solera
- Vitreous humour
- Hyaloid canal
- Optic disc
- Optic nerve
- Fovea
- Retinal blood vessels
- Ciliary muscle
- Suspensory ligament
Equipment and drugs to keep at hand in the Surgery:

- Vision testing chart
- Good light source with magnifier (and ideally blue light source)
- Proxymethacaine 0.5% with fluorescein 0.25% drops
- Chloramphenicol ointment 1%
- Cotton Buds
- Eye pads
- Tape
- Direct ophthalmoscope
- Patient information leaflets
Record best corrected visual acuity:

- That is wearing glasses or contact lenses where used.
- It is good practice to check visual acuity for most patients presenting with an eye condition.
- Significant reduction in the visual acuity is a good indicator for referral.
- Review patient history, noting allergies, medical and ocular history.
- Always establish and record symptoms and onset.
- Refer red eye with vision loss or other signs of concern to an ophthalmologist for evaluation.
Eye Examination

- Wash hands
- Observe lid margins, conjunctiva and cornea with white light
- Instil 1 drop of proxymethacaine 0.5% with fluorescein 0.25%
- Observe for corneal staining (preferably using a blue light source)
- Diagnosis confirmed,
- Treat accordingly
- If concerned seek advice from ophthalmologist
Blepharitis is an inflammatory eyelid condition caused by chronic staphylococcal infection and malfunction of the meibomian (lipid) glands. It can cause secondary conjunctivitis and dry eye and occasionally small corneal ulcers.
Symptoms
A gradual onset or chronic history of:
• Gritty / sore eye
• Crusting on lashes
• Red eyes

Signs
• Red rimmed, thickened lid margins +/- mild to severe crusting on the eyelashes
• Blocked or oozing meibomian glands
• Red conjunctiva in some

Eye Examination
• Observe lid margins, conjunctiva and cornea with white light
• Instil 1 drop of proxymethacaine 0.5% with fluorescein 0.25%
• Observe for corneal staining (preferably using a blue light source)

Treatment
• Give patient Blepharitis Information Leaflet
• Eyelid hygiene (explain to patient how to perform this). If severe blepharitis, prescribe chloramphenicol ointment 1% bd for one week, to be applied to eye lid margins after cleaning.
• Ensure patient is informed it is a chronic condition and the need for regular (i.e. twice a day) lid hygiene once current inflammation has settled. Review as appropriate.
Lid massage and hygiene

1. Warm compress. Apply a warm compress (flannel under hot water, wrung out and applied to lid for 1 minute) where time permits.

2. Lid massage. Using a finger or a cotton bud firmly stroke the skin of the lids towards the lashes, i.e. downwards for the top lid and upwards for the bottom lid, massaging the whole width of the eyelids.

This helps unblock the meibomian glands and expresses the oils.

3. Lid hygiene. Pull the eyelid away from the eye with a finger and use a moist cotton bud to clean the posterior lid margins gently but firmly. Then clean the root of the lashes more firmly with the bud. For the top lid this is often best done with the eye closed.
Care Pathway for Conjunctivitis

Conjunctivitis may be bacterial, viral or allergic
Symptoms
- May be unilateral or bilateral
- There is usually a mucopurulent discharge and the lashes are stuck together on waking
- In bacterial conjunctivitis discharge may continue throughout the day, whereas in viral conjunctivitis the affected eye(s) tend to be stuck together on waking, but water in the daytime
- There is a gritty/burning discomfort rather than pain
- Blurring of vision is usually due to disturbance of the tear film, which clears with blinking
- Persistent blurred vision may indicate the development of corneal involvement
- Viral conjunctivitis is associated with sore throat and tender pre-auricular lymph nodes
- Bilateral itching and watery discharge, especially if seasonal, suggests allergic conjunctivitis

Signs
- Redness due to dilated conjunctival vessels affects all conjunctiva (globe of eye and tarsal conjunctiva lining inside of eyelids) in contrast to uveitis or scleritis where redness only on the globe
- Purulent discharge suggests bacterial origin
- Small white corneal infiltrates can occur in viral infection

Eye Examination
- Instil 1 drop of proxymethacaine 0.5% with fluorescein 0.25%
- Look for multiple fine white spots or fluorescein stains on cornea; major corneal staining or clouding suggests an alternative diagnosis e.g. corneal ulcer

