

# How can we make youth ice hockey safer?

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Ice hockey is a fast-paced, high-velocity sport popular in North America and Europe. The frictionless surface of ice enables players to move at high speeds, while the game's rules allow players to intentionally collide into each other, resulting in multiple injuries. Matic et al. determined concussion was one of the most common injuries amongst US ice hockey players (1). With the increasing awareness of traumatic brain injuries in adolescent and professional sports, measures have been taken to promote player safety.

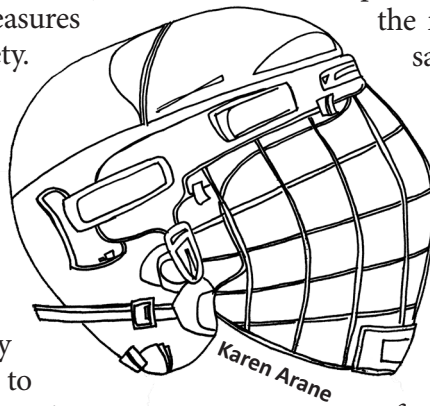
Among the many adaptations in the game, limitations on body checking – intentional bodily contact between players – has been identified to significantly reduce the incidence of brain injury in boy's ice hockey.

Concussion is a traumatic brain injury (TBI) following a mechanical force to one's body. Acute symptoms of concussion include headache, confusion, disorientation, dizziness, and emotional instability. Although long term neurological sequelae of traumatic brain injury are still being evaluated, several studies have demonstrated the risk of post-concussion syndrome, which is a common ramification following TBI that includes dizziness, headache, neuropsychiatric conditions, and potential cognitive impairment (2).

Every year in the United States, approximately 13,000 youth hockey players visit the Emergency Room due to a hockey related injury, making ice hockey one of the most dangerous sports (second only to high school football) (3). Emery et al. studied several strategies to reduce the risk of concussion in many popular sports. The most significant finding documented the relationship between youth hockey programs in which checking was banned and the reduction of concussion rates. The study highlighted a 67% reduced risk of concussion in 11- and 12-year-olds who participated in leagues that eliminated checking when compared with their counterparts that allowed checking (4). Brooks et al. suggests the following reforms be made in youth hockey: eliminate checking in boy's youth hockey until

the age of 15 (where most boys have developed enough physically to level the playing field), strict enforcement of zero tolerance to any contact to the head, and continued emphasis on education and coaching on the dangers of hitting players, especially from behind (3).

With the efforts to engineer safer helmets and equipment to prevent injuries, simple rule changes may be the most fruitful effort in making hockey a safer sport and preventing TBI in youth players. Pediatricians, neurologists, and general practitioners should educate patients and their families about the risks associated with full-contact hockey, and encourage participation in contact-free youth ice-hockey programs. Although some believe that eliminating the physicality of hockey may depreciate the spirit of the sport, safer measures will allow youth players to enjoy the sport while decreasing their risk for serious injury.



## References

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