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MED

First Aid for Eye injuries

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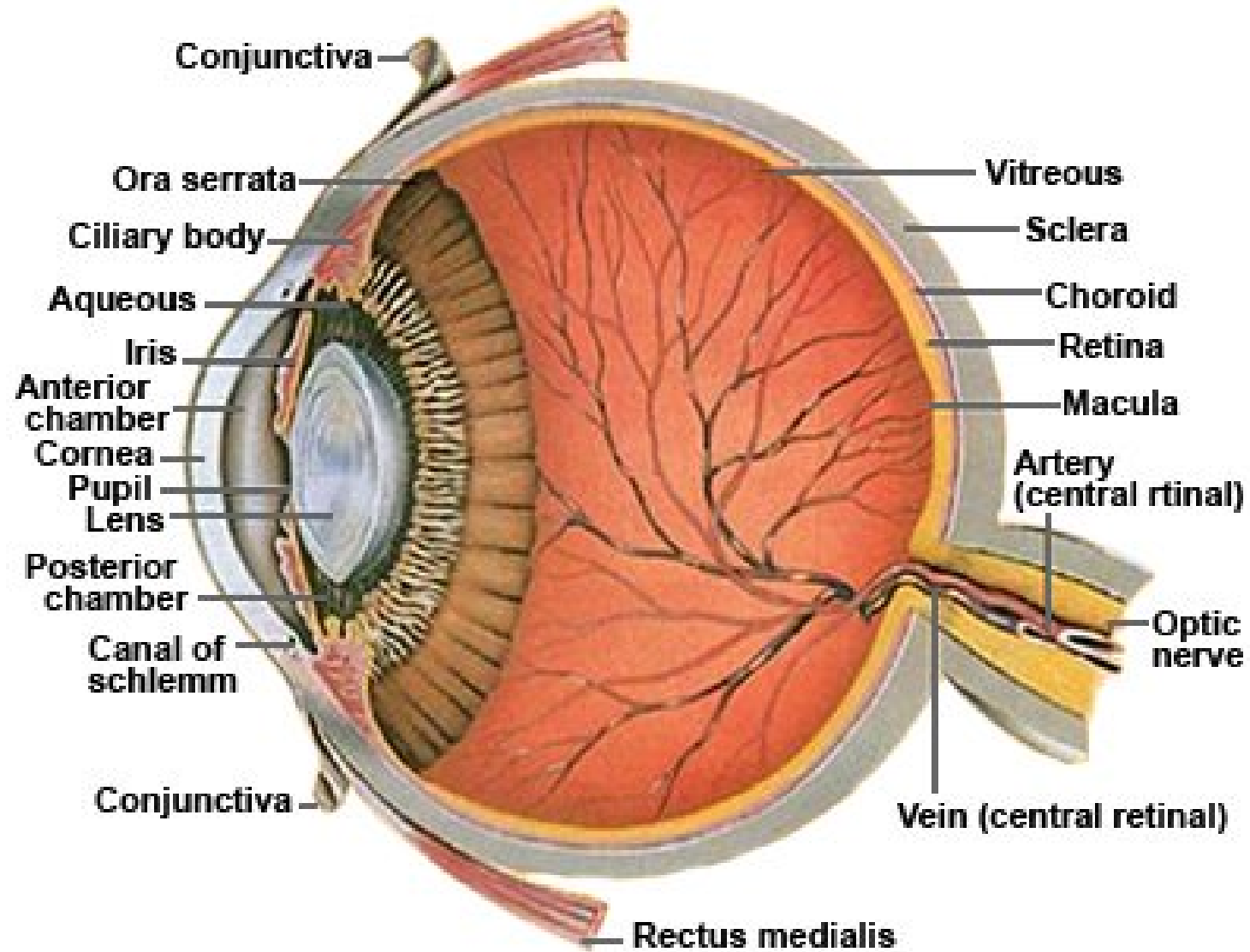
Learning objectives

- Student will learn the most common mechanisms of eye injuries.
- Student will learn the theoretical foundations of first aid for eye injuries.
- Student will learn how to prevent eye injuries.

