Sanghi P, Hay G. Moorfields A&E June 2022: Review June 2023. Correspondence: gordon.hay3@nhs.net

Moorfields Eye Hospital NHS Foundation Trust

RED EYE

Red Flags

Recent cataract surgery or intravitreal injection in the last 4 weeks

Severe headache +/- vomiting

Pain waking patient up at night

Reduced vision

Contact lens wearer

Preceding trauma (blunt/high velocity/chemical injury)

- Unilateral
  - Lashes not touching eyeball
    - Complete eyelid closure
      - Cornea not staining with fluorescein
        - Larger (+/- oval +/- non-reactive pupil) in red eye with pain
          +/- blurred vision
          +/- headache
          +/- nausea
        - Smaller or same sized pupil in red eye
          - Pain
            - Severe +/- photophobia
            - Mild/discomfort only
          - No pain
            - No discharge
            - Discharge
      - Cornea staining with fluorescein
        - See 'superficial corneal pathology'
    - Incomplete eyelid closure
  - Lashes touching eyeball
- Bilateral
  - Predominantly itchy
  - Predominantly gritty/ burning
    - Discharge
    - No discharge

- Acute angle closure glaucoma
- Endophthalmitis
- Uveitis
- Scleritis
- Episcleritis
- Subconjunctival haemorrhage
- VII Palsy
- Entropion/ Trichiasis
- Allergic Conjunctivitis
- Infective Conjunctivitis
- Dry eyes/ blepharitis

Management

Acute angle closure glaucoma

Acute angle closure/Endophthalmitis/Uveitis with hypopyon (see pictures):

Refer urgently to ophthalmology

High suspicion for endophthalmitis if recent cataract surgery/intravitreal injection in last 4 weeks

Uveitis w/no hypopyon: Refer same day to ophthalmology

Endophthalmitis, Uveitis, Scleritis, Episcleritis

Episcleritis: Will blanch with one drop 10% phenylephrine (check after 10-15 minutes), no blanching in scleritis
Cold compresses +/- topical lubricants +/- PO froben.
Reassurance, self-resolves.
Refer scleritis same day (rheumatology input if known connective tissue disorder)

Subconjunctival haemorrhage

Check BP, FBC.
Reassure, self-resolves 1-2 weeks. Lubricants for comfort.
GP r/v if no resolution 2-3 weeks inc coagulation screen
If painful/loss of vision consider retrobulbar haemorrhage (!)

VII Palsy

Joint care w/medics ?cause
Same day ophthalm referral if fluorescein staining, otherwise routine oculoplastics referral
PF topical lubricants hourly e.g. sodium HA 0.1-0.2%, hylo-night ointment nocte

Entropion/ Trichiasis

Trichiasis: Community management w/lubricants/ epilation, refer to clinic if definitive treatment required
Entropion: PF lubricant e.g. hylo-night ointment QDS, hylo-tears 2 hourly. Refer to oculoplastics clinic

Allergic Conjunctivitis

PF lubricants QDS, G.opatanol BD. Allergen advice +/- PO antihistamines e.g. fexofenadine. Refer if persistent/severe.

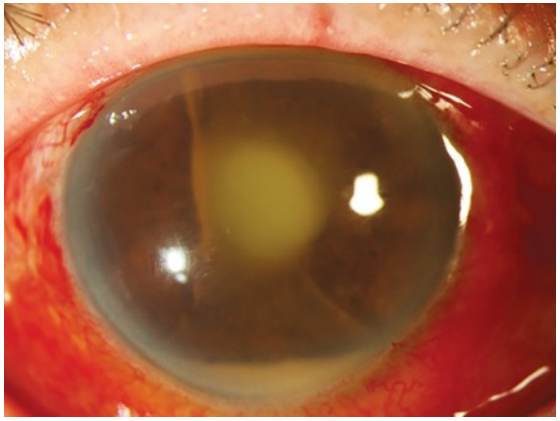
Infective Conjunctivitis

Bacterial: CPL 1% ointment QDS 7 days. Viral: PF lubricants PRN
Refer to ophthalmology if worsening/no resolution (low threshold in CL wearer)
Consider gonorrhea/chlamydia especially if unilateral and severe (take conjunctival swab)

