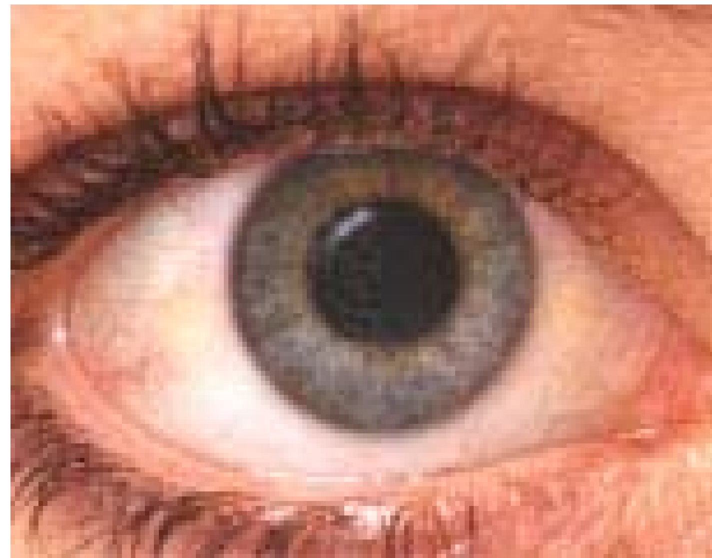
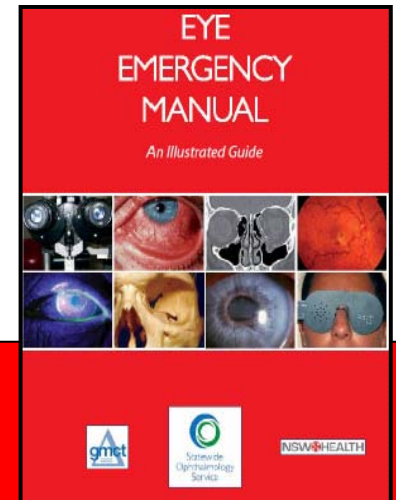
Red Eye





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NSW HEALTH

Modules originally designed for emergency nurses as a component of the Eye Emergency Manual Project.

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Aims and Objectives

- To have an understanding of the causes of the red eye
- Objectives
  - To be able to differentiate between common presentations of the red eye
  - To manage red eyes appropriately

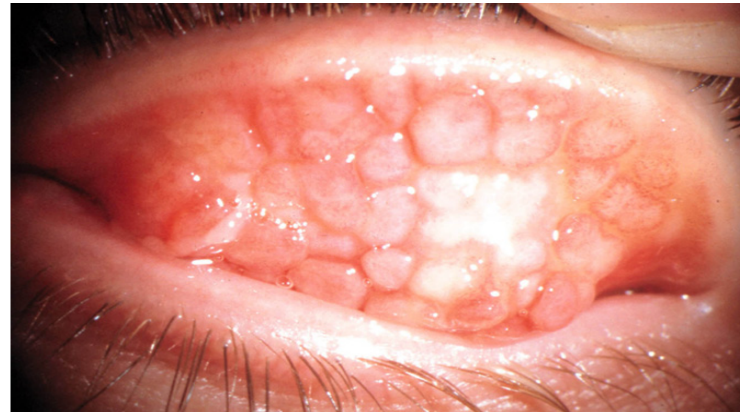
Introduction

Normally the eye has a strong resistance to the damaging effects of even the most virulent of micro-organisms. Resistance is based on a number of factors:

- Normal tear production
- Stable tear film
- Normal blink reflex, full lid closure
- Corneal sensation, intact corneal epithelium

ALLERGIC CONJUNCTIVITIS

- Itchy, watery bilateral with papillary lesions on inside of eyelids. Acute or Chronic.

