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AND

SHIELD

**It's up to
doctors of
optometry
to raise
awareness
about the
importance
of protective
eyewear at
work, at play
and at home.**

MELANIE
PADGETT
POWERS

Everyone is at risk for eye injury.

Doctors of optometry may have patients who work in manufacturing or construction, are active-duty military personnel, play softball or racquetball in their free time or simply spend their Saturdays mowing their lawn.

From 2007 to 2010, an average of 2.4 million eye-related visits were made to emergency departments each year, according to the Centers for Disease Control and Prevention. Experts say that 90 percent of eye injuries could have been prevented if an individual had been wearing the proper protective eyewear.

“The most common injuries are particles—such as a wood chip or metal fragment—hitting the front of the eye and becoming embedded,” says Karl Citek, O.D., Ph.D., chair of the AOA Commission on Ophthalmic Standards and a professor of optometry at Pacific University College of Optometry in Forest Grove, Oregon. “Typically, these occur because someone is not wearing protective eyewear or not wearing it properly.”

Dr. Citek adds that with protective eyewear, side shields are necessary; protection is needed not only from the front, but also from the sides for things like dust, fumes and chemical splashes.

Beyond treating and managing eye injuries, doctors of optometry have an opportunity to proactively encourage patients to consistently wear the right kind of protective eyewear for their job, task or sport.

Play time

Only about 21 percent of adults wear protective eyewear when playing sports, according to AOA’s 2015 American Eye-Q survey. “Sports-related ocular injuries are relatively common, and there are some sports where they’re a lot more common than others, particularly basketball, wrestling, hockey and soccer,” says Fred Edmunds, O.D., chair of the AOA Sports Vision Section and



president and chief medical officer of XtremeSight Performance Clinic in Victor, New York. Players may suffer a corneal abrasion from a finger to the eye or a direct hit to the eye from a ball or puck. Injuries can include a retinal detachment, subluxated crystalline lens or orbital floor fracture, known as a “blowout fracture.” A less serious, more common injury is a black eye.

Dr. Edmunds asks his patients

about the types of sports they play, informs them whether their particular sport is one with a higher risk of eye injury and discusses the types of protective eyewear available. The American Society for Testing and Materials creates the standards for eye protection for sports and other recreational activities.

Athletes may push back on wearing protective eyewear because they worry it will hinder their peripheral

vision. But today many manufacturers offer protective eyewear that maximizes peripheral awareness and does not impede play, Dr. Edmunds says.

Young athletes, in particular, might not be fond of the appearance of protective eyewear. “They don’t have the appreciation for the risk they are facing,” Dr. Edmunds says, “and earlier protective eyewear that we had to use even 10 or 20 years ago was ugly, so a lot of kids just say there is no way they are going to wear it.”

But times have changed, and popular brands such as Oakley and Nike, as well as less expensive manufacturers, make a variety of modern, stylish athletic goggles that can be worn with or without a prescription.

Doctors of optometry don’t need to have a sports niche to showcase the latest protective eyewear to their athletic patients. Optometric practices may want to consider staying up to date on the latest styles or even create a sports-related section in their optical shops. Dr. Edmunds suggests offering a package deal in which patient-athletes purchase their regular street eyewear and get a second, protective sports pair with the same correction at a discount, perhaps 50 percent off.