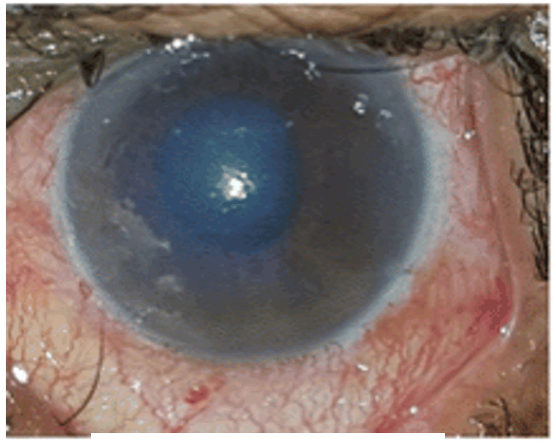
Dry eyes/ blepharitis

Lid hygeine (leaflet), PF lubricants
Consider PO doxycycline 100mg OD 3 months for uncontrolled blepharitis

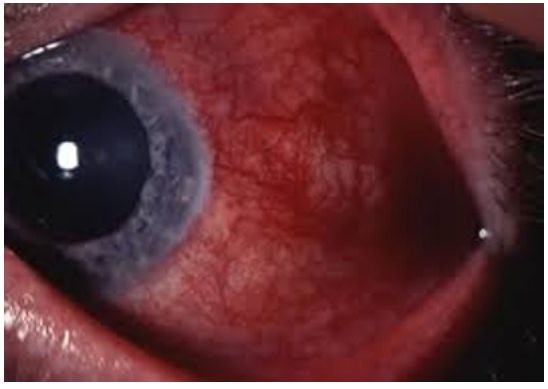
The Red Eye



Hypopyon (endophthalmitis/severe uveitis)



Acute angle closure

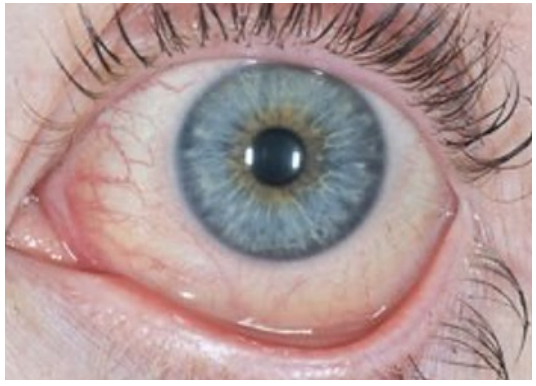


Scleritis

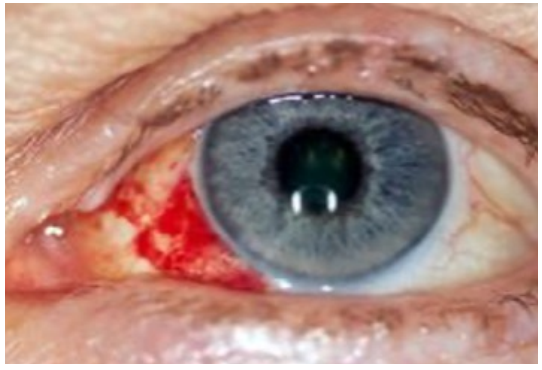
Bacterial conjunctivitis

Episcleritis

Entropion



Allergic conjunctivitis



Subconjunctival haemorrhage

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EYELID SWELLING

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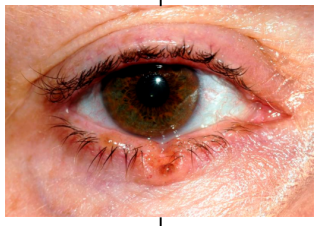
Small area/lump of localised swelling

