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ASOT News

The American Society of Ophthamlic Trauma Newsletter

Edited by Grant A. Justin, MD and Cherie A. Fathy, MD

TRAUMA NEWS:

ASOT IS NOW ON SOCIAL MEDIA. CLICK ON THE ICONS BELOW TO FOLLOW!

ASOT ANNUAL MEETING WILL BE VIRTUAL IN APRIL 2021. CHECK THE WEBSITE IN WINTER 2020 FOR ABSTRACT SUBMISSION.

WE ARE LOOKING TO INCREASE OUR MEMBERSHIP, PLEASE SHARE THIS NEWSLETTER!

Featured Articles

Ophthalmic Technology Assessment Interventions for Indirect Traumatic Optic Neuropathy: A report by AAO Ophthalmology. PMID: 33161071.

Published evidence for corticosteroids, optic canal decompression and medical therapy for indirect TON does not show consistent benefit. Treatment strategies should be individualized.
https://www.aaojournal.org/article/S0161-6420(20)31041-1/fulltext

Ophthalmic Emergency Department Visits: Factors Associated with Loss to Follow-up

Am J Ophthalmol. PMID: 32882220.

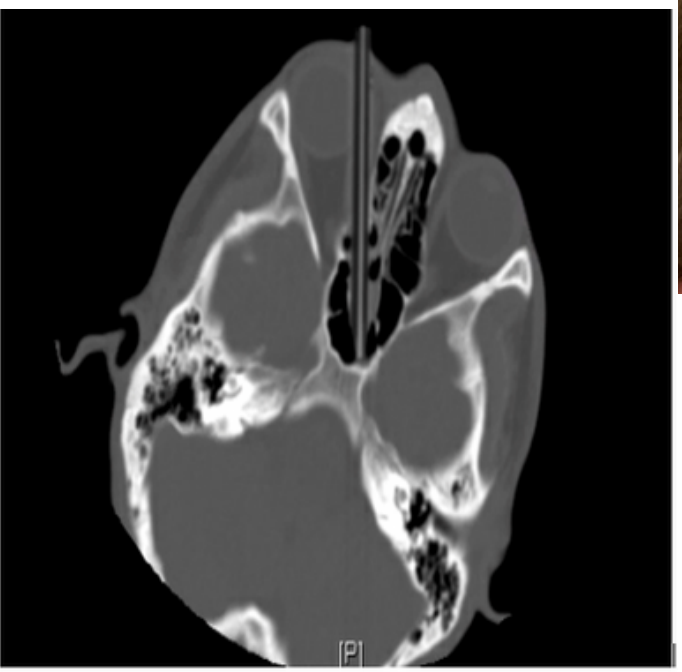
Being younger, having follow-up scheduled >5 days, visual acuity of 20/40 or better and being uninsured were associated with LTFU. ED revisit was higher in those LTFU.
https://www.ajo.com/article/S0002-9394(20)30467-0/fulltext

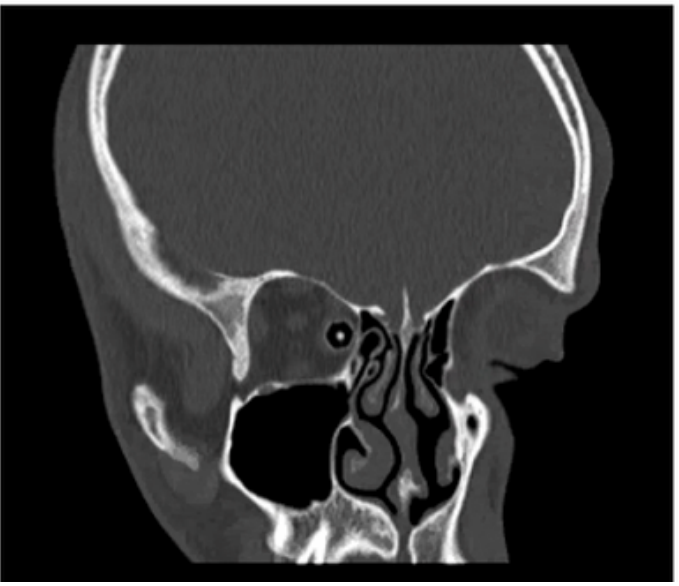
Featured Case

Cherie A. Fathy, MD, Deepak Ramesh, MD
Wills Eye Hospital, Philadelphia PA

A 17-year-old male presented to a local emergency room after using Lysergic acid diethylamide (LSD) for the first time. He had attempted suicide.

