

Eyes in the A&E

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Eyes in the A&E

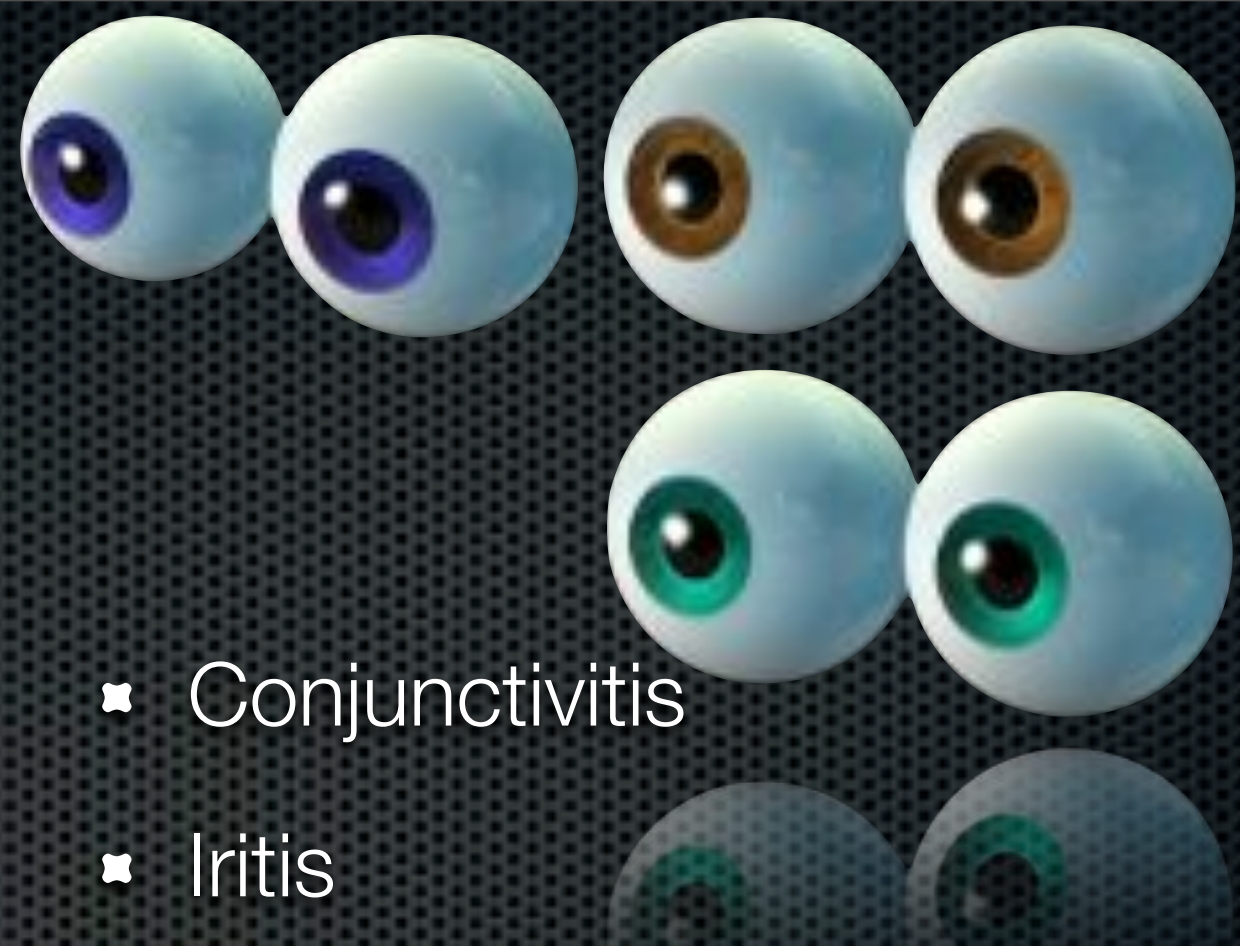
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- ✦ Conjunctivitis
- ✦ Iritis
- ✦ Glaucoma
- ✦ Corneal Ulcers
- ✦ Eye & lid trauma
- ✦ Sudden visual loss/floaters

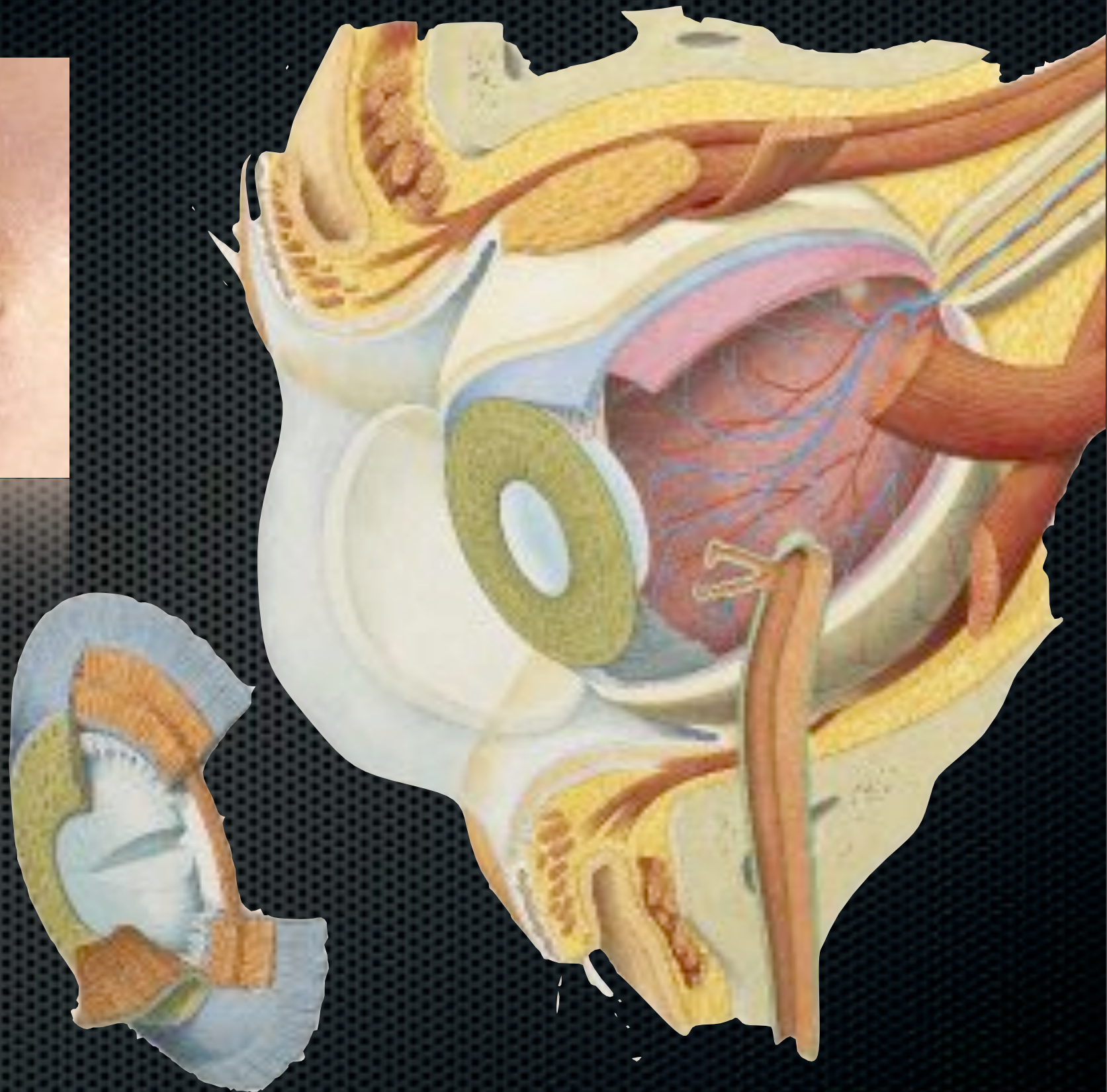
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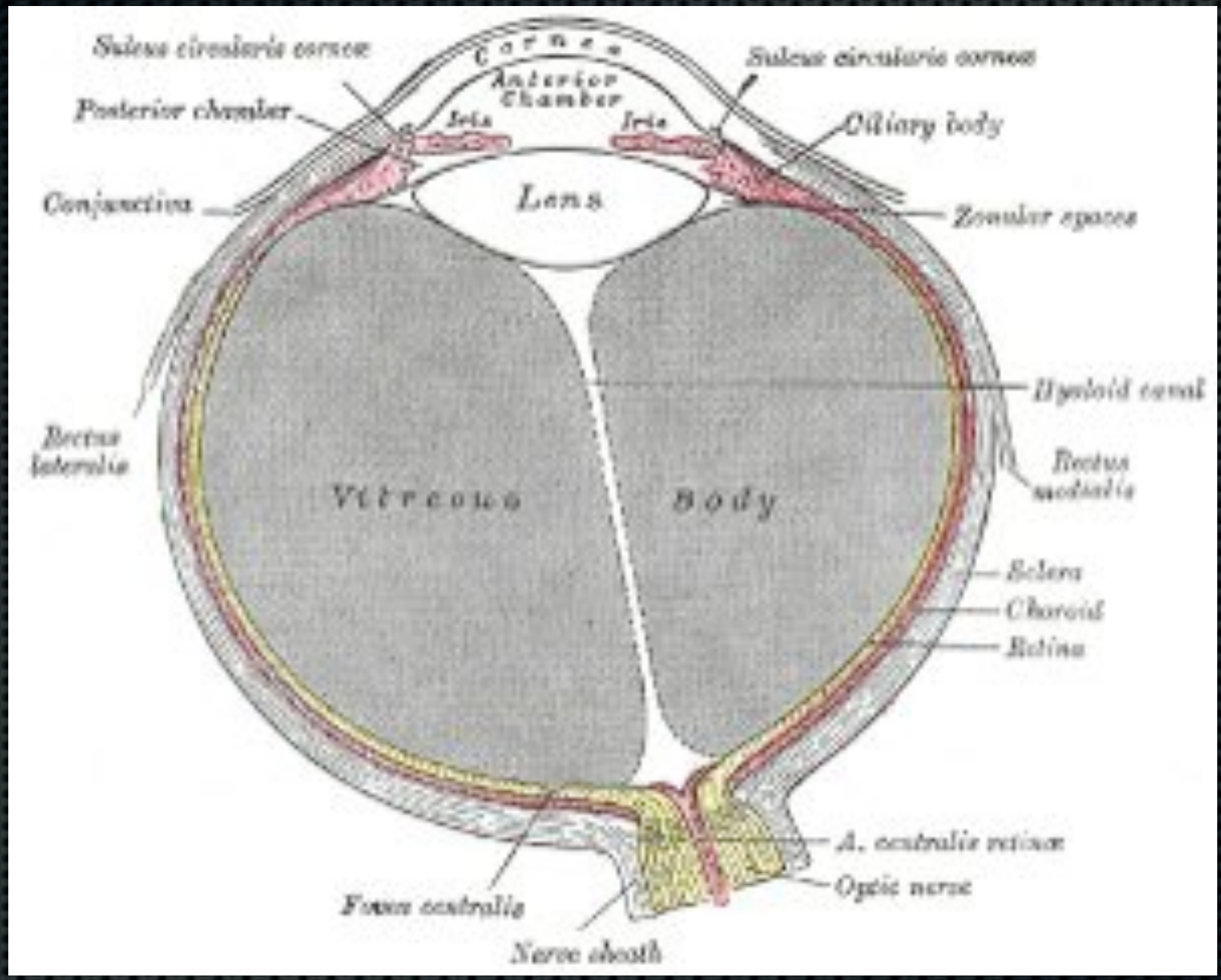




Anatomy



Anatomy



The Eye Examination

Visual Acuity

- ✦ Always do it all, left & right individually
- ✦ ALWAYS document visual acuity:
Snellen chart=distance from chart/line read +/- letters not seen eg 6/9+2 is at 6 metres, reads all row '9' plus 2 from row '6'. If can't see '36' move closer 6, 5, 4, 1/36
- ✦ With glasses or pinhole card (corrects refractive errors)

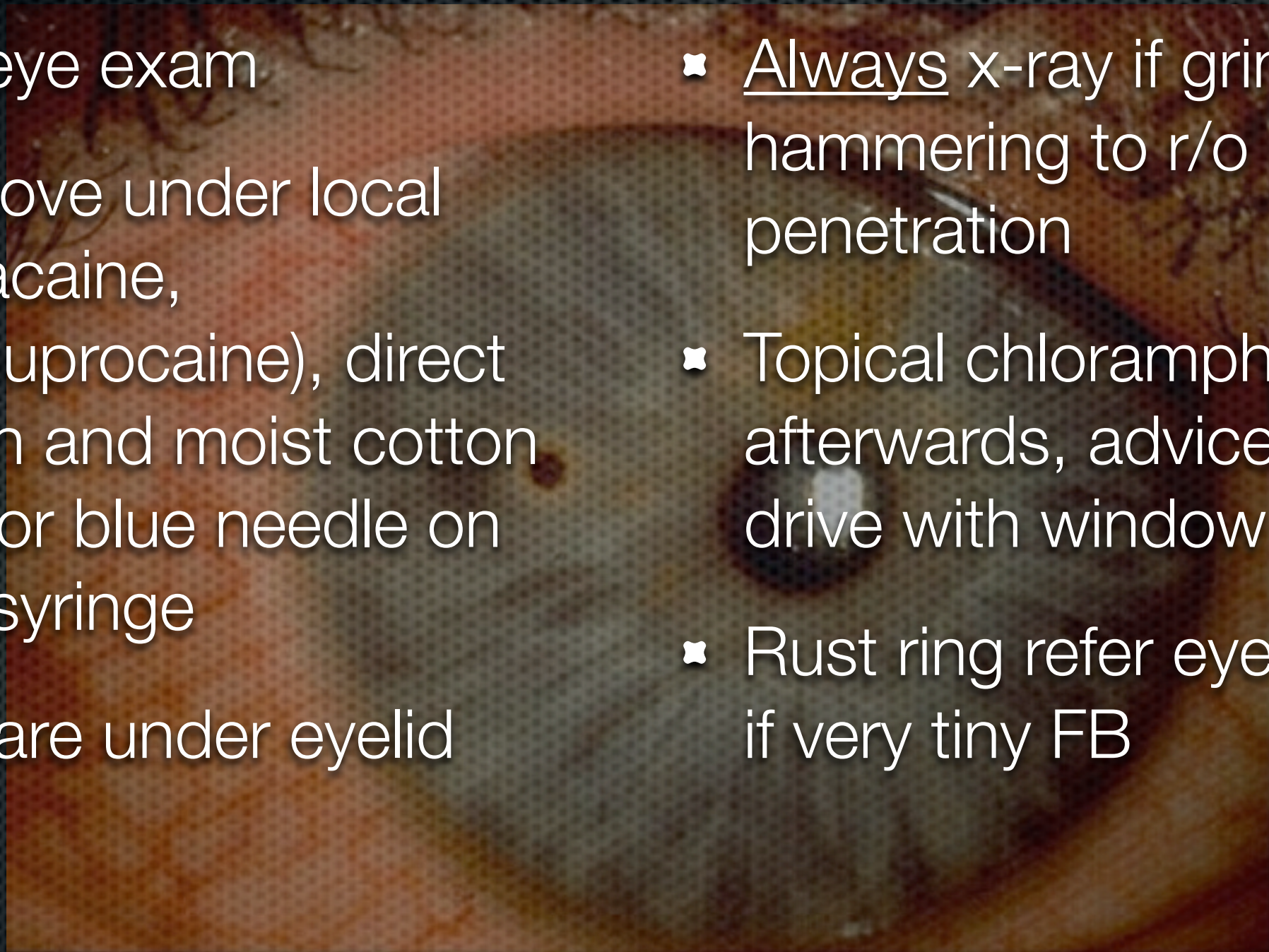


The Eye Examination

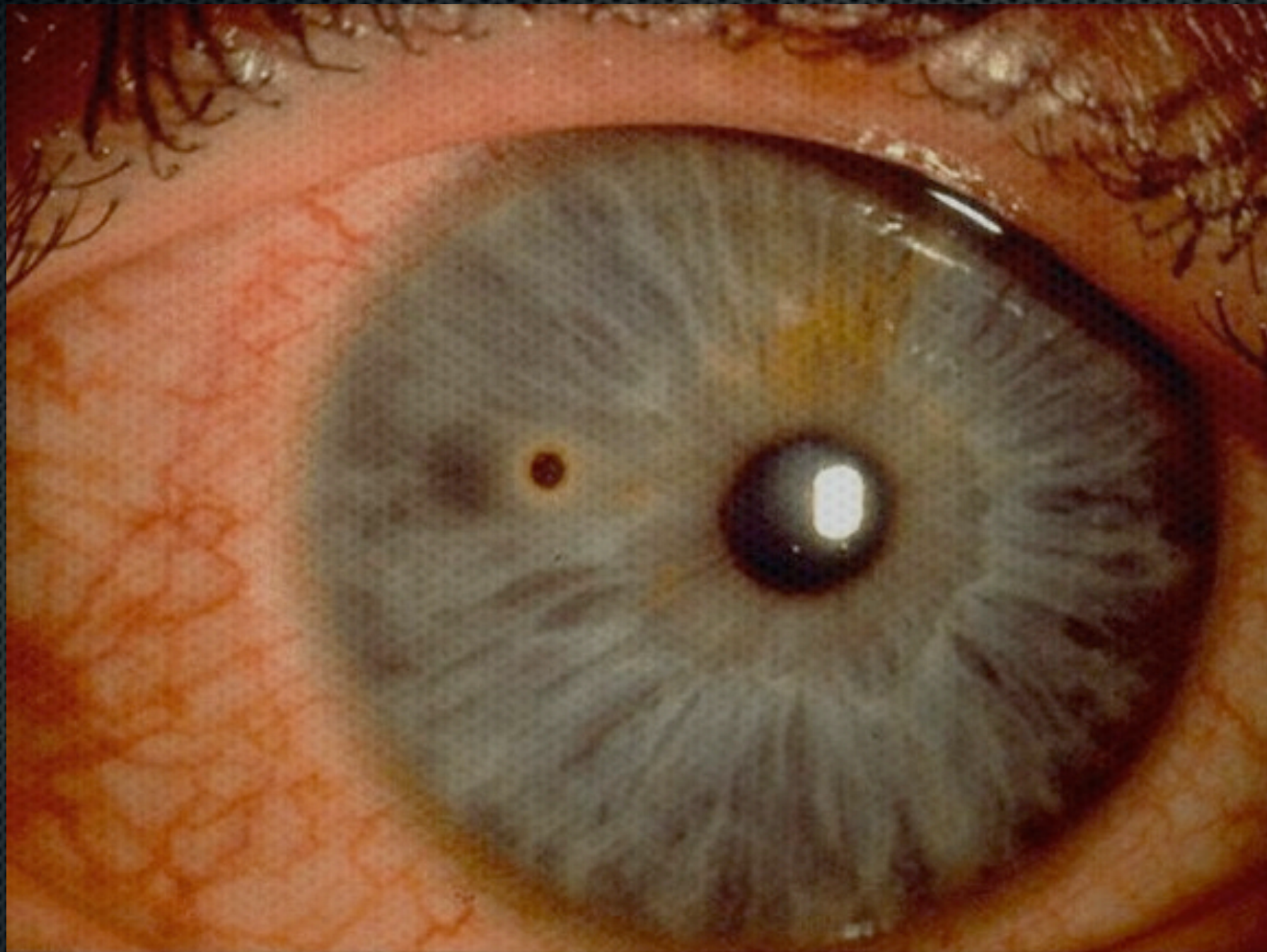
- ✦ Examine lids; lacerations/blepharitis dandruff/ptosis/cellulitis/proptosis/lashes/stye
- ✦ Inside Lids; under lower, & evert upper eyelid with cotton bud
- ✦ Conjunctiva; chemosis, injection- general? Perilimbic? Pus?
- ✦ Cornea: Clear? Cloudy? FB? Ulcers?
- ✦ Anterior chamber: shallow? Blood (hyphaema)? Pus (hypopyon)?
- ✦ Pupil: shape, tethering reactivity, L=R
- ✦ Fundoscopy
- ✦ Slit lamp
- ✦ Fluorescein & blue light for abrasions