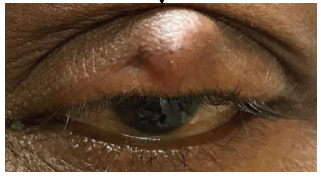
Suspicious features?
e.g. loss of eyelashes in area +/- distortion of eyelid margin
+/- persistent/enlarging
+/- itching/bleeding from area
+/- history or FH of skin cancers

Whole upper/lower eyelid swollen

Systemically unwell
+/- diplopia
+/- vision loss
+/- proptosis
+/- ophthalmoplegia
+/- pain +++
+/- reduced colour vision
+/- optic nerve swelling



Refer urgently to oculoplastics clinic



No

Yes

Chalazion/Stye

Preseptal cellulitis

Orbital cellulitis

Does not require emergency referral, may be managed in community

Warm compresses/massage: Boil some water and let it cool a little

Soak clean flannel in hot (not boiling) water

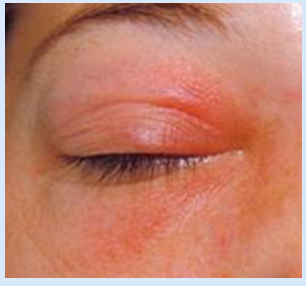
Hold flannel against area for 2-3 mins at a time

Gentle massage > warm compress (massage upper eyelid downwards, lower eyelid upwards towards lashes to help expel contents)

If infected (red, warm, tender to touch) consider topical antibiotics e.g. Oc. Chloramphenicol QDS 7 days

May refer to oculoplastics clinic if persistent >6 months to consider minor ops excision

Document visual acuity, colour vision, pupils (presence of RAPD), eye movements, optic nerve assessment, obs including temperature



Commence PO antibiotics

e.g. co-amoxiclav 625mg TDS 7 days

/PO clarithromycin 500mg BD 7 days

(2nd line)

Advise patient to return immediately if any worsening of symptoms/ consider review 24 hours

Emergency: Admit

FBC, U&E, blood cultures if febrile

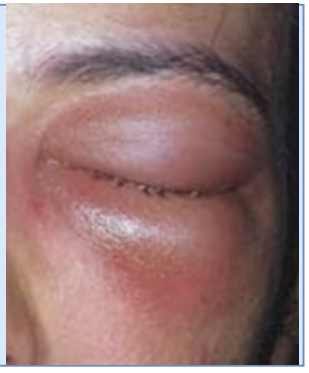
Conjunctival swab (inc. viral)

Mark extent of cellulitis with skin pen/ photos with eye movements

Immediate IV antibiotics per hospital protocol e.g. IV ceftriazone 2-4g daily

Urgent CT head + orbits

Inpatient ophthalmology/ENT assessment



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SUPERFICIAL CORNEAL PATHOLOGY (fluorescein uptake)

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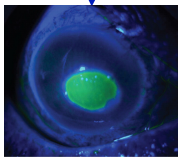
Precipitating Injury

Chemical Injury

Immediate management: Check pH
Irrigate eye with 0.9% saline including fornices (evert eyelid) until pH normalises (7.0)
PO analgesia
Refer urgently to ophthalmology

Trauma

No foreign body visible



Corneal abrasion/laceration

Defect seen without fluorescein staining: Likely laceration, refer same day to ophthalmology

Defect only seen with fluorescein staining: Likely corneal abrasion*

Corneal abrasions:

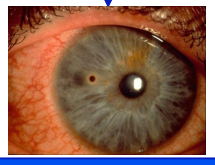
PO analgesia

Non CL wearer: Oc. chloramphenicol 1% QDS 7d days/G.CPL QDS 7 days

CL wearer: G.moxifloxacin QDS 7 days

Please note, recurrent corneal erosion syndrome often presents w/no recall of injury - treat in same way as corneal abrasion, but refer to ophthalmology clinic

