



There's more to lose than the game.
Use protective eyewear.

Sports-Related Eye Injuries:

What You Need to Know and Tips for Prevention

Speaker's Guide



Title Page Slide

Speaker's Text:

This presentation provides information about the following:

- Sports-related eye injuries
- The financial cost of eye injuries
- The importance of eye exams
- The prevention of eye injuries
- The benefits of protective eyewear
- Additional information

Sports and Eye Injuries

- Eye injuries are the leading cause of blindness in children.
- Every 13 minutes, an ER in the United States treats a sports-related eye injury.
- Most eye injuries among kids aged 11 to 14 occur while playing sports.



Slide 2

Speaker's Text:

- Eye injuries are a leading cause of blindness in children.^{1*}
- Every 13 minutes, an emergency room in the United States treats a sports-related eye injury.^{2*}
- Most eye injuries among kids aged 11 to 14 occur while playing sports.^{3*}
- Each year in the United States, more than 100,000 eye injuries are estimated to be sports-related.⁴ More than 42,000 of these sports-related eye injuries require a visit to an emergency room.⁵
- One-third of sports-related eye injuries involve children.⁶

* Represent the facts already in the slides. These are present for citation purposes only.

Sports and Eye Injuries



- Baseball is a leading cause of eye injuries in children 14 and under.
- Basketball is a leading cause of eye injuries among 15- to 24-year-olds.



Slide 3

Speaker's Text:

- Baseball is a leading cause of sports-related eye injury in children aged 14 and under.^{7*}
- The leading cause of sports-related eye injuries among 15- to 24-year-olds is basketball.^{8*}
- About 13,500 of sports-related eye injuries result in permanent loss of sight.⁹
- Boys aged 11 to 15 were up to five times more likely to sustain eye injuries requiring hospital treatment than girls of the same age. Most of these injuries are related to sports and projectiles, including toys, guns, darts, sticks, stones, and air guns.¹⁰

Financial Cost of Eye Injuries

- Sports-related eye injuries represent a significant eye health hazard worldwide.
- Sports-related eye injuries cost \$175 to \$200 million a year.
- Hockey face protectors have saved society \$10 million a year.
- Use of protective eyewear can decrease insurance costs.



Slide 4

Speaker's Text:

- Sports-related eye injuries represent a significant eye health hazard worldwide. In the United States, it is estimated that sports-related eye injuries account for more than 100,000 physician visits per year at the cost of more than \$175 million.¹¹
- Because nearly all sports-related eye injuries are preventable, the potential economic savings resulting from the prevention of these injuries is great. There is no question that prevention of traumatic sports-related eye injuries is cost-effective.¹²
- As an example of potential savings, in 1980 dollars, hockey face protectors have saved society \$10 million a year.^{13*}
- The average cost of an eye injury to a child under the age of 15 playing basketball is \$3,996.¹⁴

Eye Exams



- A comprehensive eye exam is important for everyone.
- Exams may detect pre-existing eye conditions in athletes.
- Not all athletes have had their eyes examined.



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Speaker's Text:

- Comprehensive eye exams should be part of a regular physical for an athlete, especially for those who have pre-existing eye conditions or with a family history of eye disease.
- Vision is as integral to a child's athletic development as encouragement, technique, practice, or natural ability.
- A thorough examination before participating in athletics can determine pre-existing eye conditions that need to be addressed.
- Sports-related injuries often result in vision loss.

Health Providers Should Advise



- Family physicians, ophthalmologists, optometrists, and other health care providers play a critical role in advising patients to use protective eyewear.



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Speaker's Text:

- Sports-related eye injuries are quite common, yet the number of athletes who use protective eyewear is extremely low.¹⁵
- Family physicians, ophthalmologists, optometrists, and others play a critical role in providing patients with information about preventive measures.^{16*}
- Primary care physicians can help prevent eye injuries by recommending the use of eye protectors with polycarbonate plastic lenses for most athletes, regardless of whether they have normal vision or they wear glasses or contact lenses.¹⁷
- Medical and eye care professionals have a responsibility to advise patients of potential eye injuries in sports and the available methods of protection against injury.¹⁸

Sports with the Highest Rates of Eye Injuries



- Baseball/Softball
- Ice Hockey
- Racquet Sports
- Basketball



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Speaker's Guide:

