URGENT/EMERGENT

When to Refer

Financial Disclosure

Speaker, Amy Eston, M.D. has a financial interest/agreement or affiliation with Lansing Ophthalmology, where she is employed as a ophthalmologist.

58 yr old WF with 6 month history of decreased vision left eye.

Ache behind the left eye for 2-3 months.

Using husband's contact lens solution made it feel better.

Seen by two eye care professionals. Given glasses & told eye exam was normal.

No past ocular history

Medical history of depression

Takes only aspirin and vitamins

20/20 OD
20/30 OS

Eye Pressure
15 OD 16 OS – normal

Dilated fundus exam & slit lamp were normal

Pupillary exam was normal

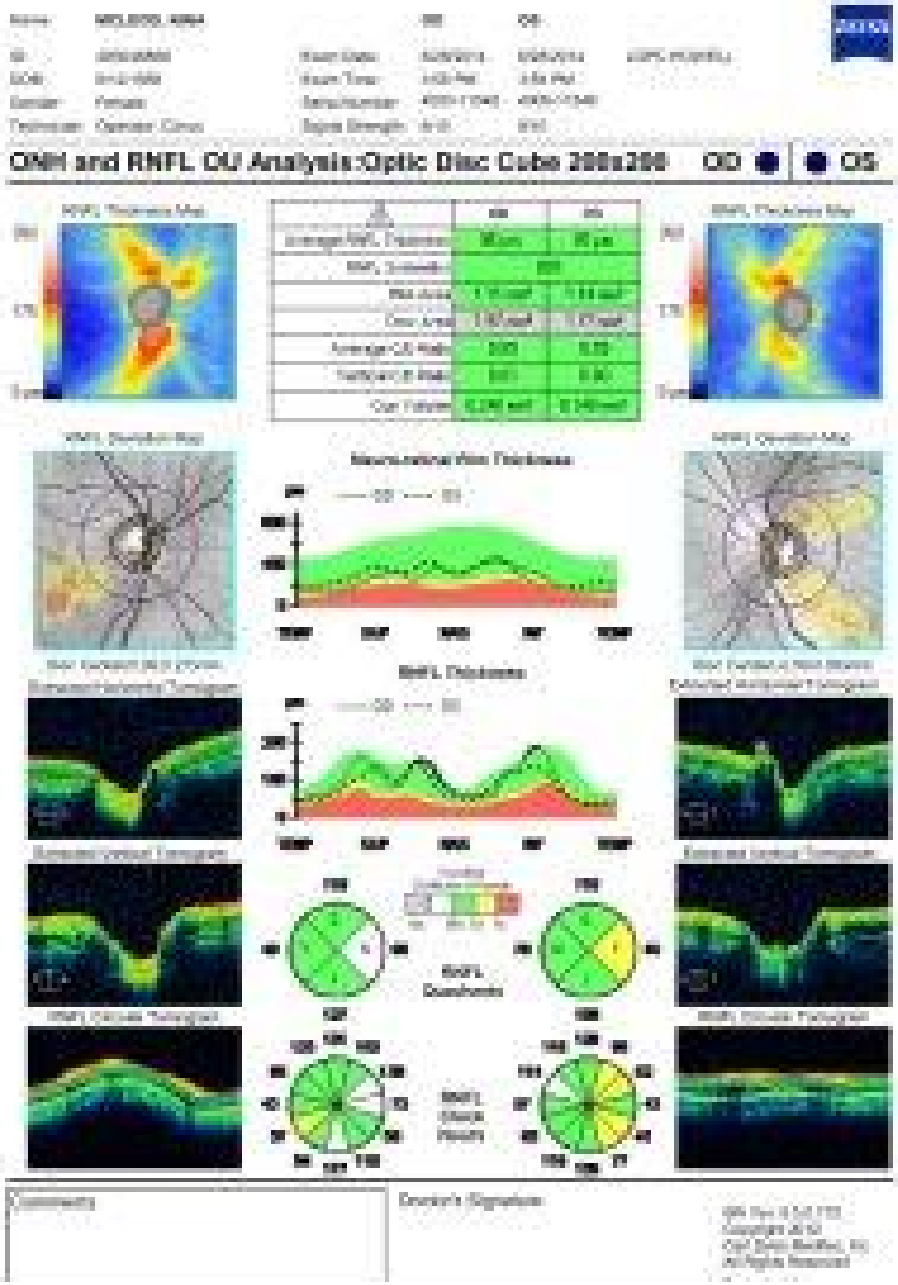
Extraocular movements were full

Confrontation visual fields were full

No red desaturation

Color vision was slightly decreased but the same in both eyes

Amsler grid testing was normal


ONH and RNFL OU Analysis:Optic Disc Cube 200x200
OD
OS

OCT disc – OD normal
OS slight decreased RNFL

OCT of the macula was normal