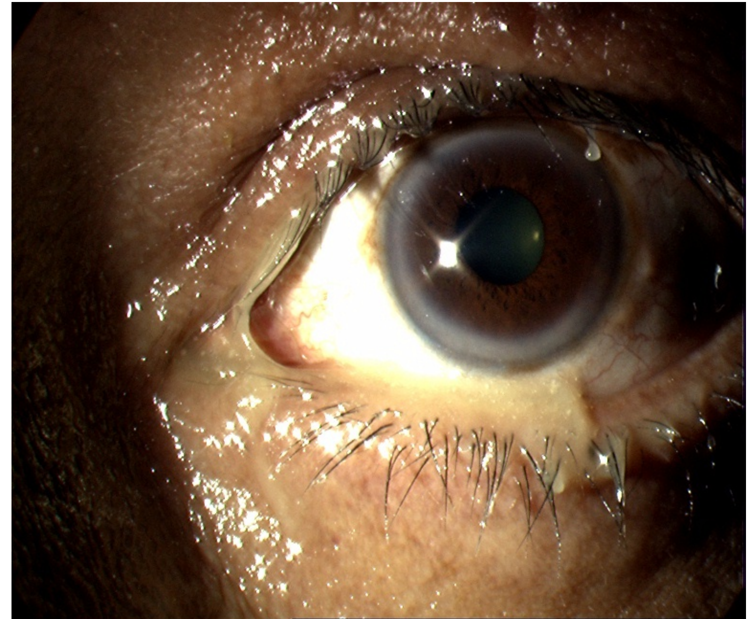


TREATMENT

- Identify cause
- Cool compresses
- Lubricants without preservative
- Routine referral to ophthalmologist for children or if not well controlled.

BACTERIAL CONJUNCTIVITIS

- Gritty sensation to tender inflamed conjunctiva
- No corneal or anterior chamber involvement
- Purulent discharge
- Usually bilateral



BACTERIAL CONJUNCTIVITIS (cont)

Treatment

- Antibiotic eye drops / ointment,
- no eye pad
- meticulous hygiene

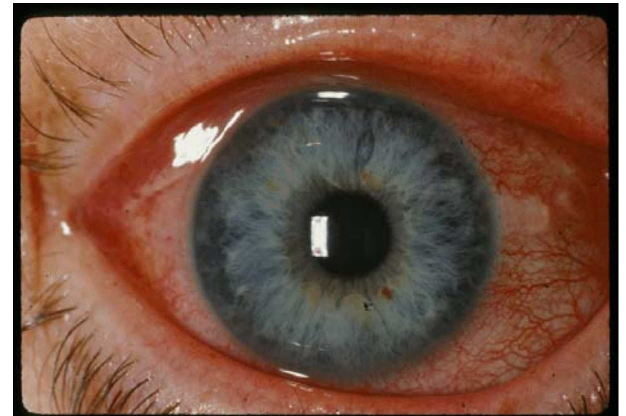
Refer if

- Vision is affected
- Does not respond to treatment after 2 days

VIRAL CONJUNCTIVITIS

- Gritty, watery eye with associated lid swelling
- Recent upper respiratory tract infection or contact history
- Uni or bilateral. Common in children
- May develop late keratitis

with blurred vision



VIRAL CONJUNCTIVITIS (cont)

TREATMENT

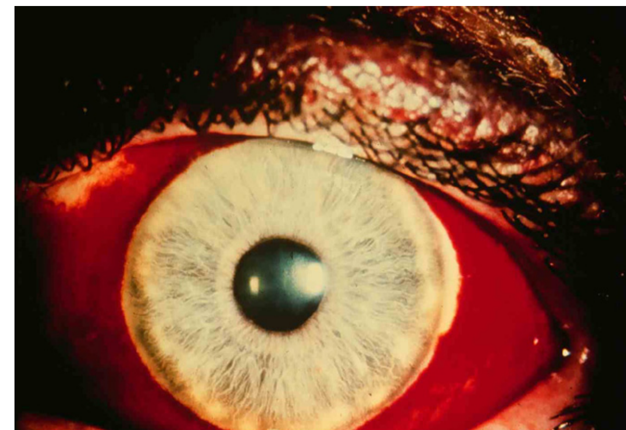
- Symptomatic, no pad
- Lubricants, cool compresses
- Never steroids
- Prevent cross infection. May take weeks to settle
- Refer if photophobic or reduced visual acuity (VA), or persistent for more than three weeks

