

Preventing Eye Injuries in Youth Baseball Players: A Coach's Perspective

Elie Côté, MD Candidate¹

¹Faculty of Medicine, University of Toronto

I remember the first time I saw a baseball player suffer an eye injury. At the time, I was a baseball coach for a competitive youth team. The batter on the opposing team had just hit the baseball, and it smacked the pitcher directly in the orbit. Everyone in the crowd gasped, and he immediately fell to the ground in obvious discomfort. Fortunately, he walked away with a minor periorbital contusion – colloquially known as a “black eye” – and suffered no major injuries to his eye or orbit. After witnessing this injury, I began wondering why the use of eye protection is not widespread in youth baseball. It seems like a simple way to reduce eye injuries, especially given that baseball is becoming increasingly popular in Canada.

According to Baseball Canada, over 120,000 Canadians played baseball in 2016, representing a 14% increase from the previous year.¹ Unfortunately, as illustrated before, participation in baseball comes with the risk of eye injury. In fact, baseball is the leading cause of sport-related eye injury in youth aged 5-14.^{2,3} Consequently, it is also one of the leading causes of sport-related eye injury visits to the emergency department.^{4,5} Most of these injuries result from blunt trauma of the baseball to the orbit.⁶ Blunt trauma can cause many ocular injuries, such as eyelid lacerations, corneal abrasions, hyphema, orbital blowout fracture, and globe rupture. Although many of these injuries will not cause long-term damage, severe eye injuries can lead to visual impairment or blindness.⁵ This has the potential to negatively affect quality of life, and to increase rates of depression later in life.⁵ Thus, there is a need for increased effort to prevent eye injuries in youth baseball players.

Eye protection is a solution to prevent injuries. This includes facial guards attached to players' batting helmets and eye goggles worn by players on the field. It is estimated that up to 90% of ocular injuries are preventable by wearing eye protection.² Furthermore, a prospective cohort study by Danis et al. shows a 28% lower incidence in oculofacial injuries after a single baseball season in players wearing facial guards compared to those not wearing protection.⁷ Unfortunately, baseball is a sport in which very few players wear any type of eye protection. In the United States, only 23.9-27.5% of sur-

veyed T-ball leagues and Little Leagues used face guards in at least one of their divisions.⁸ As a former baseball coach, I can anecdotally attest to the low rate of protective eye equipment use. During my eight years of coaching youth baseball, I rarely saw players wearing eye protection.

Several barriers exist to the use of eye protection. A number of these issues are related to design, functionality and appearance. For example, players wearing facial guards on their helmets report discomfort and visual obstruction.⁷ Furthermore, players are also concerned about the appearance of this equipment. As a coach, players would frequently tell me that they would never wear eye protection because it “looked funny”. Companies should consider engaging youth in designing protective equipment in order to maximize design and function. This may ultimately lead to increased acceptance and use of these devices.

Another barrier is lack of distribution of eye protection. Baseball leagues do not usually provide their teams with facial guards or eye goggles, and parents may not think to purchase their own eye protection, as this equipment is not commonly used. However, baseball leagues supply teams with other equipment, such as batting helmets. Thus, it is not unrealistic to ask them to provide eye protection as well. This would come with increased cost to the league, and solutions would be required to overcome the cost. One option would be to ask parents to pay an increased registration fee. Another option would be to obtain this equipment from charitable organizations that provide protective eyewear to baseball leagues. For instance, the “Play Hard Don't Blink” campaign in Ohio is geared towards promoting the use of eye protection.⁹ They provide educational content for children and parents, as well as free protective eyewear.⁹ In order to continue providing free eyewear, we must continue to support such charities. Furthermore, organizations in other regions should be encouraged to provide protective equipment.

Educational strategies should also be implemented to increase the use of protective eyewear. These should be targeted at players, parents, coaches, and leagues, and focus on the benefits of using this equipment. Different educational interventions would need to be targeted at each group to optimize success. For leagues, professional and public health organizations should consider reaching out to league representatives to promote eye protection. For coaches, education can be taught at preseason training sessions. In Canada, many coaches must already undergo training to become certified, and

Corresponding Author:
Elie Côté
elie.cote@mail.utoronto.ca

incorporating a learning component on protective eyewear would be a simple way to increase awareness. Coaches could then be encouraged to educate both parents and players. For parents, leagues should also consider handing out pamphlets, or hanging posters during games, to increase awareness of protective eyewear. Furthermore, leagues could provide resources on their website providing information on protective eyewear. Finally, both parents and coaches should attempt to educate youth players about the benefits of eye protection, and focus on normalizing the use of this equipment.

A definite solution would be to make eye protection mandatory in baseball leagues. In this case, eye protection would become a regular part of the uniform, like a batting helmet. In fact, the American Academy of Ophthalmology supports mandatory eye protection in baseball. This strategy was adopted by amateur hockey, and resulted in a dramatic decrease in eye injuries.¹⁰ Unfortunately, this is not a requirement of most baseball leagues in Canada. Although we should continue to advocate for mandatory eye protection in youth baseball, it does not seem to be on the horizon. In the interim, continuing to educate players, parents and coaches about the benefits of protective eyewear should be the focus.

Eye protection offers a simple solution to preventing eye injuries in youth baseball players. However, strategies are needed to increase the use of this equipment. Baseball leagues should consider providing teams with protective eye-

wear. Furthermore, companies should focus on improving design and functionality of eyewear. Finally, there should be greater emphasis on education surrounding the benefits of eye protection. Eye injuries can be devastating, and prevention should be the top priority!

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