- Sports are classified into three risk categories: high, moderate, and low. Baseball/softball, ice hockey, racquet sports, basketball, fencing, lacrosse, paintball, and boxing are all at high risk for eye injuries.¹⁹
- Racquet sports include badminton, table tennis, tennis, racquetball, and squash. Thirty-seven cases of ocular injury while playing racquetball were found in reviewing records of 1,071 emergency room patients in a three-month period. Protective eyewear is strongly recommended to help prevent racquetball injuries.²⁰
- Batted baseballs are 3.5 times more likely to cause eye damage than a pitched ball. Unfortunately, most players do not use protective eyewear when they are not at bat.²¹
- Hockey face protectors have saved society \$10 million a year.²²
- One in 18 college athletes will sustain an eye injury; the odds are 1 in 10 for basketball players.²³

Sports with the Highest Rates of Eye Injuries



- Fencing
- Lacrosse
- Paintball
- Boxing



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Speaker's Text:

- Before mandating protective eyewear, eye injuries occurred 15 times more often in women's lacrosse than men's.²⁴
- Although eye protective devices designed for paintball are extremely effective in preventing injuries, the failure to properly wear these devices has resulted in an alarming number of severe ocular injuries.²⁵

Protective Eyewear



- Protective eyewear may prevent 90 percent of sports-related eye injuries.
- Experts agree that protective eyewear must meet ASTM standards.



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Speaker's Text:

- Ninety percent of sports-related eye injuries may be prevented with protective eyewear.²⁶
- Prevention is the best and most effective treatment. While surgery is an option in the most extreme cases, it can be avoided by taking the necessary steps to protect a child's sight. Regular eye exams are the first step.
- Getting a child the proper sport-specific protective eyewear is the key factor in prevention.
- The American Society for Testing and Materials has established protective eyewear requirements for each sport. These standards are posted on the American Optometric Association Website at <http://www.aoa.org/x7679.xml>.
- Many youth and children's teams don't require eye protection, so parents must insist that their children wear safety glasses or goggles whenever they play. Parents must also remember to set a good example by wearing eye protection themselves.

Protective Eyewear

- All kids need protective eyewear.
- Ordinary prescription glasses do not provide adequate protection.
- Eyewear should be sport-specific and sit comfortably on the face.
- Protective eyewear is usually made of polycarbonate.



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Speaker's Text:

- All kids need protective eyewear regardless of whether or not they wear glasses or contacts.
- Protective eyewear includes safety glasses and goggles, safety shields, and eye guards specially designed to provide the correct protection for a certain activity. Ordinary prescription glasses, contact lenses, and sunglasses do not provide adequate protection in eye-hazardous situations. Safety goggles should be worn over them.^{27*}
- Polycarbonate lenses provide the best eye protection for many sports. They are lightweight, scratch-resistant, thin, and can be designed to meet most eyewear designs or prescriptions. Polycarbonate is 10 times more impact-resistant than other materials.²⁸

Benefits of Protective Eyewear



- Many sports-related eye injuries result in permanent vision loss.
- Protective eyewear will keep you in the game rather than on the bench with an eye injury.



Slide 11

Speaker's Text:

- Protective eyewear will reduce the number of sports-related injuries.
- Some athletes can even play better because they are less afraid of getting injured or hit in the eye.
- Studies show protective eyewear does not hinder the player's sight while participating in athletics.

Keeping Eyes Safe



- Talk to your eye care provider about the appropriate type of protective eyewear for your sport.
- Have an eye exam.



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Speaker's Text:

- Visiting an eye care professional regularly is critical in maintaining good eyesight. They can help identify specific needs. Making healthy vision a priority when a person is young may encourage better vision habits in the future.
- Sporting goods stores carry an assortment of protective eyewear. The protective eyewear is sport-specific with the proper American Society for Testing and Materials standards written on the packaging, making it easy to decide which pair is best suited for each athletic activity. The eyewear should sit comfortably on the face, and not slide off. Trying on several pairs before making a final decision is important.
- Specific standards are posted on the American Optometric Association Website at <http://www.aoa.org/x7679.xml>.

