



## FIMS Position Statement

### Eye Injuries and Eye Protection in Sports

The International Federation of Sports Medicine (FIMS) calls attention to the fact that, while injuries in sports can be relatively frequent, they are almost completely preventable. Loss of sight, even in one eye, involves changes in lifestyle for the individual and serious financial and social consequences both for the individual and for society as a whole. It is imperative that sport eye injury risk be reduced to as low a level as possible by enforcement of existing safety rules or by rules changes, where applicable. All athletes should be prescribed eye protectors where appropriate to the sport. Sports can be classified on the basis of low risk, high risk, and extremely high risk for eye injury. Most sports that pose risk for unprotected eyes can be made quite safe with the use of appropriate protective devices. Eye examination and counseling should play an important part in the screening physical examination for every athlete prior to sports participation. The athlete deserves a careful explanation of the risk of eye injury, both with and without various types of eye protectors in the proposed sport. Athletes who are functionally one-eyed must have their status diagnosed and appropriate eye protection prescribed. Glass lenses, ordinary plastic lenses, and open (lenseless) eyeguards do not provide adequate protection for those involved in active sports. In

many situations, their use can increase the risk for and the severity of eye injury. As contact lenses do not protect the athlete from serious eye injury, they should only be worn in combination with recommended sport eye protectors. Eye Injury Risk in Sports

Eye injury risk is almost totally related to the particular type of sport. Low risk sports do not involve a thrown or hit ball, a bat or a stick, or close aggressive play with body contact. Examples include track and field, swimming, gymnastics, and rowing. Sports with high risk of eye injury (when protective devices are not being worn) involve a high speed ball (or puck), the use of a bat or stick, close aggressive play with intentional or unintentional body contact and collision, or a combination of these factors. Examples include hockey (ice, field, and street), the racket sports (racquetball, squash, tennis, badminton), lacrosse (men's and women's), handball, baseball, basketball, football (U.S., Canadian, Australian), soccer, and volleyball. The incidence of serious eye injury in these sports is a source of great concern, but adequate eye protective devices are available. Sports involving extremely high risk for eye injury are the combative sports such as boxing and full-contact karate for which effective eye protective devices are not available. The

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functionally one-eyed athlete should be strongly advised against participation in such sports.

### **Other risk factors**

It is suspected but not yet proven that risk for eye injury may also be related to physical development, skill level, and existing visual impairment. It is believed that a beginner is more prone to injuries than are intermediate or advanced players because beginners have not yet learned or refined the necessary skills to master the sport. However, in such sports as hockey, squash, and racquetball, highly skilled athletes play a faster game with more aggressiveness and, thus, may be subject to higher eye injury risk than other participants. Any eye condition that could be made worse if the eye were to be struck places that athlete at increased risk of serious eye injury. Athletes with retinal degenerations, thin schlera, prior eye surgery (including cataract surgery, retinal detachment surgery, and radial keratotomy), prior serious eye injury, or eye disease should seek consultation with an ophthalmologist before participating in a sport.

### **The functionally one-eyed athlete**

Sports participants with one good eye are at particular risk since a serious injury to the good eye could leave the person with a severe visual handicap or permanently blind. Any person with good vision in only one eye should consult with an ophthalmologist on whether or

not to participate in a particular sport. If a decision is made to participate, then the person should wear maximum protection for the particular sport for all practice sessions and for competition. A person is functionally one-eyed when loss of the better eye would result in a significant change in lifestyle due to poorer vision in the remaining eye. There is no question that a person with 6/60 (20/200) or poorer best-corrected vision in one eye is functionally one-eyed since loss of the good eye would result in legal or total blindness, with its attendant burden both to the individual and society. One the other hand, ophthalmologists believe that most persons with one eye function quite well with 6/12 (20/40) or better vision in that eye. Every athlete who tests less than 6/12 (20/40) with glasses, if worn, on the screening examination should be evaluated by an optometrist or an ophthalmologist to determine if the subnormal vision is simply due to a change in refraction. If the best-corrected vision in either eye is less than 6/12 (20/40) after refraction, ophthalmological evaluation to obtain a definitive diagnosis of the visual deficit is indicated. If the athlete is functionally one-eyed, the potential serious, long-term consequences of injury to the better eye should be discussed in detail.

### **Eye protectors**

Most eye (and face) injuries could be prevented or, at least, the effects of such injuries minimized by using protective eyewear.

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Normal "streetwear" eyeglass frames with 2 mm polycarbonate lenses give adequate, cosmetically acceptable protection for routine use by active people. Such protective glasses are recommended for daily wear by the visually impaired or functionally one-eyed athlete. They are also satisfactory for athletes in competition who wear eyeglasses and participate in low risk sports. Molded polycarbonate frames and lenses (plano/non-prescription protective eyewear) are suggested for contact lens wearers and athletes who ordinarily do not wear glasses but participate in moderate to high-risk, non-contact sports (e.g., racket sports, baseball, basketball). In high risk contact or collision sports, they can be used in combination with a face mask or helmet with face protection for additional protection. Such protective glasses are recommended to the functionally one-eyed athlete who does not require prescription protective eyewear in the good eye to be used in combination with a face mask and helmet for higher risk contact sports. Face masks or helmets with face protection are

required for use in the high risk contact or collision sports (e.g., ice hockey, U.S. football). The face mask may consist of metal wire, coated wire, or a transparent polycarbonate shield. When protective eyewear has been employed in racket sports and face protection devices employed in hockey, eye injuries have been eliminated.

### **Routine examination**

General practitioners providing medical screening for athletes should have facilities for vision testing and basic eye examination at their disposal and be aware of both the basic principles of eye protection in sports and the available protective eyewear. It is recommended that athletes have their vision tested and eyes examined on a regular basis. Vision or eye problems are best corrected by an eye care specialist when detected early. An examination also offers an opportunity to discuss any sports vision needs and the most appropriate type of protective eyewear.

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