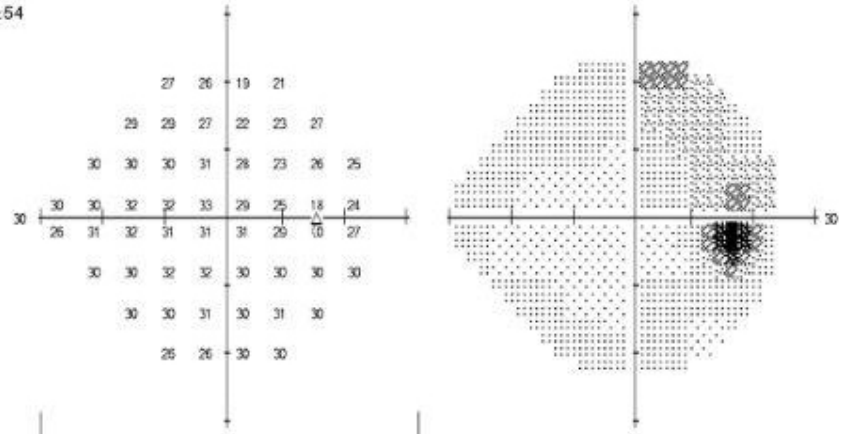
Most common diagnoses:

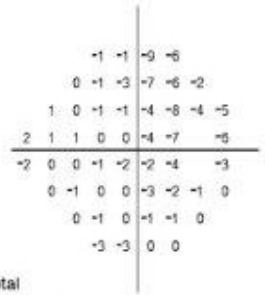
Dry Eye
Optic Neuritis

Central 24-2 Threshold Test

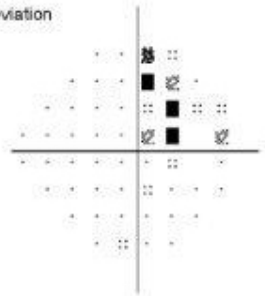
Fixation Monitor: Gaze/Blindspot	Stimulus: III, White	Pupil Diameter: 4.6 mm	Date: 10-01-2014
Fixation Target: Central	Background: 31.5 ASB	Visual Acuity:	Time: 1:53 PM
Fixation Losses: 1/10	Strategy: SITA-Fast	RX: +2.00 DS DC X	Age: 56
False POS Errors: 0 %			
False NEG Errors: 0 %			
Test Duration: 02:54			

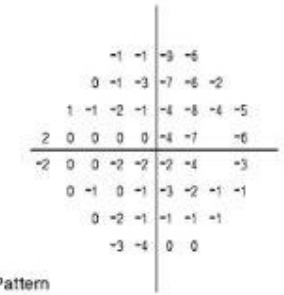
Fovea: OFF



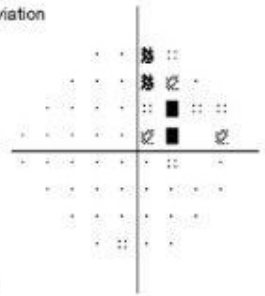


Total Deviation





Pattern Deviation



GHT
Borderline

MD -1.74 dB P < 10%
PSD 2.39 dB P < 2%

:: < 5%
∅ < 2%
▒ < 1%
■ < 0.5%

LANSING OPHTHALMOLOGY- H
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GOOD COOP AND FIX

Central 24-2 Threshold Test

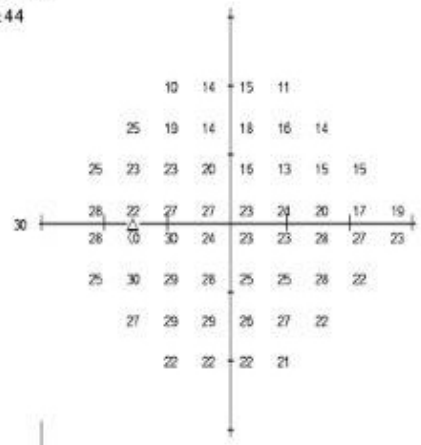
Fixation Monitor: Gaze/Blindspot
Fixation Target: Central
Fixation Losses: 3/11 xx
False POS Errors: 4 %
False NEG Errors: 12 %
Test Duration: 03:44

