



## Greetings

### Dear Colleagues:

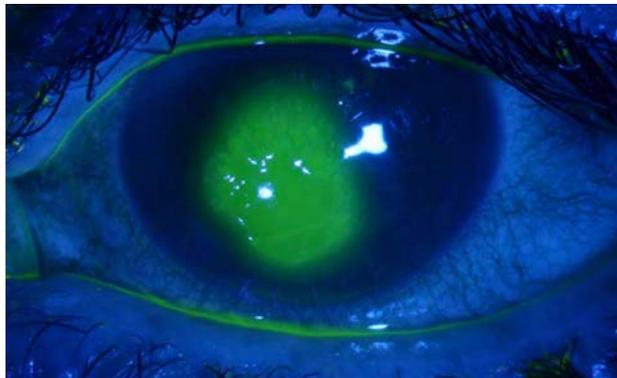
Welcome to the summer edition of *Pediatric Eye News*. As the hot summer months roll in and we spend more time outdoors, we see an increase in eye injuries. Therefore, this issue will focus on the diagnosis and management of pediatric eye trauma. As always, this newsletter provides a brief review of the latest journal literature and an "EyeQ Test" to challenge your ophthalmic knowledge. Electronic copies of the newsletter and detailed information about our outstanding physicians, services, and facilities can be found on our webpage at <http://childrensnyp.org/mschony/ophthalmology.html>.

## Ocular Trauma

Eye trauma is one of the leading causes of ocular morbidity in children, and each year an estimated 3.3 to 5.7 million pediatric eye injuries occur worldwide. In young children, most accidental injuries occur at home during casual play with other children, while older children and adolescents are more likely to be injured playing sports. Fireworks and BB guns are less common causes of injury but may lead to severe ocular damage.

When encountering a patient after trauma, the physician should obtain a full history from the patient and the family. All life-threatening injuries should be ruled out and/or treated. The ophthalmic assessment in the primary care office includes visual acuity, pupillary examination to assess size, symmetry, reactivity to light, and presence of an afferent pupillary defect, motility, an external examination of the head, an anterior segment and fundus examination. Serious trauma may require further imaging, such as a CT scan. When there is concern for significant injury to the eye, prompt referral to a pediatric ophthalmologist should be made.

Corneal abrasions are one of the most common types of ocular injury. Signs and symptoms of corneal abrasions include eye redness, blurry vision, eye pain, photophobia, and tearing. Pain from corneal abrasions is usually relieved with a topical anesthetic drop that is administered in the office. While this drop may help with the evaluation, the patient



should never be sent home with the medication as further damage to the eye may occur. In order to visualize the corneal abrasion, the examiner can place a drop of fluorescein dye into the cul-de-sac of the eye and shine the blue light from the direct ophthalmoscope. If the corneal epithelium is compromised, the cornea will fluoresce green. (See photograph above). Most small epithelial defects will heal within 2 days and can be treated with topical antibiotic drops or ointment in order to prevent infection. Cycloplegic drops may be helpful for pain control.

Corneal foreign bodies may present similarly to corneal abrasions. While a corneal foreign body may be seen with a penlight, a slit lamp provides a magnified view and may be needed to visualize the object. Superficial corneal foreign bodies can sometimes be removed in the office using a forceful irrigation stream or the tip of a cotton swab after a topical anesthetic is placed. If these methods are unsuccessful, a child may need to undergo anesthesia for removal with a sharp instrument. After removal of the foreign body, patients should be treated with topical antibiotic drops or ointment to prevent infection.

A hyphema is bleeding that collects in the anterior chamber of the eye and may occur after blunt ocular trauma. (See photograph on page 2). All patients with hyphema should be

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## Division News

The Division continues to welcome referrals and new patients at both of its Manhattan locations: The Stephen M. Ross Center for Pediatric Ophthalmology located on the 5th floor of the Morgan Stanley Children's Hospital of New York, and the Robert Burch Family Eye Center located at 15 West 65th St, on the first floor of the Lighthouse-Guild building.

## EyeQ Test:



1. True or False: Glaucoma is a late complication of blunt trauma.
2. There is a concern for a metallic foreign body in the eye. Appropriate workup includes all of the following except:
  - a. MRI
  - b. Dilated fundus examination
  - c. Pupillary examination
  - d. CT
3. Symptoms of a corneal abrasion include all of the following except:
  - a. Photophobia
  - b. Eye pain
  - c. Tearing
  - d. Purulent discharge
4. True or False: A patient with a ruptured globe can have 20/20 vision.
5. In addition to trauma, causes of hyphema include all of the following except:
  - a. Juvenile Xanthogranuloma
  - b. Retinoblastoma
  - c. Leukemia
  - d. Cataract

Answers: 1. True, 2. a, 3. d, 4. True, 5. d

## Journal Round-Up

Bregman and Donahue conducted a prospective, multicenter study evaluating a commercially available photoscreener in the general pediatric office. Eleven pediatric practices screened 3,134 children, ages 12 to 72 months. Children who failed, as well as several hundred controls who passed, were referred for a comprehensive eye exam by a pediatric ophthalmologist. Overall, 10% of children failed and were referred. Of those referred, amblyopia risk factors were confirmed in 47%, while 13.2% actually had amblyopia. None of the controls were found to have risk factors. The authors concluded that photoscreening is an effective and sensitive tool for children aged 12-72 months. (Bregman and Donahue. Validation of photoscreening technology in the general pediatrics office: a prospective study. *Journal of American Association of Pediatric Ophthalmology and Strabismus*. April 2016;20(2):153-158.)

## Ocular Trauma (continued from page 1)

referred to a pediatric ophthalmologist, as prompt evaluation and treatment is required. Intraocular pressure is monitored and can reach dangerously high levels. Patients with sickle cell disease are particularly at risk for this complication. Treatment of hyphema includes bed rest with head elevation, topical steroid and cycloplegic eye drops, as well as intraocular pressure lowering drops, as needed. Aspirin containing products and nonsteroidal anti-inflammatory medications should be avoided. Infrequently, surgical evacuation of a hyphema is required.

Penetrating traumas to the globe are vision threatening and unless an adult has witnessed the traumatic event,

this type of injury cannot be ruled out by history alone. Extensive subconjunctival hemorrhage with chemosis, distortion of the pupil, and a shallow anterior chamber are signs of penetrating trauma.



If there is any suspicion for this type of injury, the anterior segment and fundus must be thoroughly inspected and the patient should be referred to

a pediatric ophthalmologist for further workup and treatment.

It is widely reported that 90% of ocular injuries can be prevented. With proper education and preventative strategies, such as wearing eye protection and avoiding dangerous

activities, we can help our patients and their families have an enjoyable and injury-free summer!

## pediatric eye news

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