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Financial Disclosure Slide

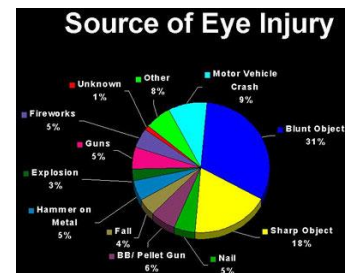
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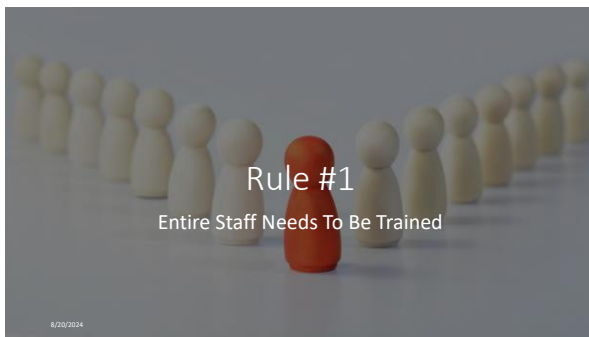
2



3



4



5



3 Things to always remember

- Everyone must be trained in emergencies! ...training
- Must know who to contact! ...too late to look it up ...post it
- There is NO SUCH THING AS A ROUTINE PATIENT until the exam is complete

6

What is an Ocular Emergency?

Get help from the audience

Hasner Value:
Prevents things from coming up from the nose to the eye



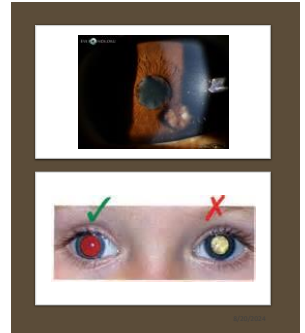
Is this a real picture or a fake one?

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Types of Emergencies

- Non-traumatic
 - Infectious
 - Orbital cellulitis
 - Abscess
 - Non-infectious
 - Angle closure
 - Neuro/Muscular
- Traumatic
 - Penetrating
 - Blunt force
 - Non-penetrating
 - Hyphema
 - Burns
 - Chemicals
 - Thermal



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Questions

- Who is willing to share a story of an emergency?
- How many of your still patch?
- How many of you have engaged in an emergency?
- How many of you are afraid of emergencies in your office?

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Red Flags from the patient

- Moderate to severe eye pain
- Reduced visual acuity
- Sensitivity to light (photophobia)
- Significant redness of eye
- Foreign body
- Suspected penetrating injury



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Common Situations

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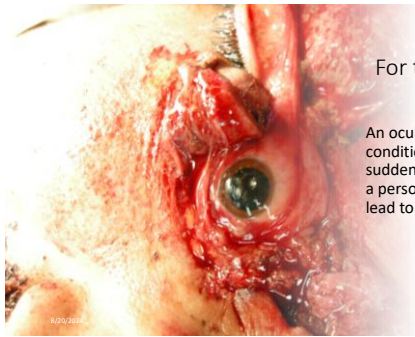
11

Stomach a little sensitive????

Please turn your head or look down about now! Next slide ...Not good!

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For today

An ocular emergency is a condition that can cause a sudden loss of, or decrease in a person's vision that could lead to a permanent condition

Before and after



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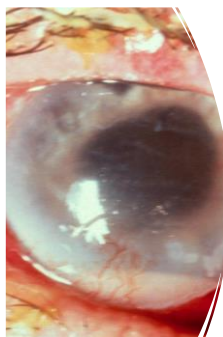
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Lid Lacerations – tear drainage important



15

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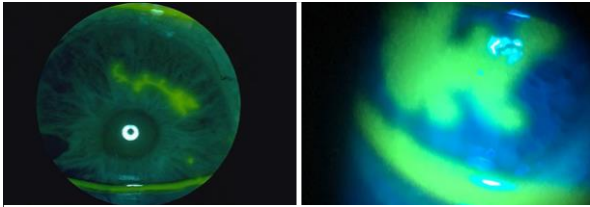
Endophthalmitis

In less than 1 in 1000 cases of cataract surgery, a severe bacterial infection of the eye can occur in the first few days or weeks after the surgery is performed. This infection is called endophthalmitis. If not addressed quickly, it can cause loss of vision or rarely, even loss of the eye. Cataract surgery patients typically receive very powerful antibiotic drops in the first week or two after the surgery to help guard against severe infections postoperatively. If endophthalmitis does occur, additional antibiotics are usually injected into the eye to help clear the infection.

