

Goal: Rule out open globe and orbital fracture with entrapment
 For suspected TBI see <https://www.utahptn.org/pediatric-trauma-guidelines-brain-injuries-utah/>

This algorithm does not replace clinical judgment and is not intended to be prescriptive for all patients.

Start

- Concern of orbital injury?**
- Enophthalmos (globe looks sunken in)
 - Vertical dystopia (one globe more inferior/caudal than the other)
 - Orbital swelling or ecchymosis

YES ↓

- Assess visual acuity
- Assess EOMs
- Instruct patient not to blow nose

↓

- Globe disruption
- Entrapment of muscles
- Abnormal VA or EOM
- Abnormal Iris
- Traumatic hyphema
- Unable to open eye and globe feels hard
- Suspected multiple orbital fx's
- Unrelenting N/V w/o obvious cause
- Bradycardia

YES ↓

Transfer to PED1

NO ↗

Obtain CT Maxillofacial

Confirmed Orbital Fracture

YES →

- Isolated fracture
- Non-displaced fracture
- Intact EOM
- No laceration
- Grossly normal visual acuity

YES →

- Patient meets all criteria following observation?**
- Normal mental status
 - Resolving or minor symptoms
 - Tolerating oral intake
 - Dependable social support
 - No abuse or neglect

YES →

****Discharge with follow-up with Oculoplastics 5-7 days**

NO →

Admit

*Confirm subspecialist availability before PED+ transfer

**For centers without peds subspecialists consider Moran Eye Center follow-up. Call 801-581-2352 for appointment

NO ↓

Laceration without fracture

YES ↓

Isolated canthus, tear duct, or eyelid laceration OR Associated subconjunctival hemorrhage, prolapsed fat

YES →

Is bedside Plastics/ENT/Ophtho consult available in 60 min?

NO →

***Transfer to PED+ or PED1**

YES ↓

Consult Plastics, ENT, or Ophthalmology

Do Not delay transport to obtain CT

Extra Ocular Muscle Entrapment Data

- 2% incidence out of all medial wall fractures
- 11% incidence out of all orbital floor fractures
- 11 % w/ entrapment have associate bradycardia
- 50% of entrapped fractures, radiology makes comment about entrapment
- 63% w/ entrapment have associated nausea and vomiting
- 89% w/ entrapment have altered EOM

2024 Pediatric Orbital Trauma Clinical Guideline

Mellema, Peter & Dewan, Mohit & Lee, Michael & Smith, Scott & Harrison, Andrew. (2009). Incidence of Ocular Injury in Visually Asymptomatic Orbital Fractures. *Ophthalmic plastic and reconstructive surgery*. 25. 306-8. [10.1097/IOP.0b013e3181aa9a73](https://doi.org/10.1097/IOP.0b013e3181aa9a73).

Etheridge T, Brintz BJ, Jensen MS, Peralta E, Ayesha A, Jebaraj A, Marx DP. Incidence and severity of asymptomatic ocular injury in adult and pediatric orbital fractures. *Orbit*. 2022 Jul 8:1-6. doi: [10.1080/01676830.2022.2095648](https://doi.org/10.1080/01676830.2022.2095648). Epub ahead of print. PMID: 35801838.