Foreign bodies

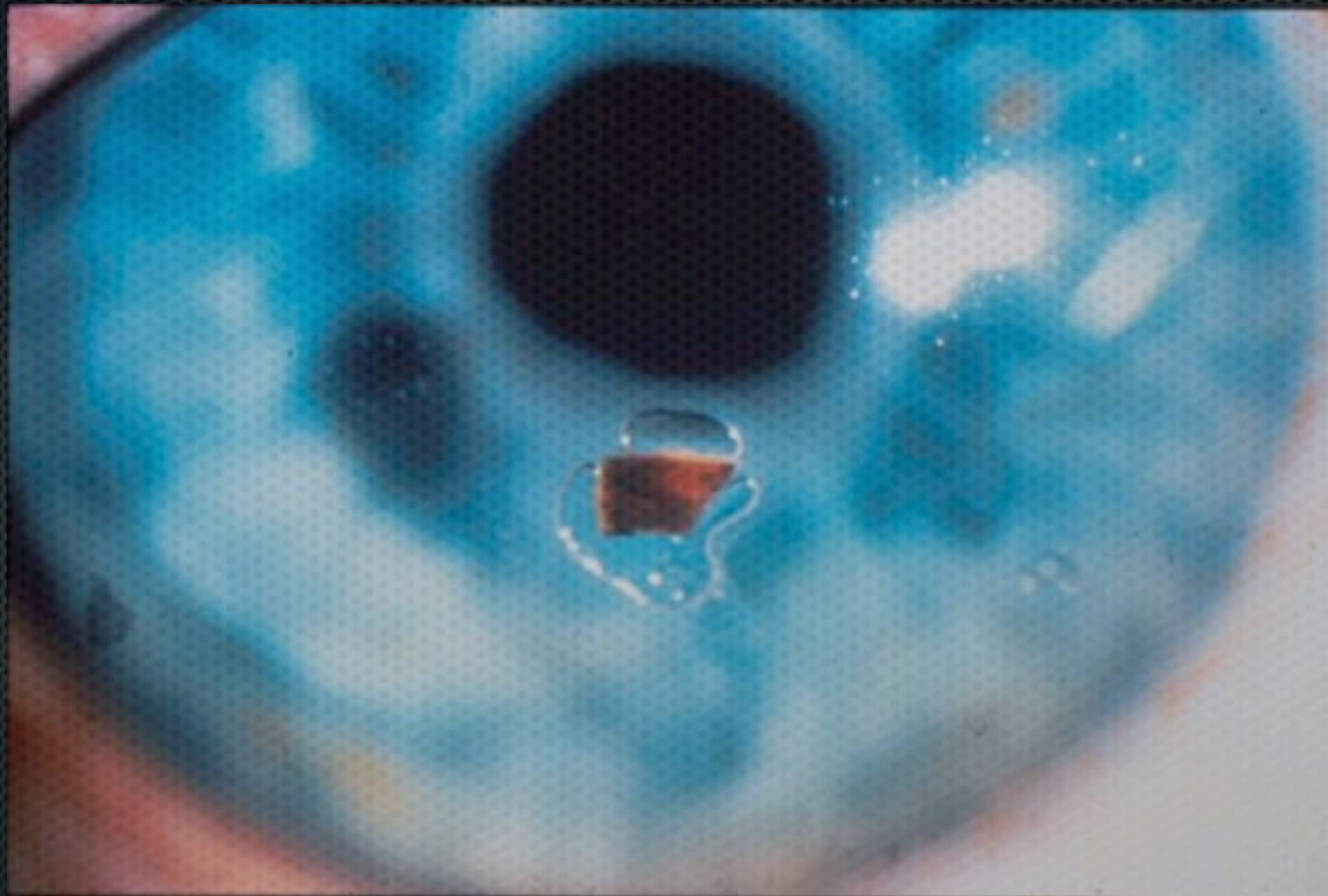
- ✦ Full eye exam
- ✦ Remove under local (tetracaine, oxybuprocaine), direct vision and moist cotton bud or blue needle on 2ml syringe
- ✦ Beware under eyelid
- ✦ Always x-ray if grinding/hammering to r/o penetration
- ✦ Topical chloramphenicol afterwards, advice to drive with window closed
- ✦ Rust ring refer eye clinic/ if very tiny FB



Foreign bodies



Foreign bodies

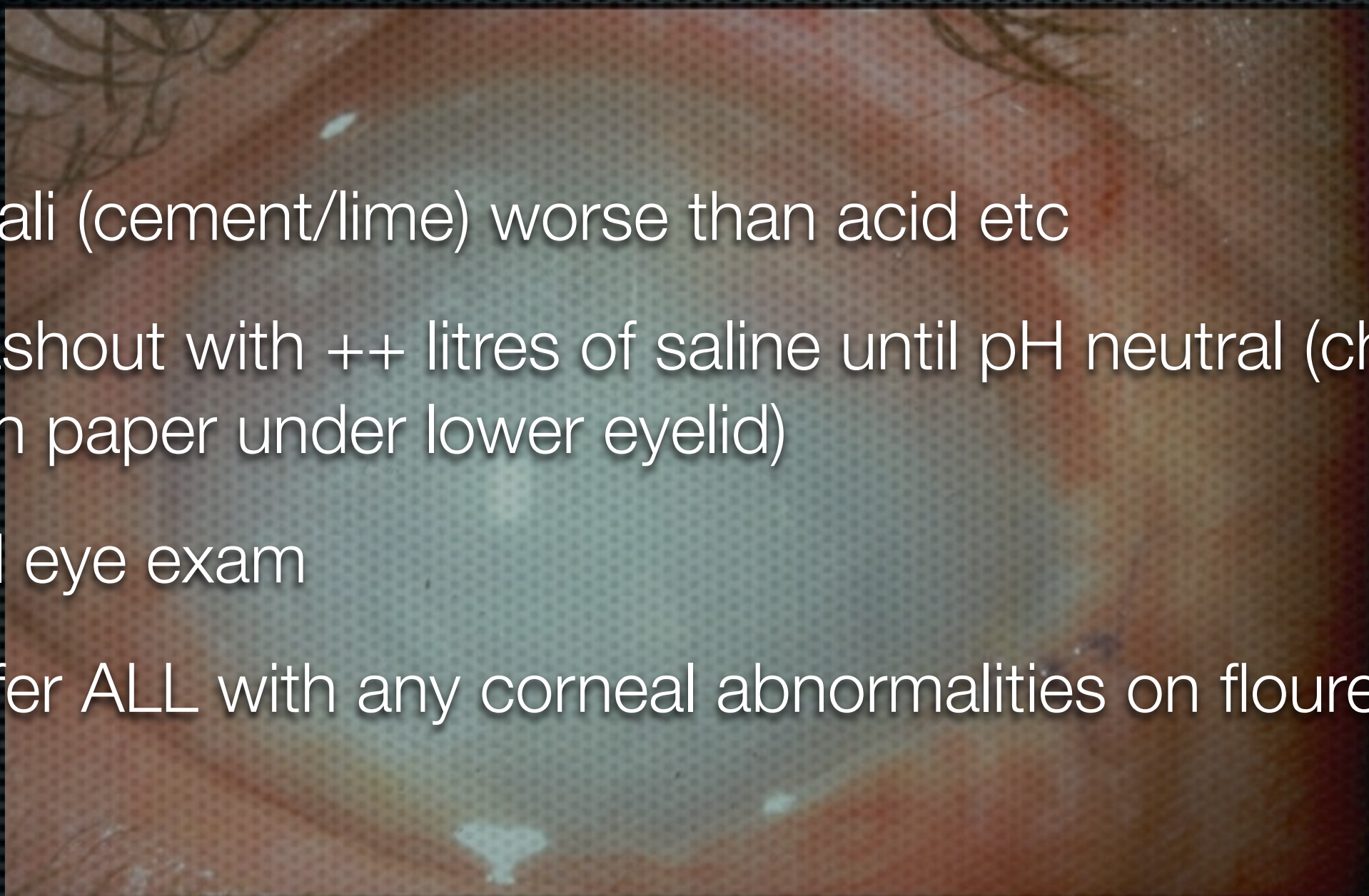


Foreign bodies



Chemicals

- ✦ Alkali (cement/lime) worse than acid etc
- ✦ Washout with ++ litres of saline until pH neutral (check with paper under lower eyelid)
- ✦ Full eye exam
- ✦ Refer ALL with any corneal abnormalities on flourescein



Chemicals



Chemicals

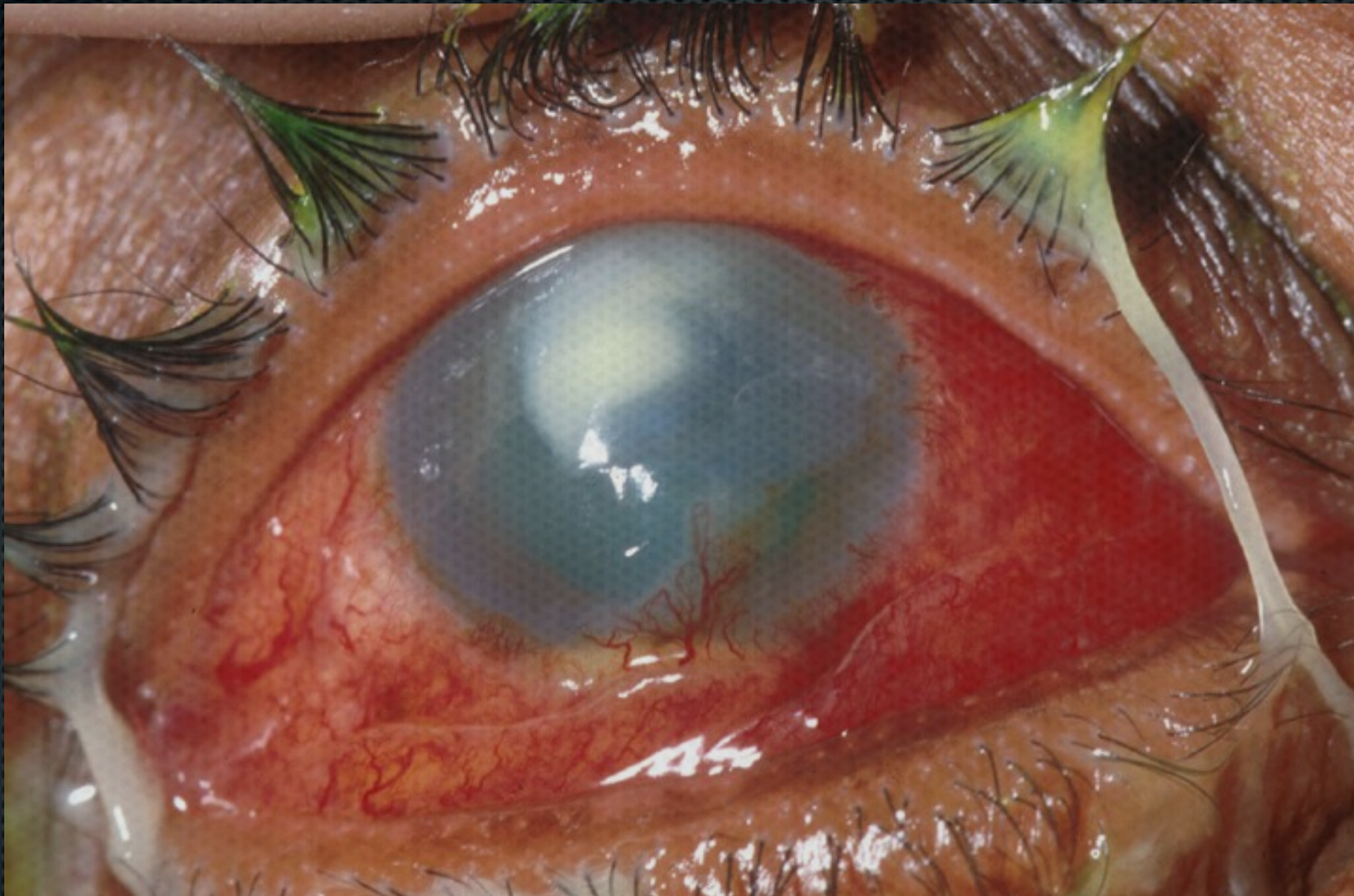


Andrew Doan, MD, PhD
U of Iowa 2004

Chemicals

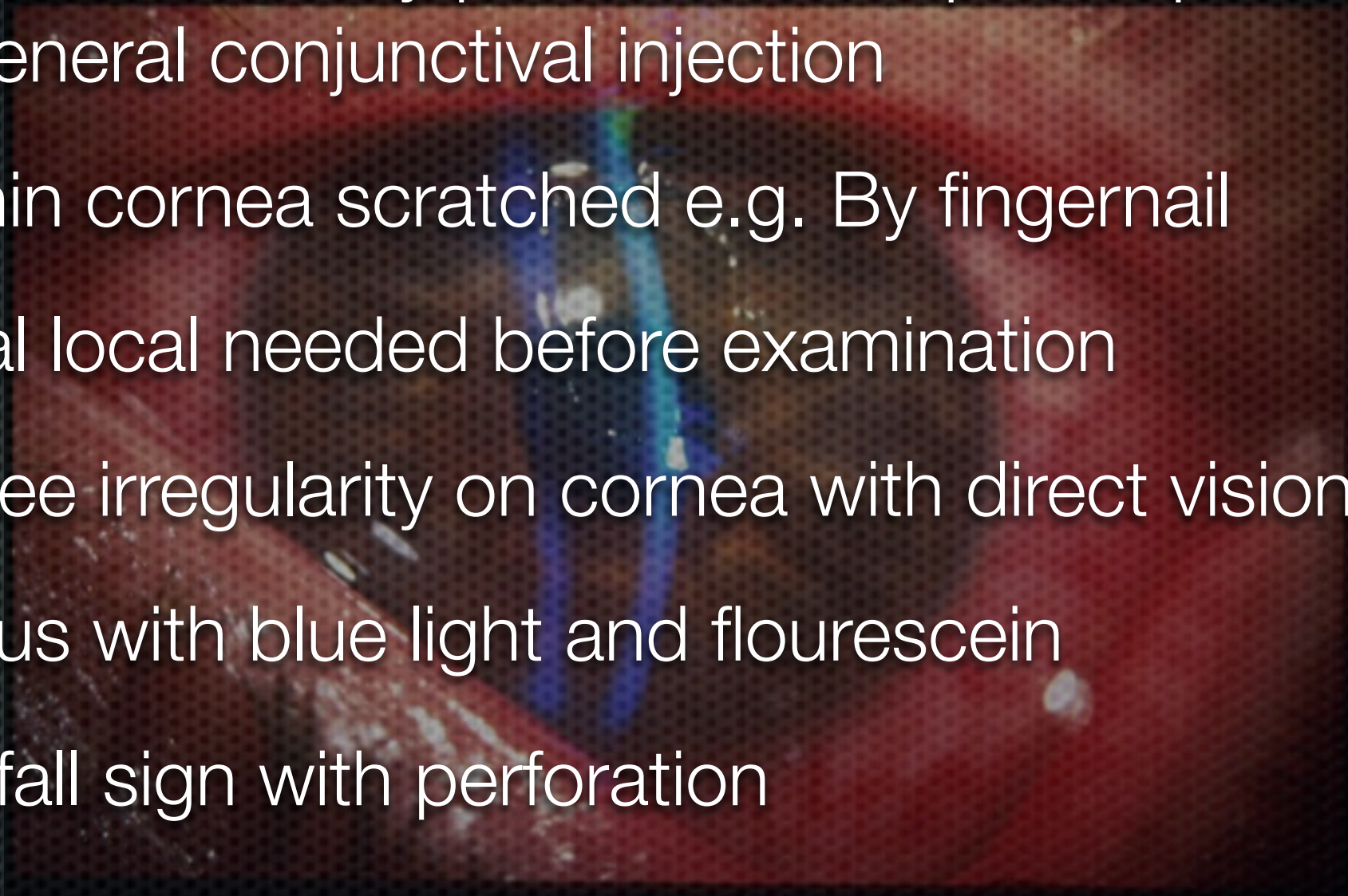


Chemicals



Corneal Abrasions

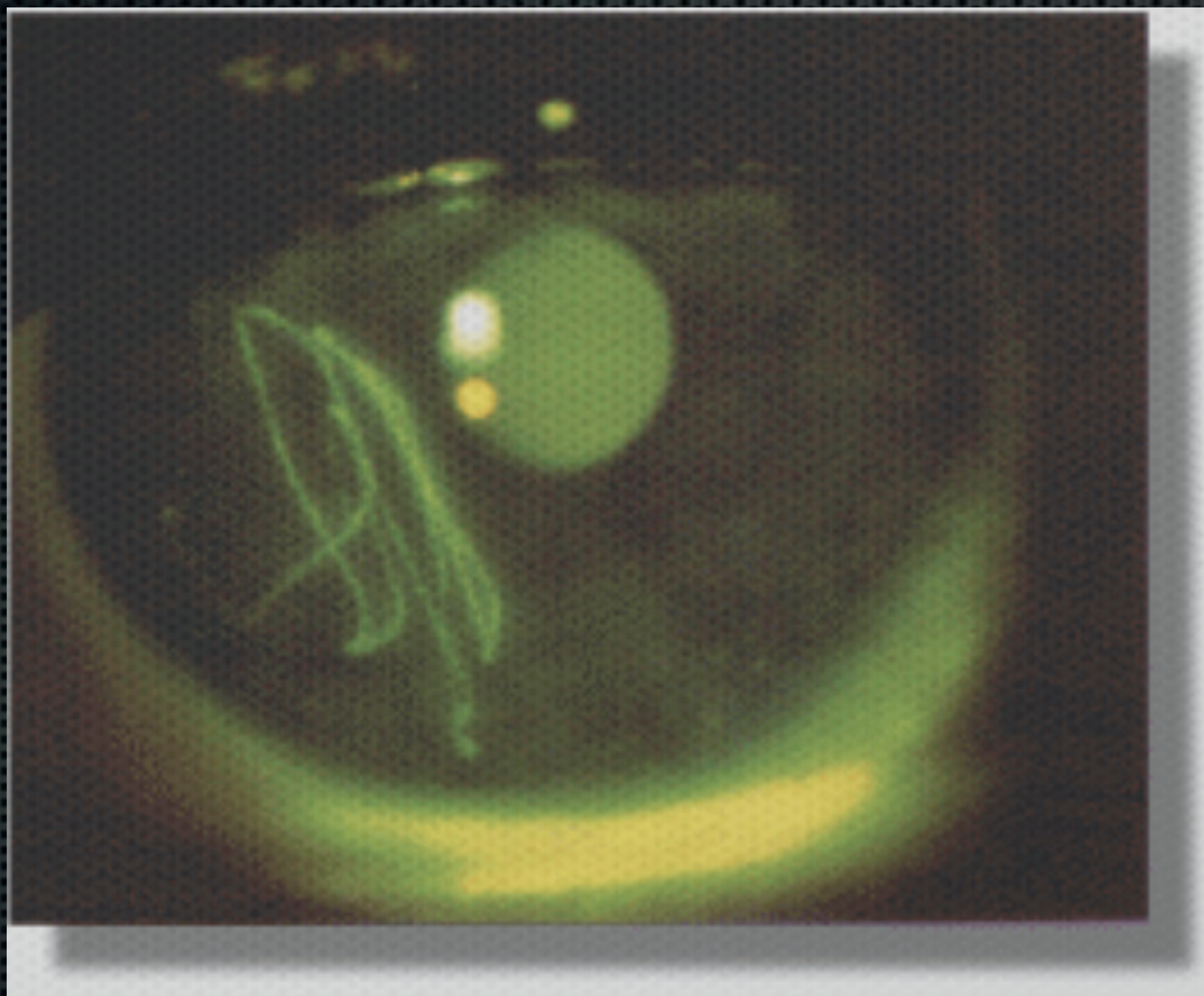
- ✦ Very common, very painful with blepharospasm, tearing and general conjunctival injection
- ✦ The thin cornea scratched e.g. By fingernail
- ✦ Topical local needed before examination
- ✦ May see irregularity on cornea with direct vision
- ✦ Obvious with blue light and flourescein
- ✦ Waterfall sign with perforation



