TITILE: EYE TRAUMA

PURPOSE:
To provide guidelines for rapid, accurate assessment of the eye for traumatic injury and to plan and implement appropriate interventions for identified injuries

PROCESS:

I. ASSESSMENT
   A. HISTORY
      1. Mechanism of injury.
      2. Vision prior to injury
      3. Corrective eye wear
   B. PHYSICAL ASSESSMENT:
      1. Assess ABC.
      2. Note lid edema and ecchymosis.
      3. Observe ptosis (eyelid drooping).
      4. Assess for lacerations.
      5. Identify trauma to sclera, iris and cornea.
      6. Assess pupil size, equality, and shape.
      7. Direct and consensual response to light.
      8. Assess extraocular movement in all six directions bilateral.
      9. Identify gross visible foreign objects.
     10. Note scleral and conjunctival redness, lacerations, tearing, and proptosis and enophthalmus or exotropia/exotropia.
     11. Note blinking
     12. Assess visual acuity using a Snellen’s Chart (when appropriate)
     13. Palpate eye and area surrounding eye for pain or tenderness - except with obvious traumatized globe or eye with a penetrating or foreign object.
Guidelines and Protocols

14. Palpate for tenderness, crepitus, depression of frontal bone structure and notifying of supraorbital ridge.
15. Prepare for fluorescein staining, slit-lamp examination and/or tonometry (measure intraocular pressure)
16. Assess for concurrent injuries to head and/or face.

C. DIAGNOSIS
1. X-ray or CT of facial bones/orbits
2. Visual acuity
   a. Visualize bright light and finger motion or a moving object.
   b. Count the number of fingers held up by examiner.
   c. Read a wall mounted Snellen chart.
3. Visual fields from all directions to identify the presence of weak, torn or paralyzed muscles.
4. Fluorescein stain
5. Slit lamp

D. INTERVENTIONS
1. Apply topical anesthesia as ordered to facilitate adequate assessment.
2. Immobilize visible penetrating objects to prevent further damage.
3. Cover or patch both eyes with light dressing to prevent eye motion and further pain and injury - no pressure should be applied on the globe.
4. Elevate the head of the bed - instruct patient not to bend forward.
5. Adhere to C-Spine precautions.
6. Administer tetanus immunization as indicated.
7. Administer antibiotics as prescribed.
8. Provide emotional support for patient and family.
9. Prepare patient for admission or transfer to ophthalmologist.

10. Document
   a. Assessment
   b. Interventions
   c. Patient’s response.

11. If patient released, provide patient with written instructions for care of eye and follow-up.

12. Provide appropriate intervention for concurrent injuries.

II. SPECIFIC EYE INJURIES

A. HYPHEMA - usually the result of blunt trauma to eye.
   1. Signs and symptoms
      b. Decreased vision and increased pain.
   2. Interventions
      a. Sit patient in upright position.
      b. Patch bilaterally.
      c. Monitor for re-bleeding.

B. PENETRATING TRAUMA - RUPTURED GLOBE
   1. Signs and symptoms
      a. Loss of vision.
      b. Extreme pain and anxiety.
      c. Visible impaled, penetrating object.
      d. Extrusion of vitreous humor.
      e. Decrease in intraocular pressure.
   2. Interventions
      a. Immobilize impaled or penetrating objects.
      b. Elevate head of bed.
      c. Patch both eyes.
      d. Do not instill any medications.
      e. Prepare for ophthalmology consult.
Guidelines and Protocols

C. CHEMICAL BURNS - Proper identification of the chemical agent, its concentration and degree of duration of exposure and pre-hospital care is critical.

1. Signs and symptoms
   a. Severe pain.
   b. Opaque cornea may be present.

2. Interventions
   a. Irrigate the affected eye with neutral solution (water, NS, LR) for at least 30 minutes.
   b. Be careful not to contaminate unaffected eye.

III. TRIAGE

A. Level (ESI) 3
   1. Sudden loss of vision with history of trauma.
   2. Impaled or penetrating foreign object.
   3. Severe contusions with evidence of increase intraocular pressure.
   4. Hyphema
   5. Iris tear.
   7. Chemical burns.

B. Level (ESI) 3 or 4
   1. Traumatic mydriasis with blurred vision or diplopia.
   2. Severe lid lacerations.
   3. Disturbance in vision in a patient with history of glaucoma.
   4. Burns caused by ultraviolet rays.

C. Level (ESI) 4 or 5
   1. Ptosis
   2. Soft tissue edema, ecchymosis without vision change.
## Guidelines and Protocols

### REVIEW / REVISION HISTORY

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