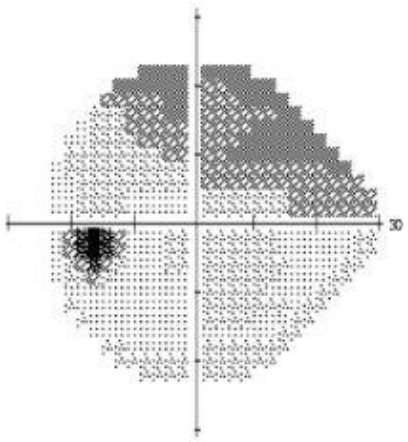
Fovea: OFF

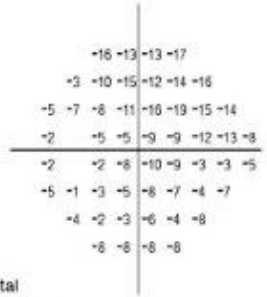
Stimulus: III, White
Background: 31.5 ASB
Strategy: SITA-Fast

Pupil Diameter: 4.8 mm
Visual Acuity:
RX: +2.50 DS DC X

Date: 10-01-2014
Time: 1:58 PM
Age: 56







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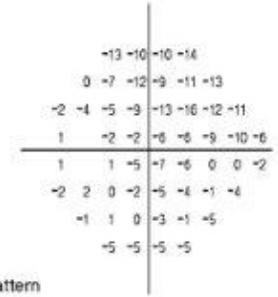
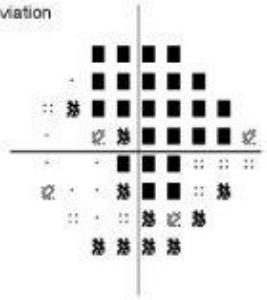
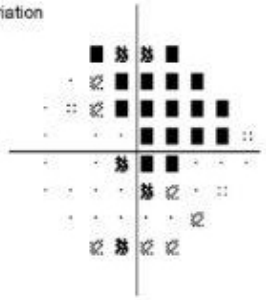


Pattern Deviation

*** Low Test Reliability ***
GHT
Outside normal limits

MD -8.28 dB P < 0.5%
PSD 4.73 dB P < 0.5%





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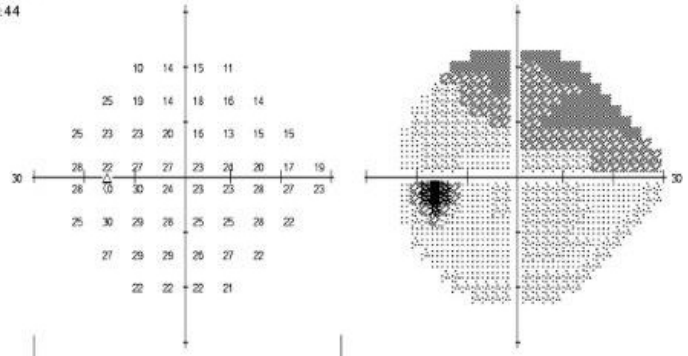

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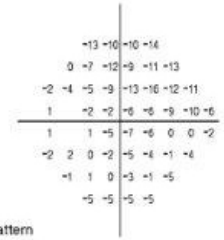
Pattern Deviation



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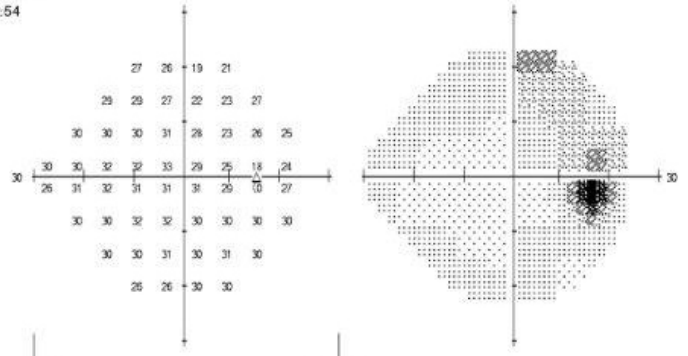

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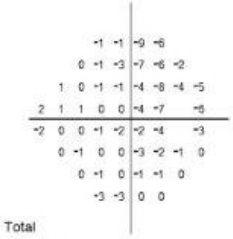

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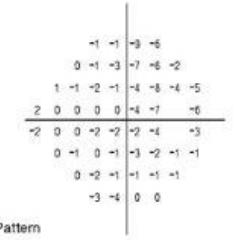

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GOOD COOP AND FIX

Treatment - copious amount of artificial tears.