Foreign body visible



Corneal foreign body*

Irrigate eye

Apply local anaesthetic eye drops e.g. G. tetracaine/G. proxymetacaine

Focus slit lamp on FB, approach obliquely

Remove carefully with 25G needle

Non CL wearer: Oc. CPL QDS 7 days

CL wearer: G. moxifloxacin QDS 7 days

Refer if unable to remove same day to ophthalmology

***Low threshold for urgent referral if history of penetrating eye injury/high velocity injury/vision loss**

No precipitating Injury

Unilateral

Non-contact lens wearer**

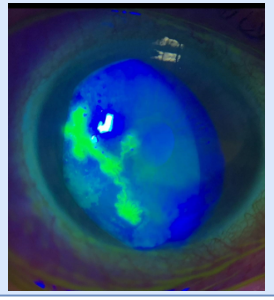
Branching corneal ulcer visible

Herpetic keratitis**

****Do not diagnose herpes in a contact lens wearer, refer urgently to ophthalmology**

Suspected herpetic keratitis (branching dendritic ulcer as below)

Refer same day to ophthalmology



Peripheral corneal ulcer visible

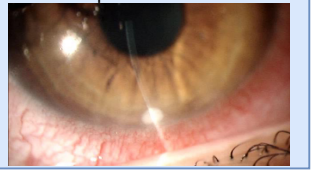
Marginal keratitis***

If significant pain/reduced vision/corneal thinning/hypopyon refer urgently to ophthalmology

***Suspect marginal keratitis in patients with blepharitis with mild discomfort only

Blepharitis mx: Lid hygeine (leaflet)

G. CPL QDS one week, BD one week. Refer within 48 hours to ophthalmology for consideration of topical steroids



Contact lens wearer

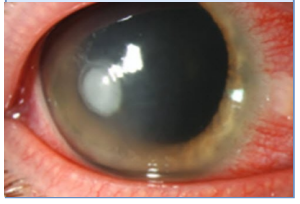
Contact lens related keratitis/corneal ulcer

Pain/vision loss/red eye

Corneal ulcer with fluorescein uptake

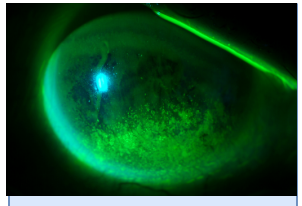
+/- hazy cornea/hypopyon

Refer urgently to ophthalmology



Bilateral

Dry Eyes

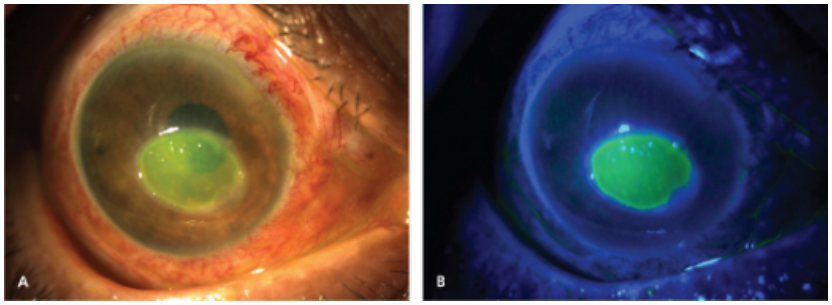


Punctate staining of cornea

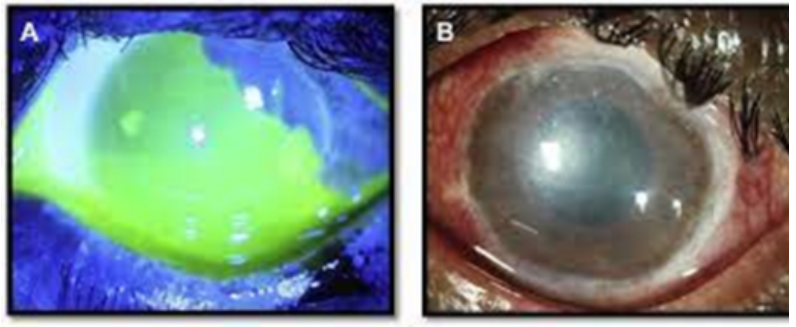
PF lubricants e.g. sodium HA 0.1-0.2% (Hylotears, thealoz duo) +/- G.hylo-night nocte

Refer if persistent symptoms on hourly drops + ointment nocte to ophthalmology clinic