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Slit lamps and Emergency Rooms

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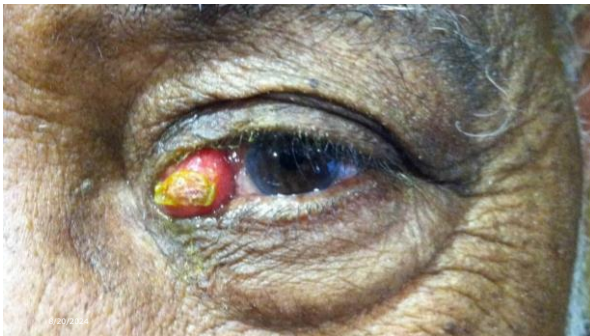
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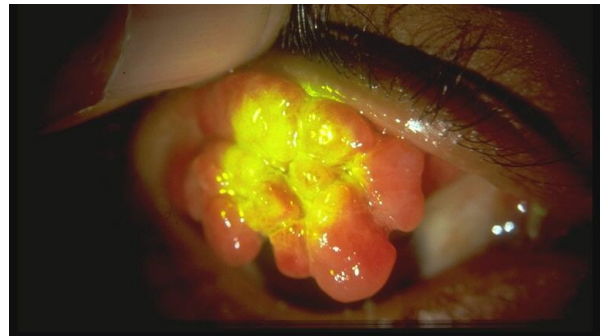
Lashes

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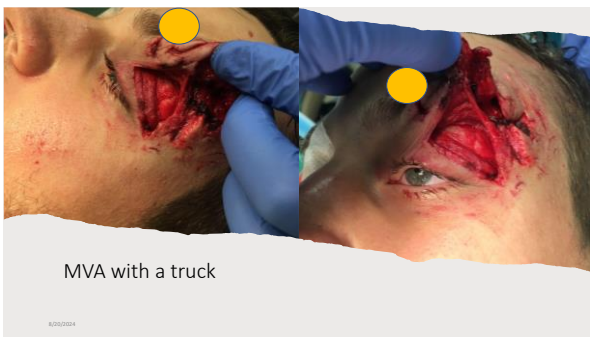
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MVA with a truck

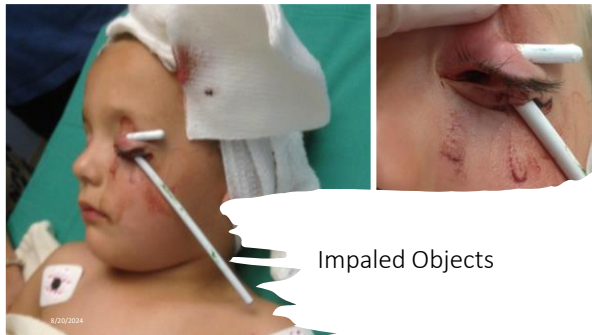
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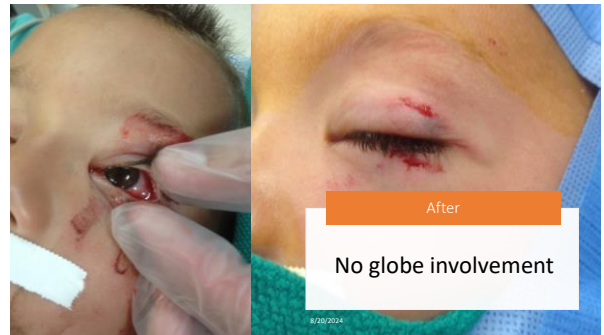
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Impaled Objects

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Look down if you are
struggling!

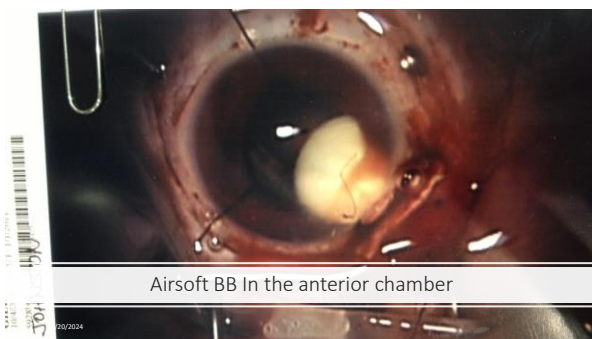
The worse slide is coming!



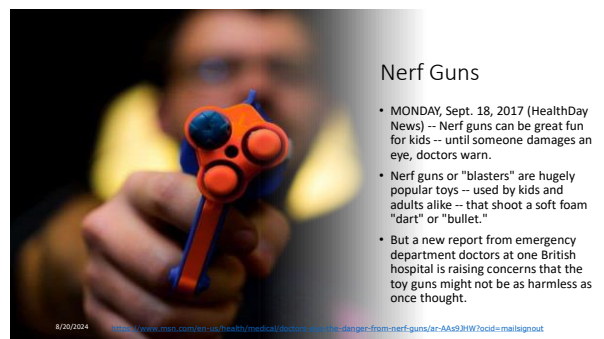
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Nerf Guns

- MONDAY, Sept. 18, 2017 (HealthDay News) -- Nerf guns can be great fun for kids -- until someone damages an eye, doctors warn.
- Nerf guns or "blasters" are hugely popular toys -- used by kids and adults alike -- that shoot a soft foam "dart" or "bullet."
- But a new report from emergency department doctors at one British hospital is raising concerns that the toy guns might not be as harmless as once thought.