Return to recheck refraction

Visual field testing

Visual Field testing -

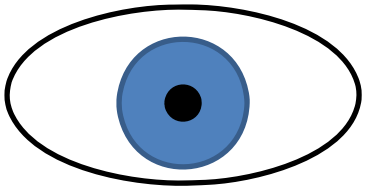
Small defect in the right eye

Large nasal defect in the left eye

Visual Field - Right Hemianopsia.

MRI which showed a subacute parietal and occipital lobe infarct.

ANISOCoRIA

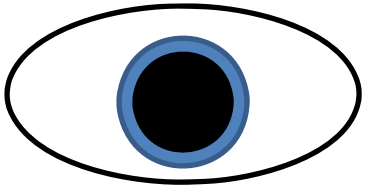


Size of the Pupil

Constrictor muscles innervated by the Parasympathetic system

&

Dilating muscles innervated by the Sympathetic system

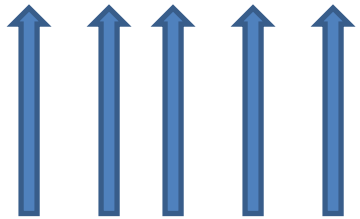


The Sympathetic System

Begins in the hypothalamus,
travels through the brainstem.

Then through the upper chest,
up through the neck and to the eye.

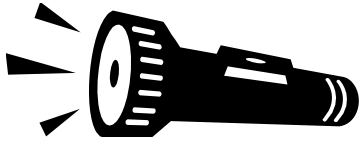
The Sympathetic System innervates Mueller's muscle which helps to elevate the upper eyelid.



WHICH IS THE ABNORMAL PUPIL?

It’s not always the larger one.

Measure the difference in size in bright light.



Measure the difference in dim light.

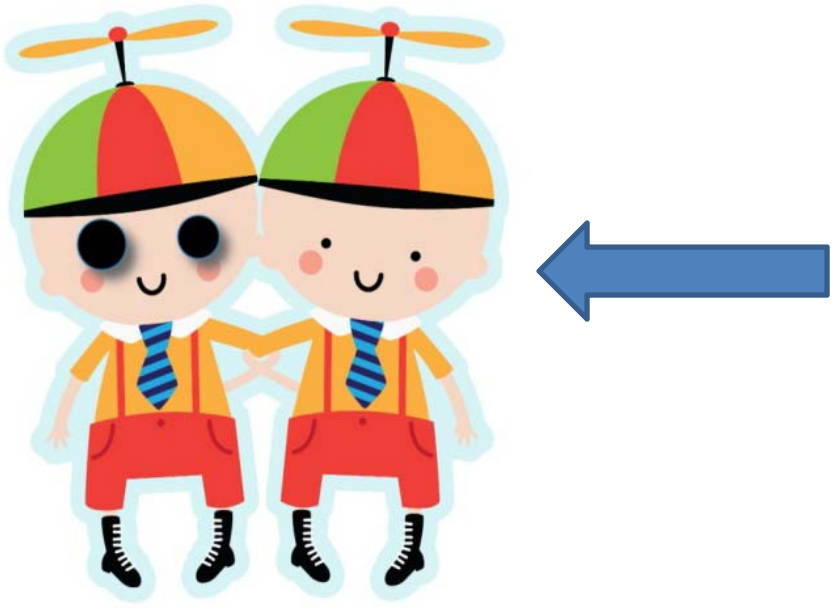
If the difference in size is greater
in bright light,
then the larger pupil is abnormal.

If the difference in size in greater in dim light, then the smaller pupil is abnormal.

If the difference in size is the same in bright light or dim light, then it is Physiologic anisocoria.

Physiologic anisocoria is common and can be seen in up to 20% of the population.

ABNORMAL
MIOTIC PUPIL



Horner’s Syndrome

Anhidrosis or decreased sweating to that side of face.

In infants, there is less flushing on that side of the face.

Horner's Syndrome involving
1st order neurons – hypothalamus.

Stroke
Tumor

More likely associated with
other symptoms.

Isolated Horner's Syndrome

Think neck & upper chest

The Sympathetic Chain can be damaged as it travels across the chest and up the neck along the carotid artery.