Treatment
- Chloramphenicol eye drops qds for bacterial conjunctivitis
- Topical lubricants for viral conjunctivitis
- Viral conjunctivitis is spread by droplet infection and there is an increased risk of spread in any situation where people are in regular close contact. The risk of spread can be reduced by careful hand-washing and rigorous hygiene (e.g. use of separate towels).
- Topical steroids for corneal infiltrates should be prescribed by an ophthalmologist
- Antihistamine or antimast cell drops (e.g. cromoglycate, nedocromil, opatanol) are used for allergy
Corneal abrasions are generally a result of trauma to the surface of the eye. Common causes include a fingernail scratching the eye, walking into a tree branch and getting grit in the eye, particularly if the eye is then rubbed. Injuries can also be caused by contact lens insertion and removal, but beware the possibility of a corneal ulcer in contact lens wearers especially soft lenses.
Symptoms

- Immediate pain
- Watering
- Foreign body sensation
- Light sensitivity

Signs

- Fluorescein drops will stain the abraded area.

Eye Examination

- Observe conjunctiva and cornea with white light to exclude foreign body or corneal clouding
- Instil 1 drop of proxymethacaine 0.5% with fluorescein 0.25%
- Observe for corneal staining (preferably using a blue light source)
- Evert upper eye lid if any history of foreign body in the eye
- Watch out for signs of a corneal laceration such as a shallow AC or distorted pupil

Treatment – give patient Corneal Abrasion Information Leaflet

- Instil chloramphenicol ointment 1% stat
- Double eye pad secured with 3 strips of tape (to remain on for 12-24 hours), inform patient that if they find this more uncomfortable the pad can be removed and advise the use of sunglasses
- Oc chloramphenicol qds for 5 days after removal of pad or immediately in patients not padded
- Advise oral analgesia, ibuprofen based if able to tolerate
- Review as appropriate
A subconjunctival haemorrhage is caused by a bleeding blood vessel under the conjunctiva. Patients will often present after being told they have a red eye and may not have noticed any symptoms. They usually have no cause but are more common after coughing or vomiting excessively. Can also be caused by mild trauma.
**Symptoms**

- Patients may describe a mild popping sensation in the eye prior to observing the redness
- May describe a mild FB sensation or an eye ache
- Usually symptom free
- Ask/review use of any NSAIDs or anticoagulants
- Any history of coughing, straining, trauma or vomiting

**Signs**

- A flat, bright red haemorrhage in the conjunctiva

**Eye Examination**

- Check blood pressure
- Observe lids and conjunctiva with white light
- Instil 1 drop of proxymethacaine 0.5% with fluorescein 0.25%
- Observe for corneal staining preferably using a blue light

**Treatment**

- Give patient Subconjunctival Haemorrhage Information Leaflet
- If no history of trauma, no treatment is required, reassure patient that the haemorrhage will resolve over the course of about a week or two
- If trauma is the cause, consider referral to an ophthalmologists to ensure no underlying scleral damage or other injury
- If subconjunctival haemorrhages are recurrent further investigations may be required to exclude any clotting disorders; however in most cases no underlying serious cause will be found.
Care pathway for Episcleritis

Episcleritis is a benign, self-limiting inflammatory disease affecting the episclera, the loose connective tissue between the conjunctiva and sclera, and causes mild discomfort. It is usually idiopathic and only rarely associated with systemic disease (e.g. rheumatoid arthritis)
Symptoms

• Mild ache / soreness of the eye
• Eye is mildly tender to touch
• Red eye

Signs

• Segmental or focal redness which may can be raised (nodular)
• Redness disappears on compression and redness mobile on white of the eye with cotton bud – redness is neither mobile or compressible in scleritis.