Horse Play



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- Rubber bands
- Paper clips
- Pencils
- Pens
- Paper footballs
- Nerf Swords

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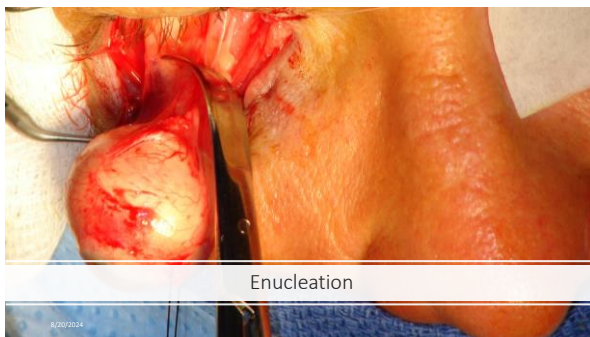
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Eyelid Cyst

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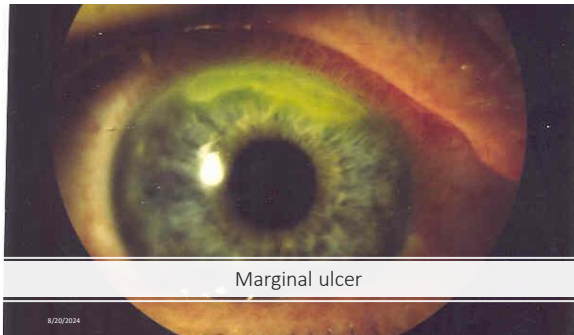
Enucleation

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Tumor Removal



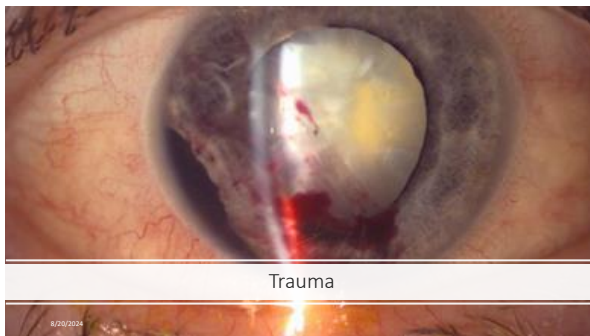
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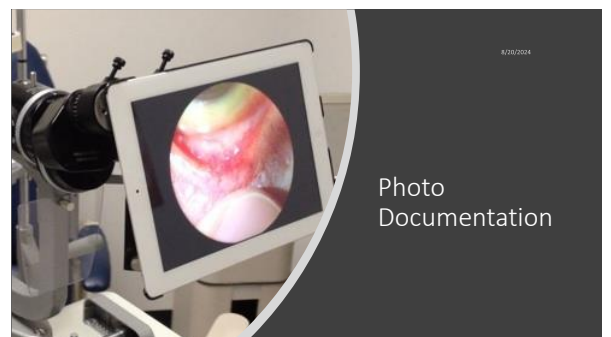
Allergic Conjunctivitis Chemosis

Beware of orbital cellulitis

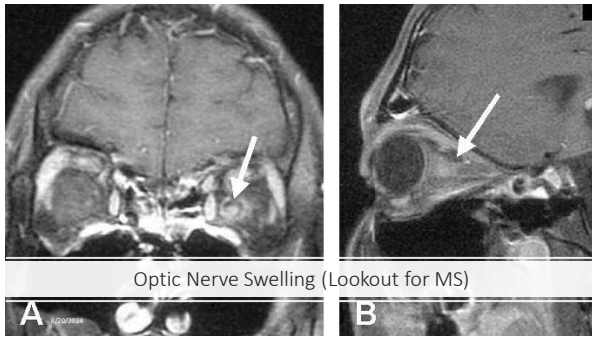
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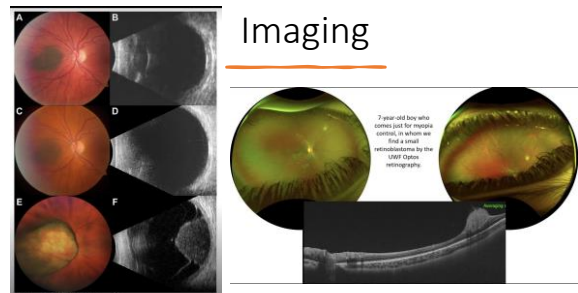
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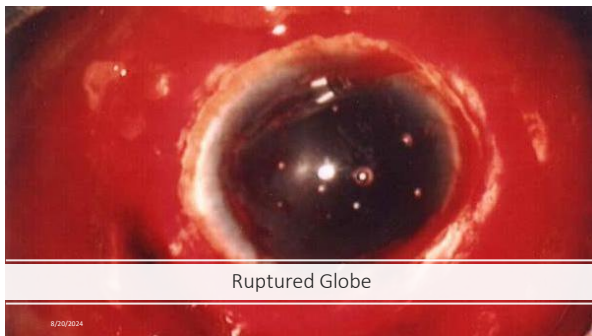
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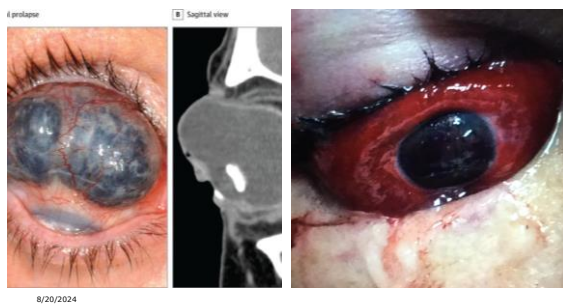
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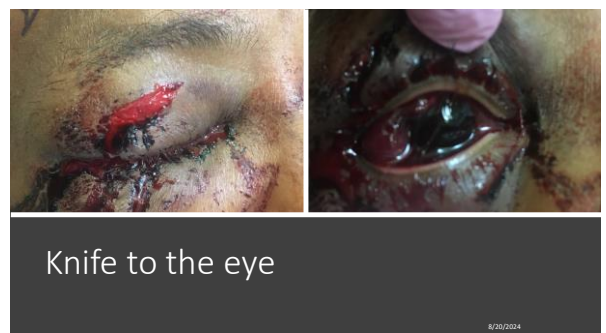
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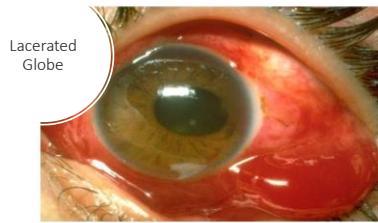
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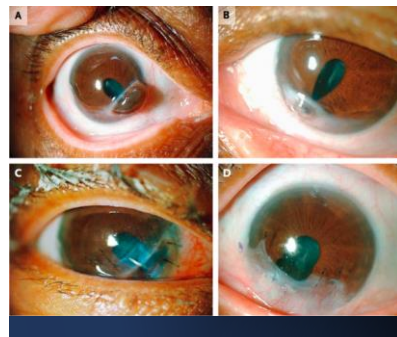