Content

- anatomy of the eye and orbit
- mechanical eye injuries
 - non-perforating eye injuries
 - perforating eye injury
- chemical injuries
- physical injuries
- orbital injuries

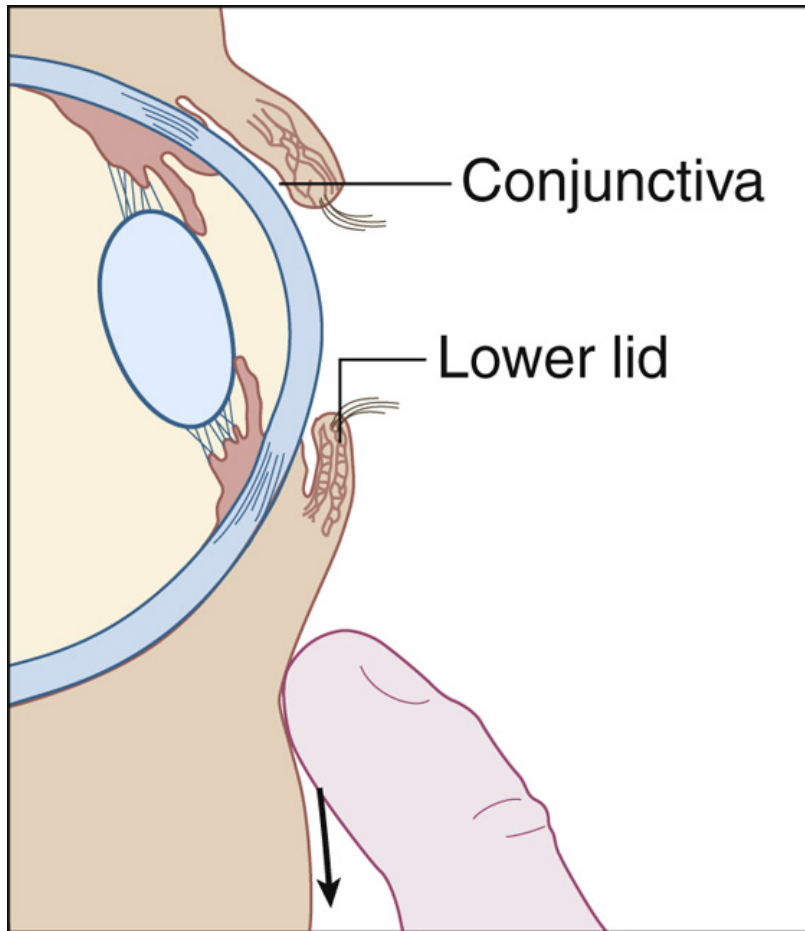
Anatomy



Mechanical Eye Injuries

- foreign body
 - loosely in the conjunctival sac
- corneal erosion
- foreign body in cornea / conjunctiva / penetrating injury
- symptoms:
 - a feeling that something is stuck in the eye
 - tearing
 - blinking, blepharospasmus
 - pain, haedache, severe sensitivity to light
 - conjunctival redness