Apical lung tumor – Pancoast tumor

Carotid artery dissection

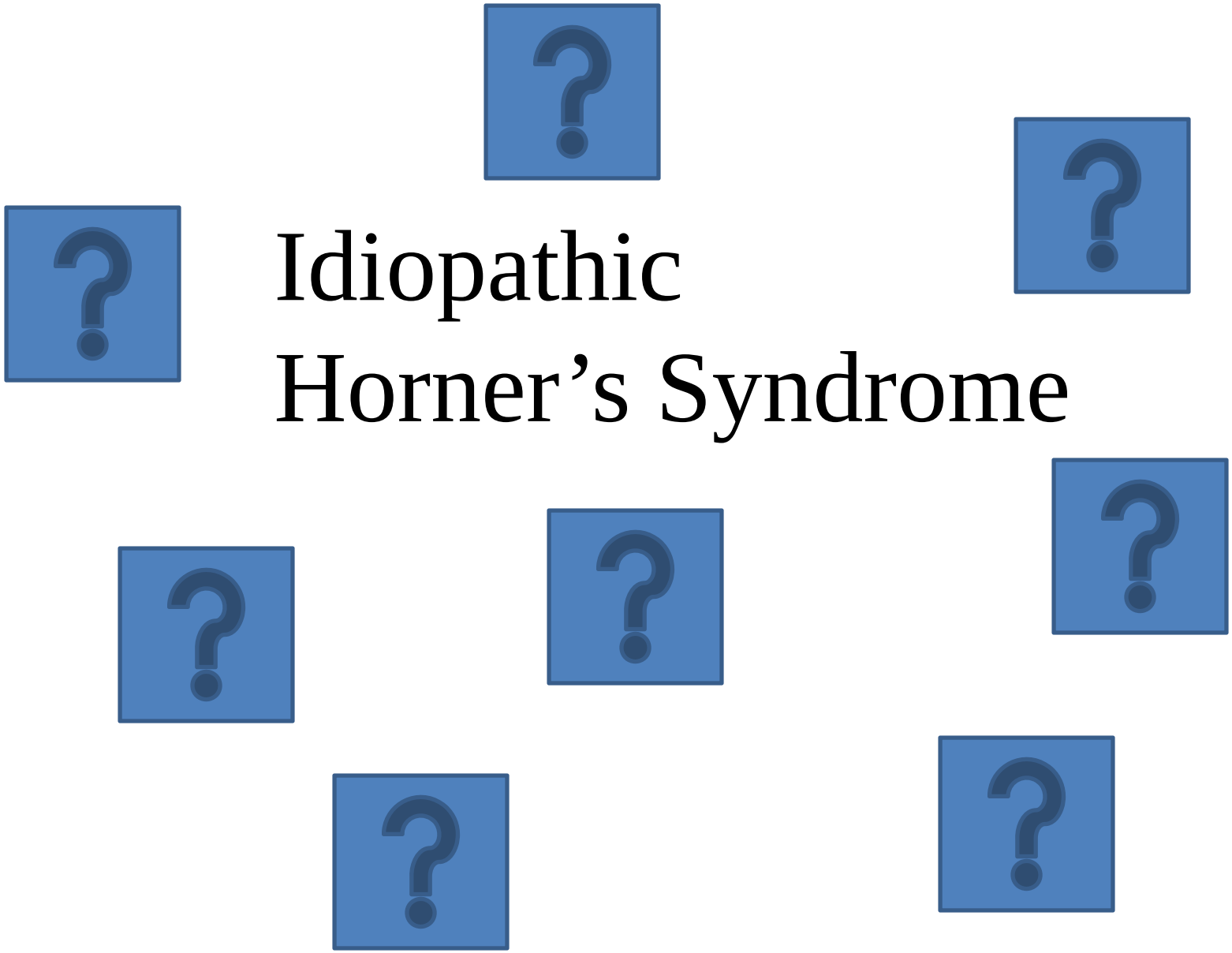
Seat belt injury

Horner’s Syndrome in Infants

Neck & shoulder injury during delivery

Neuroblastoma

Defect of aorta



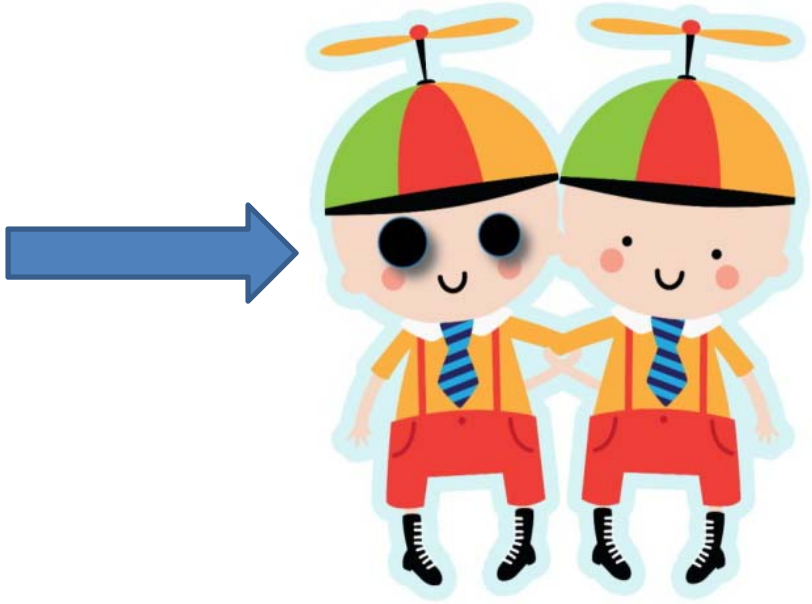
Idiopathic Horner’s Syndrome

Iritis is often associated with miotic pupil.

But……

is also associated with pain, decreased vision, redness and photophobia.

ABNORMAL DILATED PUPIL



ASK…