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Do not press on globe!

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Slit and Melting

• <https://www.livescience.com/60744-ickiest-eyeball-injuries.html>

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Fish Hook

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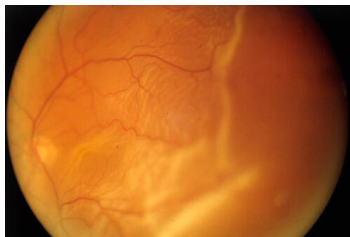
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Electrical Arc Flash



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Retinal Detachment

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Worm

• <https://www.livescience.com/60744-ickiest-eyeball-injuries.html>

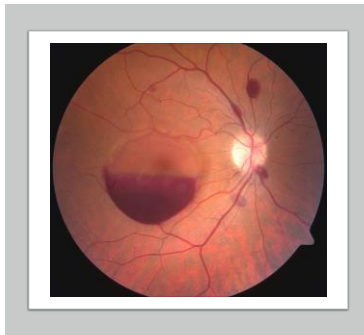


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Intense session of push-ups

- <https://www.livescience.com/60744-ickiest-eyeball-injuries.html>



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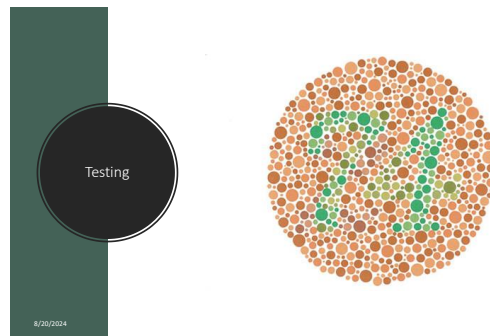


Airbag Imprint after MVA

- <https://www.livescience.com/60744-ickiest-eyeball-injuries.html>

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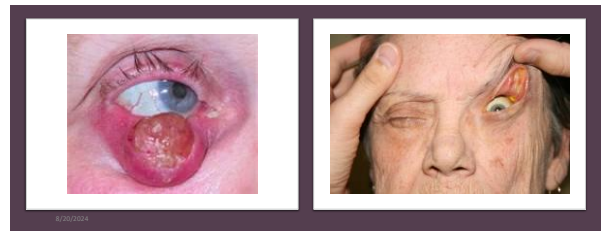
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Not just the globe!



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Triage is defined as:



The process of sorting people based on their need for immediate medical treatment as compared to their chance of benefiting from such

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Ocular Presentations can be Sorted into 4 Classifications

- **Emergency – Right now**
- Urgent – Today
- Priority – This week
- Routine – Next Available



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What to do?

Don't make a diagnosis?

If no doctor is available, check office policy/use an ER

This is a certifiable walk-in

Do not delay if it is a true emergency

Liability is on the person giving instructions on the phone

If the patient is unable to see have them wait for an ambulance...get the info from the patient

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Mandatory Screening Tests

- Monocular aided visual acuity
 - Use pinhole technique if VA <20/40
- Non-contact tonometry
- Confrontational visual fields or FDT screening, if possible
- Exophthalmometry...speak to your doctor first
- Red cap desaturation or Color vision

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Questions to Ask Every Potential Immediate Patient

- Where are you? How close are you to a hospital?
- When did this begin? How long has the eye been bothering you?
- On a pain scale 0-10, where are you?
- Any decreased visual acuity (any change in vision)?
- Are you a contact lens wearer?

Accurate documentation is always critical!

