



ASOT NEWS



The American Society of Ophthalmic Trauma Newsletter

Rachel Israilevich, BS, and Allison Rizzuti, MD

Highlights from the 2023 ASOT Annual Meeting

The American Society of Ophthalmic Trauma concluded the first in person annual meeting on Saturday June 3, 2023, in New York City with nearly 90 attendees! The ASOT Annual meeting is where topics in ophthalmic trauma are discussed, explored, and celebrated. Presenters across all ophthalmic sub-specialties provided a wide range of topics for discussion. Our keynote speakers were Alice C Lorch MD, MPH who spoke about quality improvement and patient safety in ophthalmic trauma, and Tamara R Fountain, MD who presented an important lecture on dog bites in ophthalmic trauma. The interactive audience included medical students, residents, fellows, instructors, and professors who generated lively Q&A and discussion. Between discussions, medical students, residents, and fellows contributed to our poster sessions which included 28 posters displayed in the exhibit hall.

The ASOT Annual Meeting effectively highlighted the work of the best minds in ophthalmic trauma research from institutions all over the world. Congratulations to the 2023 ASOT Kuhn Award Winner, James Auran, MD and the 2023 ASOT La Piana-Mazzoli Award Winner, Richard Blanch, BSc(Hons), MBChB(Hons), MRCS(Ed), FRCOphth, PhD. James and Richard received a plaque, and special recognition during the meeting.

Congratulations to the 2023 Annual Meeting Poster Winners:

- Muhammad Ali, MD – Open Globe Repairs among Medicare Beneficiaries from 2011 to 2010
- Hassaam Choudhry, MD – Zone 1 Trauma; Wound Dehiscence Compared to Primary Trauma
- Hana Mansour, MD – Retinal Detachment after Commotio Retinae: Prevalence and Clinical Characteristics

Congratulations to the 2023 Annual Meeting Abstract/Case Presentation Winners:

- Grayson Armstrong, MD, MPH – Outcomes of Zone 3 Open Globe Injuries by Wound Extent
- Sruti Rachapudi, BS – Pediatric Toy-related Ocular Injuries in the US: A National Electronic Injury Surveillance System Study
- Heba Mahjoub, MD – Most Common Ophthalmic Diagnoses in Eye Emergency Departments: A Multicenter Study
- Sophie Gu, MD – Delayed Bacillus Endophthalmitis Due to Delayed Diagnosis of Metallic Intraocular Foreign Body: A Case Report

The ASOT Board of Directors truly appreciates your participation, and contributions to the ophthalmic trauma community. We are also sending a special thanks to our sponsors Columbia University Medical Center, and Oculus Surgical.

To view the full list of abstracts, presentations, posters, and the [annual meeting recording](#), please use the links we have included. If you attended the Annual Meeting and wish to obtain 4.5 hours of CME credit, please complete the [2023 ASOT Annual Meeting survey](#). We look forward to seeing you next year!



HOT OFF THE PRESS HIGHLIGHTS

Recent Publications in Ophthalmic Trauma

Predictors of Surgical Versus Medical Management of Eyes in the Setting of Orbital Fracture at an Academic Level I Trauma Center

<https://pubmed.ncbi.nlm.nih.gov/37253234/>

This retrospective study based out of a level I trauma center examined both clinical and imaging findings of orbital fractures to determine predictors of conservative follow-up, medical management, and/or surgical management. There were 224 eyes with confirmed orbital fractures included in analysis, of which 21.9% presented with concomitant serious ocular injuries with potential vision loss (including retrobulbar hematoma, corneal laceration, hyphema, globe rupture, retinal hemorrhage, choroidal hemorrhage, and choroidal rupture) and 68.8% had associated facial fractures.

In a multivariate analysis, clinical predictors of medical management included corneal abrasion, periorbital laceration, and traumatic iritis. Clinical predictors of surgical intervention included retinal hemorrhage, MVA injury, and diplopia, while imaging predictors included herniation of orbital contents and multiple wall fractures. These findings emphasize the need for a multidisciplinary approach to management of orbital trauma in order to optimize patient outcomes and minimize ocular morbidity.

Disparities Associated with Discharge Patterns in Firearm-Associated Ocular Trauma

<https://pubmed.ncbi.nlm.nih.gov/37166790/>

This retrospective analysis of the National Trauma Data Bank analyzed factors associated with discharge to an advanced care facility following admission for firearm-associated ocular trauma. There were 8,715 patients included in the study, of which 85.7% were male, 35% were African American, and 46.6% were White. On multivariate analysis, factors associated with a higher likelihood of discharge to an advanced care facility included hospital stays ≥ 6 days, age ≥ 65 , an associated traumatic brain injury or severe traumatic brain injury, White race, and Medicare-insurance status.

Even when considering injury severity and insurance status, African American and Hispanic patients were disproportionately sent home upon discharge. This study further highlights the disparities in disposition following admission for firearm-associated ocular trauma.



Q&A: Summertime, Fireworks Bring Higher Risk for Eye Injuries

Saghar Bagheri, MD, PhD; Isaac D. Bleicher, MD; Grayson W. Armstrong, MD, MPH; Anthony DeFino
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Summer ushers in the rise of outdoor activities and holiday festivities, and these pastimes bring more opportunities for vision-threatening injuries. According to the American Academy of Ophthalmology, an average of 280 people a day will go to the emergency room with fireworks-related injuries during the 2 weeks before and after July 4.



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Image: Adobe Stock

Saghar Bagheri, MD, PhD, resident representative of the American Society of Ophthalmic Trauma and resident physician at Mass Eye and Ear, the department of ophthalmology at Harvard Medical School, worked with Healio to present the insights of Grayson W. Armstrong, MD, MPH, director of ophthalmology emergency services at Mass Eye and Ear and board member of the American Society of Ophthalmic Trauma, and Isaac D. Bleicher, MD, director of the trauma service at Mass Eye and Ear, who shared tips on how ophthalmologists can prepare for the seasonal uptick of vision-threatening injuries, as well as their most memorable cases of fireworks-related injuries.

