The Acute Red Eye: an overview
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Learning objectives
1. Understand the diagnostic approach to the acute red eye
2. Understand the principles of management of the acute red eye
3. Recognise cases of red eye that require prompt referral to an ophthalmologist

Suggested reading
Ophthalmology. An illustrated Colour Text.” Batterbury and Bowling
The Wills eye manual.

Acute Red Eye: History
Key Points
Past ocular disease / symptoms
Decreased vision
Pain and severity
Photophobia
Ocular discharge
Associated systemic symptoms

Acute Red Eye: Signs
Decreased vision
Discharge
Redness and distribution
Corneal clarity
Pupil size and mobility
Intra-ocular pressure

Describe redness in relation to anatomy

Acute Red Eye: A Standardized Approach
Acuity
Pen Torch
Slit Lamp
Fluorescein
Topical Anaesthetic

Assess with Confidence
History
Visual Acuity
Pupillary reaction
Distribution of Redness
Discharge
Red or Pink Eye ?
Papillae vs Follicles

Acute Red Eye - Differential Diagnosis
1. Conjunctivitis
2. Keratitis
3. Uveitis/iritis
4. Acute Angle Closure Glaucoma
5. Scleritis/Episcleritis
6. Herpes Zoster Ophthalmicus
7. Subconjunctival Haemorrhage
8. Ocular Trauma
9. Conjunctivitis
   Infective
   Bacterial
   Chlamydial
   Viral
**Type of Conjunctival Discharge**
- Purulent = Bacterial
- Mucopurulent = Chlamydial
- Mucoid/Watery = Allergic
- Watery = Viral

**Diagnose with Confidence**
- Distribution of Redness
- Type of Discharge
- Follicles or papillae
- Associated symptoms

**Conjunctivitis: Associated Features**
- Viral
- Upper Respiratory Infection
- Pre-auricular lymphadenopathy
- Allergic
- Atopy, hayfever
- Contact lens wear
- Chlamydial
- Urethritis (Reiters Syndrome)

**Conjunctivitis: Management**
- Swab & identify responsible organism
- Bacterial: Chloramphenicol
- Viral: Fucithalmic
- No specific treatment for Allergic
- Chlamydial: Topical & systemic Tetracyclin

**Keratitis: History**
- Past ocular disease + or -
- Decreased vision + to ++
- Pain and severity + to ++
- Photophobia + to ++
- Ocular discharge +
- Systemic symptoms -

**Keratitis: Signs**
- Decreased vision + to ++
- Discharge +
- Redness and distribution ciliary
- Corneal clarity reduced
- Pupil size and mobility normal
- Intra-ocular pressure normal

**Anterior Uveitis: History**
- Past ocular disease + or -
- Decreased vision + to ++
- Pain and severity ++
- Photophobia +++
- Ocular discharge -
- Systemic symptoms - (+)

**Anterior Uveitis: Signs**
- Decreased vision + to ++
- Discharge -
- Redness and distribution Ciliary
- Corneal clarity Normal
- Pupil size and mobility Small
- Intra-ocular pressure Normal
- Posterior Synechiae & Keratic Precipitates

**Aetiology**
- Idiopathic
- Ankylosing spondylitis
- Reiters syndrome
- Juvenile arthritis
- Psoriatic arthropathy
- sarcoidosis

**Iritis: management**
- Subdue Inflammation
- Topical corticosteroids
- Prevent Posterior Synechiae
- Mydriatic e.g. cyclopentolate
- Reduce IOP if elevated
Betablocker e.g. timolol

**Acute Closed Angle Glaucoma: History**
- Past ocular disease + or -
- Decreased vision +++/++++
- Pain and severity +++
- Photophobia +
- Ocular discharge -
- Systemic symptoms -
- Premonitory rainbows + / -

**Acute Closed Angle Glaucoma: Signs**
- Decreased vision +++/++++
- Discharge -
- Redness and distribution Ciliary
- Corneal clarity Reduced
- Pupil size and mobility Fixed-mid
- Intra-ocular pressure High

**ACAG: Anatomical predisposition**

**Acute Closed Angle Glaucoma**

**Incidence**
- 1/1000 population > 40 yrs
- Male:female 1:4

**Predisposition**
- Short eye
- Narrow angle
- Large lens

Therefore older hypermetrope at risk

**Acute Closed Angle Glaucoma Lesson of the week:**
Acute closed angle glaucoma masquerading as systemic illness
Dayan M, Turner B, McGhee CNJ
British Medical Journal 1996;313:413-5

**ACAG: Acute Medical Management**

**Reduction of IOP (Typically > 50mmHg)**
Topical Agents
- Pilocarpine
- Betablockers
- Systemic Agents
- Acetazolamide
- Mannitol

**ACAG: Surgical management**

Aim: to re-establish normal aqueous flow & maintenance of reduced IOP
- YAG laser iridotomy
- Surgical iridectomy
- Trabeculectomy
- Crystalline lens extraction

ACAG: protecting the optic nerve

**Scleritis**
Relatively rare
Very severe boring pain
Focal injection of sclera
Can lead to blindness if untreated
Associated with systemic disease

**Scleritis: History**
- Past ocular disease + or -
- Decreased vision -
- Pain and severity +++
- Photophobia -
- Ocular discharge -

**Scleritis: Signs**
- Systemic symptoms -
- Decreased vision -
- Discharge -
- Redness and distribution Sectorial
- Corneal clarity clear
Pupil size and mobility normal  Intra-ocular pressure normal

**Systemic associations**
- Rheumatoid arthritis
- Herpes Zoster Ophthalmicus

**Episcleritis**
- Relatively common
- Mild ocular discomfort
- Mild superficial injection
- Usually requires no treatment
- Seldom associated systemic disease

**Subconjunctival Haemorrhage**
- Focal bleeding under conjunctiva
- Severe coughing
- Valsalva manoeuvre
- Rarely systemic hypertension
- Requires no treatment

**Ocular Trauma**
- Corneal abrasion/Foreign body
- Lid laceration
- Contusional injury
- Orbital fractures
- Penetrating injury
- Intra-ocular foreign body

**Blunt Ocular Trauma**
- Hyphaema
- Iris damage
- Lens Trauma
- Vitreous haemorrhage
- Macular oedema
- Retinal Haemorrhage
- Retinal detachment
- Globe rupture
- Blunt Trauma

**Hyphaema**
- Sign of significant ocular trauma
- 20% risk of future bleed
- Up to 7% risk of glaucoma
- Exclude other ocular damage
- Angle
- Lens
- retina