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Ocular Signs/Symptoms

Emergencies

- Sudden increase in ocular pain
- Sudden blurred or loss of vision
- Bleeding in/around eye
- Double Vision (direction)
- Trauma
- Flashes/Floaters

Urgency

- Photophobia
- Pain
- Foreign Body
 - Organic
 - Non-organic
- Redness
- Abrasions
- Head aches sc/cc loss of VA's

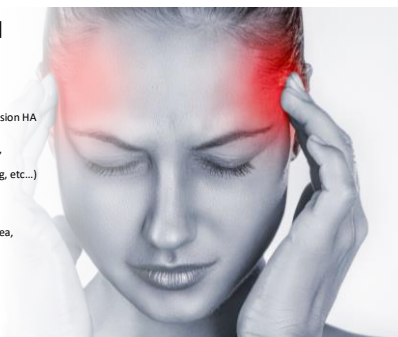


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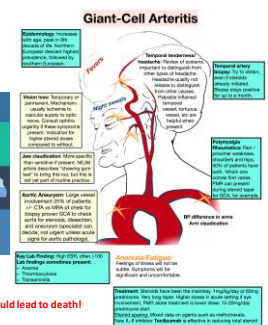
Headaches Could Be A Significant Sign!

- Most common headache is a tension HA
- If a patient has a headache:
 - Location (localized, diffused, radiating)
 - Quality (dull sharp throbbing, etc...)
 - Intensity
 - Frequency
 - Duration
 - Associated symptoms (nausea, noise/light sensitivity)
- Medications (OCT too!)
- Hypertension – **check pts BPI**



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Giant Cell Arteritis (GCA)



a.k.a. Temporal Arteritis, considered an ophthalmic emergency... **could lead to death!**

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Symptoms of GCA

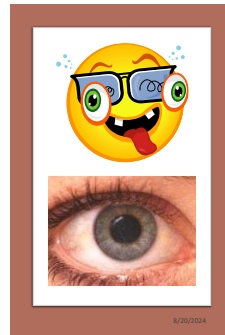
TABLE 1 Symptoms in giant cell arteritis*	
Category	Symptoms
Symptoms due to involvement of cranial vessels	Headache Jaw claudication (pain on chewing) Scalp tenderness Loss of vision Abnormalities of the temporal artery (pain, nodules, absence of pulse)
Symptoms due to involvement of great vessels (aorta and branches of aorta)	Claudication of extremities (especially arm)
Symptoms due to systemic inflammation	Fever, night sweats, weight loss
Polymyalgia rheumatica	Mainly proximal myalgia and stiffness of the neck and shoulder and pelvic girdles

*modified from (3, 11, 12, 38)



Figure 10-41 Giant cell arteritis. Extensive bilateral redness and elevation of the scalp of an elderly female secondary to vascular occlusion of temporal arteries.

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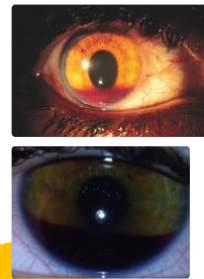
Question

- What is the top cause of malpractice claims?
- Answer: misdiagnosis due to failure to dilate the patient (ref: AOA)

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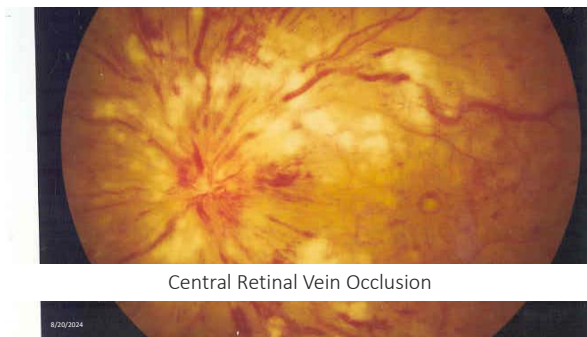
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Three True Emergencies

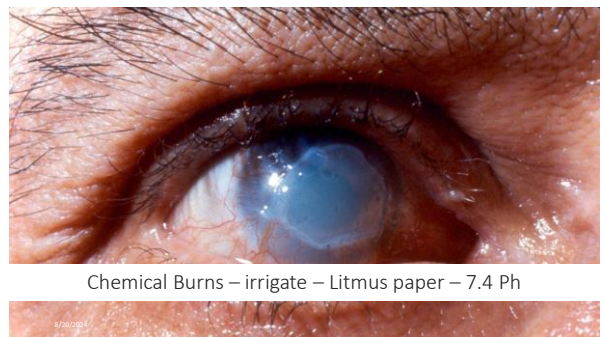
1. Close angle glaucoma attack
2. Alkali chemical burn
3. Central retinal vein occlusion
4. Globe penetrating trauma

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Central Retinal Vein Occlusion

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Chemical Burns – irrigate – Litmus paper – 7.4 Ph

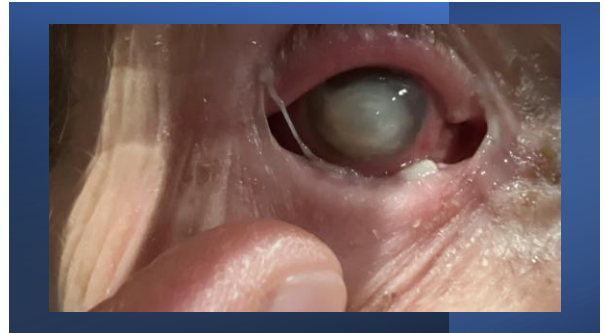
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Acute Angle-Closure Glaucoma