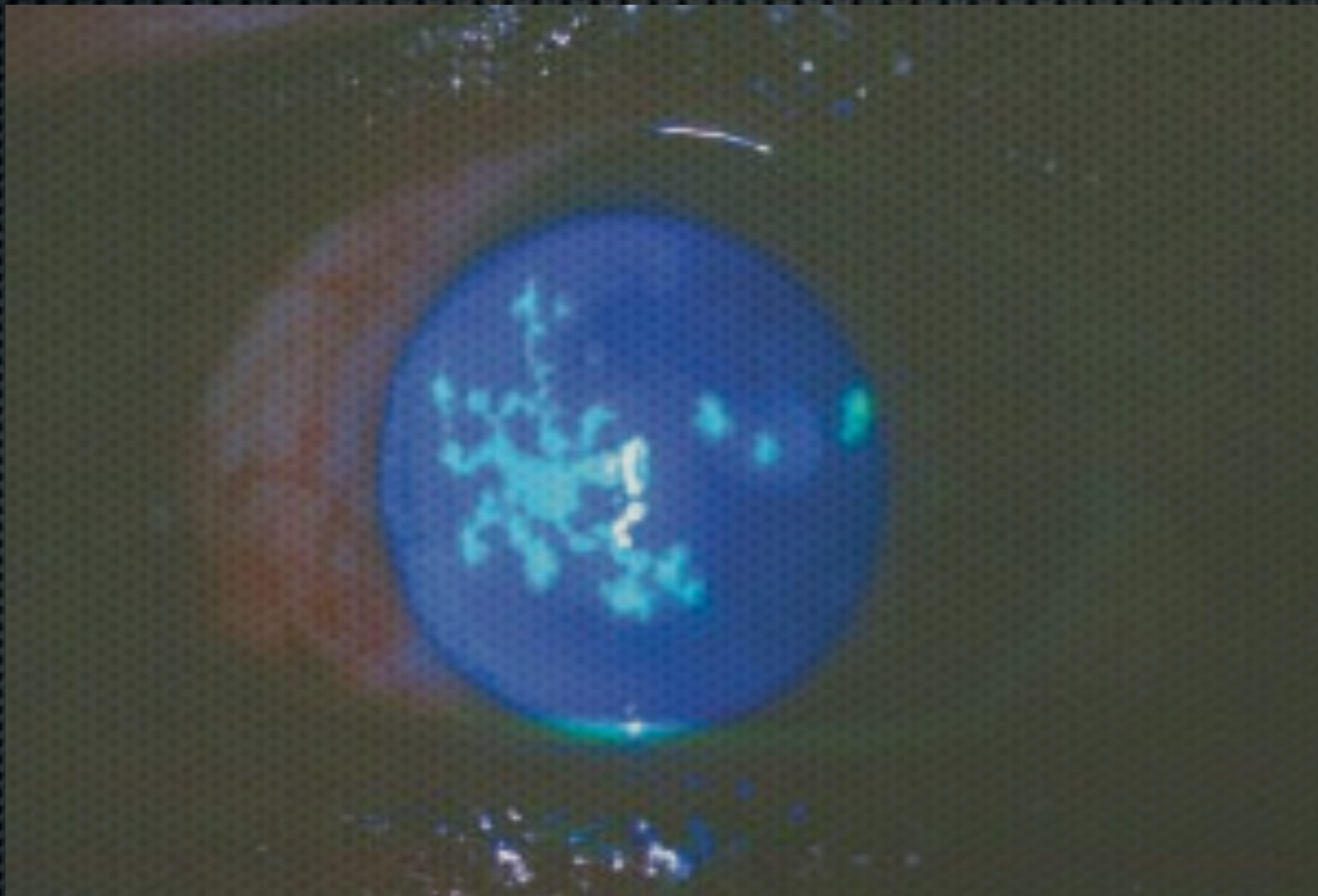
Corneal Abrasions



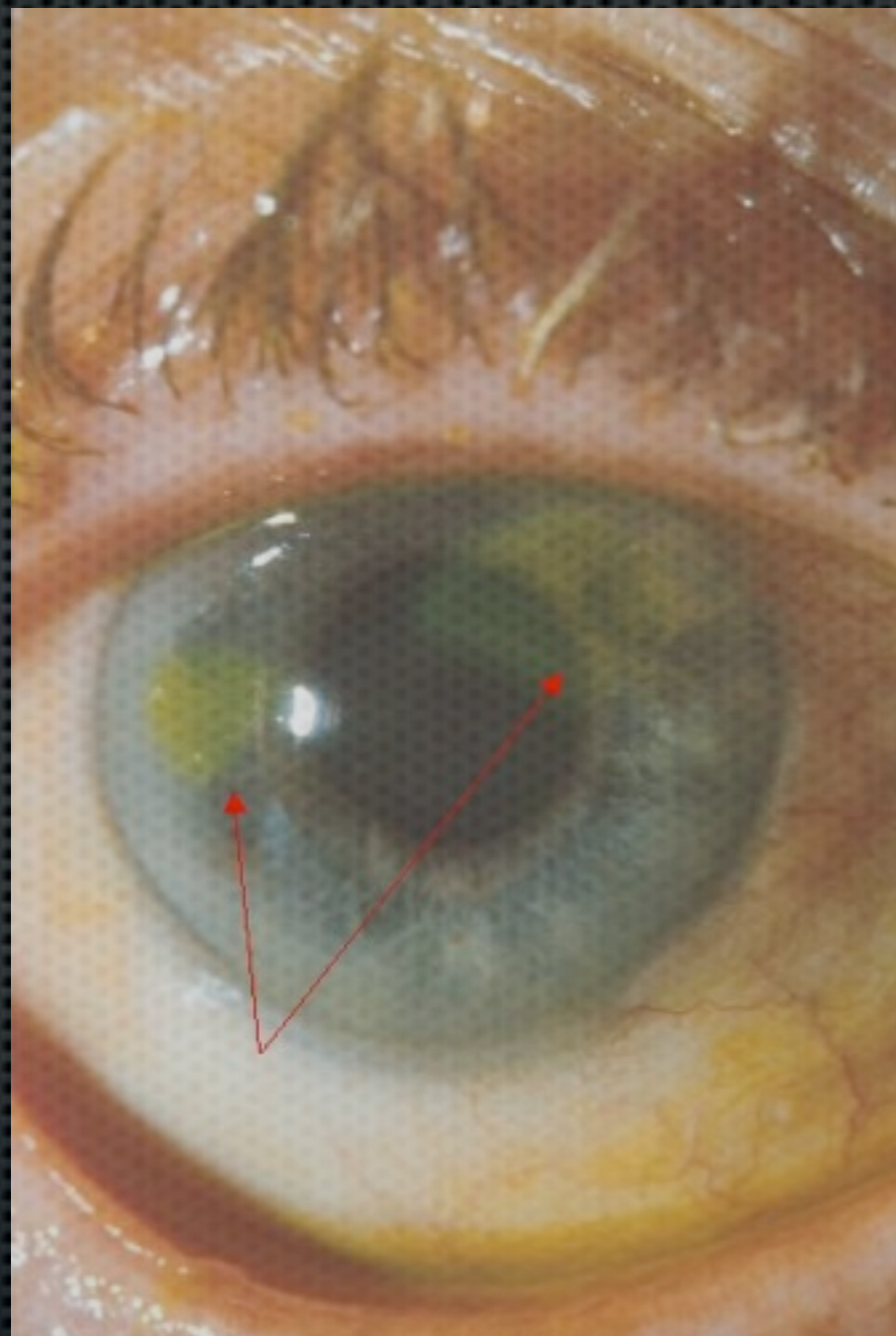
Corneal Abrasions



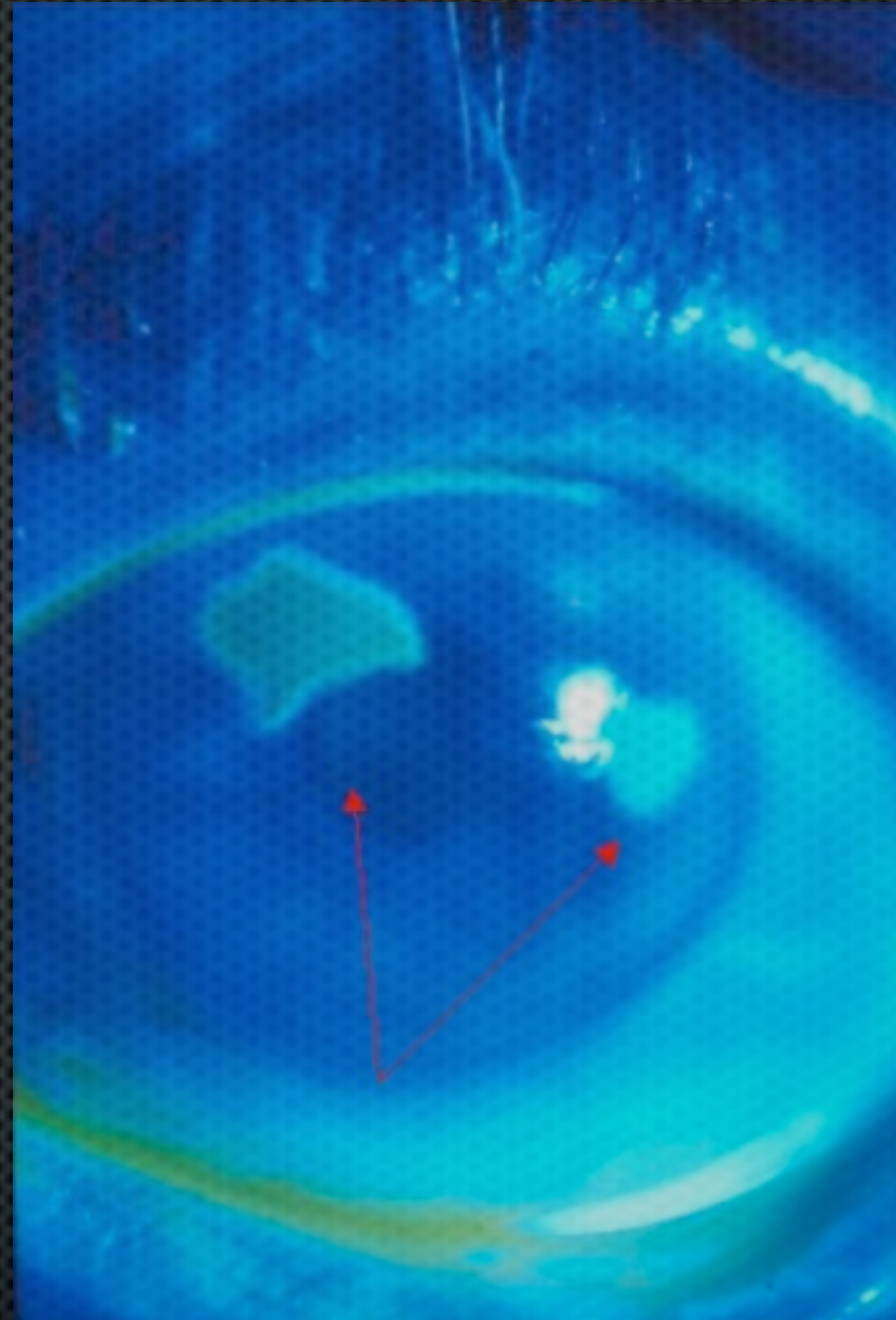
Corneal Abrasions



Corneal Abrasions



Corneal Abrasions



The Red Eye: an approach

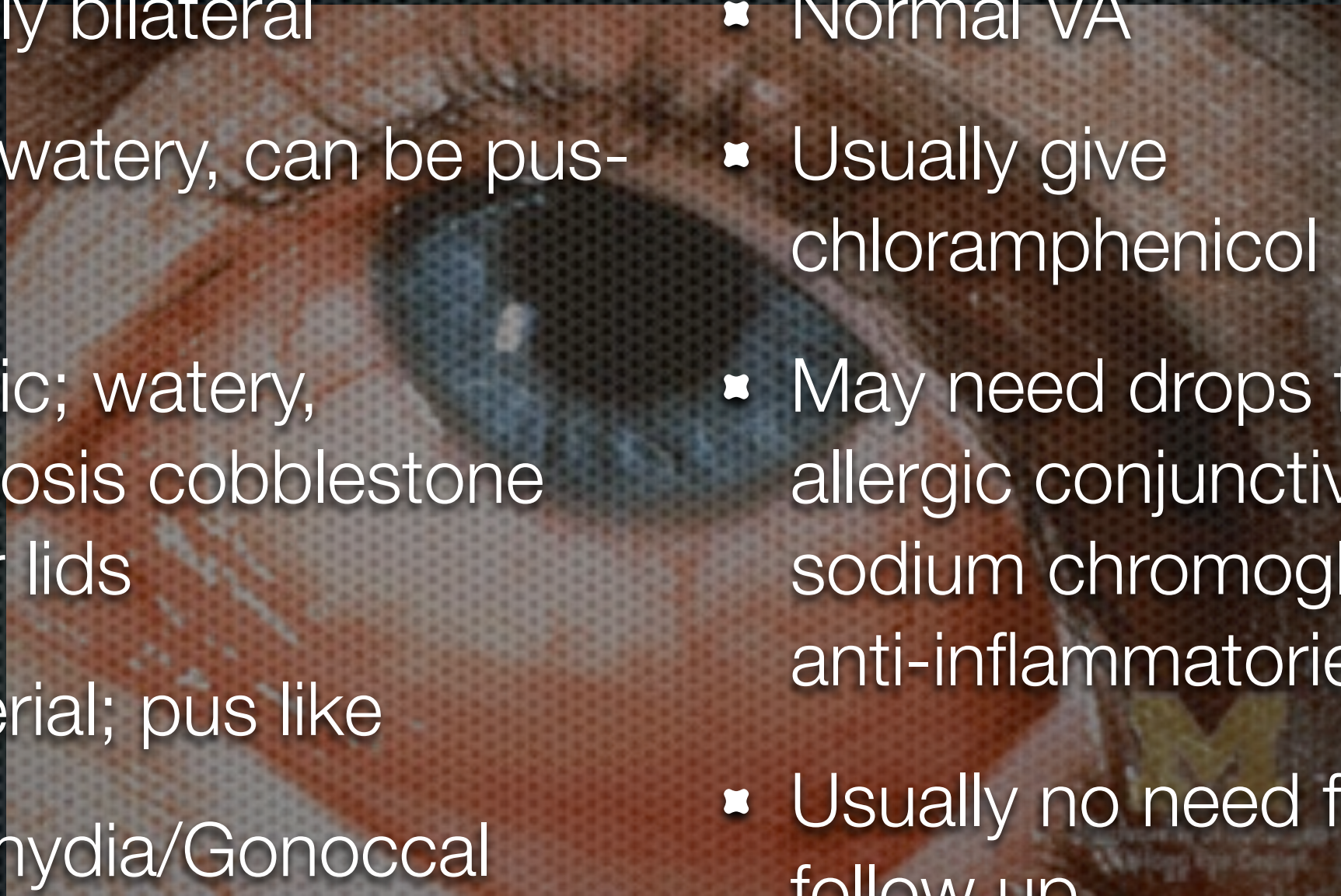
	Detail	Likely causes
History	Trauma or FB	Corneal abrasion, eye perforation, FB
	Pain	acute narrow angle glaucoma, scleritis, uveitis, endophthalmos, abrasion, ulcer (bacteria, fungi, viruses, exposure-VII palsy, autoimmune-RhA, neurotrophic)
	Blurred vision	Mostly abrasions or most more severe eye disease
	Photophobia	Abrasion, iritis
	Haloed	Glaucoma
	Itch	allergic conjunctivitis, blepharitis
	Clear discharge	abrasion, FB, allergic & viral conjunctivitis
	Pus discharge	bacterial conjunctivitis (both eyes) or corneal ulcer (one eye)
	Previous eye disease	iritis, marginal keratitis, dendritic ulcer, endophthalmitis post eye surgery
	Both eyes	allergic & viral conjunctivitis
	Contact lens use	bacterial corneal infections
	Other illness	anterior uveitis secondary to eg ulcerative colitis/ Crohns/Ank Spond. Urethral discharge with Reiters syndrome, gonorrhoea, Chlamydia. Previous viral URTI with viral conjunctivitis
	Drug history	drug reaction