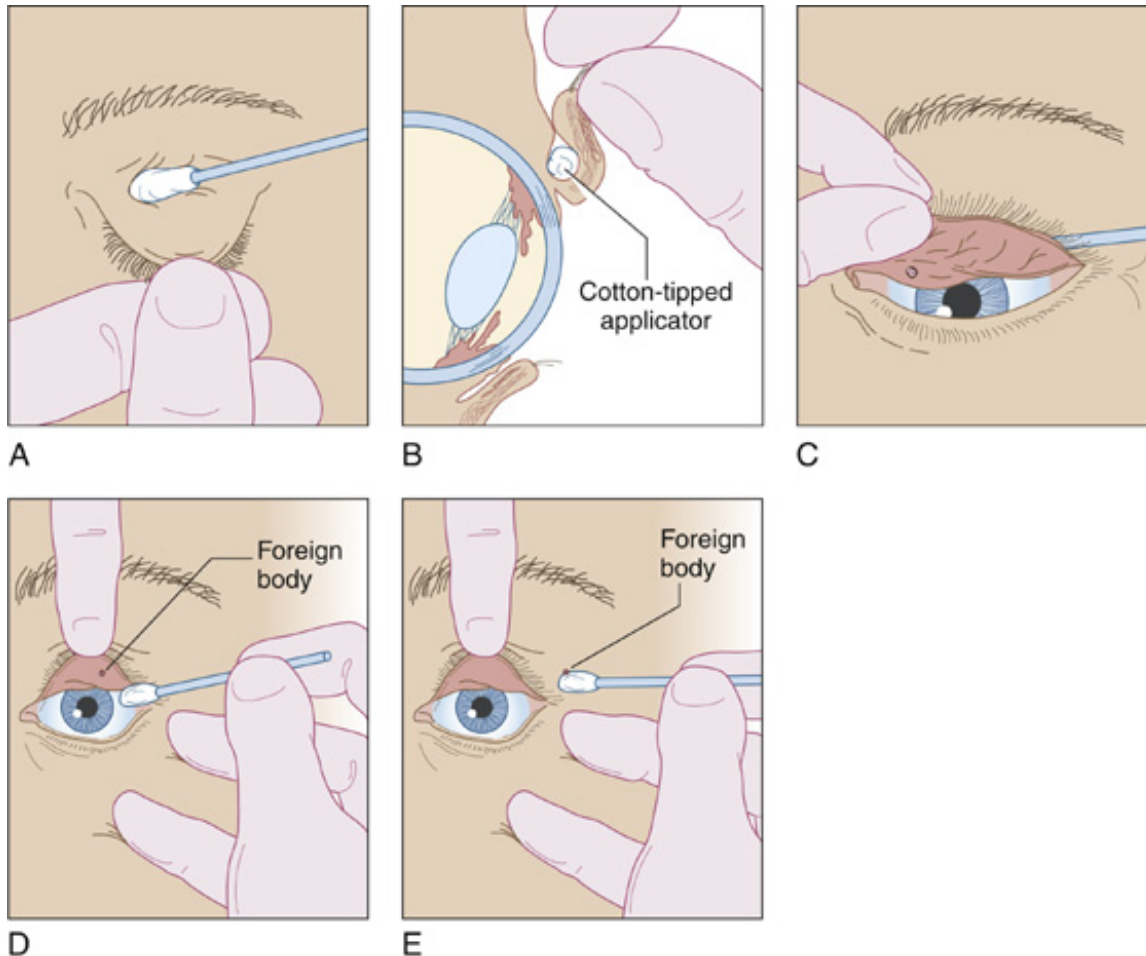
Foreign Body Lodged in a Conjunctival Sac



To examine the lower sac, pull the lower lid down with your finger while the patient looks up.