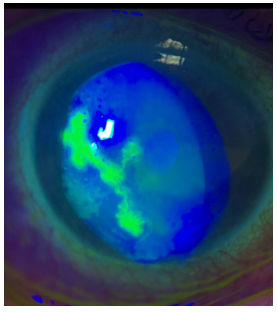
Superficial corneal pathology



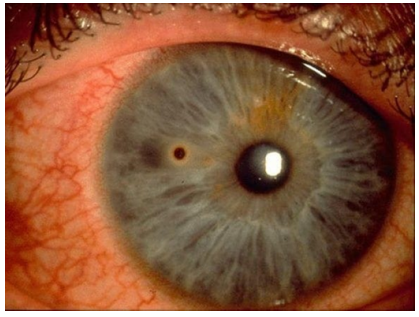
Corneal abrasion (A with normal light, B with blue cobalt filter highlighting fluorescein uptake)



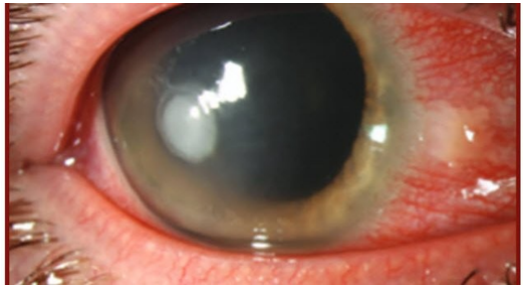
Chemical injury. A. Large epithelial defect staining with fluorescein eye drops.
B. Limbal ischaemia evident by white appearance/blanching, with surrounding hyperaemia



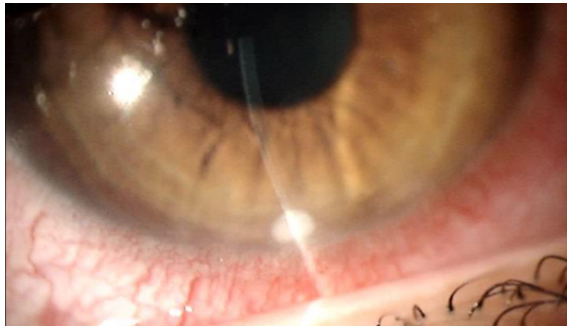
Herpetic (simplex) keratitis, dendritic ulcer
Do not diagnose in contact lens wearers



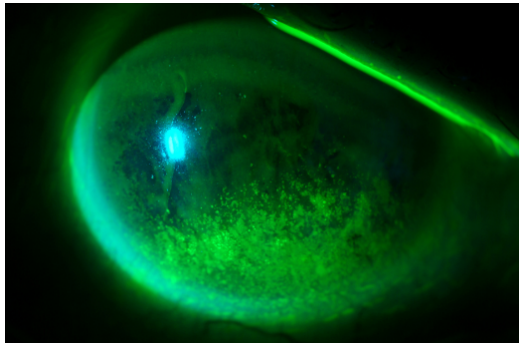
Corneal foreign body



Contact lens related keratitis: Large white corneal ulcer



Marginal keratitis: Small white peripheral corneal ulcer. (Do not diagnose in lens wearers)