The Red Eye: an approach

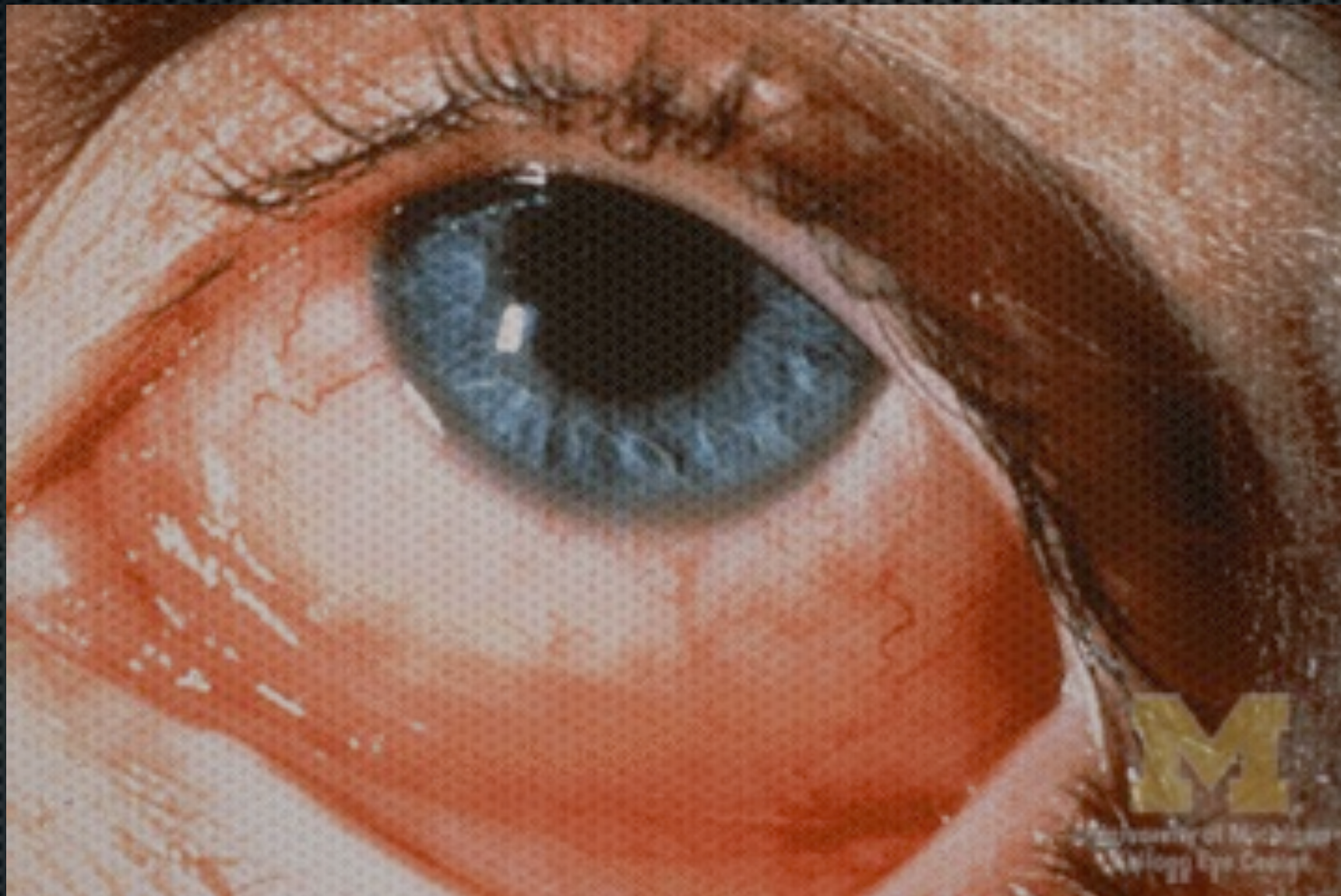
	Detail	Likely causes
Exam	Both eyes involved	allergic, viral and bacterial
	Discharge seen as above	
	Cornea clear	allergic & viral conjunctivitis, iritis,
	Cornea cloudy	spot-ulcer, general-glaucoma
	Anterior chamber	shallow in narrow angle glaucoma, pus (hypopyon) cells, and flare (visible light beam) in iritis/scleritis, blood (hyphaemia)penetrating/blunt trauma
	Conjunctiva-general injection	allergic, viral & bacterial conjunctivitis, corneal abrasion, ulcer and FB
	Conjunctiva sectoral injection	Episcleritis (superficial blood vessels), Scleritis (deep immoveable blood vessels and risk of perforation)
	Conjunctiva-ciliary injection (ring around cornea)	iritis, acute glaucoma.
	Sub-conjunctival blood	mostly insignificant no specific treatment required. If recurrent=hypertension/bleeding diathesis
	Pupil mishappen and unreactive	iritis, acute narrow angle glaucoma,
	Evert eyelids	FB's, cobblestone-allergic/bacterial conjunctivitis, grey rice-grains=viral conjunctivitis
	Fluorescein	abrasions, ulcers, dendritic, widespread with contact lens/alkali burns
	Abnormal vitrous/retina on slit lamp	Posterior uveitis/endophthalmitis
	Intraocular pressure	normal <21mmHg, >40mmHg=glaucoma

Conjunctivitis

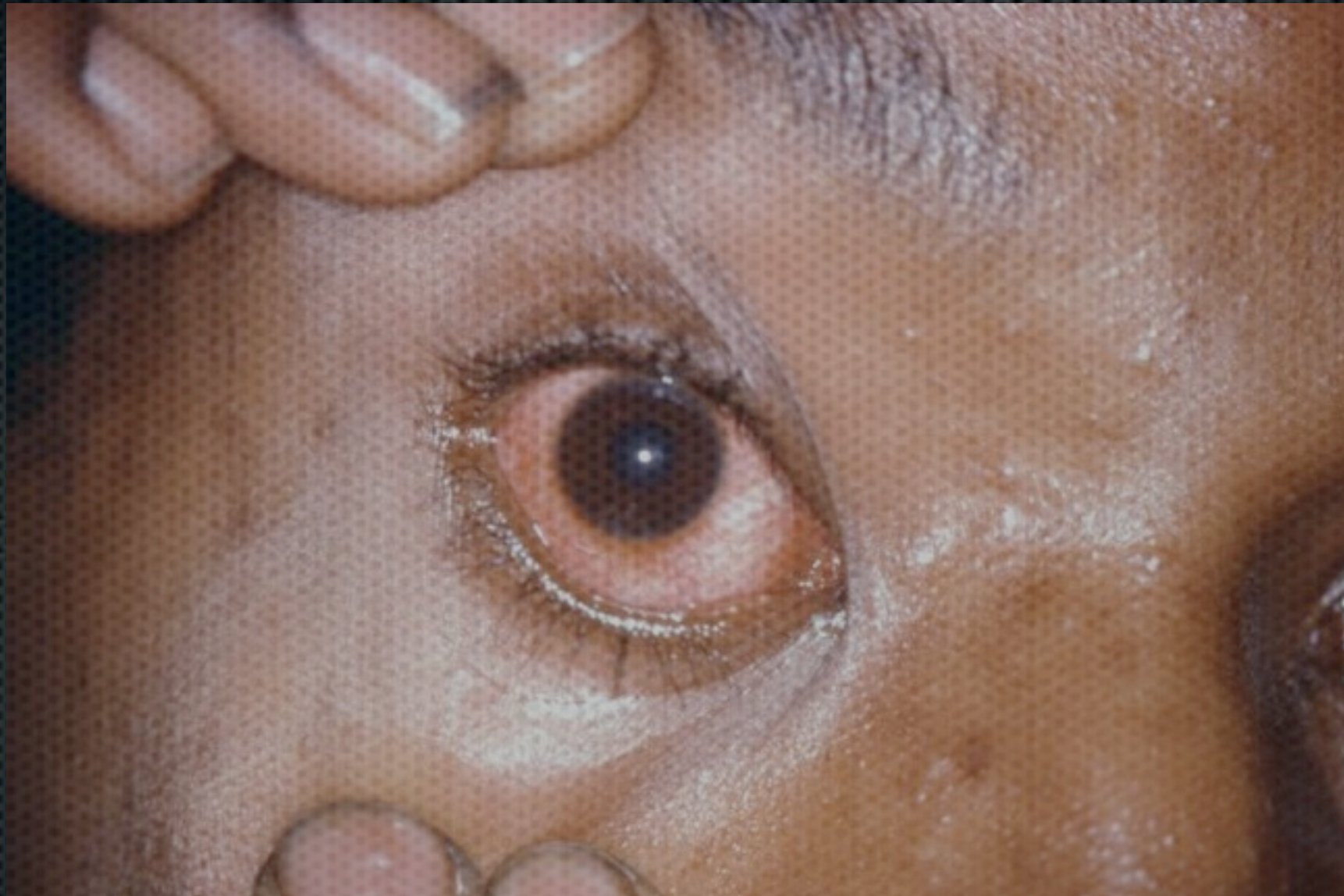
- ✦ Usually bilateral
- ✦ Viral; watery, can be pus-like
- ✦ Allergic; watery, chemosis cobblestone under lids
- ✦ Bacterial; pus like
- ✦ Chlamydia/Gonococcal
- ✦ Scratchy feeling, no pain
- ✦ Normal VA
- ✦ Usually give chloramphenicol
- ✦ May need drops for allergic conjunctivitis-eg sodium chromoglycate, anti-inflammatories
- ✦ Usually no need for follow up



Conjunctivitis



Conjunctivitis



Conjunctivitis

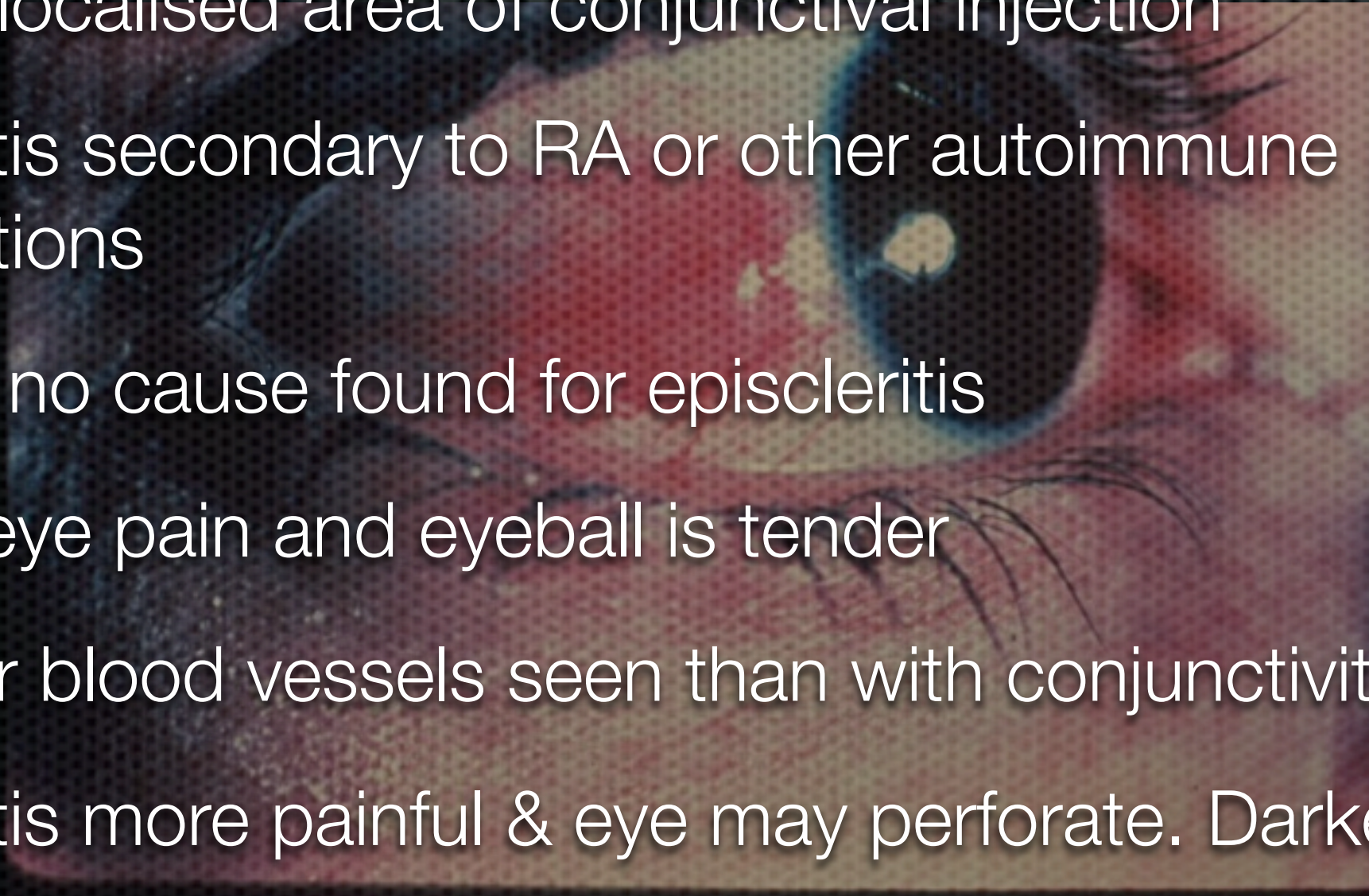


Conjunctivitis



Scleritis/Episcleritis

- ✦ More localised area of conjunctival injection
- ✦ Scleritis secondary to RA or other autoimmune conditions
- ✦ Often no cause found for episcleritis
- ✦ Pt % eye pain and eyeball is tender
- ✦ Larger blood vessels seen than with conjunctivitis
- ✦ Scleritis more painful & eye may perforate. Darker look
- ✦ Treat underlying cause, steroids. Refer all Scleritis