Eye surgery, trauma or eye disease

Using any eye drops?

OTC “red out” or allergy drops can dilate the pupil.

OTC nasal sprays containing neosynephrine.

If any of the spray gets on the finger and the eye is touched the pupil can dilate.

Emergent conditions presenting with a dilated pupil are usually associated with other symptoms.

3rd nerve palsy

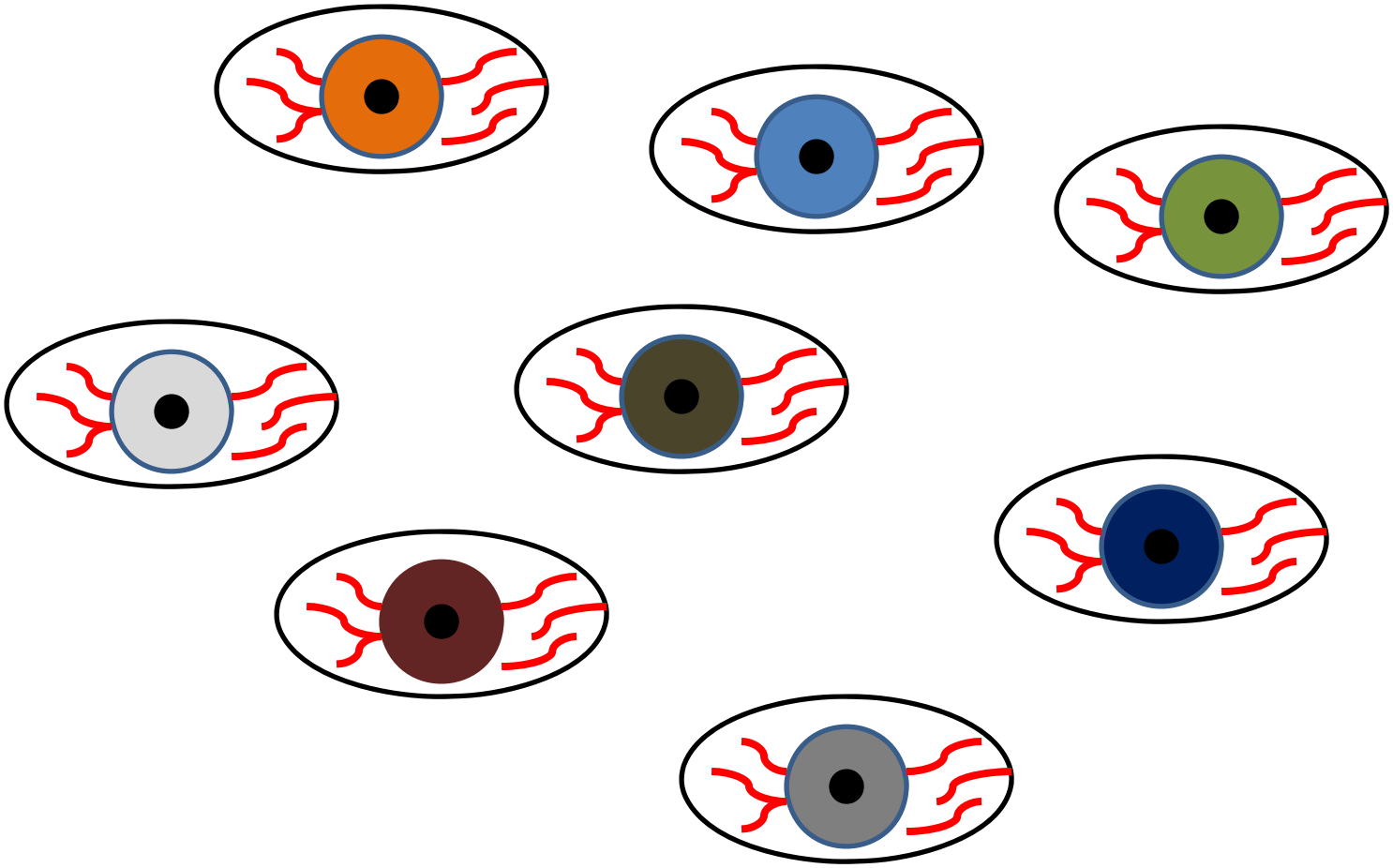
Dilated pupil
Ipsilateral ptosis
Double vision.
The eye is “down & out”