Dry eyes: Punctate staining of inferior cornea

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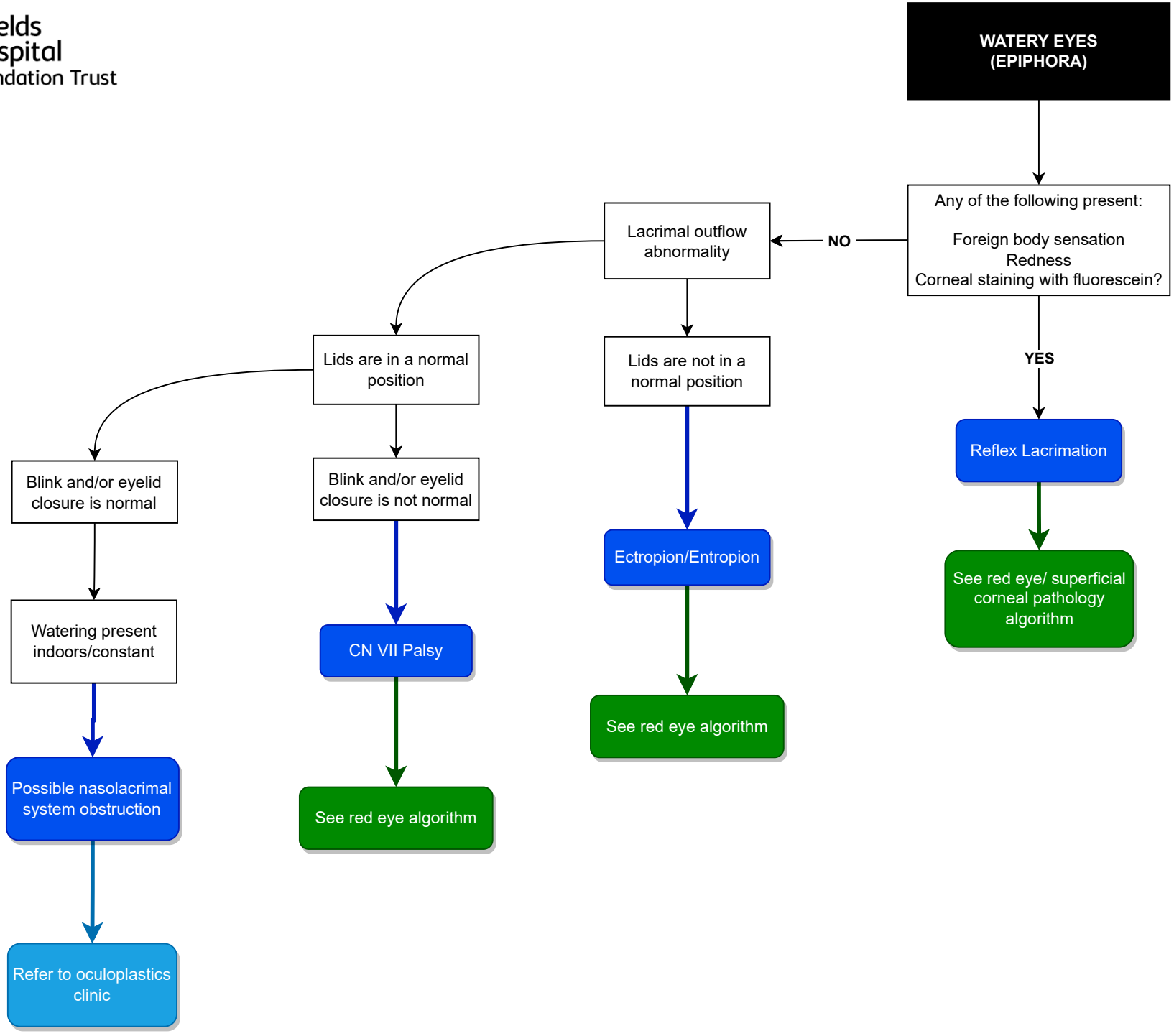