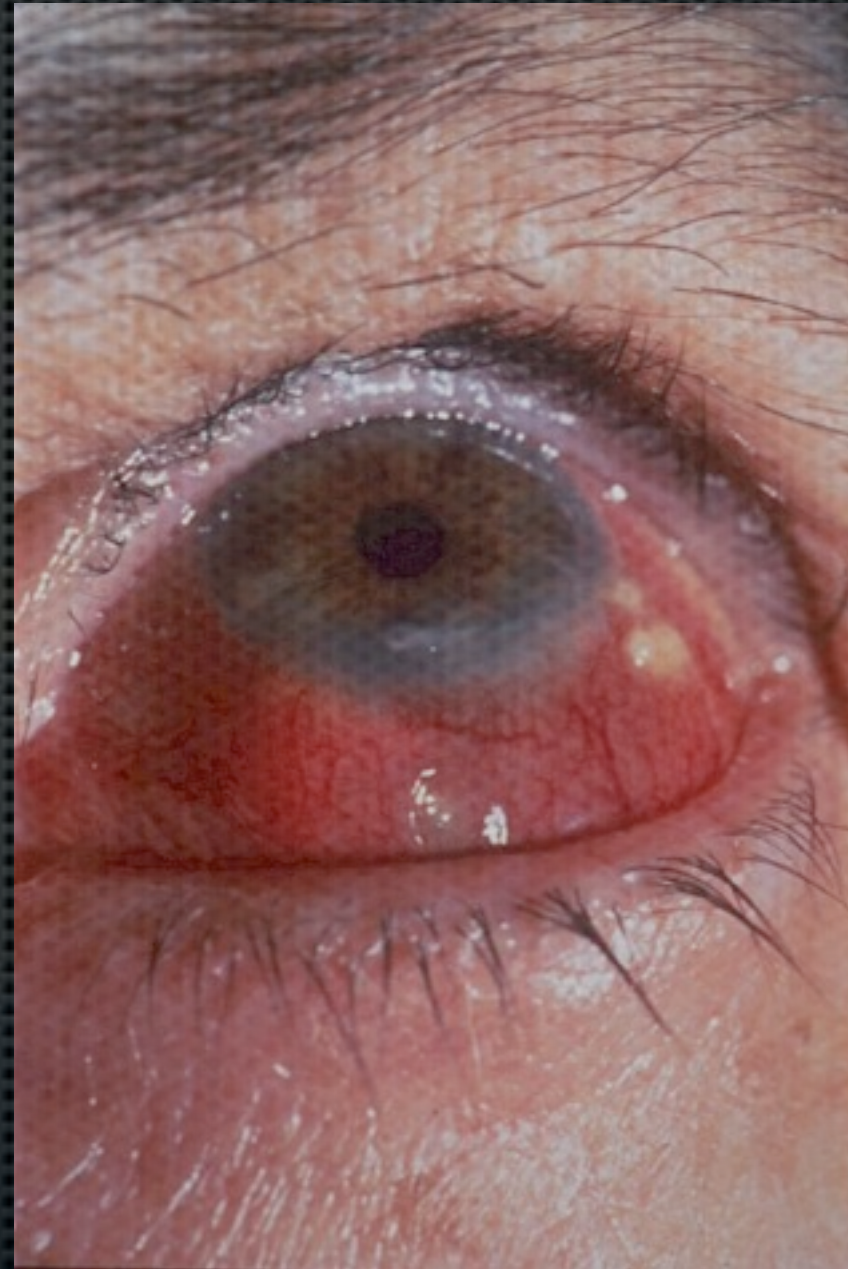
Scleritis/Episcleritis



Scleritis/Episcleritis



Scleritis/Episcleritis

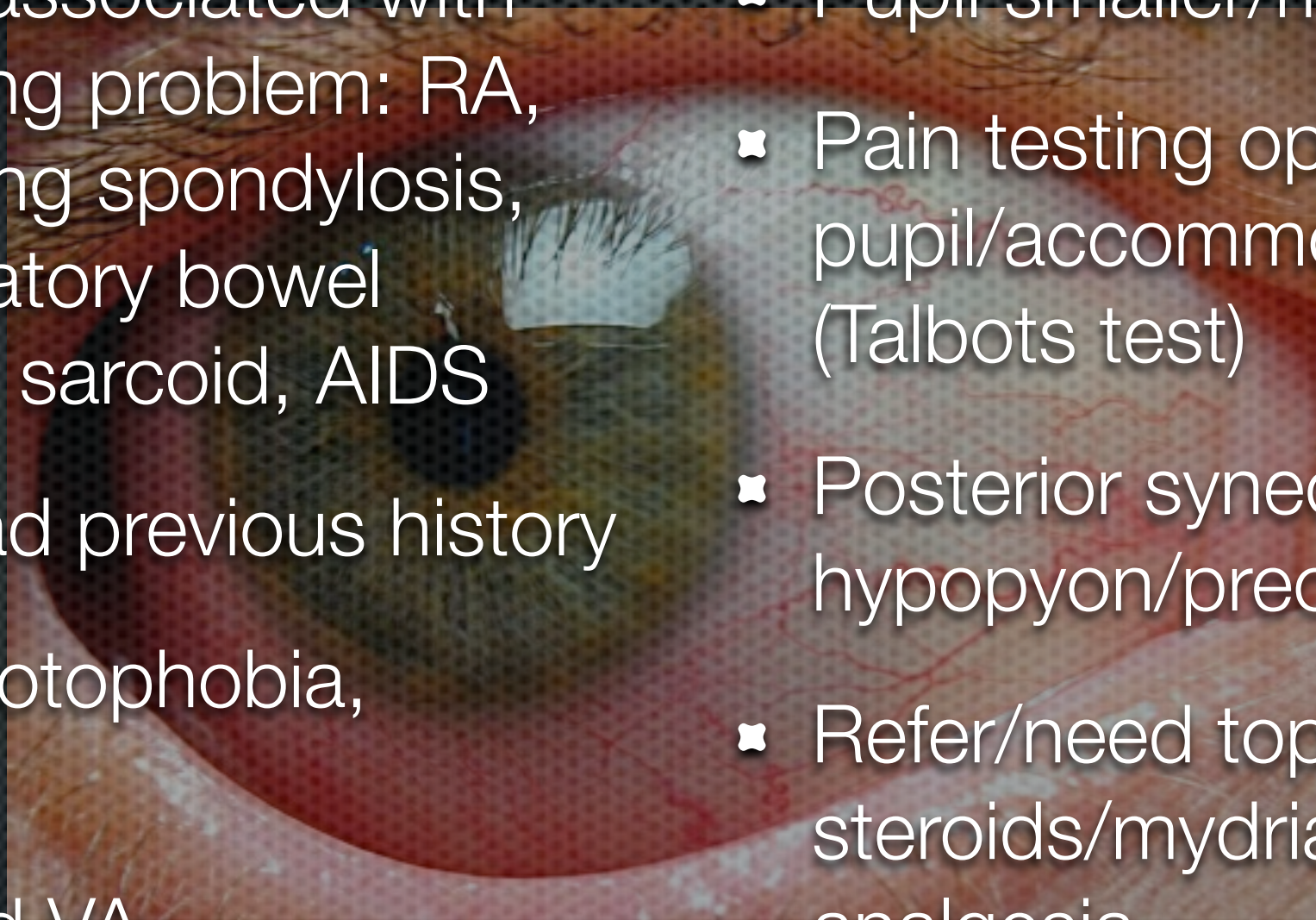


Scleritis/Episcleritis

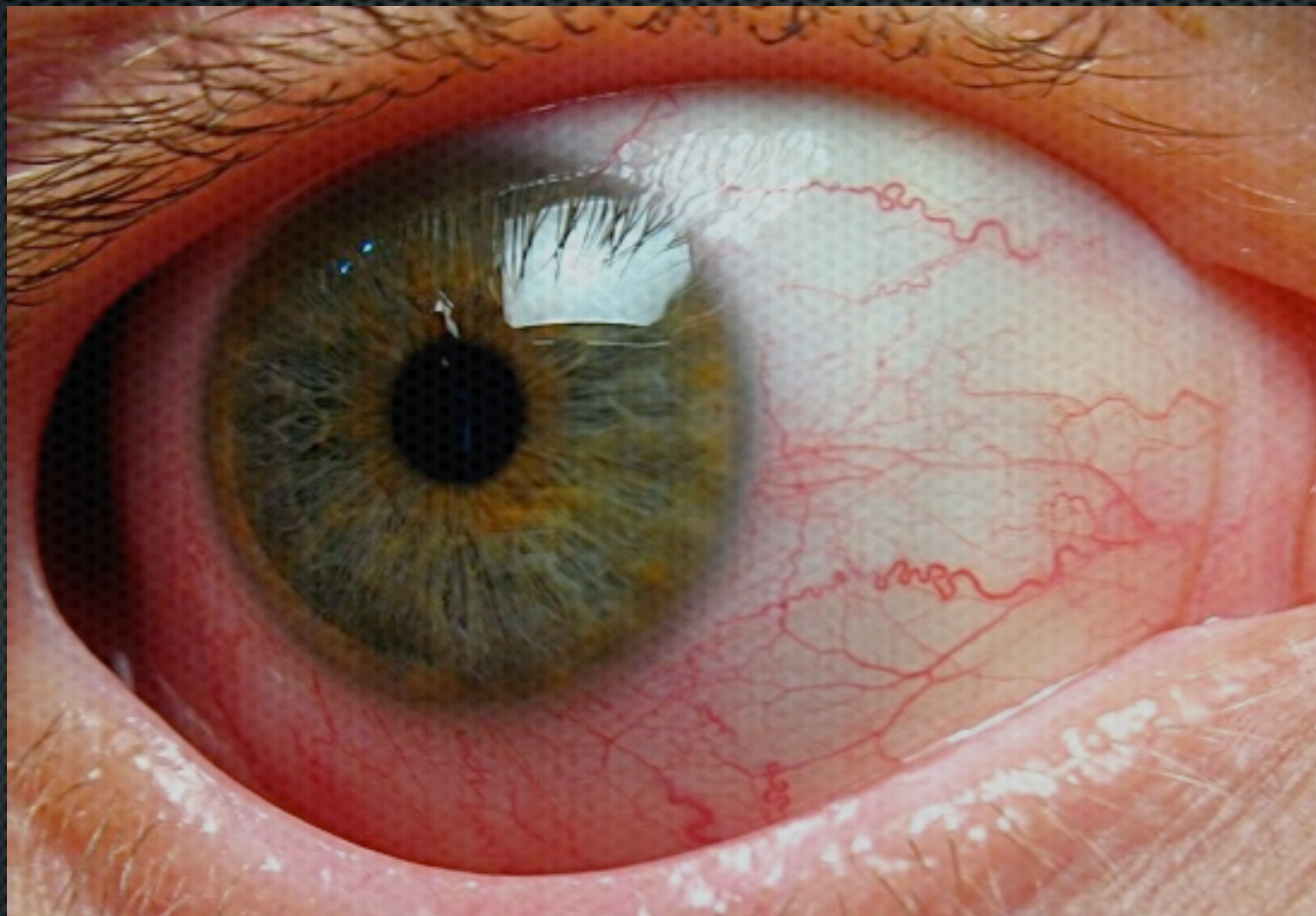


Iritis or anterior uveitis

- ✦ Young/middle aged
- ✦ Usually associated with underlying problem: RA, ankylosing spondylosis, inflammatory bowel disease, sarcoid, AIDS
- ✦ Often had previous history
- ✦ Pain, photophobia, floaters
- ✦ Reduced VA
- ✦ Peri-limbic injection
- ✦ Pupil smaller/misshapen
- ✦ Pain testing opposite pupil/accommodation (Talbots test)
- ✦ Posterior synechiae/hypopyon/precipitates
- ✦ Refer/need topical steroids/mydriatics/analgesia



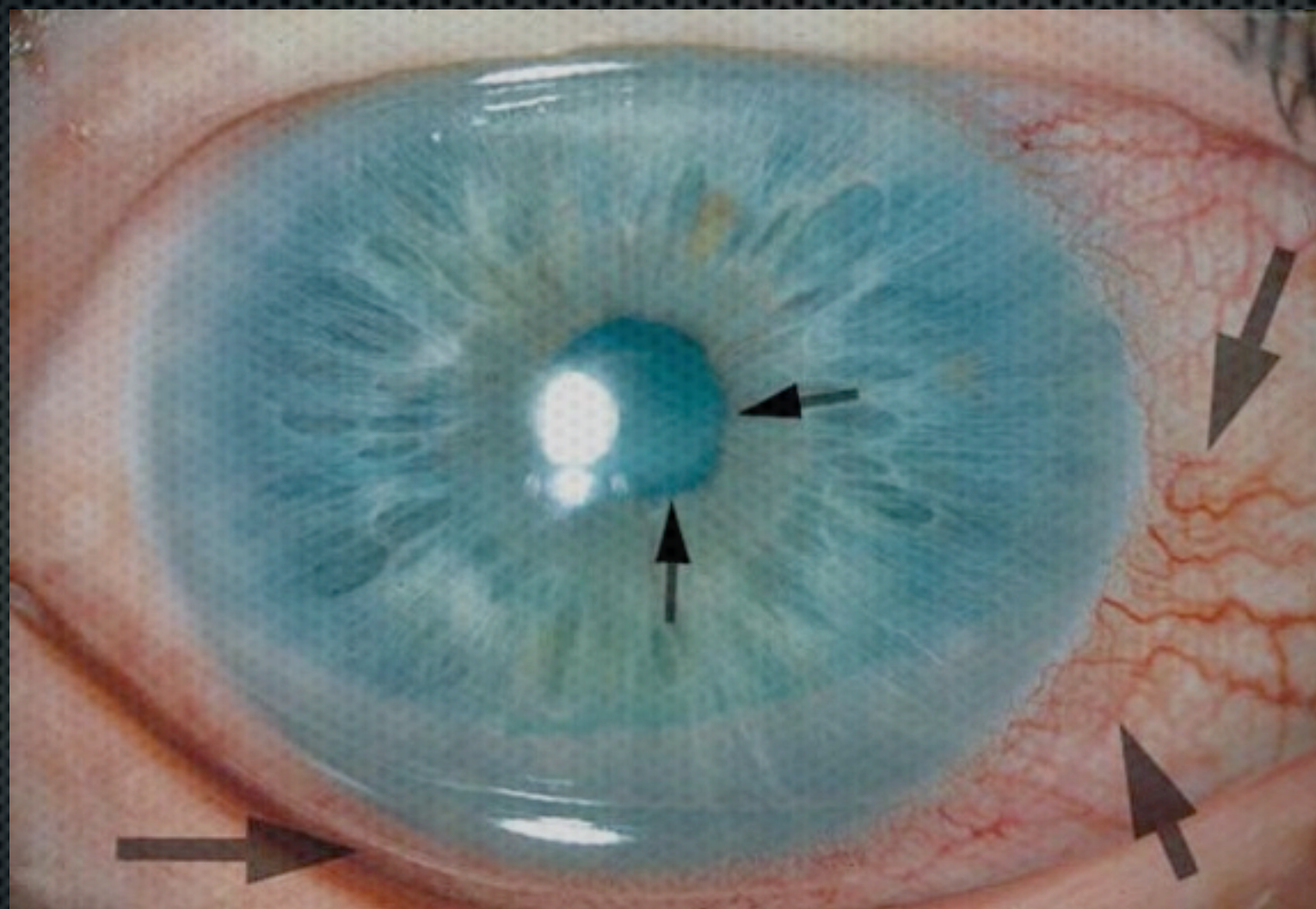
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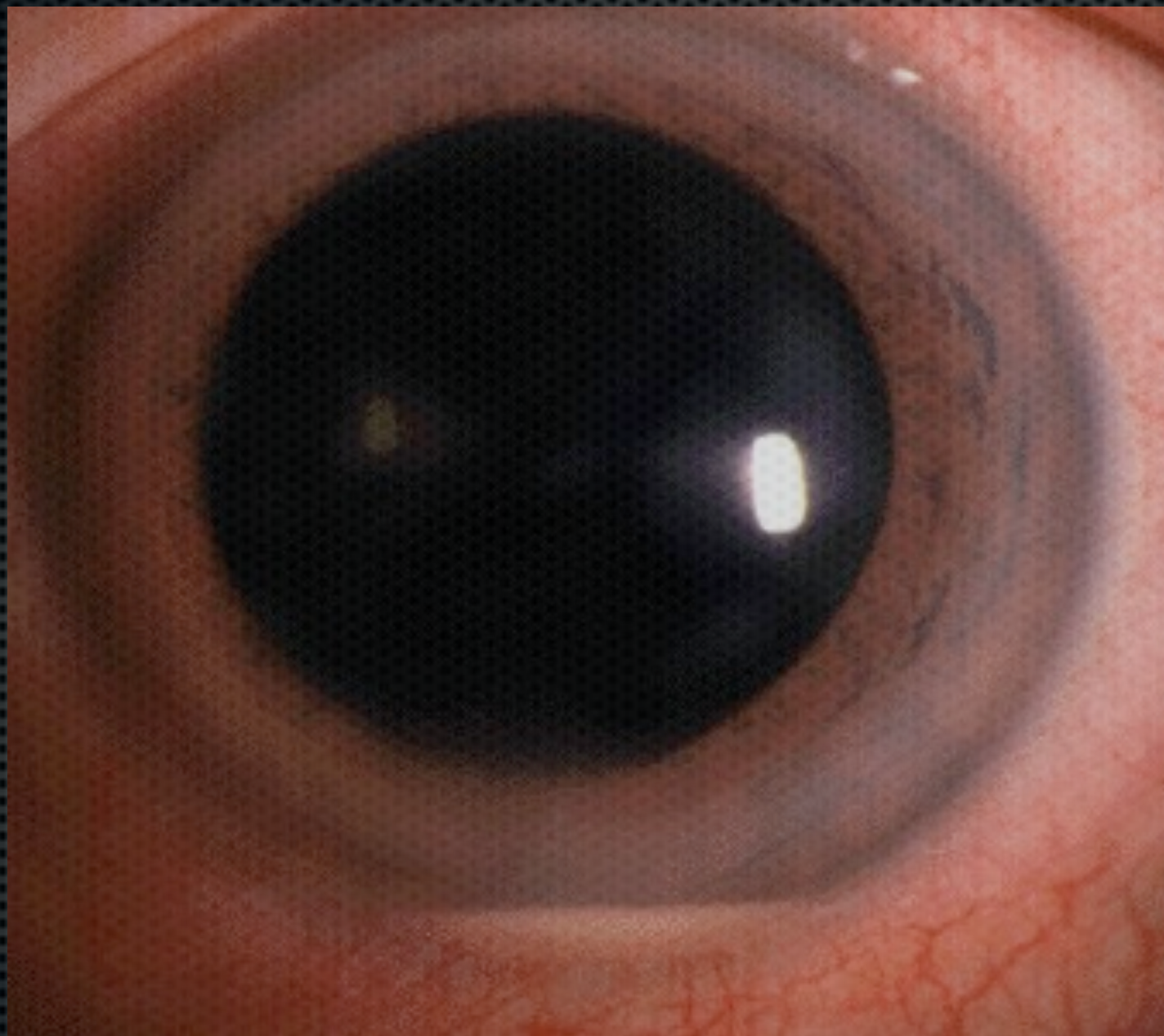
Iritis or anterior uveitis



Iritis or anterior uveitis

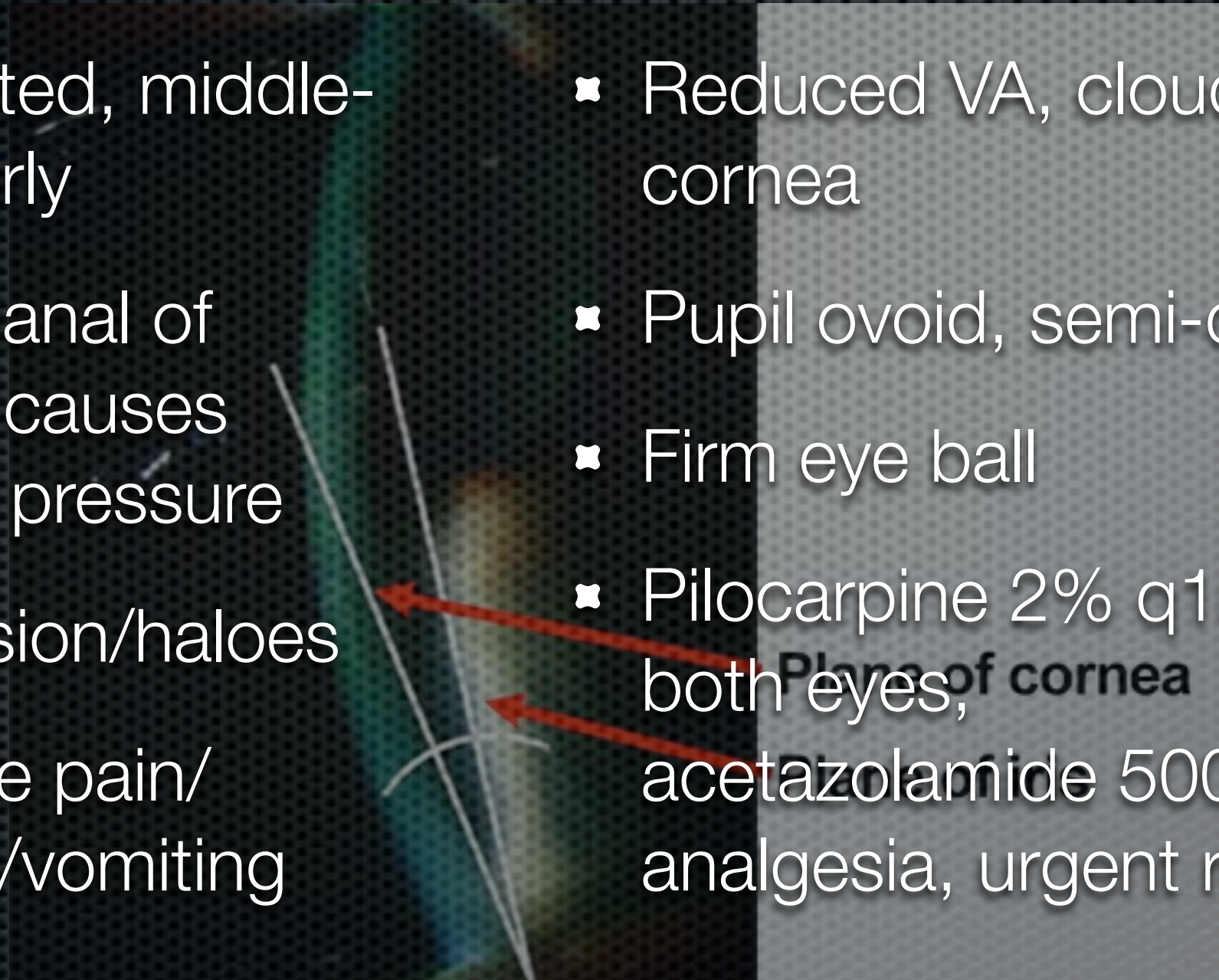


Iritis or anterior uveitis

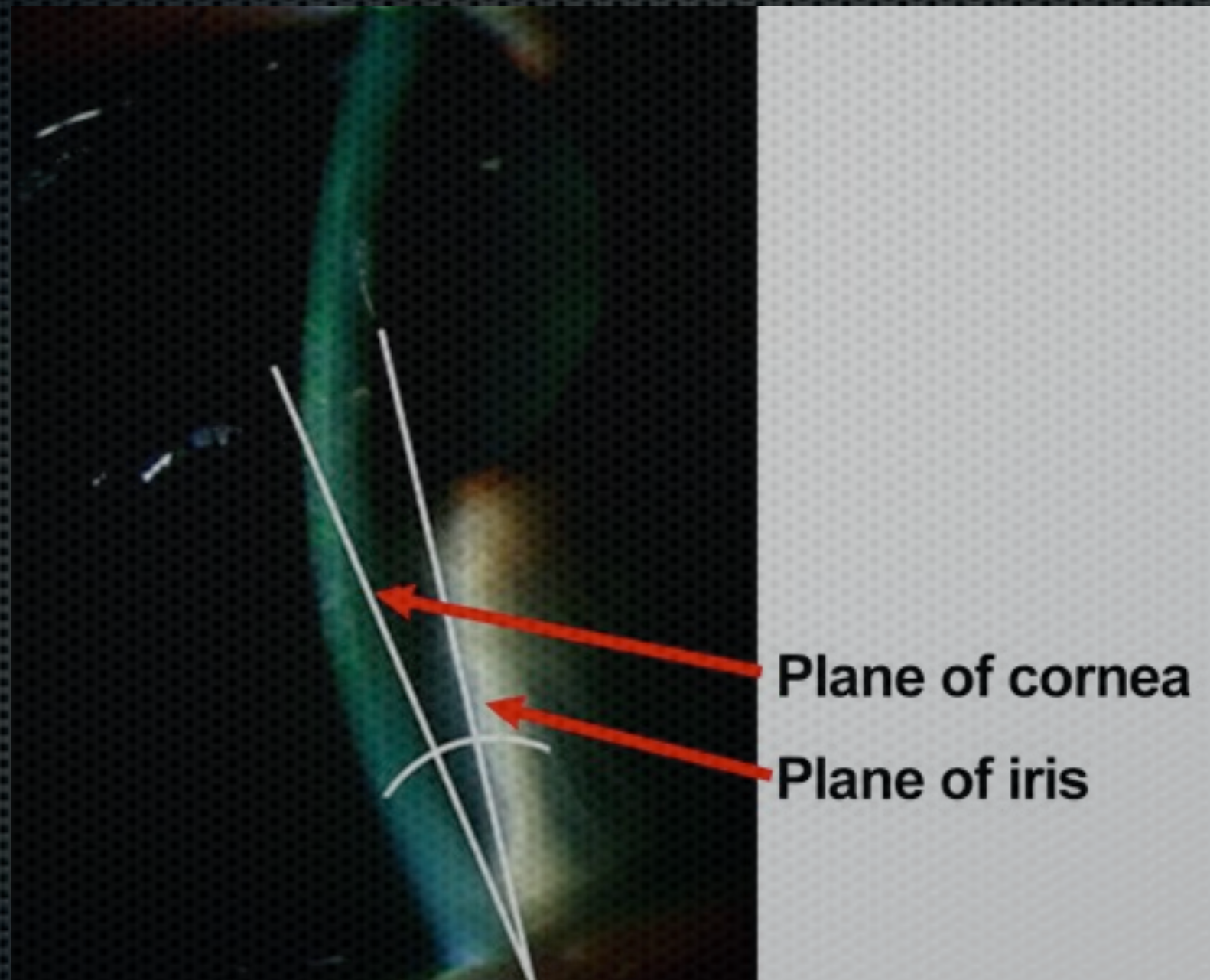


Acute Closed Angle Glaucoma

- ✦ Long sighted, middle-aged/elderly
- ✦ Blocked canal of Schlemm causes increased pressure
- ✦ Blurred vision/haloes
- ✦ Severe eye pain/headache/vomiting
- ✦ Reduced VA, cloudy cornea
- ✦ Pupil ovoid, semi-dilated
- ✦ Firm eye ball
- ✦ Pilocarpine 2% q15m both eyes,
acetazolamide 500mg iv,
analgesia, urgent referral