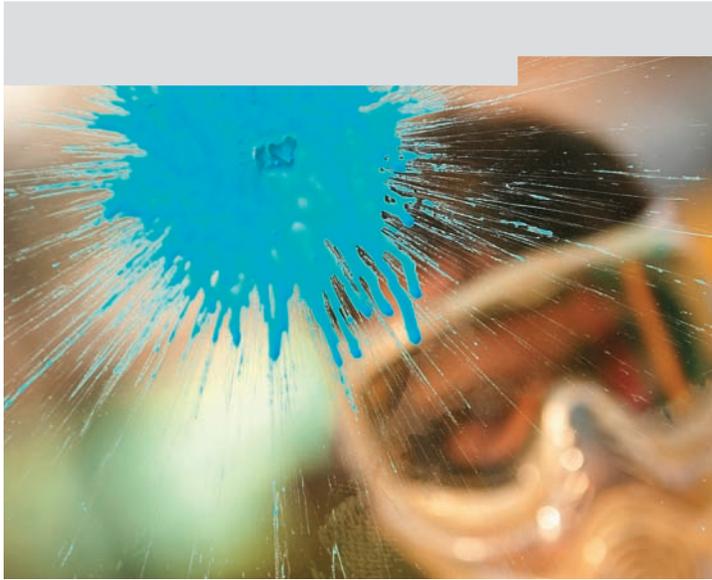
Such a deal can make the difference between parents choosing protective frames that are right for their child’s sport or allowing their child to play sports in regular eyeglasses, which is never recommended. “It shows them that you’re very concerned and sincere and want them to have this second pair that’s devoted to their active play,” he says.

Amanda Nanasy, O.D., a partner at the Eye Center in Pembroke Pines, Florida, who works with professional and collegiate athletes, recommends taking advantage of social media and your practice websites to educate parents and patients. Also,

More than
90 percent
of all eye injuries are preventable with the proper use of protective eyewear, according to the Agency for Healthcare Research and Quality.



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DO YOUR PATIENTS USE GUNS?

Doctors of optometry may not routinely ask about gun use, but it's important to know if patients are firing weapons while hunting, target shooting or even playing paintball.

While firing ranges and paintball centers require participants to wear eye protection, patients might not be following the strict standards when in their own backyards or out in the woods. Injuries can occur from misfires, or when the kickback of firing causes the scope to jerk backward into the eye.

Patients need to make sure their protective eyewear meets the ANSI Z87 standards and doesn't simply claim "impact resistant" on the package.

"Anyone shooting a gun should wear polycarbonate lenses certified for impact protection," says Amanda Nanasy, O.D., a partner at the Eye Center in Pembroke Pines, Florida.

Dr. Nanasy performs sports vision training with several World Championship-qualifying skeet shooters who combine their protective eyewear with a variety of tints that also offer a competitive advantage.

Every day in the U.S. **about 2,000 workers** have a job-related eye injury that requires medical treatment, according to the Centers for Disease Control and Prevention.

talk with patients about protective lenses that can reduce the risk of eye damage from ultraviolet light and visible blue light, keeping them at the top of their game. "Fine detail, contrast sensitivity, color saturation, glare recovery—all of those things could potentially be reduced if they have damage over time," Dr. Nanasy says.

On the job

Most adults in the U.S. spend the majority of their day working, and no matter the job, employees can be at risk for eye injuries. Every day in the U.S. about 2,000 workers have a job-related eye injury that requires medical treatment, according to the CDC. The majority of these injuries are from small particles or objects that hit or scratch the eye. However, the Agency for Healthcare Research and Quality reports that more than 90 percent of all eye injuries are preventable with the proper use of protective eyewear. The type depends on the task; there are a wide variety of goggles and face shields.

The American National Standards Institute (ANSI) Z87 Committee develops the standards for protective eyewear in occupational and educational settings (learn about the doctors who play a critical role in setting the safety standards that govern a global market in the May

2015 edition of *AOA Focus* at aoa.org/focus). “Whether it’s for welders or protection in a machine shop or woodworking shop, or protection from a chemical splash or blood-borne pathogens or anything like that, it would be covered by the Z87.1 standard,” Dr. Citek explains. Schools at all levels also are covered, providing requirements for students and teachers working with chemicals in biology or chemistry labs or tools in woodworking shops, for example.

One area ripe for injuries that many patients don’t think about until an accident happens is their home and yard. People clean their houses and do home improvement projects with toxic chemicals, Dr. Citek says, but they rarely consider wearing a protective face shield, which can be purchased inexpensively at a local home improvement store. In addition, most people mow their lawns and use a weed wacker without using protective eyewear to shelter their eyes from debris.

“A lot of people don’t realize that things they do around the home, even just mowing the lawn, could cause serious injury,” Dr. Citek says. “People don’t realize that’s equivalent to any other workplace injury and would require the same type of protection that a professional gardener or a professional landscaper would use.”

