

# Pediatric Ocular Trauma

## PEDIATRIC OCULAR TRAUMA

### WHAT CAUSES EYE INJURIES?

Injuries to the eye and around the eye can be caused by blunt trauma from a ball or fist, sharp trauma such as a stick or projectile, or chemical trauma such as splash from a caustic substance like a cleaning material or pool supplies.

### WHICH PART OF THE EYE CAN BE INJURED?

Injuries to the eye can involve the eyelids, the bones surrounding the eye, and the eyeball

Sharp trauma from sticks or projectiles during play or while working around the house can injure the eyelids. If the eyelid tissue becomes cut or torn it may involve not only the eyelid but the structures that drain tears from the eye. Lacerations of the eyelid or the torn draining structure require evaluation by an ophthalmologist and may require repair in the operating room using microsurgical techniques. Any injury to the eyelid can also be associated with injury to the eyeball so a complete examination of the eye must be performed to make certain there is no injury deeper than on the surface of the eye.

### HOW CAN THE BONES OF THE EYE BE DAMAGED?

Fractures of the bones around the eye usually occur from blunt trauma, such as a sports injury or a fall with injury to the nose and cheekbone ([blow-out fracture](#)). Fractures are often detected by x-rays or a CT scan which also help determine if tissues surrounding the eye are trapped in the fractures. These injuries often require prompt surgical treatment to prevent long-term complications such as double vision, loss of vision, and abnormal appearance.

### WHAT ARE SOME COMMON INJURIES TO THE EYEBALL ITSELF?

The front, clear surface of the eye called the cornea can be scratched and often causes pain, redness and tearing. The physician usually makes the diagnosis by placing a yellow dye (fluorescein) into the eye, which highlights the scratch. Treatment involves using antibiotic eye drops/ointment and occasionally a



pressure patch on the eye. These injuries require close follow up with the ophthalmologist.

### **WHAT IF THE SCRATCH GOES DEEPER THAN THE SURFACE?**

Sharp objects (such as a stick, shard of glass, or metallic item) can cut through the surface of the eye causing a laceration. This type of injury places a child at risk for permanent loss of vision.

Lacerations require prompt attention (usually surgical intervention) by an ophthalmologist to prevent complications and maximize vision potential.

Can being struck with a ball or elbow during play cause damage inside the eye?

Yes. Blunt trauma can cause bleeding inside the eye which is called a hyphema. The blood in the eye can cause increased pressure, which can result in permanent vision loss. Trauma associated with swelling of the eyelid, red eye, pain, or discharge should be evaluated by an ophthalmologist promptly.

### **WHAT SHOULD HAPPEN IF A CHEMICAL OR CLEANING SOLUTION SPLASHES INTO A CHILD'S EYE?**

The first thing to do when any abnormal liquid gets into the eye is to immediately flush the eye with water. Rinsing the chemical out of the eye decreases the chance of long-term problems. The next step is to quickly contact your doctor or go to the emergency department for evaluation. It is important to know and tell your doctor the brand name of the chemical or solution to help the doctor determine appropriate treatment.

### **WHAT ARE THE MOST COMMON CAUSES OF EYE INJURIES IN CHILDREN?**

Pediatric eye trauma most often occurs at school or during play. Approved and tested eye and face protection is essential to prevent injuries. Protective goggles or full-face mask wear at all times for sports such as hockey, baseball, racquet ball, squash, and even baseball will help prevent eye trauma.

### **DO FIREWORKS STILL CAUSE EYE INJURIES?**

Each year hundreds of individuals (often children) sustain serious eye injury from fireworks used without appropriate supervision and precautions. Fireworks should only be used if approved for use in the home and children should never have access to either legal or illegal fireworks.



## WHAT SHOULD HAPPEN WHEN A CHILD GETS AN EYE INJURY?

A child that sustains an eye injury should seek immediate medical attention at an emergency room or directly from an ophthalmologist to assess the vision function and carefully examine all the structures of the eye. Frequent examinations until the eye is completely healed are often necessary.

**Updated 12/2020**