Conjunctivitis

	Bacterial	Viral (usually adenoviral)	Allergic
Symptoms	• Redness • FB sensation • Itching is less • Irritating superficially sore	• Itching • Burning • FB sensation • May have recent URTI • Starts one eye • Within 2days fellow eye affected	• Itchy • Watery discharge • History of allergies
Signs	• Purulent discharge • Chemosis • Caution: Gonococcal Conjunctivitis (sudden onset 12 – 24 hrs)	• Conjunctival follicles • Watery mucus discharge • Red oedematous eyelids	• Chemosis • Red oedematous eyelids
Treatment	• Antibiotics – swab • Lid hygiene • Highly contagious – stress importance of personal hygiene – to avoid cross infection	• Lubricants • Cool compresses • Antibiotics if required • Highly contagious Personal hygiene	• Compresses – cool • Lubricants without preservatives • Remove irritant if known

SUBCONJUNCTIVAL HAEMORRHAGE

- Usually localised haemorrhage that appears spontaneously; unilateral. Pain free. Vision unchanged.

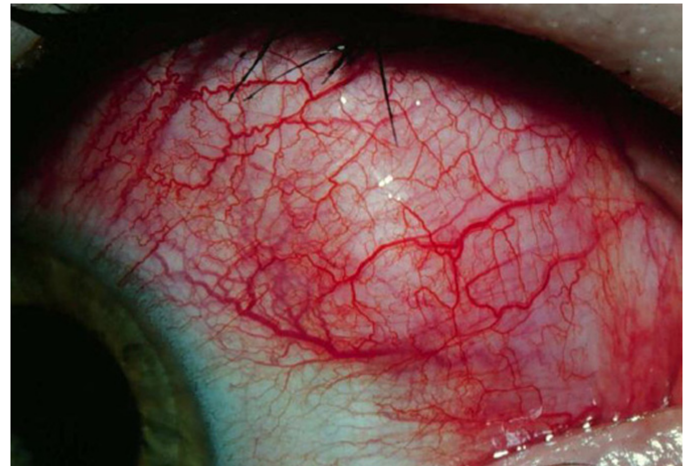


TREATMENT

- Reassurance
- Gradually reabsorbs
- Check BP / anticoagulant levels
- If recurrent, exclude bleeding tendency
- Refer if pain develops
- If traumatic and extends backwards may indicate orbital fracture / penetrating eye injury (PEI)

EPISCLERITIS & SCLERITIS

- Mild to severe pain. Localised redness and swelling of conjunctiva. Tender eye. No discharge. VA may decrease.

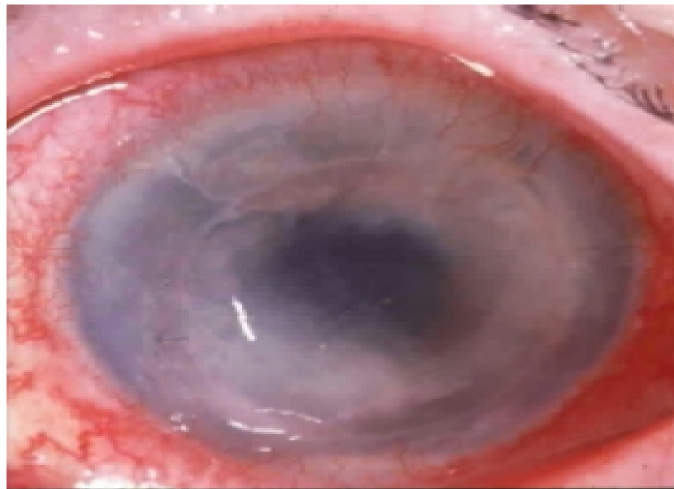


TREATMENT

Urgent referral to ophthalmologist.