- Rapid onset
- Painful
- Very serious
- Can lead to permanent blindness



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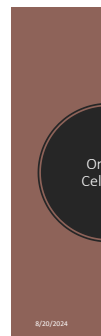
Woman who thought itchy eyes were allergy symptom diagnosed with brain tumor

Itchy or irritated eyes are easy to pin on seasonal [allergies](#), which is what one 30-year-old woman in London suspected when she stopped in at an [ophthalmologist's office](#) last month. But Gurcharan Kaur, who at that point was having trouble blinking and noticed swelling in her eye, would soon learn that her symptoms were more troubling than a simple pollen irritation, and **were actually due to a tumor in the middle of her brain.**

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<https://www.foxnews.com/health/woman-itchy-eyes-allergy-symptom-diagnosed-brain-tumor>

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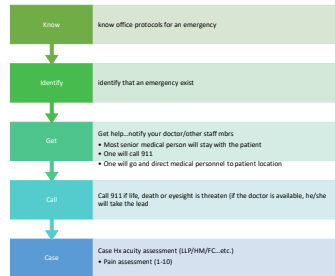


Shingles

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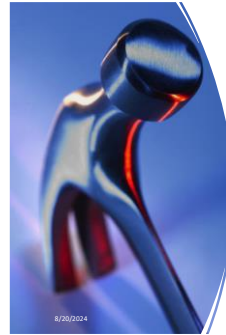
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5 Steps for every emergency



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Emergency Toolbox

- Blood Pressure Kit
 - For suspected CRAO
 - Stroke in eye...blockage
- Humphrey's Visual Field
- Hertel (for orbital concerns)
- Thermometer pt's with suspected Cellulitis
- Fox Shield and Tape for trauma
- PH Strips for chemical testing after irrigations
- Diamox to lower IOP (oral medication)

Patient Treatment Procedures

Inform provider immediately

Case History...complete Hx

Visual acuity is critical......must be attempted

Pain upon movement important (direction)

Pressures are critical (projectile FB or possible aqueous leak needs extreme caution **verify with provider first**)

In case a provider is not present...see office policy manual

Know all office protocols for emergency and urgent care...

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Technician Procedures

- Never attempt any procedure in which you are not trained, proficient, and approved by your doctor
- When you identify an emergency...communicate with other staff members what is going on and to be ready to assist if necessary
- Don't be a hero, whom ever is most experienced and capable should be there to provide oversight (doctor)
- Alert the nearest ER (irrigate if needed) when necessary

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Pick a Scenarios

- The exploding bottle of hair dye
- The curling iron burn
- The paper cut from a grocery bag
- The pilot on a bike
- Pet Chicken pecked owner in eye (fungal infection) LA
- Walk into waiting area finding unconscious patient
- Domestic Abuse Case
- Blowout fracture for Mother of 3-year-old



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Immediate Classification

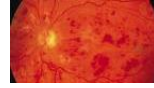
- A. Sudden Loss of Vision
- B. Flashes of Light
- C. Sudden Spots in Front of Eyes
- D. Double Vision
- E. Blood in Eye
- F. Blunt Trauma
- G. Penetrating Injury
- H. Chemical Burn



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A. Sudden Loss of Vision (Painless)



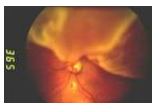
- Central Retinal Artery Occlusion
- Central Retinal Vein Occlusion
- Vitreous Hemorrhage

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A. Sudden Loss of Vision (Painless)

- Ischemic Optic Neuropathy
- Retinal Detachment



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A. Sudden Loss of Vision (Painful)

- Acute Angle Closure Glaucoma
- Optic Neuritis

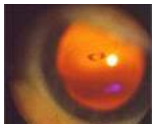


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B. Flashes of Light

- Retinal break or detachment
- Posterior Vitreous Detachment



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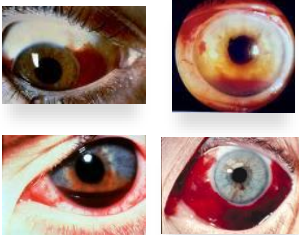
C. Spots in Front of Eyes

- Transient spots
 - Migraine syndromes
- Long-standing spots
 - Posterior vitreous detachment
 - Vitreous hemorrhage
 - Floaters (syneresis)



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E. Blood in the Eye

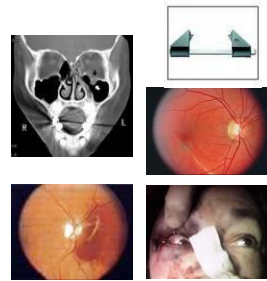


- Hyphema
- Subconjunctival hemorrhage

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F. Blunt Trauma

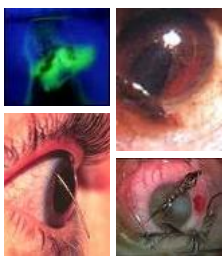
- Blowout or orbital floor rupture
(motility testing)
- Must rule out retinal detachment or choroidal rupture
- Must also rule out traumatic optic neuropathy