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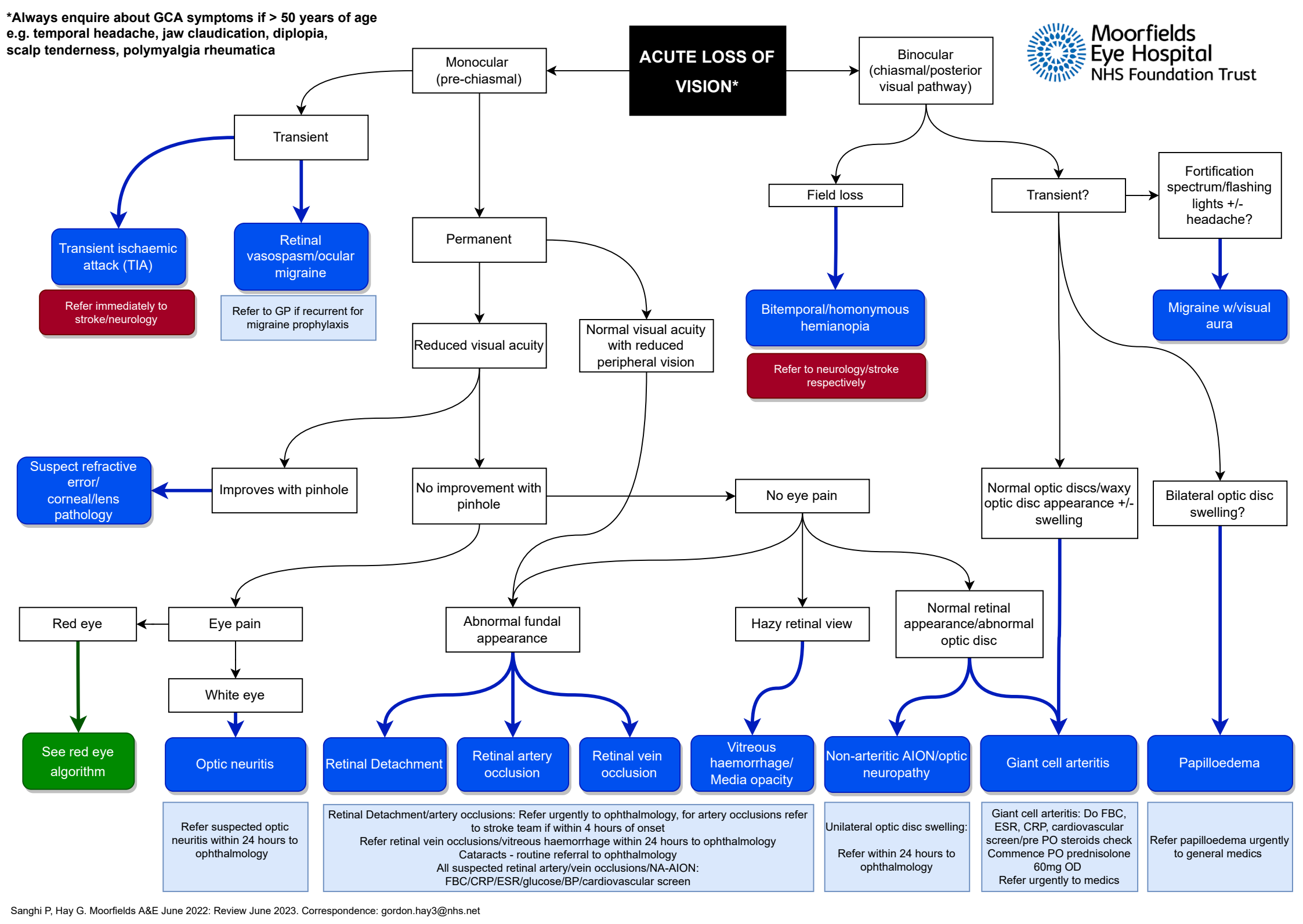

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Acute Loss of Vision

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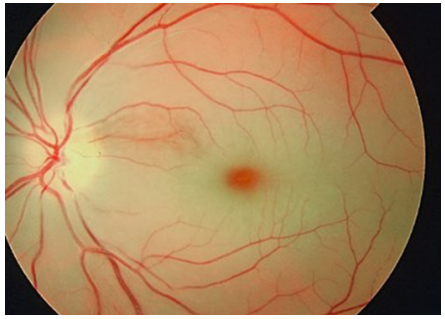
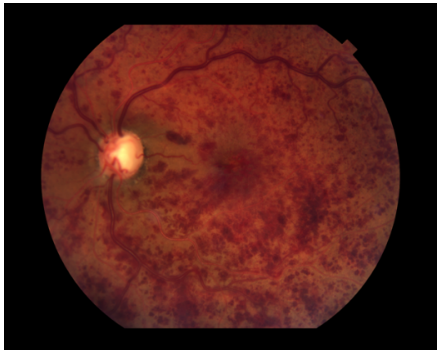
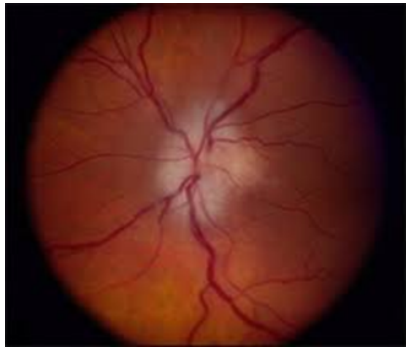