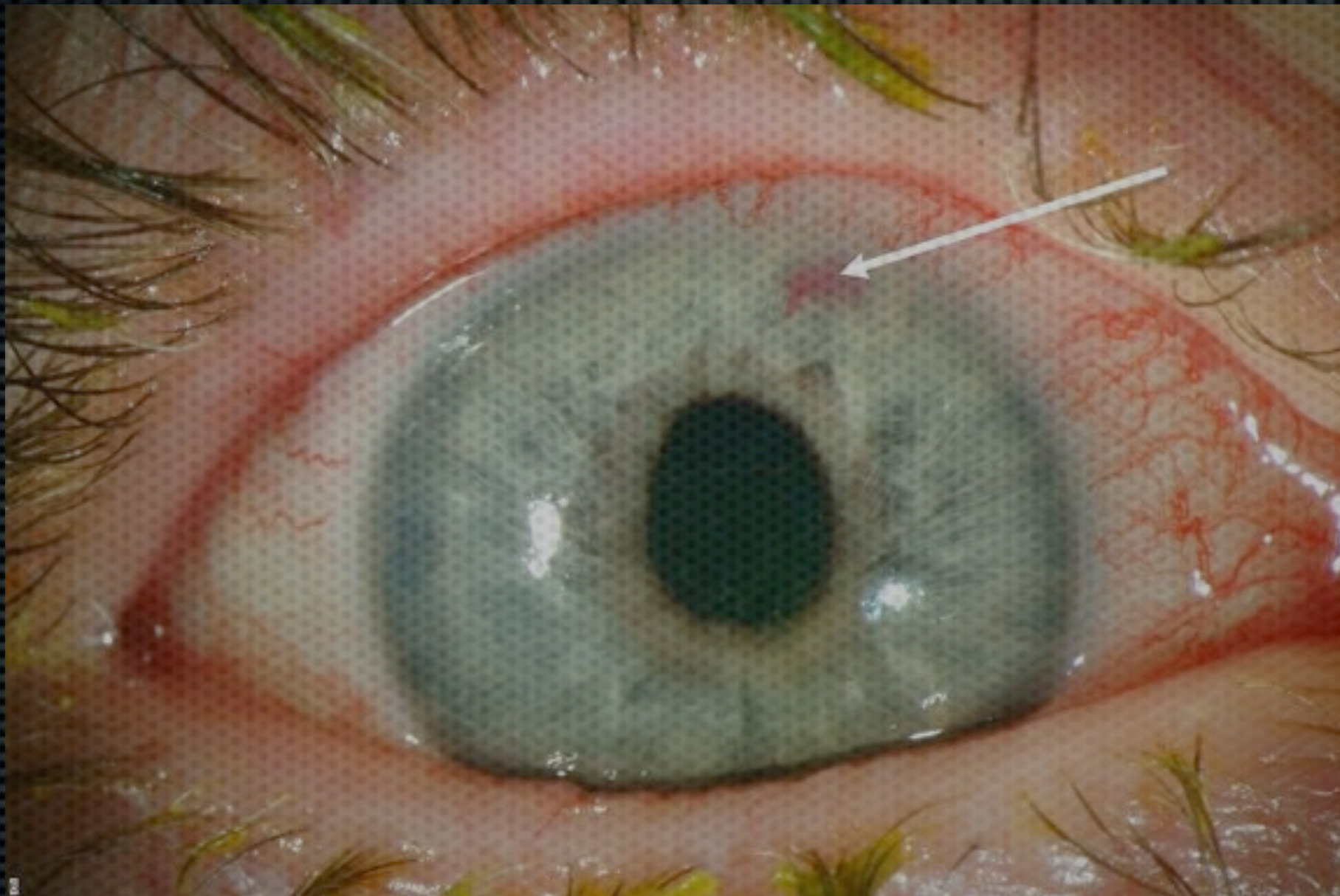
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Acute Closed Angle Glaucoma

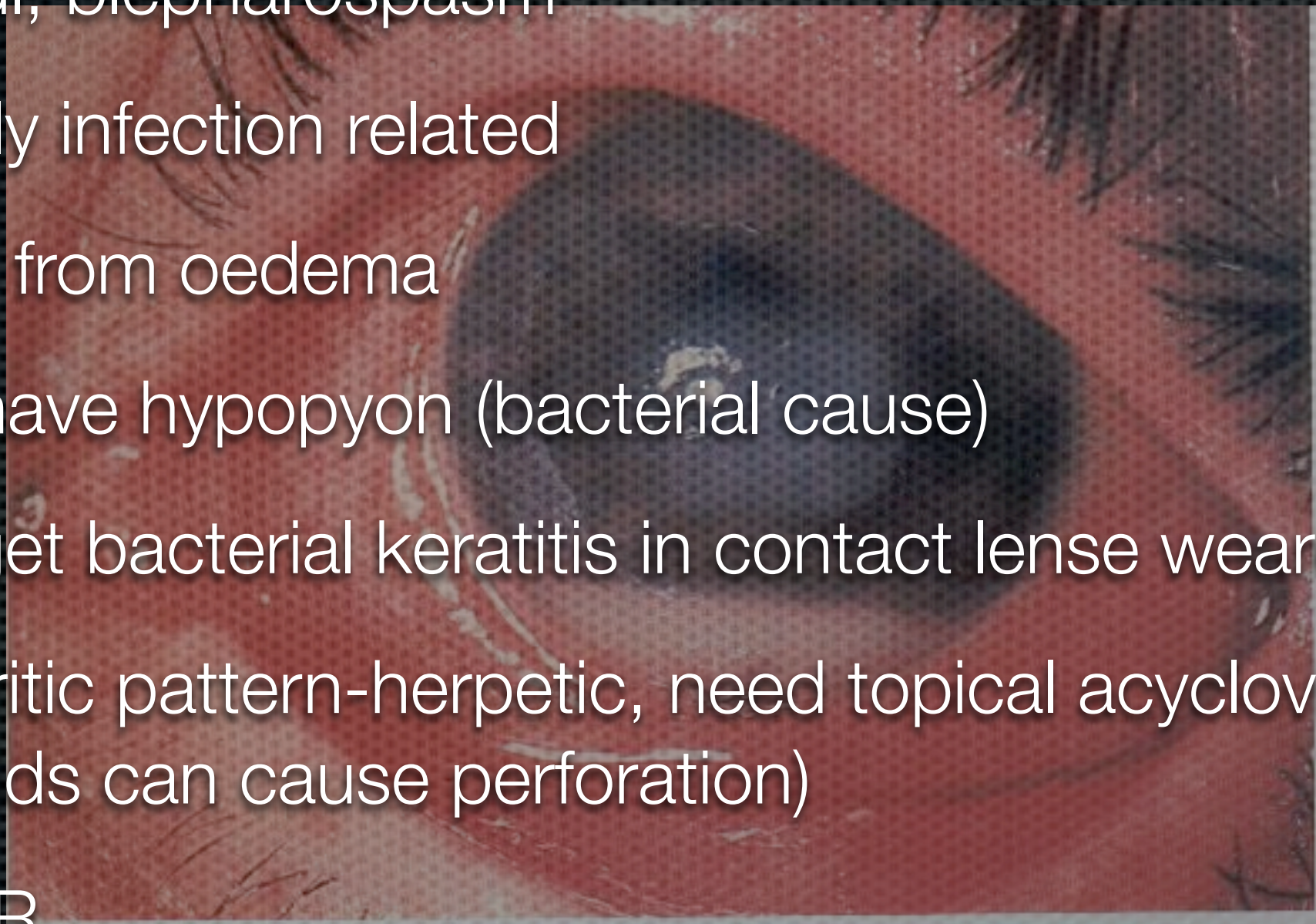


Acute Closed Angle Glaucoma

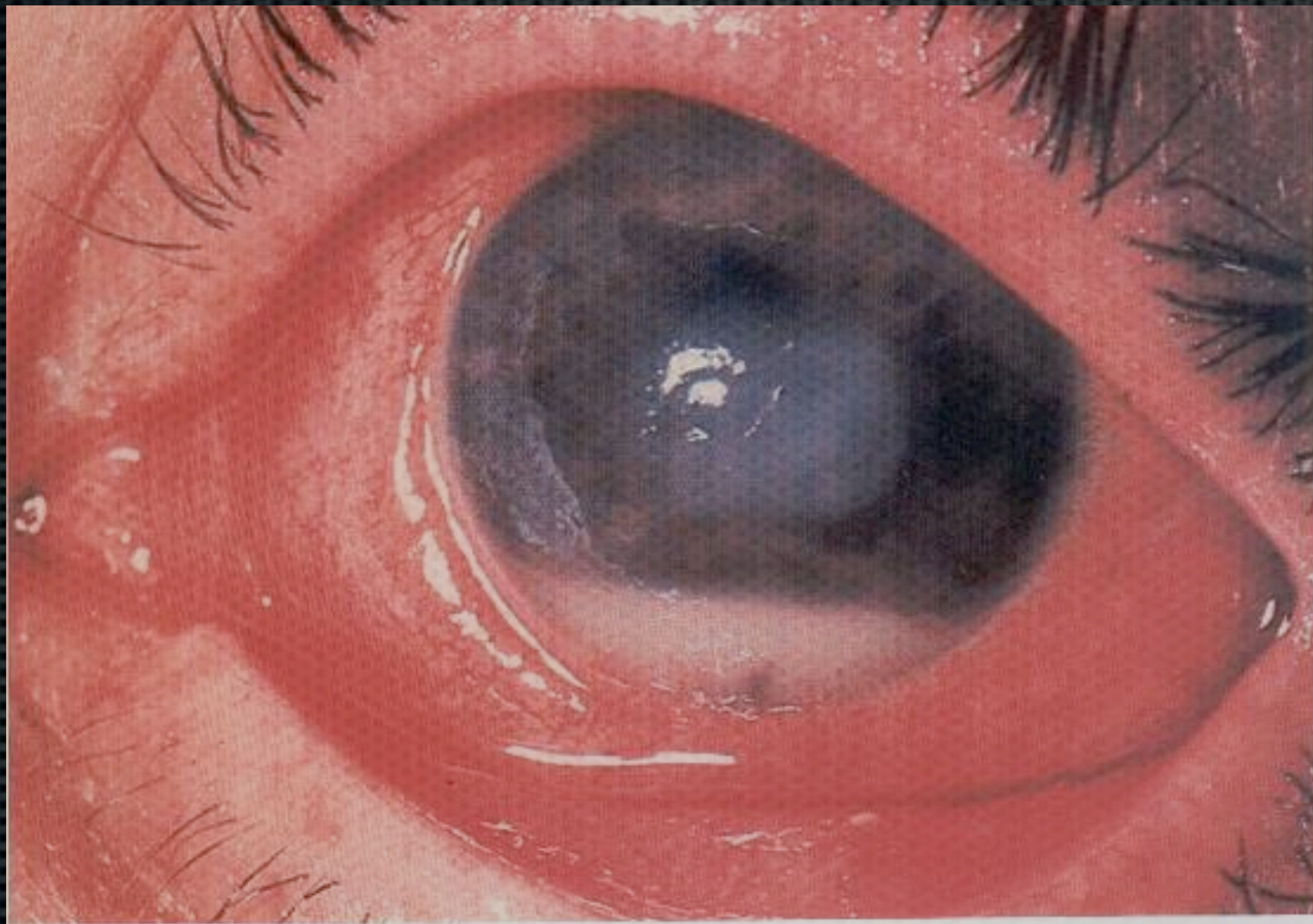


Corneal ulcers

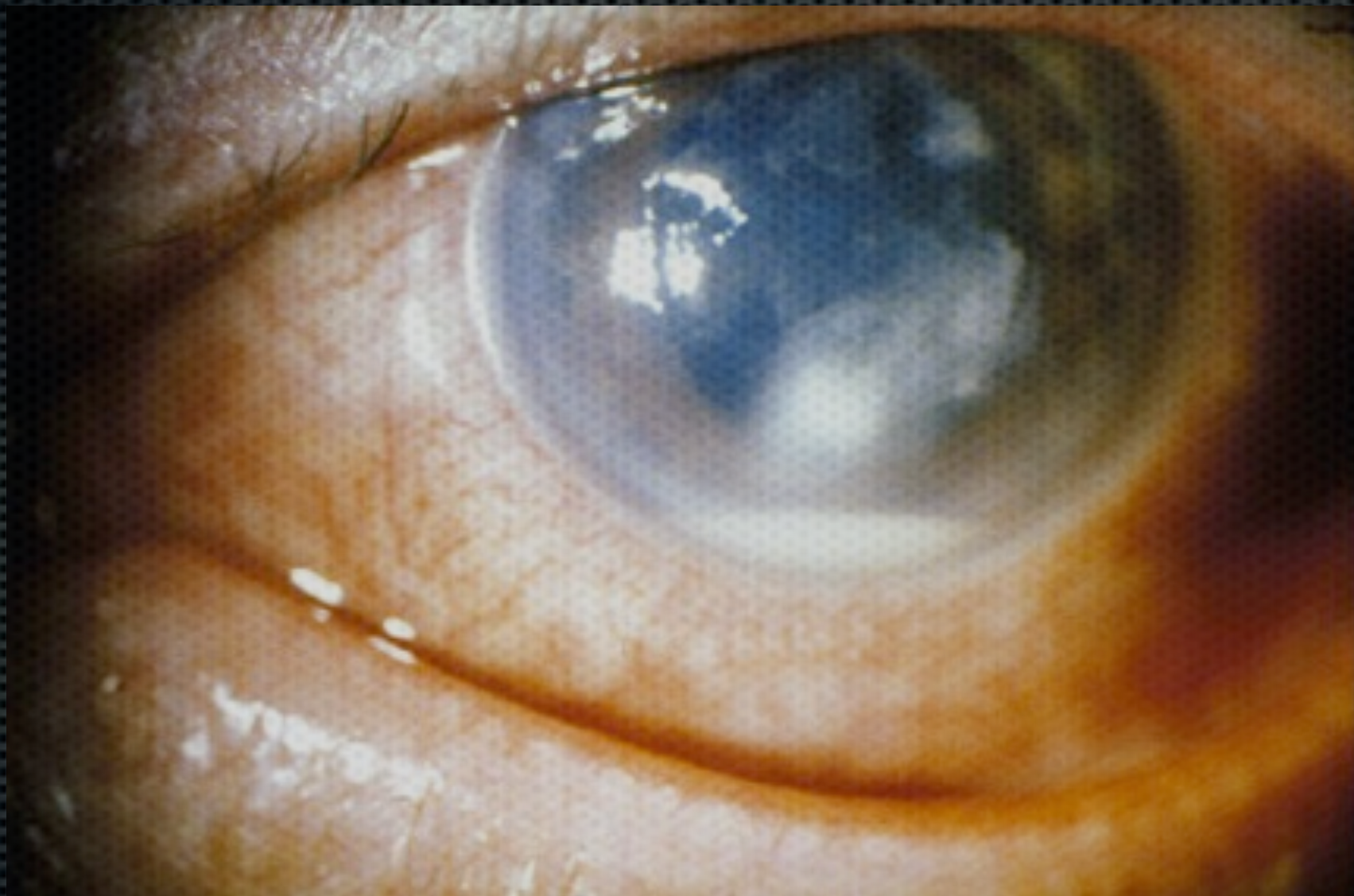
- ✦ Painful, blepharospasm
- ✦ Usually infection related
- ✦ White from oedema
- ✦ May have hypopyon (bacterial cause)
- ✦ Can get bacterial keratitis in contact lense wearers
- ✦ Dendritic pattern-herpetic, need topical acyclovir (steroids can cause perforation)
- ✦ REFER