Dr. Citek says he believes it’s a doctor of optometry’s responsibility to ask patients about their recreational activities and household activities—in addition to what they do for a living—and to educate them about the need for protective eyewear for certain tasks. “They just need to be mindful of getting the proper eyewear for the task, so getting a pair of close-fitting glasses may be fine for a woodworking project but probably would not be adequate for a potential chemical splash.”



Serving the country

The U.S. military sees a combination of eye injuries incurred on the battlefield, in training and at home. In war zones, personnel are more at risk from blast-related injuries from an improvised explosive device, says U.S. Navy Lt. Cmdr. Brian Engesser, O.D., the Navy program manager of the Tri-Service Vision Conservation and Readiness Program at Aberdeen Proving Ground, Maryland.

“Fortunately, those aren’t the most common injuries,” Dr. Engesser says. “The most common are superficial ones like debris in the field.”

About 15 percent of all battlefield trauma injuries are to the eye, according to Department of Defense and Veterans Affairs statistics. In 2008, Congress passed the National Defense Authorization Act, creating the Vision Center of Excellence (VCE) at Walter Reed National Military Medical Center in Maryland. The VCE aims to be the leader in the prevention, diagnosis, mitigation, treatment and rehabilitation of military vision and eye injuries, according to VCE Director Capt. Penny Walter, O.D.

In 2011, the military developed an eye protection program that increased the protective eyewear options personnel could choose. Before that, there was one standard type of protective goggles and glasses across the branches. “It was not the most comfortable or visually appealing,” Dr. Engesser says.

Now, military personnel can choose from an Authorized Protective Eyewear List (APEL) that includes 15 goggles and 16 ballistic spectacles available from eight commercial vendors, including Oakley, ESS and Wiley X Inc. All meet the military standards for ballistic protection. “The advantage of this is they have a lot of choice, and that improves compliance, which reduces risk,” Dr. Engesser says.



“Over the past 10 years there’s been an increase in awareness of eyewear protection, and with the adoption of APEL, that has helped tremendously with protecting the eyes,” Dr. Walter says.

In January 2016 the military selected one universal prescription lens carrier so now all prescription lenses issued to personnel will fit with any protective goggle or spectacle. Previously, Dr. Engesser says, “each frame had a different shape and size so each lens had a different shape and size. Now it’s a lot easier to switch out goggles in the field if they are lost or damaged.”

The military continues to raise awareness about eye protection while also examining new, stronger materials and products to protect personnel across all branches. “You never really know the number of injuries you’ve prevented, [but] despite the increase in the number of injuries overall to soldiers, sailors and Marines, we’ve seen a reduction in eye injuries,” Dr. Engesser says.

Melanie Padgett Powers is a freelance health writer in the Washington, D.C., area.

► **Join the AOA’s Sports Vision Section, a group dedicated to advancing the quality and delivery of sports vision care through education, eye injury prevention and enhancement of the visual performance of athletes. Visit aoa.org/svs to learn more.**

MILITARY CAMPAIGN EDUCATES CIVILIANS, TOO

An eye protection awareness campaign developed by the military can be an effective educational tool for doctors of optometry to use with their civilian patients as well.

Shields Save Sight—created by the Vision Center of Excellence (VCE) at Walter Reed National Military Medical Center in Maryland—educates military personnel and their families on how to respond to an eye injury.

“We know that bystanders, not medical personnel, are often the first on the scene of an eye injury,” says VCE Director Capt. Penny Walter, O.D.

The campaign teaches people that, unlike with other wounds, you never apply pressure to an eye injury, and how best to protect an eye until help arrives. Individuals are advised to remember the three Ses:

1. **Survey the situation.** If the injury is from a chemical, wash out the eye extensively.
2. **Shield the eye.** Protection over the eye can be improvised by items that provide a hard dome over the eye, such as cutting out the bottom of a cup or taping sunglasses over the eye. Gauze should not be placed under the shield.
3. **Seek care.** Don’t put pressure on the eye, and seek medical care.

► **Learn more at vce.health.mil/resources/products/brochures/saving-sight.**