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G. Penetrating Injury

- Typically a high speed or sharp object
- Must intervene quickly to prevent endophthalmitis esp. if organic matter
- Seidel sign



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H. Chemical Burn

- Irrigate all chemical burns with sterile saline immediately and extensively
- Must try to:
 - Identify substance (acid vs base)
 - Timeline of chemical exposure

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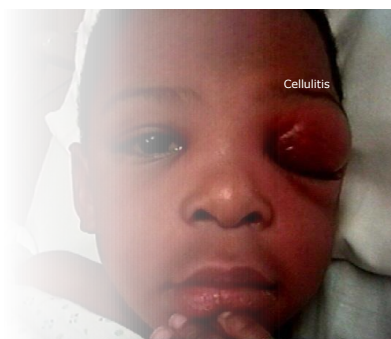
How long do we irrigate?

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Urgent Classification

- Red Eye
- Lid Lumps and Bumps
- Protrusion of Eye
- Contact Lens Pain

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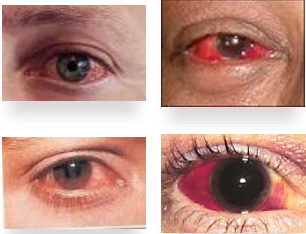
Abuse Cases – State Laws - Bullying


https://www.cde.state.co.us/sites/default/files/documents/healthandwellness/download/murchild_abuse.pdf

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A. Red Eye

- Identify exposure or likely FB incident
- PAIN is first indication
- Followed by:
 - Decreased VA
 - Discharge
 - Excessive tearing
 - Contact lens wearer?
 - Itching
 - Sensitivity to light



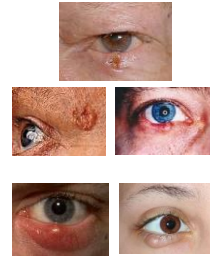
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B. Lid Lumps and Bumps

Again, PAIN is the #1 indication

Must determine how long has it been there and if there are any recent changes to appearance

Hordeolum/Chalazion vs BCC/SCC/sebaceous carcinoma



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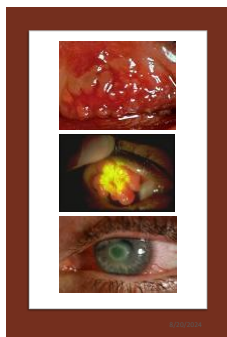
C. Protrusion of Eye



- Can be associated with double vision
 - DIPLOPIA MUST BE RULED OUT
 - Unilateral vs Bilateral
- Lid retraction vs Ptosis
- Can be related to thyroid, tumors, pseudotumor

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D. Contact Lens Pain

- Urgent condition if:
 - PAIN
 - Discharge
 - Decreased VA
 - Significant redness
 - Light sensitivity
- Questions to ask:
 - What type of lenses?
 - Solutions / drop use
 - How old are lenses?
 - Painful for how long?
 - How often slept in?

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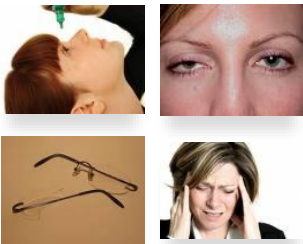
B. Slow, Progressive VA Decrease

Likely related to refractive error changes, cataracts, age-related macular degeneration, or large total number of birthdays celebrated (age)



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C. Lost or Broken Eyewear

- Other patient concerns that fall into this classification are:
 - Chronic eye burning, tearing
 - Headaches that have not changed recently
 - Long-standing ptosis that has not changed recently

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Routine Classification

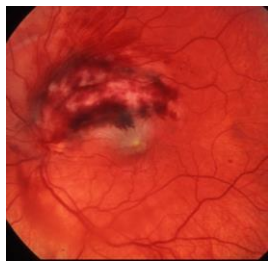
A. EVERYTHING ELSE

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Things that are essential in Emergencies

- Answer "what was the cause of reduced acuity?"
- If the issue internal? Did we dilate the patient?
- Was the patient referred? Do we have follow-up referral system?
- Did the patient show-up for the referral appt?
- Did you practice the "Duty to Warn or Informed Consent"
- Do you keep good records

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First aid for eyes

- Do not try to remove any "foreign body" except by flushing or sweeping, because of the risk of causing more damage to the surface of the eye
- Do not touch, press, or rub the eye, and do whatever you can to keep children from touching it (a baby can be swaddled as a preventive measure)
- Flush from medial to lateral to prevent cross contamination
- Gently pour a steady stream of lukewarm water from a pitcher (do *not* heat the water) across the eye...why is this warm?
- If a foreign body is not dislodged by flushing, it will probably be necessary for a trained medical practitioner to remove the FB.


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Irrigation

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Irrigate from medial to lateral



If chemicals are involved use litmus paper to verify neutrality of chemicals

How long do we irrigate?