<https://aneskey.com/foreign-body-conjunctival/>

Foreign Body Lodged in a Conjunctival Sac



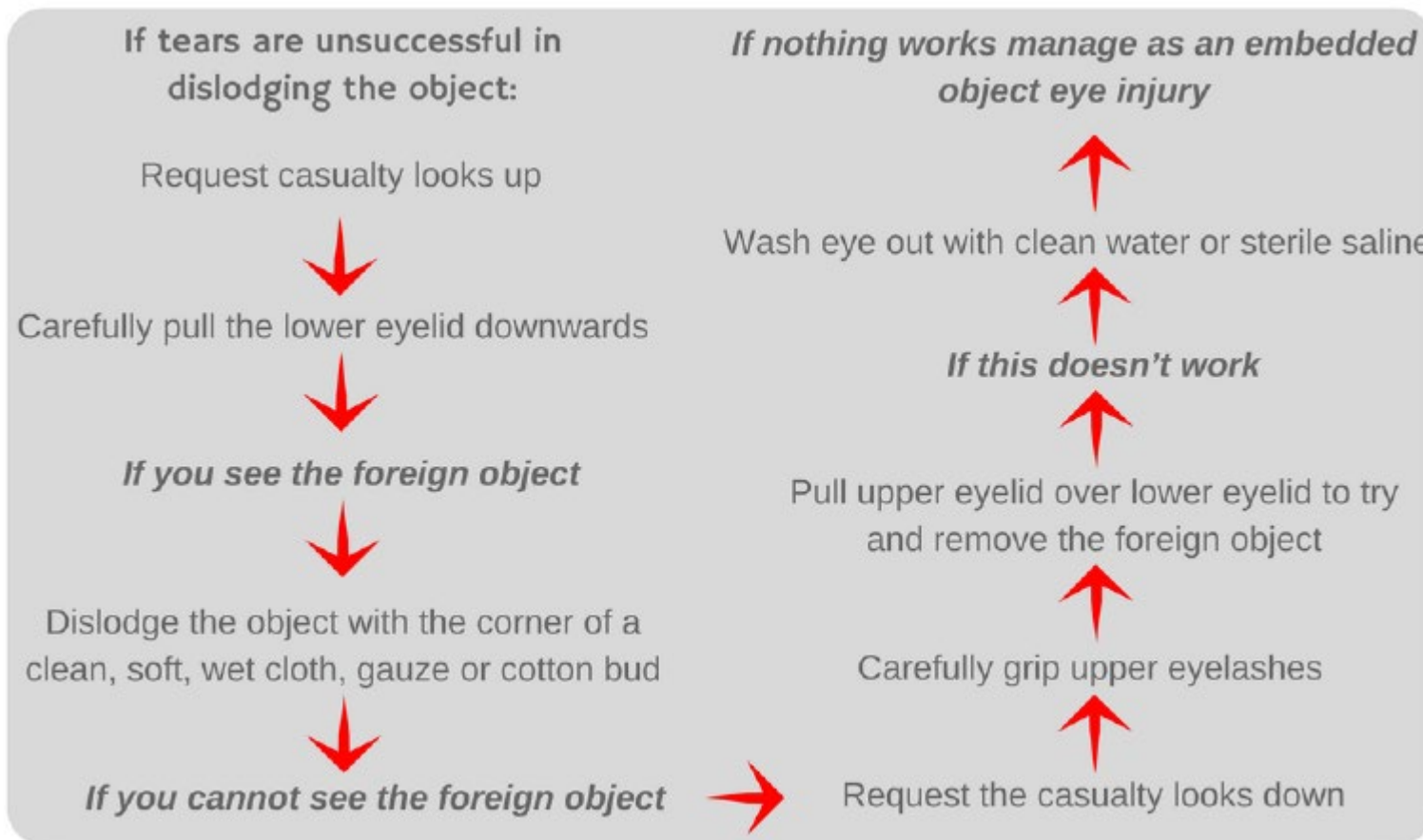
To examine the upper sac: hold the proximal portion of the upper lid down with a cotton-tipped swab while pulling the lid out and up by its lashes, everting most of the lid, as the patient looks down. Push the cotton swab downward to help turn the upper conjunctival sac “inside out”.

<https://aneskey.com/foreign-body-conjunctival/>

Foreign Body



<https://emedicine.medscape.com/article/1844102-overview#a3>



<https://www.stjohnvic.com.au/news/eye-injury-first-aid-tips/>

Corneal Erosion



- FA:
 - SSS ABC
 - reassure the casualty
 - dressing over the injured eye
 - seek medical help

<https://www.atlasophthalmology.net/photo.jsf?node=7384&locale=en>

Penetrating body



FA:

- SSS ABC
- reassure the casualty
- dressing over the injured eye
- Do NOT apply pressure!
- seek medical help

Chemical injuries

Burn

- acid/alkali
- solvents

- Signs:
 - pain
 - swelling
 - red and watery
 - more sensitive to light

- FA in seconds!



