

# What Do I Do Now ?



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During the class - you will see appear on the screen.



Look Before you Leap



Answer the question on your sheet... and then sit back and see what happens. Make sure you look both ways before you leap 😊

# Telephone Call



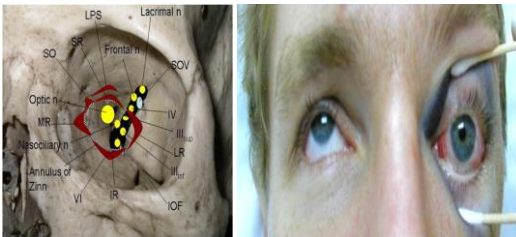
22 year-old male calling with diplopia x (3) days.



What (3) questions are you going to ask the patient and your logic for each ?!

What do you think is wrong with the patient?

# Blow Out Fracture With Inferior Rectus Entrapment



lifeinthefastlane.com

The patient is now in your room. He is a SDA.



- \* What are you going to do for your exam ?
- \* What (3) "things" are you going to pay close attention for ?

1. Hyphema

2. Abrasion/Laceration

3. Elevated IOP

Damage to optic nerve Pressure inside eye

jax.shands.org

A blow-out fracture may result in cases of trauma to the eye by any object >5cm in size.

The force of blunt trauma is reflected back, compressing the eye and creating a tremendous increase in pressure within the orbit.

Blow-out fractures are not considered an emergency, but, correct and prompt diagnosis and management is crucial !

lifeinthefastlane.com

Most commonly, the orbital floor (the superior aspect of the maxillary bone) sustains the damage. In cases of floor fractures, the eye muscle may partially drop down into the **maxillary sinus**, causing **enophthalmos** and **entrapment** of the inferior rectus or inferior oblique muscle.

Facial Bones

Frontal bone  
Parietal bone  
Sphenoid bone  
Temporal bone  
Zygomatic bone  
Maxilla  
Mandible

Learnbones.com

**Tests The Doctor Will Do Or Order**

- **Computed tomography (CT scan)** is the procedure of choice because it is better at imaging bone structures of the orbit than plain skull films (X-ray) or MRI. Both axial and coronal scans should be ordered.
- One test that is helpful in differentiating muscle entrapment in orbital fracture from other muscle or nerve complications is the **forced duction test**. Trapped muscles will resist forced movements with a forceps.

Right Left

Superior rectus  
Superior oblique  
Medial rectus  
Inferior oblique  
Inferior rectus  
Lateral rectus

trigem.tumblr.com

**Telephone Call**

Kathy is a 58 y.o. c/o double vision upon awakening. She feels weak and her heart feels like it is racing.

- \* What (3) questions are you going to ask her and your logic for each?
- \* What is the time frame you want her to come to your office ?
- \* Will you question her differently than the man in the last example ? Why ?

pop? quiz

## She Is Now In Your Office

pop?  
quiz

What are you going to pay close attention to during your exam?

Will you dilate her? Will you have the Doctor check her first?



## Diabetic 3<sup>rd</sup> Nerve Palsy

Diplopia can be monocular.

The double vision continues even if the other eye is covered or you look in another direction. Binocular diplopia is caused by a **misalignment of the eyes**, and disappears when one eye is covered

\* Third nerve palsy is a condition involving the **3<sup>rd</sup> cranial nerve (oculomotor nerve)**.



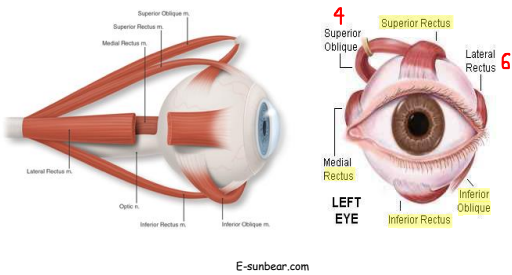
## Pain, Proptosis and Ptosis

Patients can have severe pain with their diplopia. The affected eye tends to move **down and out**, due to an unequal muscle functions. The eye in most cases, cannot move up, down, or in.

\*\* **Check the pupil** to see if it is dilated and no reaction.



Patients that have **no pupil** involvement, and whose 3rd nerve palsy is due to complications of diabetes or high blood pressure, may see their symptoms actually resolve within (3) to (6) months of onset.



## Telephone Call



68 y.o male calls in complaining that he has a sudden loss of vision. After talking with him, he states it has been more like 2- 3 wks. His OS only. Sees good out of the OD.