Possible Aneurysm – needs immediate evaluation.

Acute Angle Closure Glaucoma

Mid-dilated pupil
Redness
Steamy cornea
Decreased vision
Pain
Nausea

MY RED EYE WON'T GO AWAY!!



This often means that you are
treating the symptom,
not the cause.

History

Photophobia

Itching

Contact lens wear

Medications

Exam

Location of injection

Cornea

Discharge

Lids

Common causes of recurrent or treatment resistant red eyes.

Blepharitis
Meibomian Gland Dysfunction
Trichiasis
Ectropion – chronic exposure
Entropion – can you see the lashes of the lower lid?

Dry Eye

Corneal ulcer – contact lens wear

Marginal ulcer associated with blepharitis.
Need to treat lids

Inflammation

Iritis – ciliary flush, photophobia

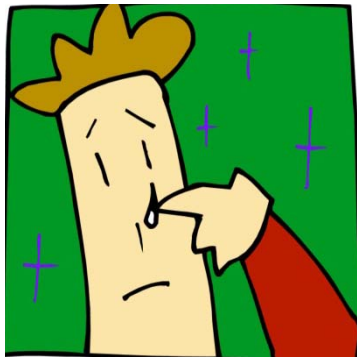
Episcleritis – localized injection, often tender to touch

Allergic conjunctivitis

itchy

watery

bilateral



Infective

Bacterial conjunctivitis – thick discharge
crusting

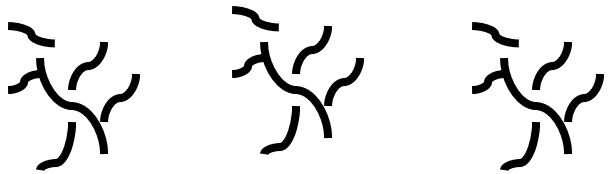
Viral conjunctivitis – watery discharge

Hygiene
Treat itching with antihistamine drops.
Steroid drops for chronic symptoms.
Antibiotics if secondary bacterial infection.

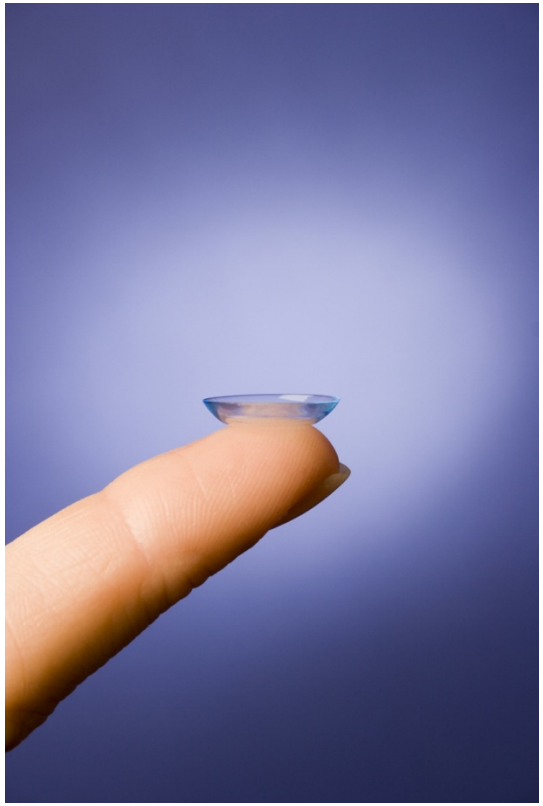
HSV keratoconjunctivitis
Not all HSV is a dendrite

Think HSV with unusual looking epithelial defects or an epithelial defect that is poorly responding to the usual treatment.

