Triaging Eye Emergencies

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Parts of visual pathway

- Ocular surface
- Anterior segment
- Posterior segment
- Peripheral nervous system (cranial nerves)
- Central nervous system (brain, optic nerve)

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Taking a history

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Other important questions:

- Have you tried artificial tears? Does this improve your vision/symptoms?
- Contact lens use?
- Hx of ocular surgeries? When and what?

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Ocular Surface

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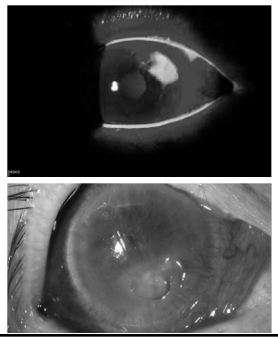
Corneal abrasion vs ulcer

- Look at the slit lamp before staining
- Look for white opacity in stroma
- Size and location of defects determine treatment
- If defect very large, do not stain - ask MD/DO to look first.
- Stain can obscure posterior segment view



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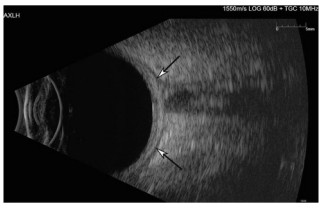
Scleritis

- Exquisite eye tenderness
- May or may not have red eye
- If red eye present, phenylephrine (dil drop) will not do much to improve the red eye
- Needs systemic immunosuppression (steroid), topical insufficient
- Work-up: rule out autoimmune diseases, B-scan for T-sign
- Consequence: permanent vision loss, scleral thinning/perforation



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Anterior Chamber

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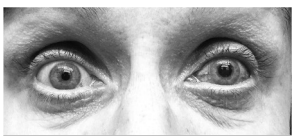
Angle closure

- Brow/facial pain/nausea/vomiting
- Usually over the course of hours
- Red eye
- Blurry vision
- Unilateral
- Do not dilate
- If Tonopen says Err, pressure > 45-50. Can palpate globe with eyelids closed for subjective assessment.
- Typically requires numerous glaucoma meds and possibly acute LPI



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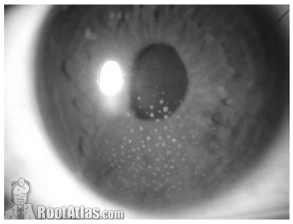
Anterior uveitis



- Pain
- Redness (except in kids with JIA)
- Blurry vision
- Sensitivity to light
- Irregular pupil
- Keratic precipitates
- Do not put fluorescein on the eye – creates false flare

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Hyphema

- Usually follows trauma
- If parent calls and kid was hit in eye, should be seen
- Not always very symptomatic
- Sensitivity to light, irregular pupil
- Tx: pred drops, cycloplegia
- Follow-up daily for at least 5 days
- Ask about sickle cell
- Consequences: high IOP (glaucoma), anterior chamber scarring (synechiae, angle closure)

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Posterior Segment

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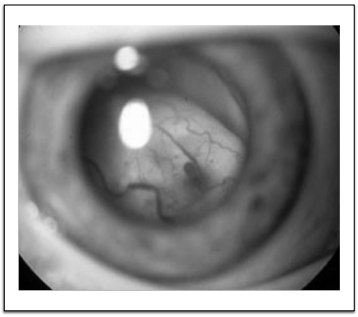
Retinal tear/detachment

- Flashes of light in the same spot
- A bunch of NEW floaters
- Enlarging blind-spot in peripheral vision, "like a curtain"
- Risk factors: myopia, recent surgery or laser, trauma



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Transient vision loss/obscuration

- Migraine with aura
- Retinal migraine
- Transient ischemic attack (stroke)
- Increased intracranial pressure (papilledema)

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What is a typical migraine?

- Transient dysregulation of blood vessels
- Blood vessels do not have sensory nerves, but the meninges does
- Tickles meninges, causes pain in migraine
- Change in blood flow in different parts of brain causes the visual aura – bilateral visual symptoms
- Retinal migraine: vascular dysregulation in retina—unilateral, short bouts of vision loss/changes. Usually not the answer, diagnosis of exclusion

https://images.ctfassets.net/u4vv676b8z52/5MSax5Ov13kPKRGxJH0jy4/f8b3e54d9bdbe8665ed4f7e9d8d53697/ocular-migraine-678x450.jpg?fm=jpg&q=80

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How to tell the difference? (one is an emergency, one is not)

Amaurosis Fugax/Other ischemic cause	**Migraine with aura**
Abrupt onset, < 5 minutes, > 60 min minutes	Between 5 and 60 minutes, often evolves, with headache
"Negative" visual symptoms	History of migraines in young adulthood/adulthood
	"Positive" visual symptoms

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Papilledema

- Refers to high intracranial pressure
- Causes swelling of the optic nerves
- When the optic disc looks swollen, this is papilledema
- Often worse when lying down or during Valsalva maneuvers
- This can be an emergency, may indicate intracranial tumors or idiopathic intracranial hypertension (mainly seen in young-middle aged women)

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Neurologic

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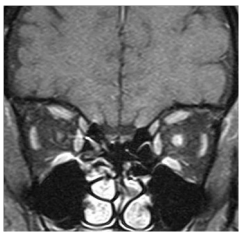
Blurry vision, pain with eye movements Consider optic neuritis

- Do not dilate these patients without checking closely for APD.
- Check color vision (Ishihara, pseudisochromatic plates)
- Can be helpful to have MD/DO look at APD to quantify it
- Numerous causes, ranging from autoimmune to infection
- Needs an MRI orbit/brain with contrast
- Often admitted for 3 days of IV steroids, although high dose oral steroids can also be given



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Diplopia (double vision)

- Numerous causes:

Monocular	Binocular
Ocular surface (dry eye)	Strabismus (cranial nerve palsies)
Ocular media (cataract)	

- Ask if improved with artificial tears
- If binocular and new, the patient should be seen

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Questions?

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