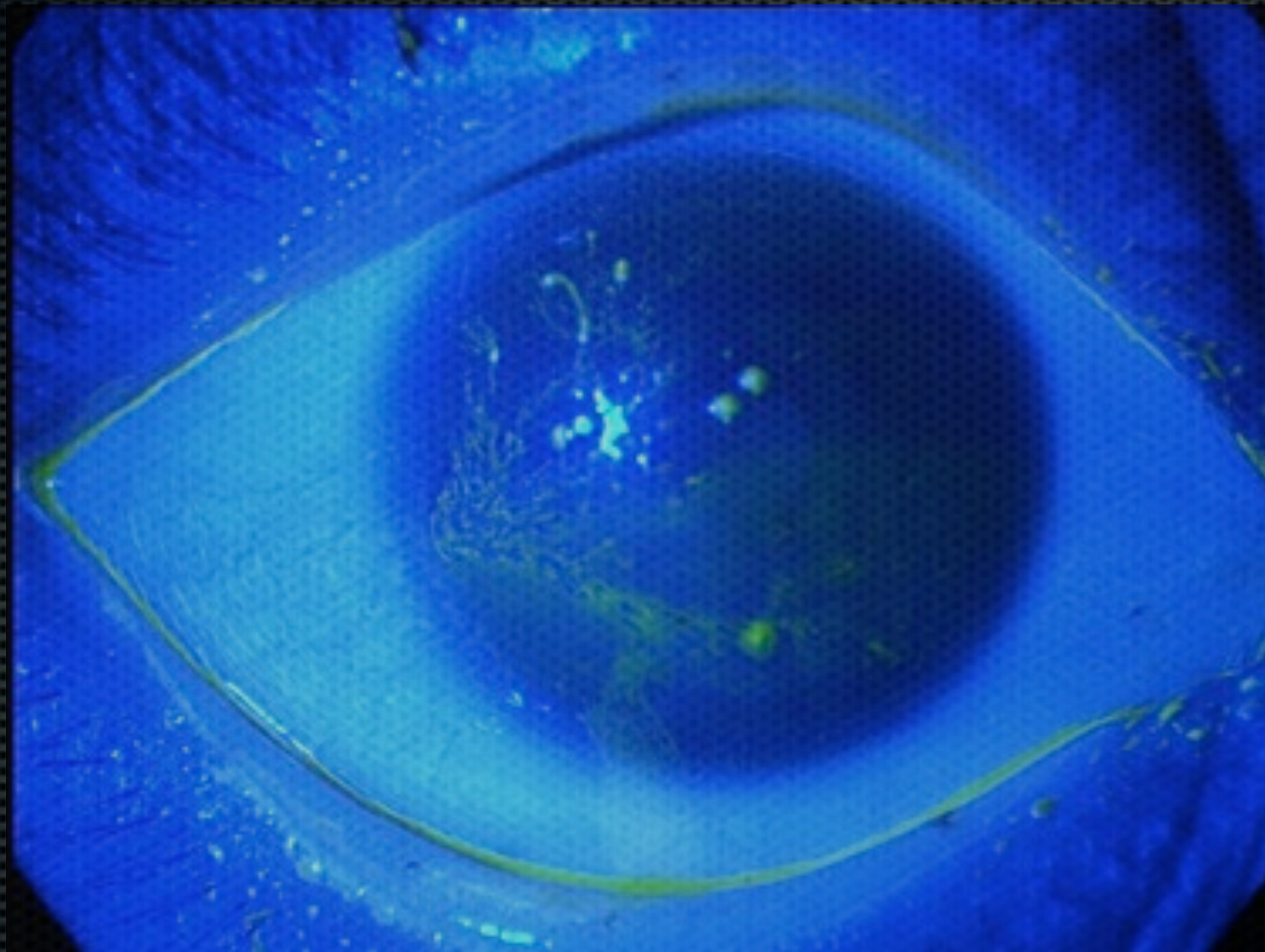
Corneal ulcers



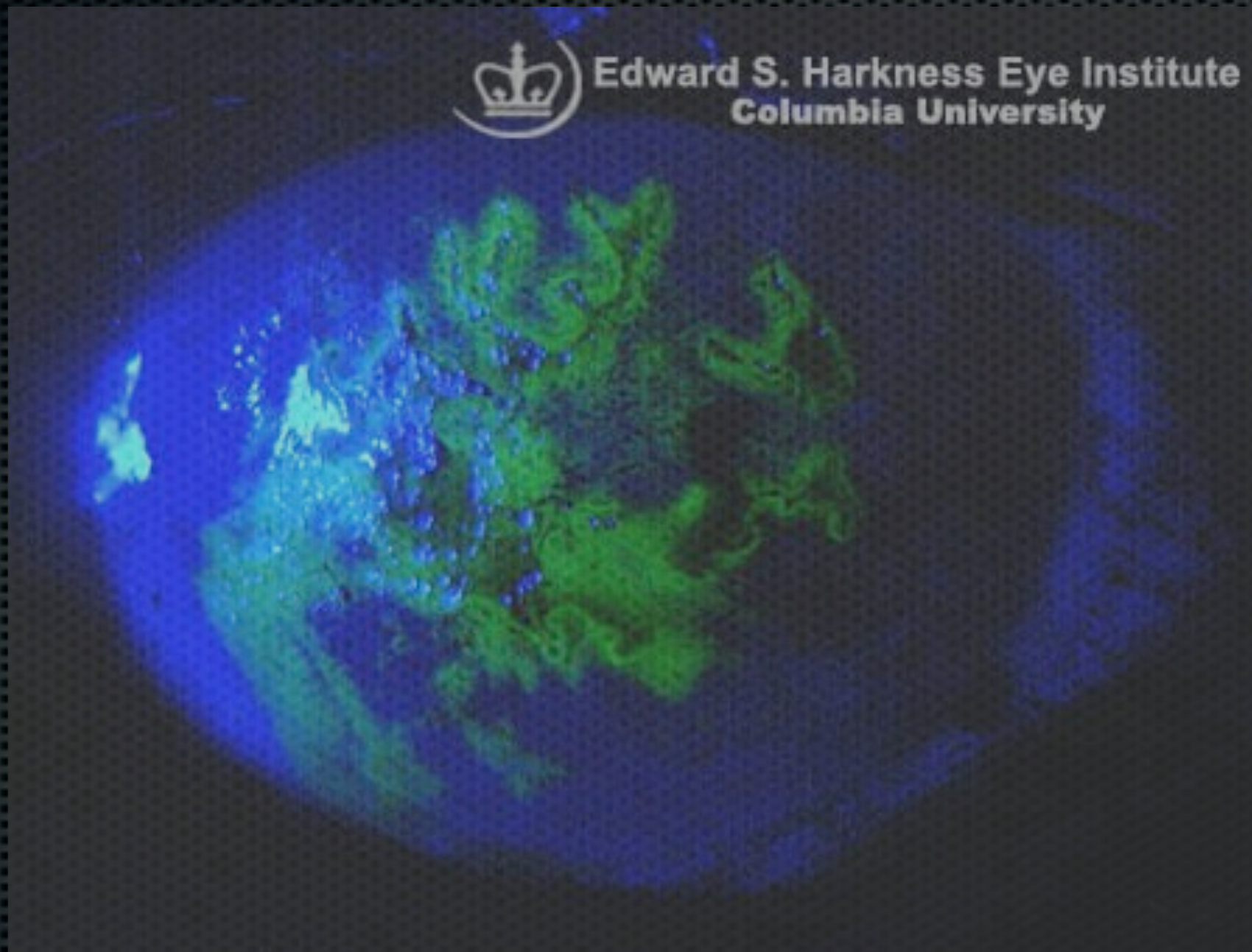
Corneal ulcers



Corneal ulcers

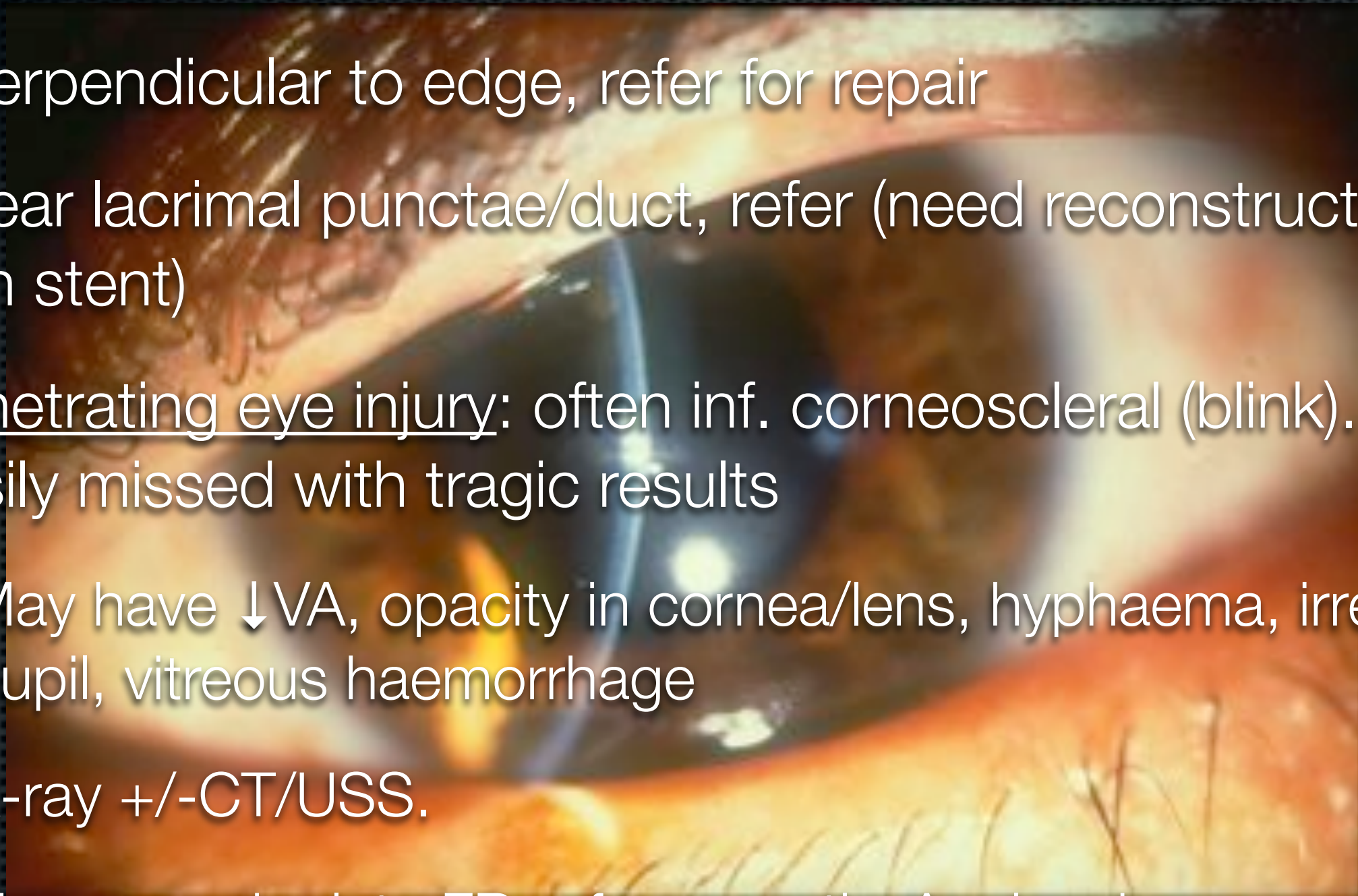


Corneal ulcers

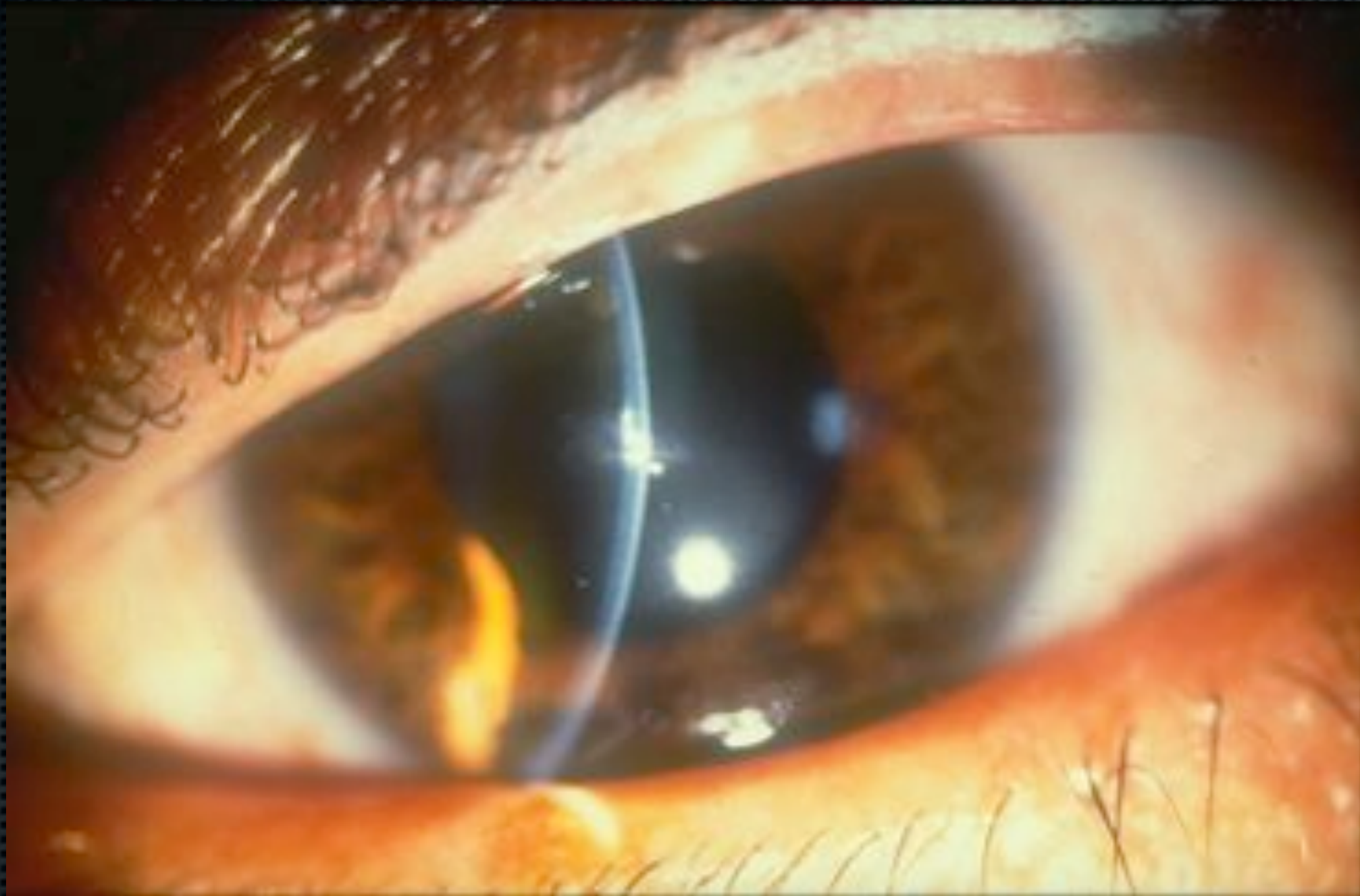


Trauma

- ✦ Simple eyelid lacerations parallel with edge-suture
- ✦ If perpendicular to edge, refer for repair
- ✦ If near lacrimal punctae/duct, refer (need reconstruction with stent)
- ✦ Penetrating eye injury: often inf. corneoscleral (blink). Easily missed with tragic results
 - ✦ May have ↓VA, opacity in cornea/lens, hyphaema, irregular pupil, vitreous haemorrhage
 - ✦ X-ray +/-CT/USS.
 - ✦ Never manipulate FB-refer urgently. Analgesia



