

## THINKFIRST PENSEZ D'ABORD CANADA POSITION STATEMENT ON SAFER HOCKEY

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ThinkFirst Canada believes that ice hockey has numerous benefits to those engaged in the sport but recognizes that it represents a common mechanism of concussion to participants at all levels. Helmets (with appropriate face protection) are protective against various head and face injuries and mouth guards can prevent dental injuries and should be worn at all times by all players while participating. *It is our position that a combination of preventive measures that includes proper equipment use, education about concussion identification and management, programs that emphasize respect for opponents and fair and safe play, and strict rule enforcement, can be implemented to address the risks of sustaining a concussion in hockey.*

Careful surveillance of injury incidence, prevention efforts, and rule enforcement are also necessary to track and evaluate progress in strategies used to prevent concussions in hockey.

### Discussion and Recommendations

Ice hockey is a popular team sport that has a number of positive benefits. It can keep children and youth physically fit, improve strength, skill level and a range of skills important later in life in addition to being fun and providing a forum for friendships that can be life-long. It also has a particularly prominent place in Canada's cultural landscape. Boys, girls, men, and women of all ages now participate in some level of ice hockey, ranging from pick-up/recreational, to elite amateur and professional. Ice hockey is one of Canada's favourite pastimes, but it is also characterized as a "collision sport" that represents inherent and multifactorial risks of injury to participants due to the relative speed and strength of players, aggressive styles of play, being struck by hard objects (puck, sticks), and obstacles in the playing area such as goal posts and boards. Acute injury rates are high, with concussion accounting for 12%-14% of all reported injuries.

In recent years, significant research interest in sport-related concussion has advanced our understanding of these brain injuries. Today, experts agree that concussions occur much more frequently, and with more complex symptoms and potentially long-lasting effects, than previously thought. Dramatic evidence of an injury (such as blood, open wounds, or loss of consciousness) is not required for a concussion diagnosis.

In many hockey environments, concussions remain incorrectly characterized as harmless "bell-ringers". Many athletes continue to play with concussion because they do not recognize the symptoms of concussion, they feel strongly about contributing to the team, they want to be seen as tough and rugged, and because the consequences of untreated concussion might not be appreciated. These factors may influence a player to minimize the symptoms, which can also lead to premature return to play.

## **A concussion is a brain injury.**

Concussions happen when bumps, blows or jolts to the head (against the boards, ice, another player, or a stick) or body (body checks) cause the brain to suddenly move around inside the skull. The brain injury that results can be mild or more serious and can disrupt how the brain normally works. That's why people who have suffered a concussion can appear "slowed down", confused, anxious, angry or simply "not themselves". While helmets provide important protection against moderate and severe head, scalp and skull injuries, they are less effective at preventing concussions. Players who target the head, or check others in ways that make the head a likely site of impact, only increase the likelihood of serious concussion in their fellow players.

It has been shown that sustaining a concussion increases the risk of a player to sustain a second, third and more. Multiple concussions may lead to cumulative negative changes in brain function. The long-term outcome of such multiple concussions is not well-understood, though some research indicates that it can be permanent and irreversible. Returning to play while players still have symptoms can have serious consequences. The most severe is Second-Impact Syndrome, a rare but usually fatal condition that results when a brain is re-injured while still suffering symptoms of a previous concussion.

Professional hockey is beginning to recognize the risk posed by concussion, as the rate of concussion reporting more than tripled after 1997, most likely owing to increasing awareness of concussion as a significant health risk for players. Many people – including players, their families, league officials and others – have a stake in ensuring this health concern is addressed.

ThinkFirst Canada's experience with the case of spinal cord injury in hockey can provide lessons and direction for reducing head injuries in hockey. Surveillance work by ThinkFirst Canada, through the Canadian Ice Hockey Spinal Registry, along with others internationally, helped to determine the common mechanisms of major spinal cord injury in ice hockey. With this information, ThinkFirst and others developed educational programs in the mid-80's to raise awareness of the problem and to promote targeted prevention programs to teach coaches, players, parents and officials how to prevent these injuries. Ice hockey organizations instituted rule changes that severely penalized checking or pushing from behind, and ensured the rules were being consistently and evenly applied to all levels of hockey. Together, these efforts have contributed to a dramatic reduction in the incidents of severe spinal cord injury in Canada since the 1980s. One would expect similar approaches to be effective for concussion prevention as well.

**ThinkFirst Canada recommends that all hockey players, coaches, trainers, officials, parents, and physicians learn the common signs and symptoms of concussion, and become familiar with the recommended return-to-play protocol for the appropriate management of concussion – as well as the potential negative outcomes of mismanagement.**

**We also recommend that all hockey leagues provide lessons in respect for opponents and fair play, along with lessons on hockey skill, strategy, and conditioning, as a concussion-prevention initiative. Leaders in the hockey and injury prevention fields should work together to identify and address hockey cultures and environments that encourage dangerous play (even when within the rules) and violence.**

ThinkFirst recognizes that body checking exposes players of all ages and levels to injury risk and discourages the practice at all levels of play. As a first step to better protect children, we recommend that all jurisdictions reconsider the introduction of body checking in game play in PeeWee. For example, Quebec delays introduction of body checking until Bantam, this safer practice has been supported by research. Associations in other jurisdictions including USA Hockey have also supported the delay of introduction of checking due to safety concerns.

Finally, we recommend that rules governing dangerous play, fighting, and retaliation be strictly enforced at all levels and age groups to reduce the major risk factors for the causes of concussions and to support the work done to encourage safer play. Hits to the head should be eliminated.

To learn more about sport-related concussion, including common signs and symptoms, return-to-play guidelines and more sport-specific prevention tips - visit [thinkfirst.ca](http://thinkfirst.ca).