<https://www.denios.cz/>

Chemical injuries

Burns

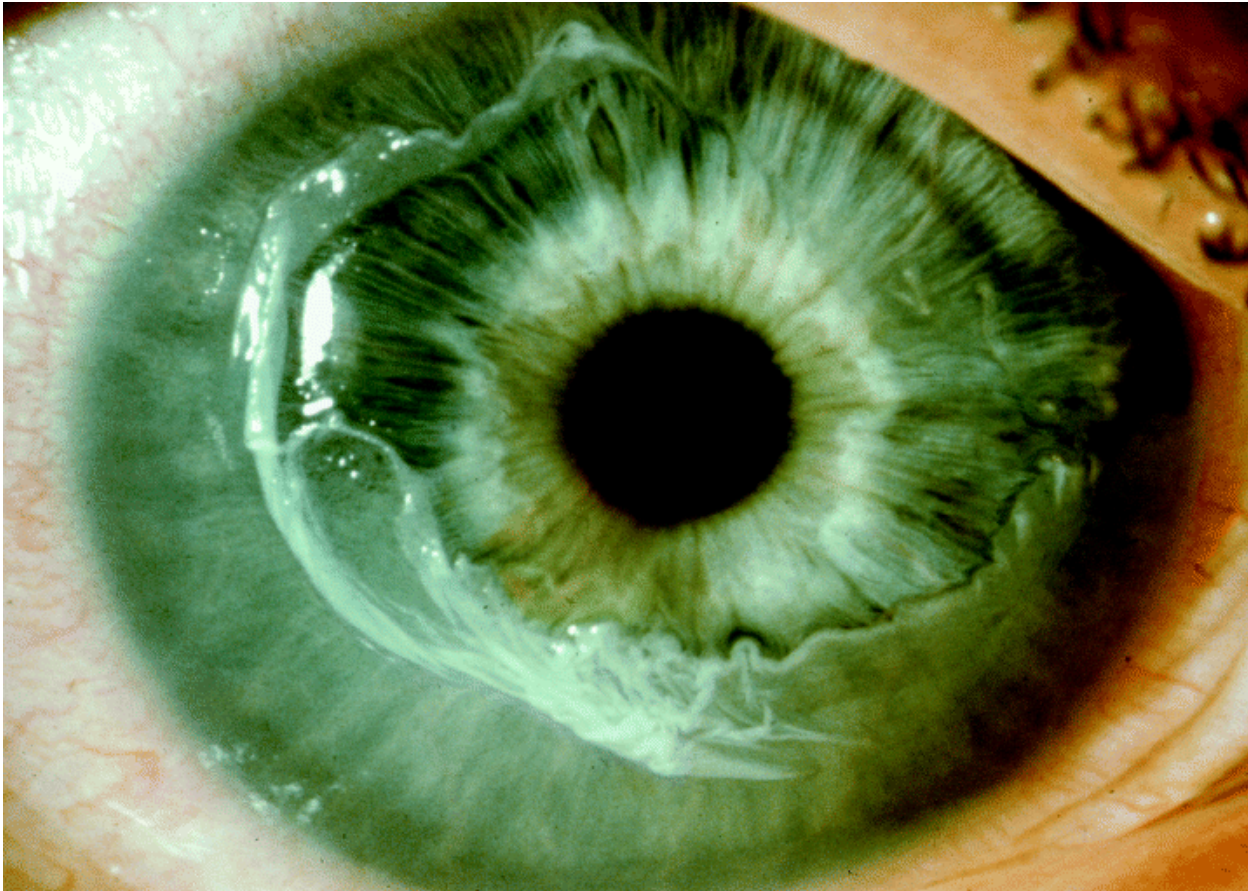
- FA in seconds:
 - SSS ABC
 - open eyelids carefully
 - wash eye with cold water for 20 minutes
 - EMS
 - Do not contaminate healthy eye!



<https://www.stjohnvic.com.au/news/eye-injury-first-aid-tips/>

Chemical injuries

Acid



– superficial injury of the cornea

<https://onlinelibrary.wiley.com/doi/full/10.1034/j.1600-0420.2002.800102.x?sid=nlm%3Apubmed>