Eye Examination

• Observe conjunctiva and cornea with white light
• Instil 1 drop of proxymethacaine 0.5% with fluorescein 0.25%
• Observe for corneal staining preferably using a blue light
• You may wish to use a cotton bud to compress and move the red area

Treatment

• Give patient Episcleritis Information Leaflet
• Inform patient that the cause for episcleritis is unknown and that although symptoms are uncomfortable, the condition is usually self limiting and not harmful
• Oral anti-inflammatories such as ibuprofen will help with the discomfort of episcleritis
• Artificial tears (can be bought over the counter) will help keep the eye comfortable
• Review as appropriate
Care pathway for Subtarsal Foreign Body

Subtarsal Foreign Bodies (on the inner lid surface) are a common reason for attendance to an emergency eye clinic. They occur more commonly inside the upper eye lid. There may be a history of trauma or feeling something blow into the eye.
Symptoms

• Foreign body sensation
• Watering
• Pain

Signs

• Visible subtarsal foreign body
• Red eye
• Linear corneal abrasion

Eye Examination

• Observe conjunctiva and cornea with white light
• Instil 1 drop of proxymethacaine 0.5% with fluorescein 0.25%.
• Observe for corneal staining preferably using a blue light
• Evert upper eye: the presence of a subtarsal foreign body is confirmed
• Moisten a cotton bud with a few drops of sodium chloride 0.9%. Gently remove the foreign body with the cotton bud, sweeping it away from the corneal surface
• Re-examine the eye to ensure the foreign body has been fully removed

Treatment

• Give patient Foreign Body Information Leaflet
• Give chloramphenicol ointment qds 5 days
• Offer advice e.g. on the wearing of safety glasses, to prevent another injury
Corneal foreign bodies are common. There may be a history of trauma, or using tools (e.g. hammering) without protective goggles or feeling something blow into the eye. Metal foreign bodies can be very adherent and difficult to remove.
Symptoms

• Foreign body sensation
• Watering
• Pain
• Ask about power tools and consider the possibility of an intraocular foreign body

Signs

• Visible corneal foreign body
• Fluorescein stains the cornea around the foreign body
• Red eye

Eye Examination

• Observe conjunctiva and cornea with white light
• Instil 1 drop of proxymethacaine 0.5% with fluorescein 0.25%
• Observe for corneal staining preferably using a blue light
• The presence of a corneal foreign body is confirmed
• Moisten a cotton bud with a few drops of sodium chloride 0.9%. Gently remove the foreign body with the cotton bud, sweeping it away from the corneal surface. Only use a needle to remove if you have been trained and have appropriate magnification.
• Re-examine the eye to ensure the foreign body has been fully removed

Treatment

• Give patient Foreign Body Information Leaflet
• Give chloramphenicol ointment QDS 5 days
• Consider padding and oral analgesia as for corneal abrasion
• Offer advice e.g. on the wearing of safety glasses, to prevent another injury
A **stye** is a small abscess of the lash root on the eyelid. It appears as a painful yellow lump on the outside of the eyelid where the lash emerges. It is also known as an external hordeolum.
Symptoms

• Watery eye (epiphora)
• Red eye and eyelid
• Painful to touch

Signs

• A small tender red swelling that appears along the outer edge of the eyelid, which may turn into a yellow pus-filled spot, centred on an eyelash follicle

Treatment

• Give patient Stye Information Leaflet

• Epilate the lash from the affected follicle with a pair of fine tweezers and prescribe chloramphenicol ointment tds-qds for 1 week.

• A warm compress (a facecloth soaked with warm water and squeezed out) held against the eye encourages the stye to heal more quickly.

• It is very rare indeed to require surgical drainage. If there is definite spreading cellulitis in the lid it requires oral antibiotics (e.g. co-amoxiclav).
A **chalazion** is a firm round lump in the upper or lower eyelid caused by a chronic inflammation/blockage of the meibomian gland. It can sometimes be mistaken for a stye. Unless acutely infected, it is harmless and nearly all resolve if given enough time.
Symptoms

- Eyelid swelling or lump
- Eyelid tenderness
- If inflamed, can be red, watering and sore eye
- Heaviness of the eyelid

Signs

- Tender or non-tender round swelling, can be red, on or within the eyelid
- +/- mild conjunctivitis

Eye Examination

- Examine lids and conjunctiva with a white light
- Watch out for spreading lid cellulitis
- The presence of a chalazion is confirmed

Treatment

- Give patient Chalazion Information Leaflet
- Show patient how to apply a warm compress which can be used to increase drainage of the affected gland
- Show the patient how to gently massage after warm compress to help to express the contents of the cyst
- If acutely inflamed, prescribe chloramphenicol ointment tds 1-2 weeks
- Chalazia will often disappear without further treatment within a few months and virtually all will re-absorb within two years
- If conservative therapy fails, chalazia can be treated by surgical incision into the tarsal gland followed by curettage of the retained secretions and inflammatory material under LA
Dry Eye Syndrome is a condition where the eyes do not make enough tears, or the tears evaporate too quickly. This can lead to the eyes drying out and becoming inflamed.