HERPES SIMPLEX KERATITIS

- Gritty, watery with typical dendritic ulcer. Stains with fluorescein. Vision blurred. Painful.



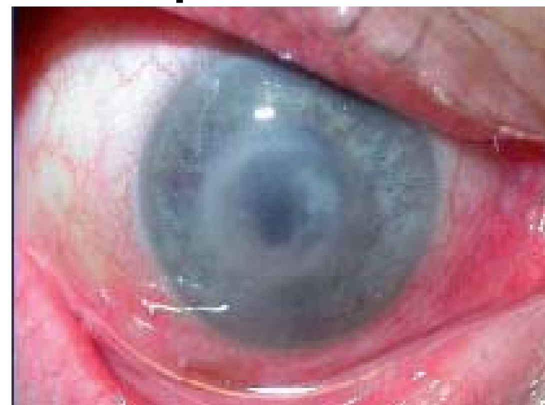
TREATMENT

Anti-viral agents. No pad. No steroids.

Refer to ophthalmologist

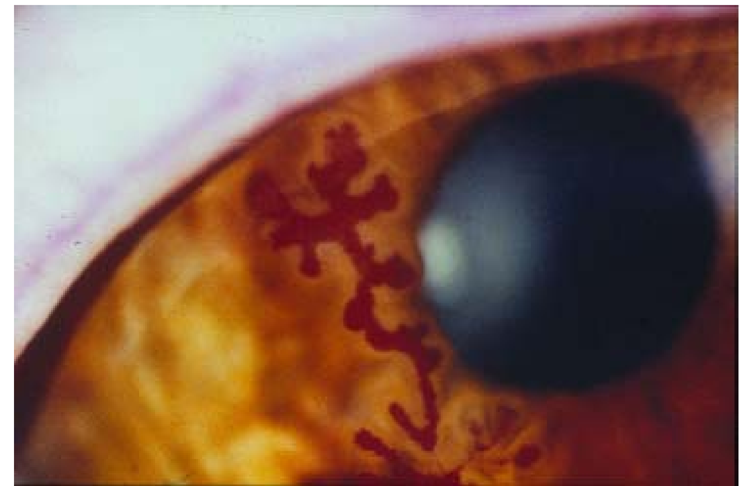
CORNEAL ULCERS

- Inflamed, painful eye
- Anaesthetic drop and fluorescein staining
- Exclude foreign body - corneal or subtarsal, eye lash irritation
- Look for presence of hypopyon – indicating an intraocular infection (endophthalmitis)
- Differentiate from abrasion (ulcer deeper, often round)
- Differentiate from dendritic ulcer (Herpes Simplex Virus infection)
- May be related to contact lens



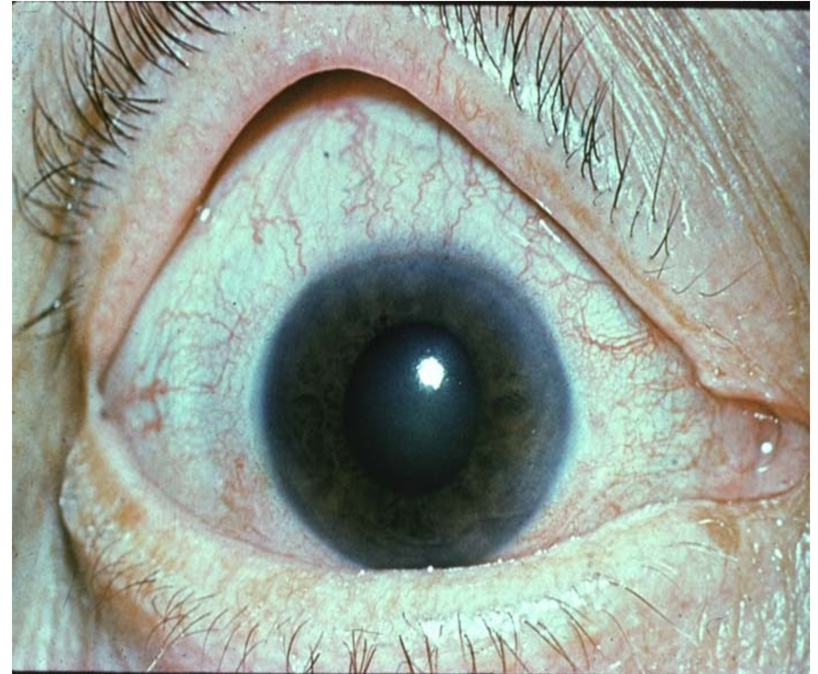
CORNEAL ULCERS (cont)