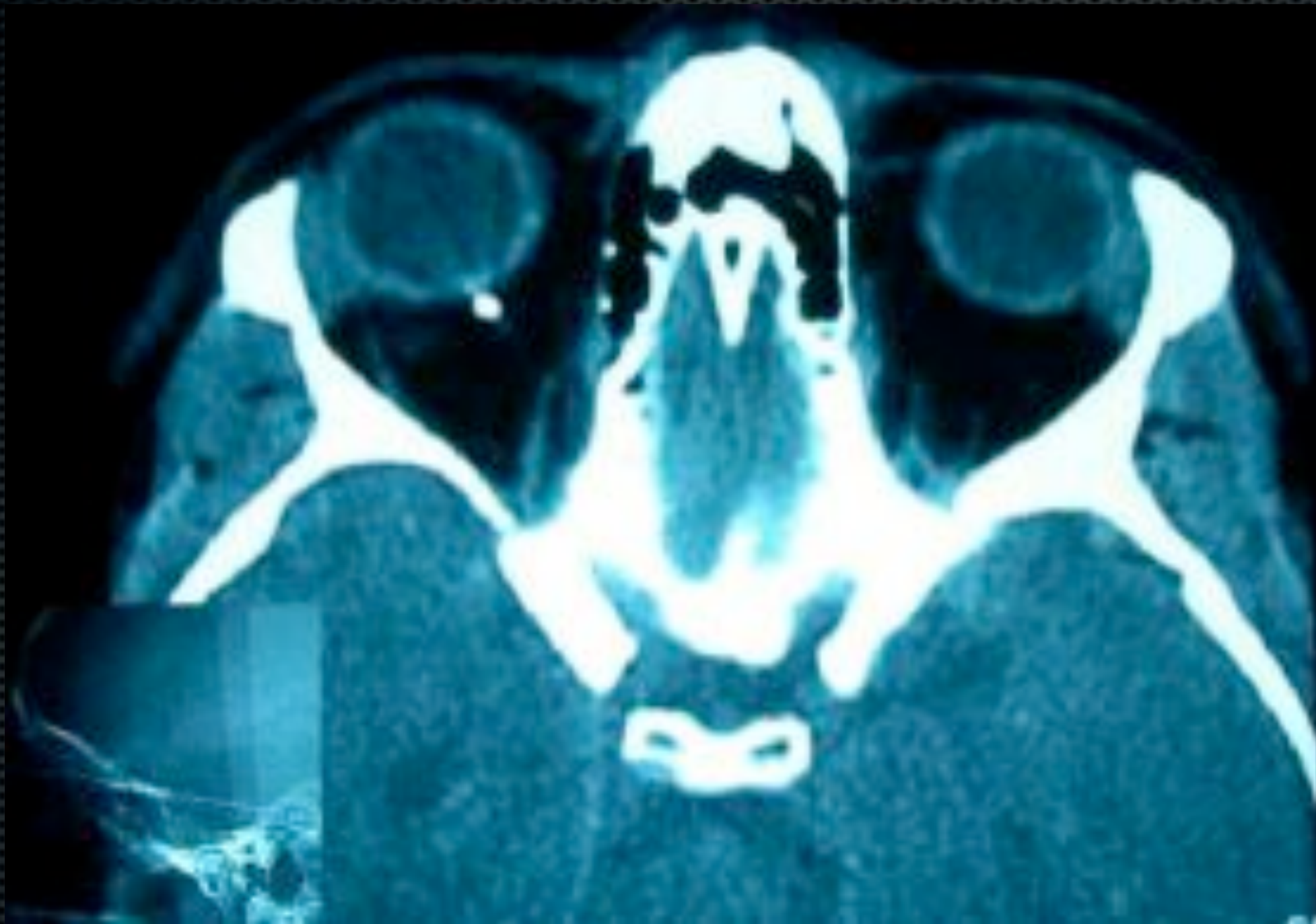
Trauma



Trauma



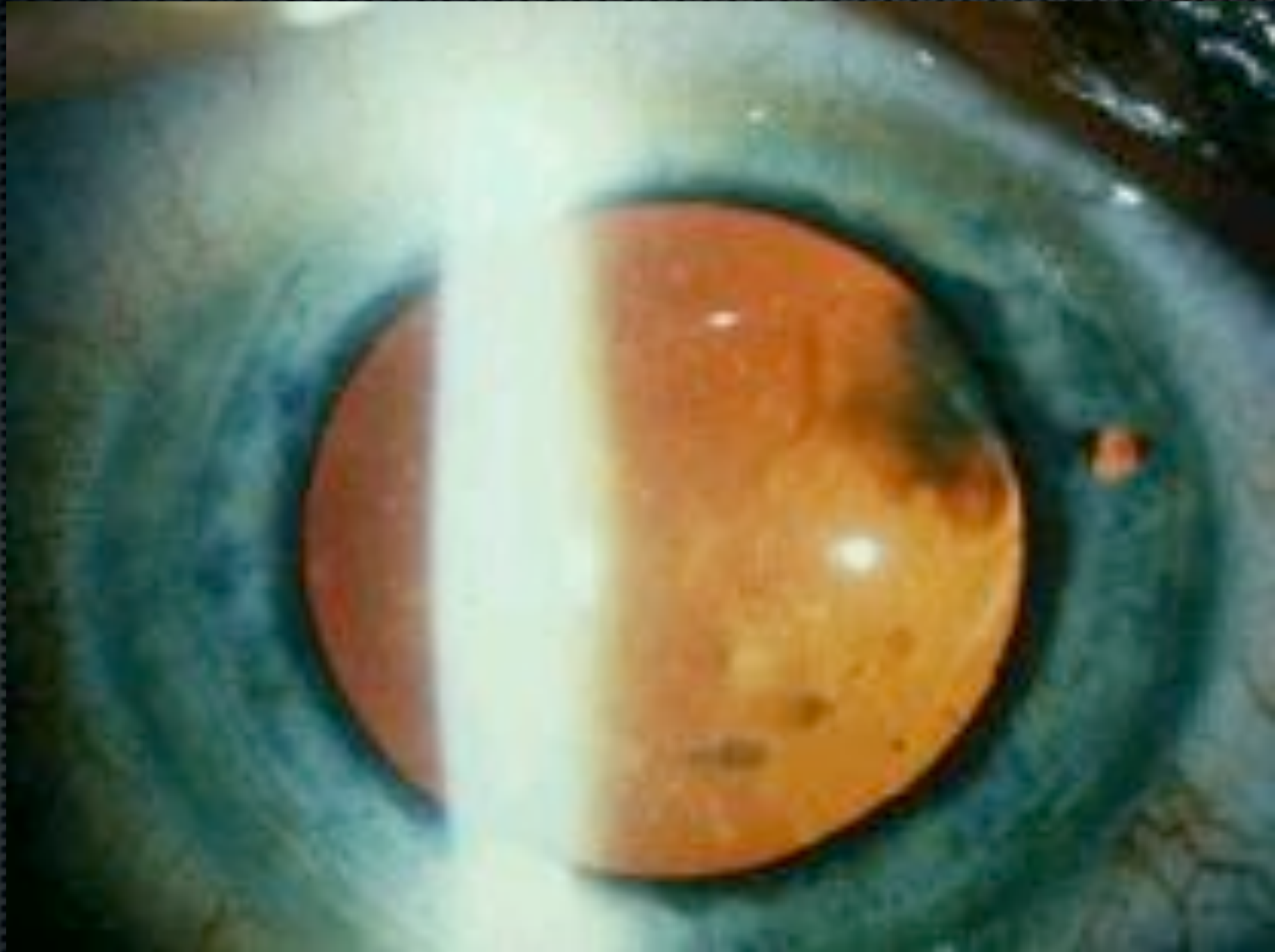
Trauma



Trauma



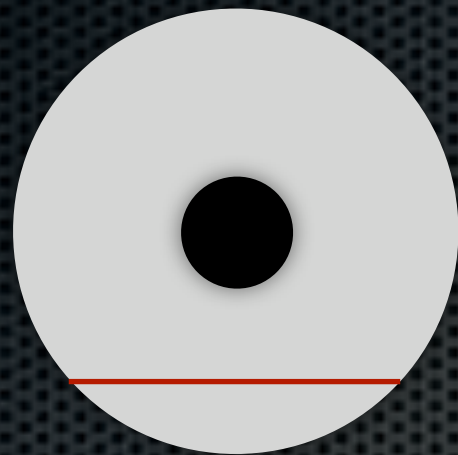
Trauma



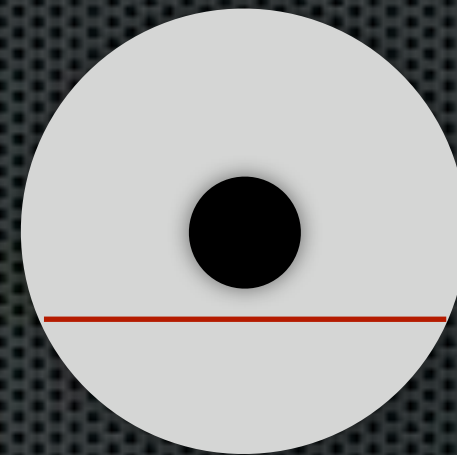
Trauma



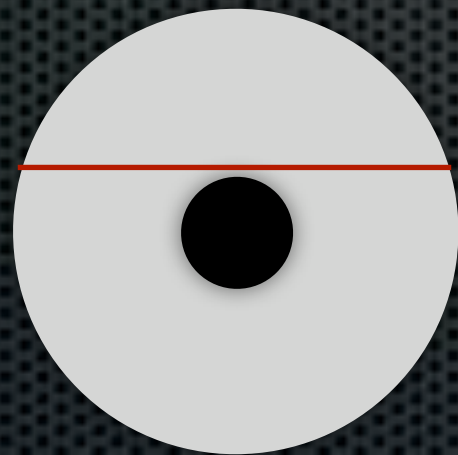
Hypphaema Grading



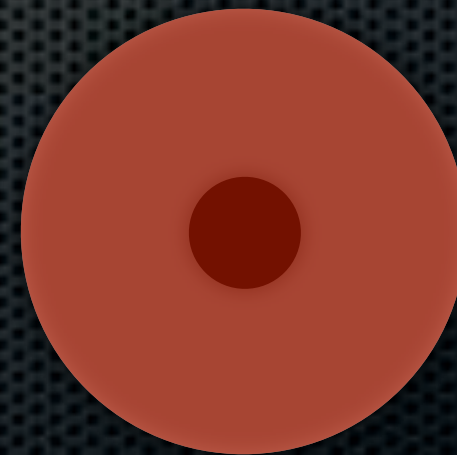
I: $<1/3$



II: $1/3-1/2$



III: $>1/2$



IV: full

Sub-conjunctival haemorrhage

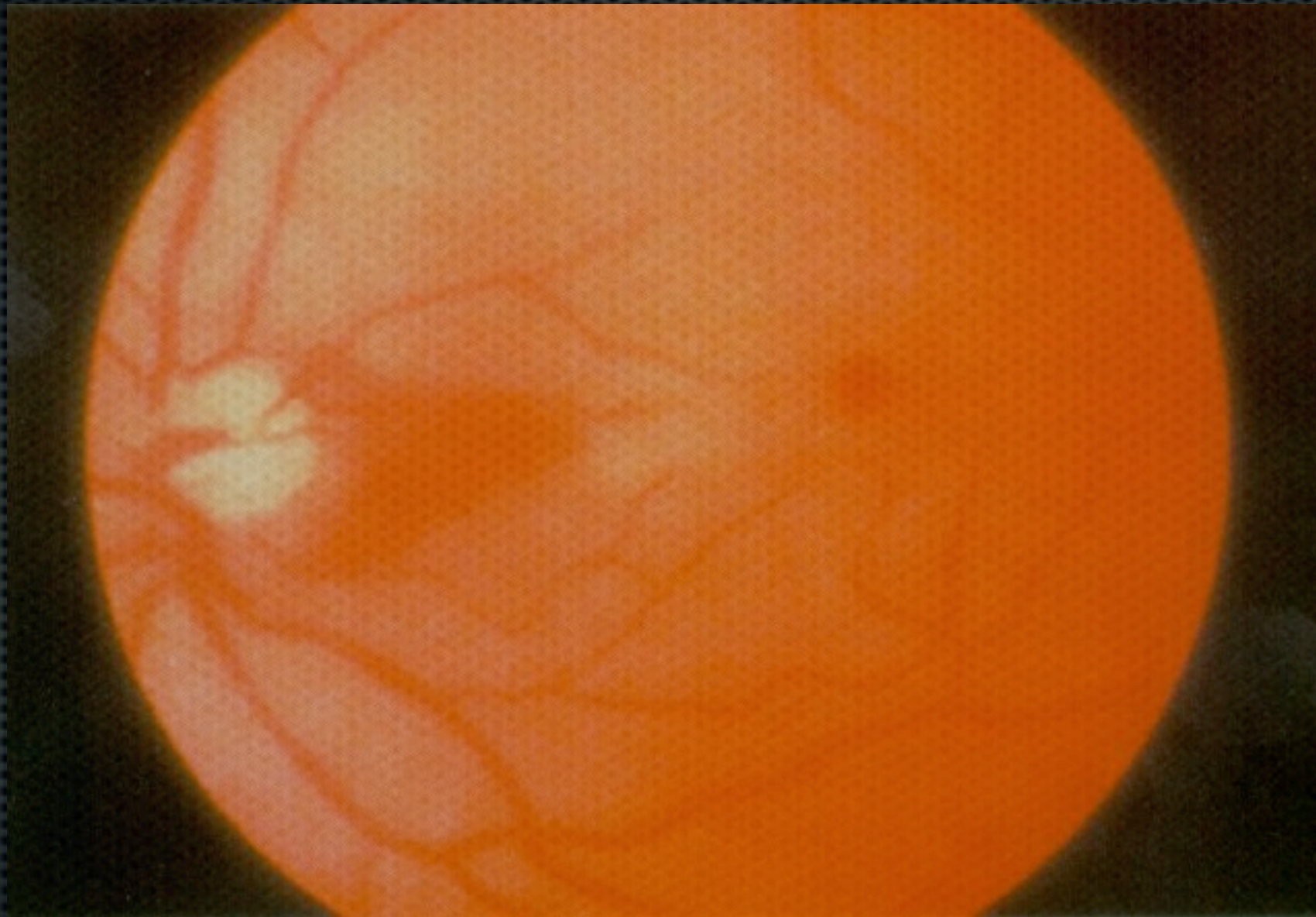
- ✦ Common
- ✦ May occur spontaneously or after minimal trauma eg rubbing eyes
- ✦ Can occur in hypertension, with warfarin-so check!
- ✦ Can't see back in fracture of zygomatic complex
- ✦ Reassure ++, NO Rx required



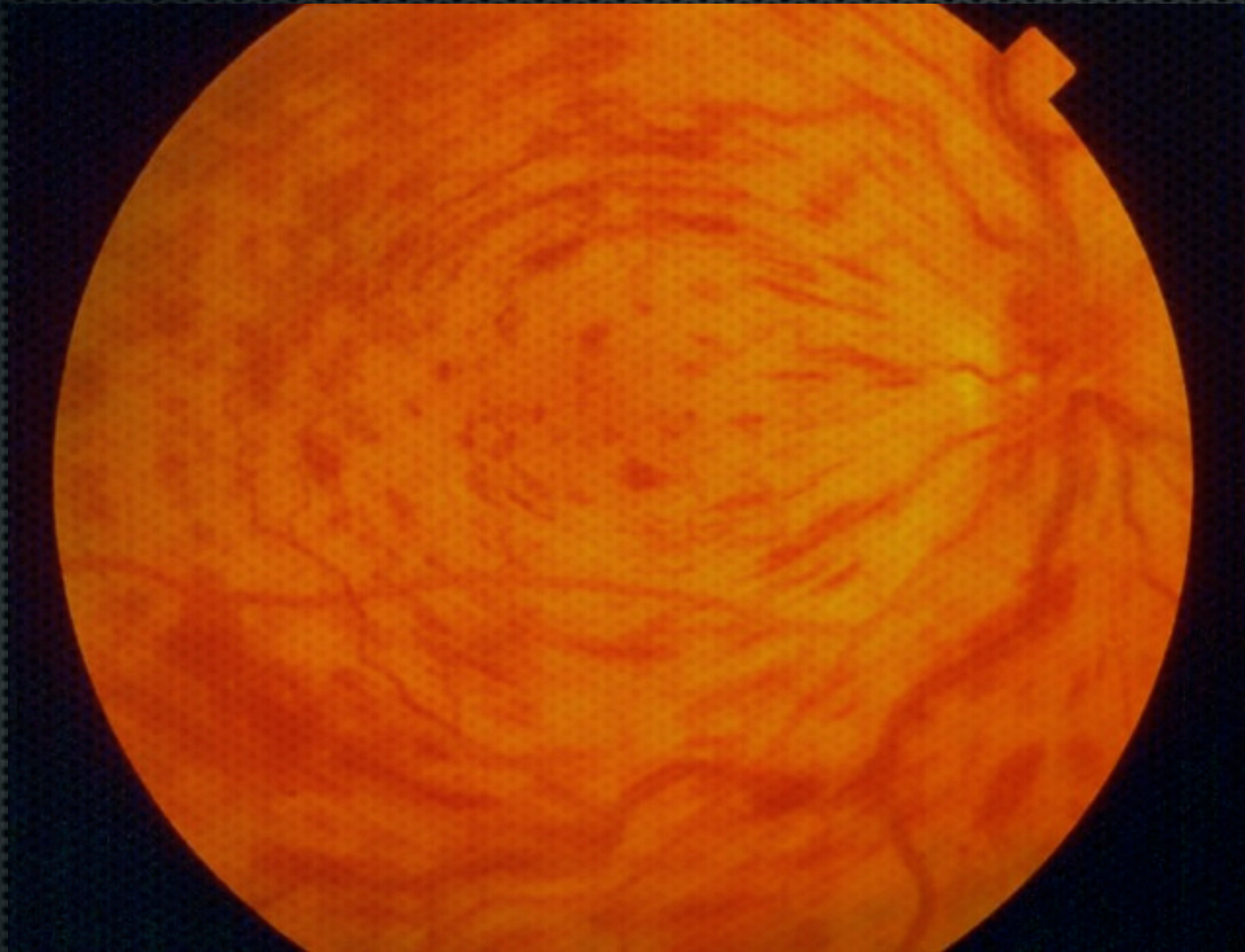
Sudden Visual Loss

- Central Retinal artery thrombosis; fundoscopy
- Central Retinal vein thrombosis; fundoscopy
- Retinal detachment; preceding flashing lights, floaters, more common in short sighted
- Vitreous haemorrhage/ detachment; blobs or floaters, reduced red reflex and can see floaters on fundoscopy
- Disciform macular degeneration-alteration of lines, loss of direct vision, >60yrs
- Retrobulbar neuritis; 20-40yrs, ♀, pain on eye movement, central field loss, could indicate MS
- Refer all these

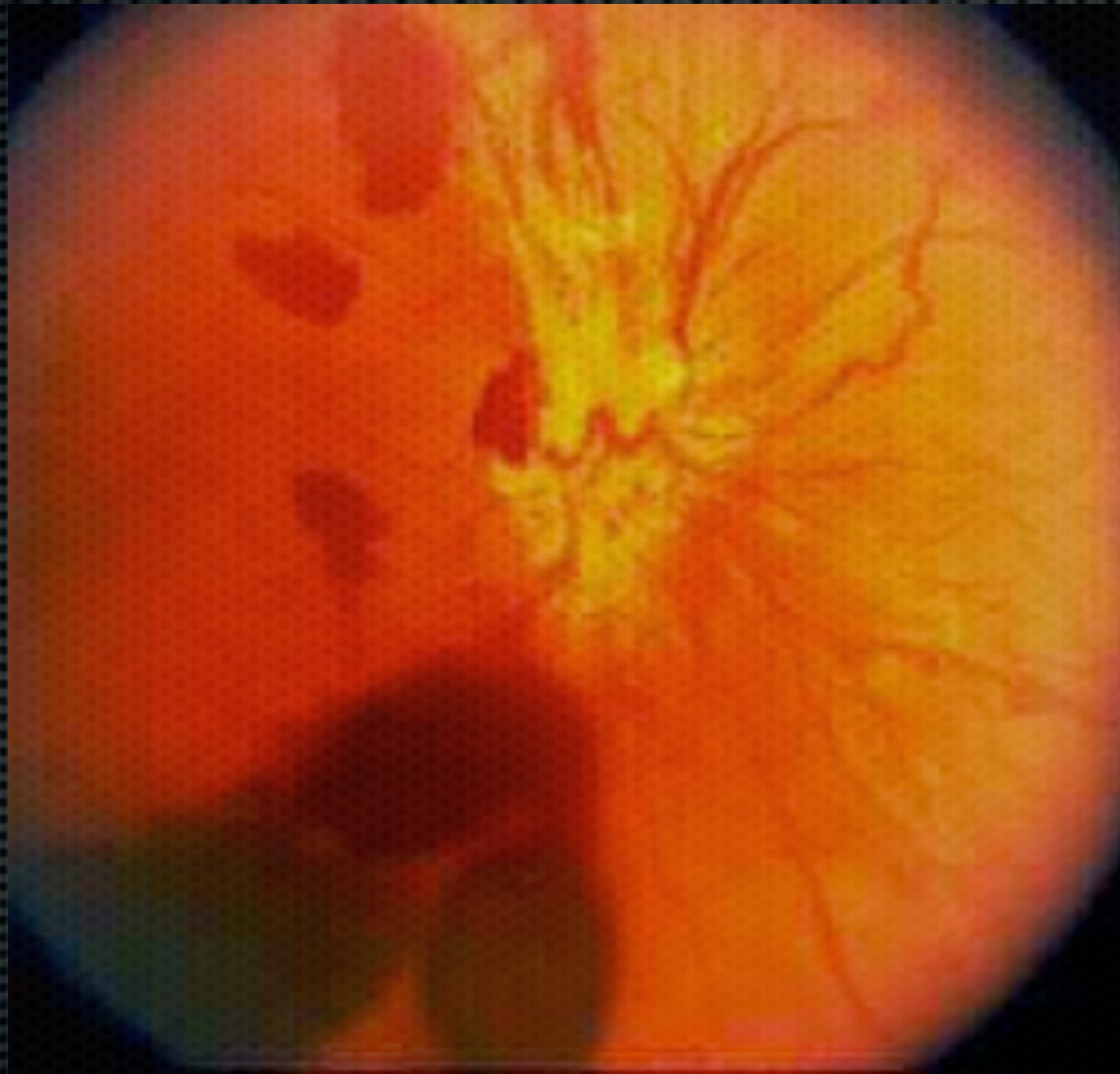
Sudden Visual Loss



Sudden Visual Loss



Sudden Visual Loss



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Sudden Visual Loss