What would your next step be?
A. Remove the pencil at the bedside immediately.
B. Complete a neuro-ophthalmic examination and order a CT brain and orbits.
C. Place a pressure patch and take the patient to the operating room immediately for exploratory surgery.





B. A thorough neuro-ophthalmic examination revealed that all cranial nerves were intact. Extra-ocular muscles were unaffected. The patient denied diplopia, but did have some mild traumatic ptosis. A CT brain and orbits revealed the extent of penetration of the pencil in the orbit.

The CT scan revealed the pencil's trajectory to have spared the globe, traversing the orbital intraconal space , extending through the ethmoid and sphenoid sinuses, and resting at the skull base without penetrating into the intracranial cavity. After ruling out intracranial extension, and in consultation with neurosurgery, the pencil was removed in the operating room. A full-thickness eyelid incision was created to allow full visualization of the globe and rule out ocular injury. The pencil was then retrieved with Allis forceps, and care was taken to remove the entirety of the foreign object.

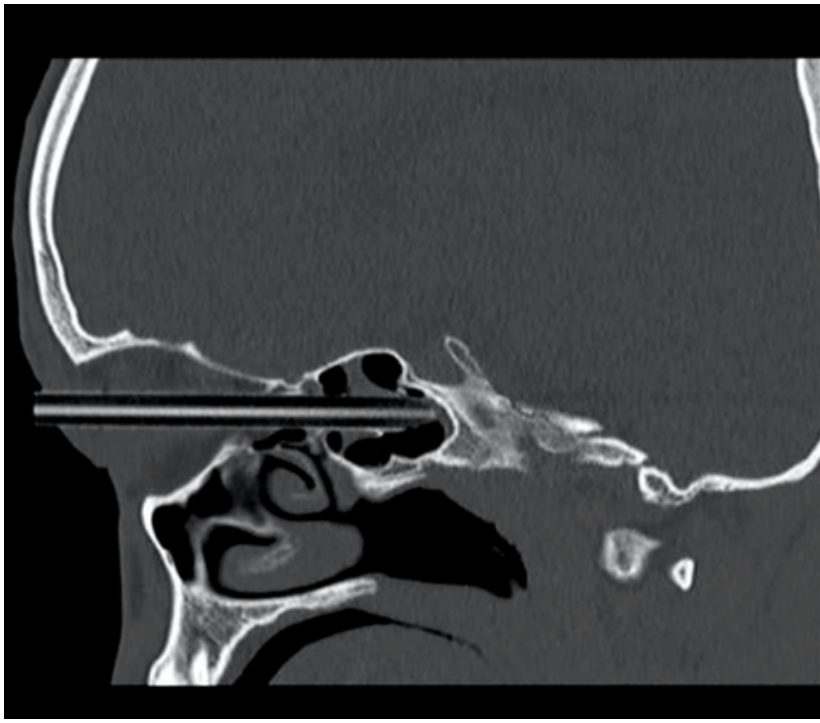
Case Comments

Orbital trauma is a leading cause of unilateral vision loss in childhood. Furthermore, retained intraorbital foreign bodies (OrbFBs) occur in 1/6th of all orbital trauma. Common mechanisms of injury include high velocity projectiles (ex. during combat), accidental injuries during play, suicidal attempts, and sports. Risk factors for OrbFBs include a known history of trauma, especially a history of explosion/gunshot wounds/metal striking metal/ pre-verbal children with unwitnessed injuries. They are more common amongst young males and working-aged men.

The medial canthal region and the superior orbital fissure are the most common entry sites into the orbit and/or the intracranial space. Furthermore, penetration into the superior orbital fissure can put the cavernous sinus at risk for injury. Causes of vision loss after an OrbFb include direct injury to the globe, traumatic optic neuropathy, compression of the ophthalmic artery within the optic canal, or involvement of critical neurological and/or vascular structures in the cavernous sinus.

Diagnosis is highly dependent on having a high index of suspicion and completion of a thorough history and physical. It is important to note, however, that occult foreign bodies may not show any symptoms or examination findings.

Radiologic examination may assist in identifying these occult foreign bodies or in characterizing the trajectory of these foreign bodies. A CT brain and orbits (with axial, coronal, and parasagittal views) for assessing degree of penetration and extent of injury (ex: extension to paranasal sinuses and intracranial space). Contrast may be used as needed to help identify cellulitis, abscesses, or fistulas. CT scans may be limited in identifying IOFBs with low Hounsfield density (ex. wood), which may not be seen as well. Similarly, graphite has a similar density to bone and can also be difficult to discern on CT. In these cases, once a metallic foreign body has been ruled out (or is at least <0.5mm in size), an MRI can be helpful for chronic orbital inflammation when organic or vegetative material is suspected.



