The Foolish Things Patients Do

Practitioners should educate their patients about the common and uncommon everyday risks of injury to the eye.

They say the eyes are the windows to your soul; the truth is that those windows are quite breakable. The delicate structure of the eye is easily susceptible to damage and one should always take extra measures to protect them. It is no secret that we take our eyes for granted, and far too often than not, a foolish act can get in the way of that protection.

While April Fool's Day—a holiday for tricks and pranks—kicked off this month, accidental incidents of ocular trauma thrive year-round. From a simple poke in the eye to a more serious paintball pellet incident, ocular traumas are frequent and often sight threatening. While optometrists may be fully aware of the possible risks and injuries to the eye, it is the patients who grace their waiting rooms that may not be so informed.

Paintball Pain

In 1985, Michael Easterbook, M.D., and Thomas J. Pashby, M.D., reported the first case of ocular trauma from a paintball injury. Since then, paintball has become an increasingly popular sport and, despite efforts to increase public awareness of paintball-related injuries and protective eye wear, the incidence of eye injuries has increased over time.

While ball bearing (BB) pellets and paintballs can achieve similar velocities, paintballs have a mass 10 times greater than BB pellets and tend to cause a different range of eye injuries. Paintballs are covered with a latex or gelatin shell that is designed to shatter on impact, which makes blunt trauma the most common mechanism of injury.

Additionally, because paintballs are designed to rupture on impact, they may cause ocular damage through mechanical deformation of the globe, specifically anterior posterior compression and equatorial expansion. One study reported the most common paintball-related ocular injuries to be hyphema, vitreous hemorrhage, commotio retinae, retinal hemorrhage and retinal breaks; 10 of the 14 subjects required some surgical intervention.

Fooling Around With Fireworks

Fireworks-related injuries are frequently seen around a variety of celebrations and festivities. Unfortunately, they are also responsible for a large number of blinding and fatal injuries worldwide. Injuries may result from direct high-velocity contact with the rocket, from parts of the rocket that break away during flights, or from debris propelled by the force of the rocket's combustion.

Half of all fireworks-related ocular injuries are caused by bottle rockets. In fact, one study specifically looked at bottle rocket injuries due to the severity of these injuries compared to other firework-related injuries and a high incidence in children. Injuries included periorcular burns, eyelid laceration, corneal epithelial defect, hyphema, vitreous hemorrhage, intraretinal hemorrhage, commotio retinae and retinal dialysis. Eight of the 11 eyes required primary intervention—which included lensectomy, corneal debridement, anterior vitrectomy, globe exploration and retinal laser photocoagulation.

Another study found that bottle rockets were responsible for 38.5% of all fireworks injuries and resulted in more frequent facial injury, intraocular foreign body, endophthalmitis and poorer final visual outcomes than other fireworks. As the old saying goes, it’s all fun and games until someone gets hurt—or, in this case, loses an eye.

A Contact Lens Conundrum

An especially foolish deed is the unauthorized use of noncorrective decorative contact lenses. These soft, zero power, hydrogel lenses augment the natural eye color and alter the physiology of the ocular surface.

Though decorative contact lenses are regulated as medical devices by the FDA and sold by prescription from licensed professionals, their use is largely unregulated. These lenses are frequently obtained by unlicensed vendors and sold to an eager, typically young, consumer base without a prescription or fitting. Internet sites, gas stations,
video stores and even flea markets sell decorative contact lenses with little thought to safety guidelines or instructions. This creates an alarming problem because as patients wearing these lenses are unaware of the necessary sanitary precautions and, consequently, do not adequately clean their lenses and often share them with friends.

Additionally, non-prescription lenses are not accurately fitted to the eye and can be too tight, which can cause corneal ulcers, edema, scarring and reduced visual acuity. Contact lenses that are worn without a proper fitting may also trap bacteria beneath the lens. One case report observed 12 patients that were seen for acute eye pain and redness after wearing plano decorative contact lenses. Of the 12, none of the patients were prescribed lenses for vision correction and many of the patients developed severe eye infections; one patient even required a penetrating keratoplasty. At least one patient had shared their lenses with a friend and seven patients admitted to overnight wear—one of the most significant risk factors for bacterial keratitis.

The FDA has taken a strong stance against the unregulated use of decorative contact lenses; it issued a warning in 2002 against the use of noncorrective decorative lenses without a prescription or professional fitting. However, there are still approximately three million people in the United States wearing cosmetic lenses, and at least 30% without vision correction. On a related note, there is also an alarming new fad among today’s youth concerning “circle lenses,” contacts with a tinted outer ring overlapping the white of the eye, making the iris appear much larger. While particularly popular in Asia, Americans have also recently taken hold of the dangerous trend. Because of their growing popularity and rabid unlicensed use, the American Academy of Ophthalmology released a statement in 2010 condemning the unregulated sale of the circle lenses, stating that they, “would like to alert consumers to the hazards of buying any decorative lenses, including circle lenses, without a prescription. Any type of contact lens is a medical device that requires a prescription, proper fitting by an eye care professional and a commitment to proper care by the consumer.” All in all, optometrists should strongly advise against over-the-counter use of all decorative lenses and recommend a proper fitting if they are of interest to the patient.

Hook, Line and Sinker
It is all too common for a misstep or a fumble to allow an ocular accident to occur, especially with various orbital foreign bodies. Accidental penetration to the eye is quite common—for example, picture a child with a pencil or a woman with a mascara wand.

One of the most common ocular penetrations involves the popular sport of fishing with its treacherous, free-flying hooks. Fishing-related ocular injuries often result in considerable visual loss. Preventive measures, such as the use of protective eyewear, should be insisted upon to prevent these foolish incidents.

Of 732 cases of sport-related ocular trauma, 19.5% occurred while fishing. Corneal laceration, globe rupture and hyphema were the most common diagnoses and were caused by fishing hooks, lures and weights. Unfortunately, as demonstrated by these ocular injuries, your patient’s trip can be ruined by a hooked eye instead of a hooked fish.

April Fool’s Day dates back to 1582 when Charles IX of France introduced the Gregorian calendar, forever moving New Year’s Day from April 1 to January 1. It took many years for the word to spread about the change in the calendar, causing some to be deemed “April Fools” due to their unintentional ignorance. With that in mind, let us take advantage of more modern communication technologies to educate and remind our patients about the ocular risks of certain perilous situations.