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Irrigation

- Morgan Lens
- Solutions...saline, Dacriose, water
- Litmus pH paper test
- Normal pH reading 7.3 – 7.7
- Irrigate for 30 minutes

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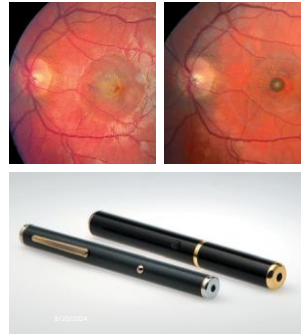
Domestic Violence

- Shaking Baby Syndrome
- Spouse Abuse
- Child Abuse
- Elderly Abuse
- Fights
- Any violence
- Any accident
- Documentation!!!!!!



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Laser Pointers

- **Retinal Injury in a Teenage Boy and Laser Pointers.**
- A photograph of the fundus of the left eye (Panel A) shows central subretinal hemorrhage (arrow) and retinal edema, suggesting a break in Bruch's membrane caused by a disruptive laser burn. A photograph of the fundus of the right eye (Panel B) shows several hyperpigmented areas in the foveolar region (arrows). These findings are consistent with scars in the pigment epithelium as a result of a thermal laser injury. A photograph of the fundus of the left eye after 4 months

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BOLO for New Ways To Injure

- Manhattan ophthalmologist says he's performed approximately 20,000 corrective eye procedures. On Nov. 6, he did something different: he implanted a piece of platinum jewelry beneath the surface of a patient's eye.

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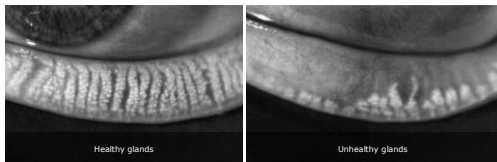
[Formaldehyde Free Eyelash Extension Glue Reviews - FDA Safe? - Minki Lashes](#)

Make-up!!!



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Meibomian Glands

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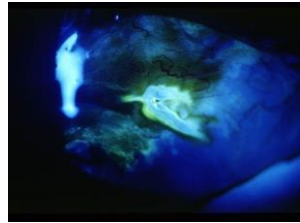
Cherry Red Spot

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Suspected Global Penetration

- Protruding object
- Positive Sidel
- Organic Object

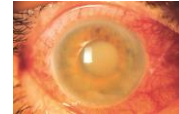


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Acute Glaucoma (closed angle)

- Sudden onset of high Intraocular pressure (IOP)... caused by blockage of aqueous drainage
- **Symptoms:** Pain, blurred vision, colored lights around lights, frontal headache, nausea and vomiting
- **Signs:** High IOP, clouded/misty cornea, red eye, fixed or mid-dilated pupil
- **Treatment:** Preceptor/EVAC



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HypHEMA

- Typically from "blunt" trauma
- **Symptoms:** Pain, blurred vision
- **Signs:** Blood in anterior chamber (AC)
- **Treatment:** VA, evaluate globe for rupture, patch both eyes and immediate transfer



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Foreign Bodies

- **Non-Penetrating** (not entering globe)
 - metal chips/sand/saw dust/plant material/etc.
 - take "careful" history (i.e. high speed?, falling objects?)
- **Symptoms:** FB sensation, tearing, history of a trauma
- **Treatment:**
 - Visual Acuity
 - Stain to visualize object or injury site (vital clues)
 - Irrigate with saline rinse
 - May check under upper lid (often site of small FBs)
 - **If fails:** Contact receptor



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Diabetic Retinopathy

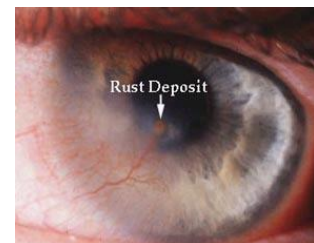
- Breakage in the blood vessels in the fundus
- Macula bleeding is more significant
- Ensure your patient has a take home Amsler Grid



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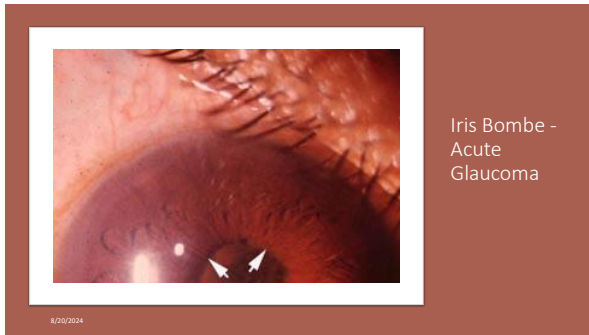
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Corneal Foreign Body

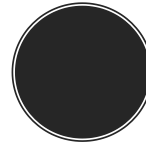


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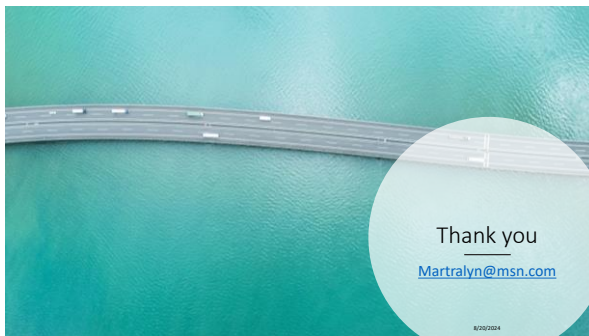
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