Central retinal artery occlusion
(Cherry red spot at macula, pale retina , attenuation of arterioles)

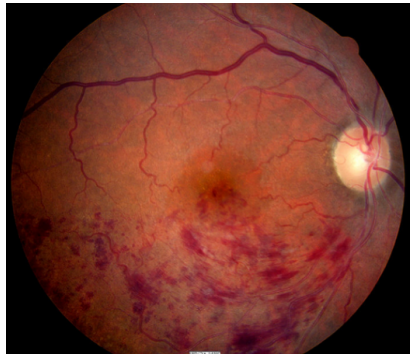
Branch retinal artery occlusion



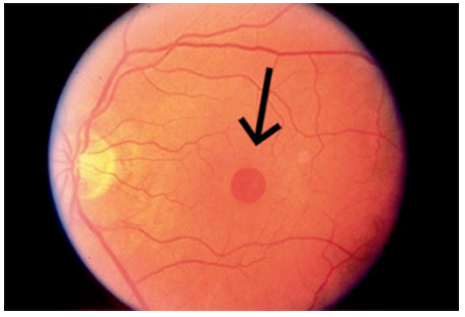
Central retinal vein occlusion
Haemorrhages all 4 quadrants, tortuous vessels
+/- optic disc swelling



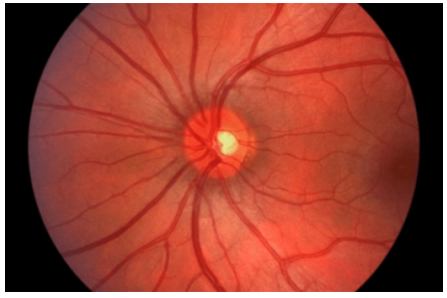
GCA: Optic disc swelling with waxy pallor



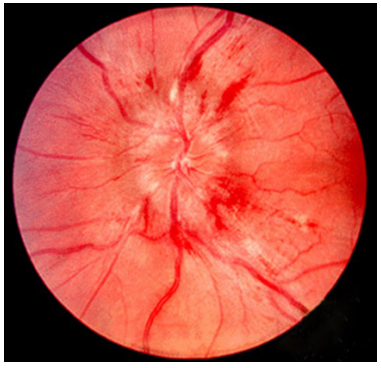
Branch retinal vein occlusion
inferotemporal quadrant



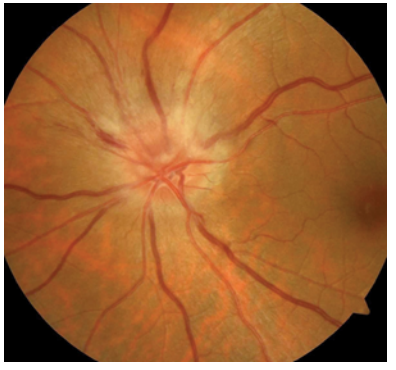
Macula hole (refer to ophthalmology vitreo-retinal clinic)



Normal optic disc e.g. in optic neuritis



Optic disc swelling with multiple flame haemorrhages
If bilateral: always treat as PAPILLOEDEMA



Optic disc swelling e.g. NA-AION, optic neuropathy (usually unilateral)

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References:

Guidelines adapted from:
1) Timlin, H., Butler, L. & Wright, M. The accuracy of the Edinburgh Red Eye Diagnostic Algorithm. *Eye* **29,** 619–624 (2015)
2) Barts Health NHS Trust Ophthalmology Guidelines
3) Moorfields Eye Hospital NHS Foundation Trust Emergency Guidelines App 21/7/21

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