Chemical injuries

Alkali



- deeper injury of the cornea
- watery conjunctiva with redness

<https://www.atlasophthalmology.net/photo.jsf?node=2779&locale=en>

Physical injuries

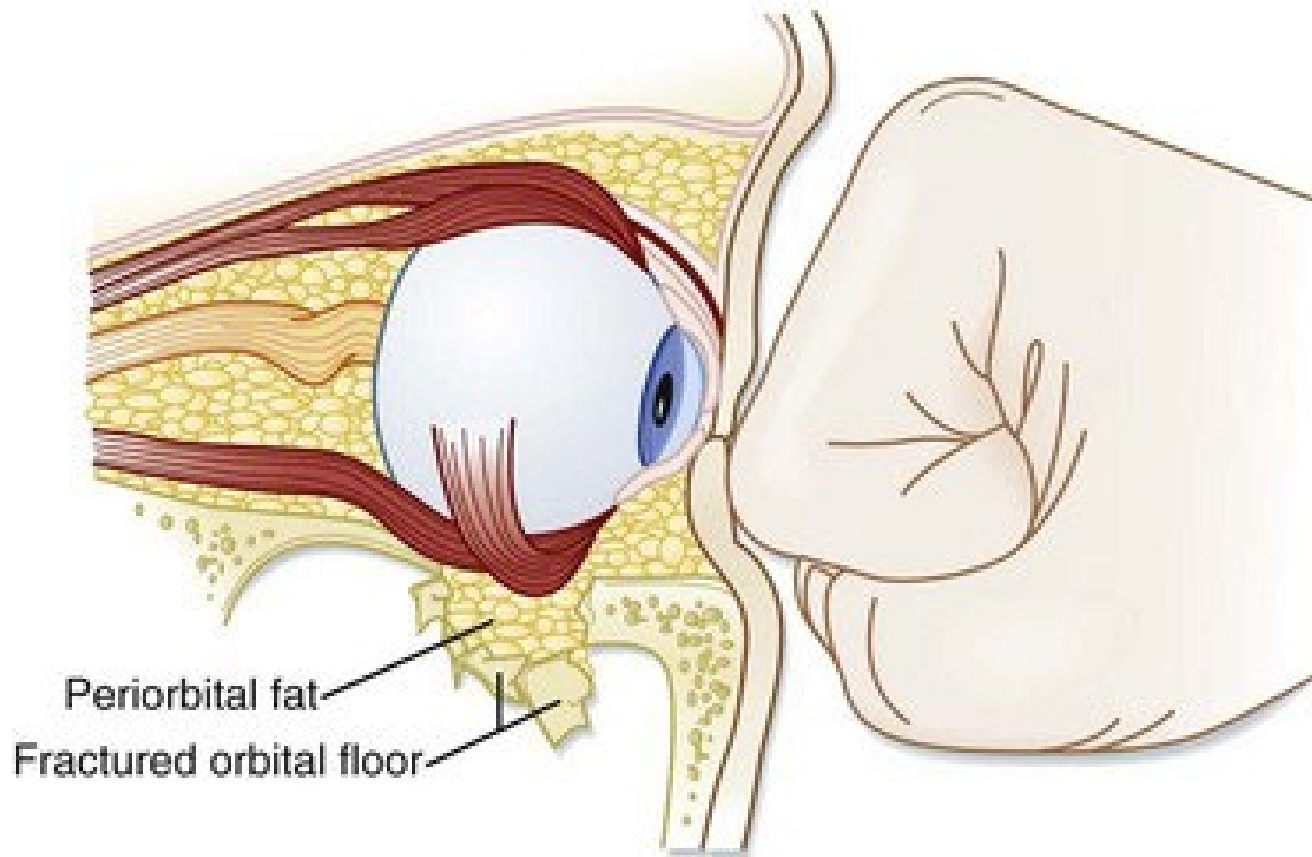
UV Light Burn, Snow Blindness



- Arc welding without protection
- Signs:
 - pain
 - swelling of the eyelid
 - blepharospasmus
 - congested conjunctiva
- FA:
 - Position eye pad / soft clean dressing over injured eye
 - seek medical aid

<https://www.goggles4u.co.uk/what-ultra-violet-damage-actually-does-to-your-eyes>

Blunt eye / orbit injury



eye / orbital impact

- fractures
- lens shift
- anterior chamber hemorrhage
- retinal injury

Blunt eye / orbit injury



symptoms:

