

Eye Safety in Sports

- Wearing eye protection has been shown to reduce the risk of significant eye injury in sports by 90%.
- Individuals who are functionally one-eyed (whose best corrected vision in their weaker eye is 20/40 or worse) should wear eye protection during all sport and recreational activities.

BACKGROUND

The eye injury rate in high school athletes is estimated at 1.10 per 100,000 athlete exposures and comprises approximately 0.4% of all injuries in high school athletes. Though such injuries are rare, the loss of an eye has significant lifelong consequences. Since certain sports present great potential for serious damage to an athlete's vision, eye injuries represent an important source of preventable injury in high school sports. Appropriate and properly fitted eye protection has been shown to reduce the risk of significant eye injury by at least 90%. In 2004 the NFHS implemented an eye protection requirement for girl's lacrosse. Since then, there has been a dramatic reduction in eye injuries in this sport.

The actual eye injury risk of specific sports has not been extensively studied. The risk is directly related to the use of hard, high-speed projectiles, sticks, and players competing in close contact with each other. A joint policy statement from the American Academy of Pediatrics and the American Academy of Ophthalmology categorizes the eye injury risk in specific sports and provides recommendations for eye protection in selected sports. In high school sports, baseball and basketball account for the highest number of eye injuries, primarily due to the high participation levels in these sports.

One-third of all students participating in sports require corrective lenses. Polycarbonate plastic lens material is the most shatter-resistant material, and should be used for all sports eyewear. Contact lenses cannot protect the eye from direct blows and, therefore, athletes that wear contacts also need appropriate eye protection.



PROTECTIVE EYEWEAR OPTIONS

There are four basic types of eyewear. Only two of these types are approved for eye protection in high eye-injury risk sports. These may be in the form of a goggle (with or without lenses), a face-supported protector or a protector attached to a helmet. They include:

1. Sports eyewear that conforms to the American Society for Testing and Materials (ASTM) standard F803 for selected sports (racket sports, baseball, basketball, women's lacrosse, and field hockey).
2. Sports eyewear for sports in which the ASTM F803 eyewear standard is inadequate or the eyewear is attached to a helmet. This group of eyewear includes those for which there are other standard specifications, such as ice hockey (ASTM standard F513) and alpine skiing (ASTM standard 659).

Two types of eyewear that are not approved for eye protection in high eye-injury risk sports include street-wear glasses and sunglasses (American National Standards Institute (ANSI) standard Z80.3) and safety-type eyewear mandated by OSHA for industrial and educational uses (ANSI Z87.1).

The National Operating Committee on Standards in Athletic Equipment (NOCSAE – www.nocsae.org) certifies the face protectors, which are attached to a helmet, for use in men's lacrosse and football.

RECOMMENDATIONS FOR EYE SAFETY

- The wearing of protective eyewear should be considered in all sports and activities that involve a ball, puck or stick that could cause ocular damage.
- Eye protection is essential for athletes who are functionally one-eyed (best corrected vision in their weaker eye is 20/40 or worse).
- Streetwear and fashion eyeglasses and sunglasses do not provide sufficient protection.
- Eye protection that is damaged or yellowed with age should be replaced, as it may no longer offer optimal protection.