- Urgent ophthalmic referral
- Likely hospital admission
- No eye pad. Use shield prn.
- If ocular history indicative of intraocular foreign body (IOFB) – CT scan required



Dendritic ulcer

ACUTE GLAUCOMA



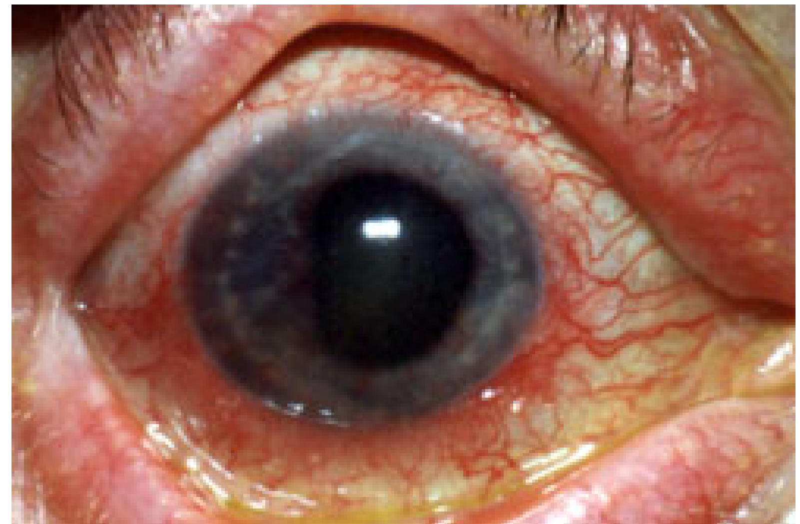
- Pain often severe
- Nausea / headache
- Blurred vision
- Usually unilateral
- Red eye
- Steamy cornea
- Fixed oval semi-dilated pupil
- Elevated intra ocular pressure (IOP)
- Shallow anterior chamber

GLAUCOMA (cont)

- Urgent referral to ophthalmologist
- Aim is to lower IOP as soon as possible
- Medication - oral Diamox, Glycerol, IV mannitol as ordered
- Eye drops to constrict pupil and lower IOP – i.e. Pilocarpine, Iopidine
- Will need bilateral laser / surgery

ACUTE IRITIS

- Pain, aching eye, photophobia
- Anterior chamber may appear cloudy from white cells / flare
- Ophthalmic referral
- Mydriatic drops
- Analgesia
- Steroid Eye Drops- only used after ophthalmic assessment



Differential Diagnosis of the Red Eye

	Conjunctivitis	**Iritis**	**Acute Glaucoma**	**Keratitis (foreign body abrasion)**
Discharge	**MARKED**	None	None	Slight or none
Photophobia	None	**MARKED**	Slight	Slight
Pain	None	Slight to marked	**MARKED**	**MARKED**
Visual Acuity	Normal	Reduced	Reduced	Varies with site of the lesion
Pupil	Normal	**SMALLER or same**	**LARGE OVAL and FIXED**	Same or SMALLER

CONCLUSION

- Remember – beware of the red eye

- More mistakes are made from not looking, rather than not knowing

- If you’re not sure, don’t

  and
- If you don’t know, ask.