It is a common condition and becomes more common with age, especially in women.

Up to a third of people age 65 or older may have dry eye syndrome. It is more common in those with connective tissue disorders, in blepharitis and contact lens wearers.
Symptoms

• Feelings of dryness, grittiness, soreness, tired eyes which get worse throughout the day
• Mildly sensitive to light
• Slight blurred vision
• Both eyes are usually affected

Signs

• Redness of the eyes
• Stringy discharge or foamy tears
• Spotty (“punctate”) fluorescein staining lower cornea
• May be associated blepharitis

Eye Examination

• Observe lids, conjunctiva and cornea with white light
• Instil 1 drop of proxymethacaine 0.5% with fluorescein 0.25%
• Observe for corneal staining preferably using a blue light
• Consider Schirmer tear test (wetting of tear test strip in 5 minutes, <5-7mm abnormal)

Treatment

• **Tear Substitutes** - Mild to moderate cases of dry eye syndrome can usually be successfully treated using over-the-counter artificial tear drops. Many eye drops contain a preservative to prevent bacterial growth inside the drop bottle; if a patient has severe symptoms, needing to use eye drops more than six times a day, or if they wear contact lenses, advise them to use preservative-free eye drops.
• **Eye ointment** - can also be used to help lubricate eyes. However, it can often cause blurred vision, so it is probably best to use only at night.
• **More severe cases** may require specialist medication or lacrimal punctal plugs.
### When to refer to the ophthalmic department

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>IMMEDIATE</strong></td>
<td>Contact on call ophthalmologist at your local hospital</td>
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<tr>
<td><strong>WITHIN 24 HOURS</strong></td>
<td>Make appointment via local eye clinic</td>
</tr>
<tr>
<td><strong>WITHIN ONE WEEK</strong></td>
<td>Fax or send first class post referral letter to eye clinic</td>
</tr>
<tr>
<td><strong>NOT EMERGENCIES</strong></td>
<td>Routine referral if unable to manage in practice</td>
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#### IMMEDIATE
- Acute glaucoma
- Chemical burn* (Check PH & irrigate first)
- Corneal laceration
- Globe perforation
- Intra ocular FB
- Hypopyon (pus in anterior chamber)
- Iris prolapse *Cover with an eye shield
- Orbital cellulitis
- Central retinal artery occlusion (less than 8 hours onset)/acute <24 hour visual loss
- Giant cell arteritis with visual disturbance
- Sudden explained severe visual loss of less than 12 hours
- Painful eye in post op intraocular surgery (less than 2 months post op)
- Acute 3rd nerve palsy if pupil involvement or pain

#### WITHIN 24 HOURS
- Arc eye
- Corneal abrasion
- Corneal FB
- Sub tarsal FB (only if unsure of diagnosis or can’t manage appropriately)
- Blunt trauma
- Contact lens related problems
- Corneal graft patients
- Corneal ulcers or painful / corneal opacities
- Hyphaema
- Iritis
- Lid laceration
- Orbital fractures
- Painful eye
- Retinal detachment / tear
- Vitreous haemorrhage
- Sudden loss of vision of more than 12 hours
- Neonatal conjunctivitis
- White pupil in children/lack of red reflex

#### WITHIN ONE WEEK
- Sudden / recent onset of diplopia
- Sudden / recent onset of distortion in vision or suspected wet AMD
- Entropion that is painful
- HZO with eye involvement
- Episcleritis (if can’t manage appropriately)
- Scleritis
- PVD
- Bells palsy
- Optic neuritis
- Severe infective conjunctivitis
- Vein occlusions
- Proliferative diabetic retinopathy

#### NOT EMERGENCIES
- Allergic conjunctivitis
- Mild – mod conjunctivitis
- Blepharitis
- Chalazion
- Dry eyes
- Ectropion
- Watery eye
- Sub conjunctival haemorrhage
- Non-proliferative diabetic retinopathy
- Squint – gradual onset or longstanding
- Cataract
Thank you – Any questions?