Upon identification of an OrbFB, management depends on the patient condition, the type of foreign body identified, and surgeon expertise. Metallic foreign bodies that are small, inert, and deeply lodged without causing complications can be conservatively managed with observation. However, certain metals, such as copper, lead, or iron may need to be removed as they pose a higher risk for complications. Organic foreign bodies generally should be removed promptly as they tend to cause more inflammation and infection.

All patients with suspected OrbFBs or penetrating trauma should receive tetanus prophylaxis. Broad-spectrum antibiotics should be initiated, with attention to anaerobic/anti-fungal coverage if indicated, such as in the case of organic material. Furthermore, antibiotics with good blood-brain barrier penetration is recommended. In intracranial infections, a third-generation cephalosporin and vancomycin are often used.

Prevention of these injuries is particularly vital. Avoidance of high-risk behaviors, such as children running with sticks or playing with projectile toys or using protective eye gear when appropriate, is recommended.

Featured article: Orbital and Orbitocranial Trauma From Pencil Fragments: Role of Timely Diagnosis and Management. Am J Ophthalmol. PMID: 28554552 https://www.ajo.com/article/S0002-9394(17)30220-9/fulltext

New trauma surgical videos will be posted quarterly on the ASOT website (theasot.com). Make sure to check them out!

Instructor Courses
Point- Counterpoint on Managing Ocular Trauma; Session 234
Anterior Segment Trauma: Management for the On-call Ophthalmologist; Session 432
Principles of Pediatric Ocular Trauma Management: Session 416
Ocular and Ocular Adnexal Trauma: Principles, Challegnes and Enhanced Outcomes; Session 419
Open Globe Trauma: Surgical Management for the On-Call Ophthalmologists; Session 453
Controversies in the Management of Open-Globe Injuries involving the Posterior Segement; Session 698

Posters
Gun-Related Eye Injuries at a Level 1 Trauma Center; PO310
Patterns of Ophthalmic Consultation in Nonaccidental Trauma at a Pediatric Trauma Center; PO354
Ocular Trauma Caused by Gun Pellets During Civil Unrest in Kashmir; PO476
Prospective Evaluation of Demographic Profile of Ocular Trauma Patients and Prognostication of Visual Outcomes Based on OTS; PO220
Ocular Trauma During COVID-19 Stay-at-Home Orders; PO230
ED Visits of Eye Trauma in the U.S.: Incidence Disposition and Economic Burden; PO475
Ophthalmic Injuries Associated with Firearm Trauma in an Urban County Hospital; PO146
Nonpowder Firearm Ocular Trauma Emergencies; PO353
Sports-Related Ocular Trauma Emergencies; PO355
Posterior Segment Injuries During Operation Iraqi Freedom and Operation Enduring Freedom 2001-2011
Nationwide Guidelines for Prehospital Care of Ocular Emergencies; PO231
Outcomes of Pediatric Penetrating Globe Injuries; PO352
Characteristiscs of Patients with Sympathetic Ophthalmia and a Procedural History in the IRIS Registry Database; PO511
Characteristics Associated with Successful Visual Rehabilitation in Traumatic Cataract; PO010
Pediatric Traumatic Cataract Outcomes After Closed-Globe Injury Associated with Hyphema; PO356
Retrospective Analysis of Ophthalmic Injuries Secondary to Gunshot Wounds; PO314
Eye Injuries in Mixed Martial Arts; PO308
Incidence, Characteristics and Economic Burden of Orbital Floor Fractures in the United States from 2006-2017; PO313
Chemical and Thermal Ocular Burns in the United States: an IRIS Registy Epidemiologic Analysis
Trends and Incidence of Eye Injuries in Patients with Fall-related Hospitalizations; PO235
Characteristics of Orbital Floor Fractures Associated with Inpatient Open Globe Injuries: A Nationwide Study: PO309
Analyzing Clinical, Gameplay and Financial Impacts of Eye Injuries in the NBA; PO312
Visual Outcomes for Open Globe Injuries with Concomitant Orbtial Fractures; PO315
Incidence and Timing of OHT after Pediatric Closed Globe Traumatic Hyphema: Implication for Surveillance

Other
Academy Cafe: Ocular Trauma; SYM55V- live from 1205-1250 15 November
23-Gauge PPV for a Posterior Traumatic Retinal Incarceration; V26
Evisceration by Equatorial Sclerotomy Technique; V18