??Has the patient been on steroids??

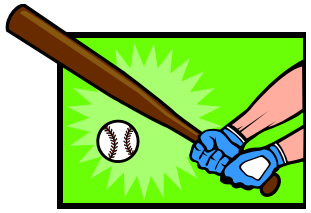


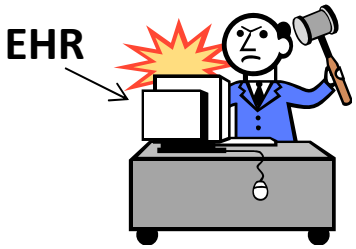
Contact lens wear/abuse



Need I say more?

INJURY





Hyphema – suspect with any blunt injury

If have slit lamp check inferior angle and inferior corneal endothelium for micro hyphema or layering on endothelium

Check eye pressure

Bed rest, head elevated, dilate, topical steroids

Increased risk of rebleed in first 5 days. Second bleed can be worse

Injury with wire or branch

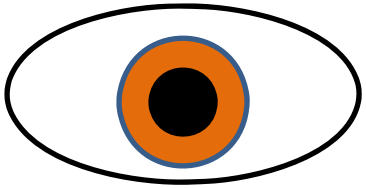
Large caliber - abrasion, traumatic iritis, hyphema

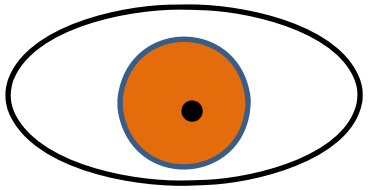
Small caliber - possible ocular penetration

Did it spring back and hit the eye??

Check pupil

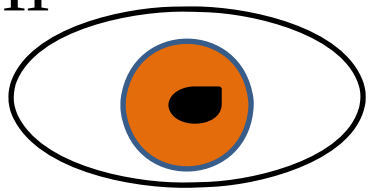
Traumatic mydriasis – large





Traumatic iritis – small

Ruptured globe - peaked pupil



Chemical Burns

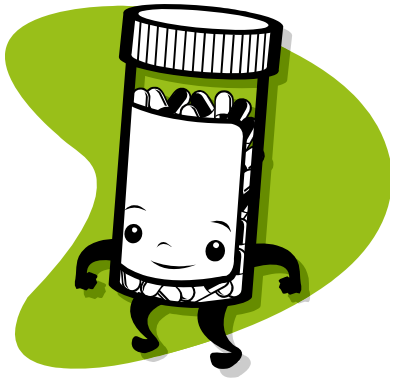
Acid – superficial

Alkali – penetrating

Irrigate until neutral pH

Treat with antibiotic if associated with epithelial defect. Can use symptomatic treatment with topical NSAID and artificial tears if inflammation only.

COMMON SYSTEMIC MEDICATIONS WITH OPHTHALMIC SIDE EFFECTS



Steroids – very common

Steroid induced glaucoma
HSV Keratitis
Cataract

Plaquenil - retinopathy

Alpha blockers such as Flomax

Prevents pupil from dilating
Causes Intraocular Floppy Iris Syndrome during intraocular surgery

No need to stop the medication
Ophthalmic surgeon just needs to be aware

Anticholinergics for Overactive Bladder

Commonly associated with dry eye

Chronic dry eye treatment may be needed if patient needs to stay on this medication

Antihistamines – dry eye
angle closure glaucoma

Topamax – acute myopia
angle closure glaucoma

SYSTEMIC DISORDERS THAT SHOULD INCLUDE OPHTHALMIC EVALUATION

Temporal Arteritis

Classic symptoms

pain at temple
jaw claudication
proximal limb weakness

Unusual presentations

Diplopia

Chemosis

Ptosis

CRP & ESR. TA biopsy.
Treat with oral steroids
Treatment can take years and taper is slow

Need to check eye pressure
&
monitor for cataracts

Chemotherapy and chronic inflammatory conditions associated with long term or high dose steroid treatment

Need to check eye pressure
&
monitor for cataracts

THANK YOU FOR YOU FOR COMING