Resources

- Kids' Website: <http://isee.nei.nih.gov>
- Webpage for Parents, Coaches, and Teachers: <http://www.nei.nih.gov/sports>



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Speaker's Guide:

- The See All You Can See Website is a great resource for raising awareness about sports-related eye injuries in children and the importance of using protective eyewear. There are activities for children as well as information for parents and coaches.
- The website contains resources and activities specifically for children. It provides a fun and stimulating way to inform children about eyes, sports-related eye safety, and the need for protective eyewear in sports. Included on the site are downloadable coloring pages for children to print out and color.
- The Webpage for Parents, Coaches, and Teachers has resources about sports-related eye injuries and the importance of using protective eyewear for parents, coaches, and teachers.
- The Educational Resources and Materials page provides several downloadable resources for children, parents, coaches, and teachers. They can use the materials to inform themselves about sports-related eye injuries and the need for protective eyewear.
 - The Children's Eye Safety Calendar is fun, colorful, and fact-filled. Children will enjoy reading the fun facts about eyes and eye injuries, as well as sports trivia, but it is also a great way to teach school-aged children about sports-related eye injuries and the need for protective eyewear. They can easily be posted in locker rooms and classrooms.
 - Drop-in articles spread the word about sports-related eye injuries and the need for protective eyewear. They are easy to read and can be circulated quickly.

Citations

- ¹Harrison, A., & Telander, D.G. (2002). Eye Injuries in the youth athlete: a case-based approach. *Sports Medicine*, 31(1), 33-40.
- ²U.S. Consumer Product Safety Commission. (2000). *Sports and recreational eye injuries*. Washington, DC: U.S. Consumer Product Safety Commission.
- ³American Academy of Pediatrics, Committee on Sports Medicine and Fitness, American Academy of Ophthalmology, Eye Health and Public Information Task Force. (2004). Protective eyewear for young athletes. *Ophthalmology*, 111(3), 600-603.
- ⁴Napier, S.M., Baker, R.S., Sanford, D.G., & Easterbrook, M. (1996). Eye injuries in athletics and recreation. *Survey of Ophthalmology*, 41(3), 229-244.
- ⁵Berman, P. (2006). Why do we need to decrease sports-related eye injuries? PowerPoint presentation at the Sports Eye Injury Meeting, June 1-2, Bethesda, MD.
- ⁶Vinger, P.F. (1990). Prevention of sports injuries. *Journal of Ophthalmic Nursing & Technology*, 9(5), 210-214.
- ⁷Ducharme, J.F., & Tsiaras, W.G. (2000). Sports-related ocular injuries. *Medicine & Health Rhode Island*, 83(2), 45-51.
- ⁸U.S. Consumer Product Safety Commission, 2000.
- ⁹Berman, 2006.
- ¹⁰American Academy of Pediatrics, Committee on Sports Medicine and Fitness; American Academy of Ophthalmology, Eye Health and Public Information Task Force, 2004.
- ¹¹Napier et al., 1996.
- ¹²Tolpin, H.G., Vinger, P.F., & Tolpin, D.W. (1981). Ocular sports injuries. Economic considerations. *International Ophthalmology Clinics*, 21(4), 179-201.
- ¹³Vinger, P.F. (1981). Sports eye injuries a preventable disease. *Ophthalmology*, 88(2), 108-113.
- ¹⁴Prunella, W. (1999). Average societal cost of body part injured. Injury cost model. Bethesda, MD.
- ¹⁵Miller, B.A., & Miller, S.J. (1993). Visual fields with protective eyewear. *The Journal of Orthopedic and Sports Physical Therapy*, 18(3), 470-472.
- ¹⁶Silko, G.J., & Cullen, P.T. (1994). Indoor racquet sports injuries. *American Family Physician*, 50(2), 374-380, 383-384.
- ¹⁷Farber, A.S. (1989). Preventing eye injuries. What to tell patients. *Postgraduate Medicine*, 89(5), 121-122, 127-128.
- ¹⁸Vinger, 1990.
- ¹⁹Joint Policy Statement of American Academy of Pediatrics, Committee on Sports Medicine and Fitness; American Academy of Ophthalmology, Eye Health and Public Information Task Force. (2004). Protective eyewear for young athletes. *Ophthalmology*, 111(3), 600-603.
- ²⁰Doxanas, M.T., & Soderstrom, C. (1980). Racquetball as an ocular hazard. *Archives of Ophthalmology*, 98(11), 1965-1966.
- ²¹Berman, 2006.
- ²²Vinger, 1981.
- ²³Berman, 2006.
- ²⁴Ibid.

²⁵Fineman, M.S. (2001). Ocular paintball injuries. *Current Opinion in Ophthalmology*, 12(3), 186-190.

²⁶Harrison et al., 2002.

²⁷American Academy of Ophthalmology.

²⁸Conn, J.M., Annet, J.L., Gilchrist, J., & Ryna, G.W. (2004). Injuries from paintball game-related activities in the United States, 1997-2001. *Injury Prevention*, 10(3), 129-143.