- What could this be ?
- Any other questions could you ask to get a better grip on the problem?

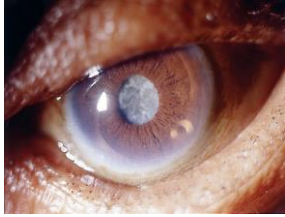
pop?  
quiz

## Assumption: Mature Cataract

What are you going to do for the exam ?

- 1.
- 2.
- 3.
- 4.
- 5.

Pop?  
quiz



## Walk In

Harold was out playing golf and noticed that he had a sudden loss of vision in his OD.



Pop?  
quiz

Do you need to see him today...he wants to get home before traffic gets bad. What exam will you do?

What exam are you going to do to get him ready?

- a.
- b.
- c.
- d.
- e.
- f. \*\* maybe do this :

Pop?  
quiz

## Sudden Loss Of Vision: CRVO

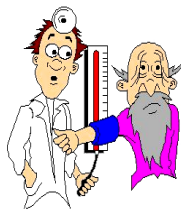
**Central retinal vein occlusion** is a blockage of the central retinal vein by a **thrombus**.

Usually occurs in elderly patients. Symptoms are sudden, painless vision loss.

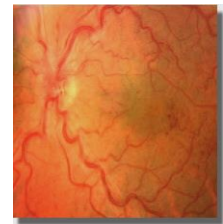


avclinic.com

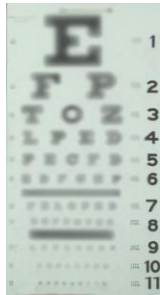
Glaucoma, diabetes, hypertension, and increased blood viscosity can be predisposing factors. The occlusion may also be idiopathic. Very uncommon in young people.



Painless visual loss can be sudden or gradual (over a period of days to weeks). Retinal veins appear distended and tortuous. Fundus appears congested and edematous. Numerous retinal hemorrhages appear.



When normal retinal perfusion is re-established, normal vision may return. The time to vision improvement varies. Patients with poor perfusion are more likely to develop complications and suffer severe vision loss. Visual acuity at presentation is a good indicator of final vision. If visual acuity is at least 20/40, visual acuity will likely remain good. If visual acuity is worse than 20/200, 80% of patients will not improve or will deteriorate.



## Walk In

Stella was out playing golf and noticed that she had a sudden loss of vision in her OD. She is complaining that her hair hurts on the right side.



Pop?  
Quiz

Anything different we do with Stella versus Harold?

## Central Retinal Artery Occlusion



eyecasuilty.co.uk

**Central retinal artery occlusion** occurs when there is blockage of the CRA usually by an

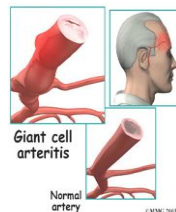


U of Iowa 2004

**embolism.** **Symptoms:** sudden, painless, unilateral blindness. **Diagnosis:** is by history and dilated exam. Decreasing intraocular pressure is attempted within the first 24 hrs of occlusion

The emboli can be caused by:

- \* atherosclerosis
- \* endocarditis
- \* fat emboli
- \*\*\* **Temporal Arteritis (Giant Cell Arteritis)** needs to be ruled out



Giant cell arteritis

GCA causes inflammation of the large or mid-sized arteries, especially in the temple area, resulting in narrowing or blockage. Diagnosis is by taking a temporal artery biopsy to check to see if inflammatory blood cells have invaded artery walls. Also: check an ESR .

Adam.com

## Findings

- The pupil may respond poorly to direct light but constricts briskly on consensual check.
- Fundus shows a pale, opaque fundus with a red fovea (cherry-red spot). Arteries are attenuated and appear bloodless.
- An emboli may be seen.

pop?  
quiz

## Erythrocyte Sed Rate: Biernacki Reaction

- An easy, inexpensive, **nonspecific test** to help diagnose conditions associated with acute and chronic inflammation, including infections, cancers, and autoimmune diseases. **ESR is said to be nonspecific because increases do not tell the doctor where the inflammation is in your body or what is causing it, and also because it can be affected by other conditions besides inflammation.** Because of this, ESR is typically used in conjunction with a biopsy.

Helpful in diagnosing two specific inflammatory diseases: **temporal arteritis** and **polymyalgia rheumatica**.

The rate at which red blood cells precipitate in 1 hour.  
To perform the test, anticoagulated blood is placed in an upright **Westergren** tube.  
The rate at which the red blood cells fall is measured and reported.