Q - Healio: Is there any notable difference in the number of ocular trauma cases this time of year compared with the rest of the year?

Armstrong: Summer is a busy time of year for eye trauma. People are outdoors more often, whether it is playing sports, hiking or spending time at the beach.

This increase in activity comes with an increase in risk factors for eye trauma, such as falls, projectile and sports ball injuries, and fireworks. Fireworks are especially concerning and are more common due to the Fourth of July holiday. Explosives that go off near the eye can cause serious damage.

Bleicher: There is a clear seasonality to ocular trauma, with the months of May to August representing the highest risk months. Sports and recreation account for more than 40% of all eye injuries, likely contributing the uptick in injuries in warm weather months. Most of these injuries are corneal abrasions and corneal/conjunctival foreign bodies, but more serious injuries such as orbital fractures, eyelid lacerations and open globe injuries follow a similar trend. The Independence Day holiday brings unique risk with the widespread use of fireworks, which cause uniquely devastating injuries.

Q - Healio: What are the most common fireworks-related injuries?

Armstrong: Fireworks can cause injuries to any part of the body, but the eyes are especially vulnerable. There are a few ways that fireworks can injure the eye: chemical injury, thermal injury and blast injury. Chemicals found within fireworks cause the amazing display of colors and explosions that we see during celebrations, but these can be harmful to the eye. The eye needs to remain at a normal pH, and if there is acidic or basic material exposed to the eye, it can lead to chemical burns and sometimes long-term problems such as limbal stem cell deficiency, scarring, cataract, glaucoma and even retinal toxicity. Thermal burns can also be damaging, with burns affecting the eyelids, face and ocular surface. This can lead to scars and cicatricial changes around the eyelids, leading to exposure, dryness and the need for subsequent surgery. Last but not least, blast injuries can be devastating for the eye. Explosions near the eye can lead to hyphema, damage to the iris or retina, or open globe injuries. They can also lead to eyelid or facial lacerations or facial fractures. All of these things are preventable if fireworks are used safely or avoided altogether.

Bleicher: While ophthalmologists often manage these categories of injuries from other causes, it can be hard to conceptualize the explosive power associated with fireworks. They are far more powerful and carry more caustic chemicals than anything the average person might be exposed to in day-to-day life. As a result, the injuries caused by these explosives tend to be severe and often have devastating consequences. Because of the nature of explosives, it is also not uncommon to have concomitant injuries to other body parts. A patient may be rendered blind and experience loss of fingers or a hand in the same event, requiring a multidisciplinary approach.

Q - Healio: How can ophthalmologists prepare for the inevitable influx of trauma during the summer?

Armstrong: Being prepared to manage eye and facial trauma is crucial. There are resources online to help prepare ophthalmologists to successfully repair open globe injuries, such as a recently published video-based open globe surgery curriculum. Ophthalmologists should also make sure that they are available to see urgent add-on patients who might come in as a result of trauma. Educating staff and technicians about the special care needs for patients with open globes or facial trauma can be helpful, such as the use of eye shields, prophylactic antibiotics and rapid surgical intervention. Lastly, working closely with local emergency rooms and hospitals to provide high-quality eye care is crucial, as these injuries rarely affect only the eye. Many times, hands and other areas of the body will require surgical intervention as well.

Bleicher: Our hospital aims to maintain high-quality reproducible care by creating standardized protocols for severe ocular injuries. For example, open globe injuries, corneal ulcers and alkali burns have specific assessments and treatment pathways that are clear for ophthalmologists who do not frequently see these injuries, trainees and non-ophthalmic providers. These types of protocols can be prepared ahead of time and ensure that each patient gets the highest-quality care possible.

Q - Healio: How should ophthalmologists educate the public about fireworks-related injuries?

Armstrong: Eye doctors are a trusted source of health information and are the most knowledgeable about the potential consequences of blast injuries. Be available to speak to local newspapers, radio stations and TV reporters. You can even proactively reach out to discuss these topics to educate the public.

Bleicher: Finding ways to reach out to your local community is critical. People should be encouraged to leave fireworks to professionals and watch from a distance. If they must use their own fireworks, it is imperative to wear safety glasses, maintain appropriate distance from the explosive, and follow all safety practices recommended by the manufacturer.

Q - Healio: Can you describe a memorable fireworks-related case?

Armstrong: A young man presented to our hospital after suffering a firework injury while alone at home. Unfortunately, he ended up with bilateral open globes, eyelid lacerations, and bilateral hand and arm damage. The resulting injuries led to him losing vision completely in both eyes and losing both hands. This level of severity of injury can be avoided with proper safety in the handling and utilization of fireworks or avoidance of fireworks altogether.

Bleicher: A pair of distressed parents brought in their 2-year-old child who had been given a sparkler to hold and poked themselves in the eye. The baby had corneal and conjunctival burns, a corneal abrasion and a conjunctival laceration. Thankfully, the baby avoided an intraocular injury but required extended anterior segment care. Fireworks are dangerous for people of all ages but are inappropriate for use by children. Even firework types that are thought to be benign can be dangerous.

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ASOT UPCOMING EVENTS - SAVE THE DATE!



August 4-5, 2023:
The International Society of
Ophthalmic Trauma
Cartagena
de Indias, Colombia.



American Society of Ophthalmic Trauma

OFFICE ADDRESS:
1935 County Road B2 W, Ste 165,
Roseville, MN 55113

EMAIL:
info@theasot.com

WEBSITE:
www.theasot.com