- pain
- hematoma
- visual impairment

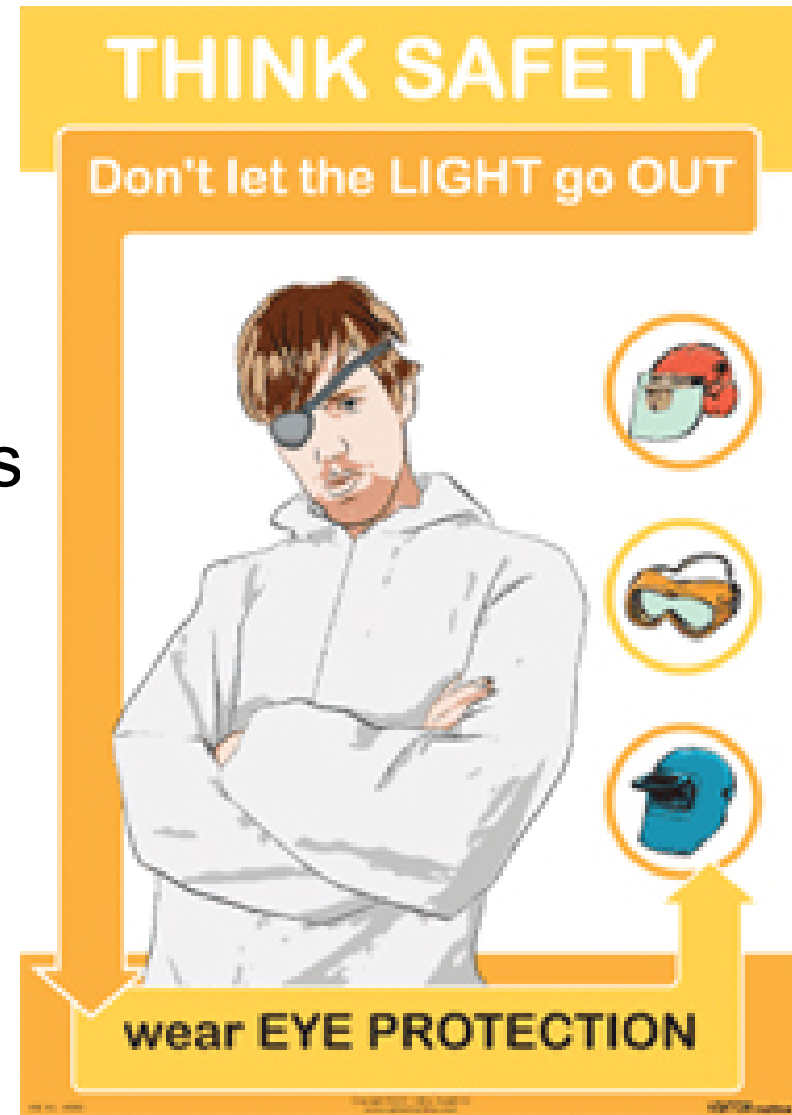
FA:

- SSS ABC
- provide medical treatment

Prevention of eye injuries

- 90% of injuries are preventable
- 70% of injuries are caused by fast-flying debris

Use glasses!



<https://corkeyeclinic.ie/Eye-Injuries>

Summary

- Eye injuries can be prevented.
- Acids and alkalis are diluted in the eye and on the skin only with water.
- Rinsing is performed with water lying down, for a long time even during transport.
- Sterile dressing is applied to the affected eye.
- In the case of a perforating eye injury, both eyes are immobilized by applying a bandage after informing the injured person.

Learning outcomes

- Student can describe the principles of first aid for penetrating eye injuries.
- Student describes the basics of first aid in case of acid or lye contact with the eye.
- Student is able to list the basic precaution for the prevention of eye injuries.

Resources

- <https://www.aao.org/eye-health/tips-prevention/injuries>
- <https://www.stjohnvic.com.au/news/eye-injury-first-aid-tips/>
- <https://stjohn.org.au/assets/uploads/First%20aid%20for%20eye%20injuries.pdf>

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