- The widely used rule for calculating normal maximum ESR values in adults (98% confidence limit) is given by a formula devised in 1933.

$$\text{ESR} = \frac{\text{Age (years)} + 10 \text{ (if female)}}{2}$$

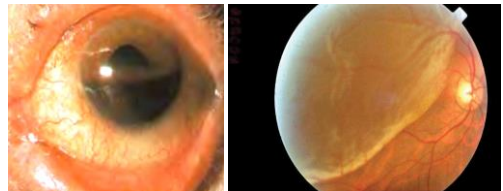
## Call In



19 y.o. college student right in the middle of finals has suddenly lost  $\frac{1}{2}$  her vision.

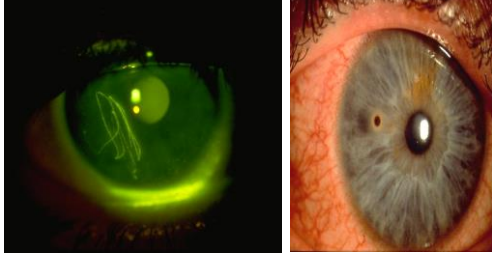
pop?  
quiz

What do you think it could be?  
Give me (2) questions you might ask.



Cehjournal.com

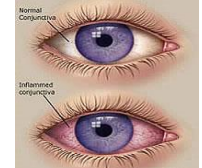
## Walk In :Something Is In My Eye



## Walk In : Foreign Body Sensation

Conjunctivitis has a number of different causes, including:

- Viruses
- Bacteria (gonorrhea or chlamydia)
- Irritants: shampoo, smoke and pool chlorine
- \* Allergic : "pink eye"

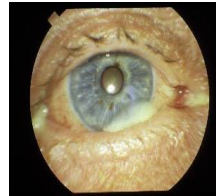


## Symptoms

- Conjunctiva injection
- Increased tears.
- Thick, yellow discharge that crusts over the eyelashes, especially after sleep.
- Green or white discharge from the eye.
- Itchy eyes.
- Burning eyes.
- Blurred vision.
- Photophobia.

## Bacterial

- \* Caused by bacteria, including STDs
- \* Treated with antibiotics (drops, ointments, or pills).



cabtsounds.net

## Chlamydia

### Chlamydial (inclusion) conjunctivitis

typically affects sexually active teens and young adults. It is the most frequent infectious cause of neonatal conjunctivitis in the U.S.

The Centers for Disease Control (CDC) sees chlamydia as one of the major sexually transmitted pathogens - estimating approximately three million new cases per year.



en.wikipedia.org

Women seem to be more susceptible than men. The incidence of infection seems to be directly related to sexual activity and geography (urban populations)

The incidence in pregnant women overall is 4 to 10 percent.



## Signs & Symptoms

\* Eye infection persisting over three weeks despite treatment with topical antibiotics.

- conjunctival injection
- superficial punctate keratitis
- superior corneal pannus
- peripheral subepithelial infiltrates
- iritis
- follicles (most dense in the inferior cul-de-sac)
- mucopurulent, stringy or mucus discharge
- **Palpable preauricular node**



Jordan H. Orent, MD  
JHO 1/2016 2/16

## Virus

This type of conjunctivitis often results from the viruses that cause a common cold.

It will run its course usually lasts from 4 to 7 days.



## Irritants

Irrigate the substance from the eye for (5) minutes.

Eyes should begin to improve within (4) hours after irrigating.

If the irritant is acid, alkaline material, bleach...  
...needs to be seen ASAP



## Call In



Nursing home call stating that a patient is complaining of something in their eye. She has a rash on her face as well. Not feeling well.

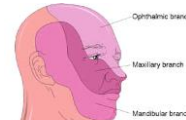
pop?  
quiz

Do we see her today or 2-3d?

What might this be?  
Is she contagious?

## Herpes Zoster

- Affects **trigeminal nerve (Cr. V)**
  - **Shingles** (viral disease). Painful skin rash with blisters
- The **initial infection** is **varicella zoster virus (VZV)**, chicken pox virus. Once an episode of chickenpox has resolved, the virus is **not** eliminated from the body. It stays dormant, and will re-emerge as shingles.



Things are not what they seem to be... make sure to **pop?** yourself with every **quiz** patient because there is no crystal ball to look into to see what the patient really needs - or has!

