

Each month we will present a brief article on various health & safety issues relevant to youth hockey players. Today, we hear from physicians at Midwest Orthopaedics at Rush on shoulder and knee injuries that can occur in hockey. We thank Dr. Brian Cole and his colleagues for sharing their expertise with us.

Hockey Injuries to the Shoulder and Knee

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Ice Hockey Injuries:

Hockey has the potential to cause a wide range of injuries, in part due to its fast pace, high speed nature as a contact sport. The shoulder and knees are commonly injured as they are often the first point of contact and must sustain the high forces experienced during collisions between players or against boards. In this article, we examine common hockey injuries and treatments of the shoulder and knee, their prevalence in youth and adult players, and everyday practices that can reduce the risk of injury.

The Shoulders:

Shoulder injuries are among the most common injuries experienced by male hockey players. This is in part due to body checking and the high likelihood of contact with another player or against boards. Body checking, being a penalty in women's ice hockey, decreases the occurrence of these injuries in females. In both youth and adult hockey, shoulder injuries are the second most common injury of the upper body, comprising 16% of injuries in the World Junior Championship and 12% in the National Hockey League (NHL).^{1,2} The most common shoulder injuries are listed below from highest to lowest prevalence.

- Acromioclavicular joint separation
- Shoulder Instability (dislocation, labral tear, and rotator cuff tears)
- Clavicle fractures

The Knees:

Knee injuries are typically less common in hockey compared to other sports. Although the exact reason is not known, this could be due to a lack of jumping and decreased twisting injuries caused by an inability to firmly plant one's foot on ice. While hockey knee injuries are less common when compared to other sports-related knee injuries, they still make up about 8% of injuries in the World Junior Championship and 9-13% in NHL players.^{2,3} Multiple structures in

the knee can be injured during a single event. The most common knee injuries are listed below from highest to lowest prevalence.

- Medial collateral ligament (MCL) injuries
- Anterior cruciate ligament (ACL) injuries
- Meniscal tears

Injury Treatment:

As an orthopedic surgeon, treatment of shoulder and knee injuries varies greatly depending on the type and extent of injury, age of the player, and time of the hockey season. Some initial options that may be considered are rest, use of nonsteroidal anti-inflammatory drugs, physical therapy, and corticosteroid injections to reduce inflammation and manage pain. If the player does not improve with conservative treatment, surgery may be considered. Return to play after the most common procedures of each location occurs around 4 months after an acromioclavicular joint repair and 6-12 months after an MCL/ACL reconstruction. As the player returns to sport it is important to wear additional padding and bracing and follow the advice of the physician to reduce the risk of reinjury.¹

Injury Prevention:

To avoid injuries, wearing protective equipment, playing in rinks with flexible boards and glass, and incorporation of strengthening programs are vital. In one study, shoulder injuries occurred 50% of the time when adult recreational league players were not wearing shoulder pads, emphasizing the importance of protective equipment use.⁴ Rinks with flexible boards and glass provide increased shock-absorption, aiming to decrease the risk of injury when collisions occur. Lastly, players can perform focused exercises aimed at strengthening muscles around the shoulder and knee, which can help to better support connective tissue and decrease the risk of tears, sprains, and strains by supporting a more stable joint.⁵

References:

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- ²Tuominen, M., Stuart, M.J., Aubry, M., Kannus, P., & Parkkari, J. (2017). Injuries in World Junior Ice Hockey Championships Between 2006 and 2015. *Br J Sports Med*, 51, 36-43. doi:10.1136/bjsports-2016-095992.
- ³Berube, E.R., Lopez, C.D., Trofa, D.P., & Popkin, C.A. (2020). A Systematic Review of the Orthopedic Literature Involving National Hockey League Players. *Journal of Sports Medicine*, 11, 145-160. doi:10.2147/OAJSM.S263260.

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