ACTIVE & SAFE

Evidence Summary: Ringette

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Version 1
February 2018

BC INJURY research and prevention unit

The British Columbia Injury Research and Prevention Unit (BCIRPU) was established by the Ministry of Health and the Minister's Injury Prevention Advisory Committee in August 1997. BCIRPU is housed within the Evidence to Innovation research theme at BC Children's Hospital (BCCH) and supported by the Provincial Health Services Authority (PHSA) and the University of British Columbia (UBC). BCIRPU's vision is *to be a leader in the production and transfer of injury prevention knowledge and the integration of evidence-based injury prevention practices into the daily lives of those at risk, those who care for them, and those with a mandate for public health and safety in British Columbia.*

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Suggested Citation:

Eliason P, Black A, Richmond SA, Pike I, Babul S. *Evidence Summary: Ringette.* Active & Safe Central. BC Injury Research and Prevention Unit: Vancouver, BC; 2018. Available at http://activesafe.ca/.

UBC BC Children's Hospital Research Institute

Evidence synthesis tool

SPORT:	Ringette	**Target Group:**	Youth (ages 5-19), primarily girls	
Injury Mechanisms:	Body contact (either intentional or unintentional) is a primary mechanism for injury in ringette			
Incidence/Prevalence	**Risk/Protective Factors**	**Interventions**	**Implementation/Evaluation**	**Resources**
There were only 2 studies that reported injury rates in ringette based on the Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) database. From 2004-2011 there were 494 injuries reported among female ringette players ages 10-17: • ages 10-11: n=94 • ages 12-13: n=168 • ages 14-15: n=176 • ages 16-18: n=56 The head (31.6%), upper extremity (29.6%), and lower extremity (20.0%) were the most commonly injured regions across all age groups (10-17 years). Most common injuries included soft tissue (22.5-35.0%), concussion or intracranial injury (16.7-30.2%), sprains/strains (18.5-19%), and fractures (14.6-14.8%).	There are no studies that specifically examined risk factors for injury in ringette. Although against the rules of ringette, body contact (both intentional and incidental) is reported at the most significant cause of injuries in ringette (63%).	No studies were found that investigated an intervention strategy in this sport. Enforcement of policies regarding contacts, use of proper equipment, safe and regularly inspected playing conditions, and proper skill training have been suggested as areas for injury prevention evaluation.	No studies were found that have evaluated implementation/evaluation strategies in this sport. Although not evaluated in the literature, injury prevention strategies should be partnered with Ringette Canada, as well as provincial and local ringette associations	**Websites** **Ringette Canada** http://www.ringette.ca **Ringette British Columbia** http://www.ringettebc.ca/coaches/coaching-resources/ **Ontario Ringette Association** http://ontario-ringette.com/resources/gym-ringette/ *Videos for sport skills **Ringette Manitoba** https://ringettemanitoba.ca/our-technical-team/respect-in-sport/ * Respect in Sport

Works Cited: Keays, G., Gagnon, I., & Friedman, D. (2014). Ringette-related injuries in young female players. Clinical Journal of Sport Medicine, 24(4), 326-330. Fridman, L., Fraser-Thomas, J. L., McFaull, S. R., & Macpherson, A. K. (2013). Epidemiology of sports-related injuries in children and youth presenting to Canadian emergency departments from 2007-2010. *BMC Sports Science, Medicine and Rehabilitation*, 5(1), 30	**Works Cited:** Keays, G., Gagnon, I., & Friedman, D. (2014). Ringette-related injuries in young female players. Clinical Journal of Sport Medicine, 24(4), 326-330.	**Works Cited:** Keays, G., Gagnon, I., & Friedman, D. (2014). Ringette-related injuries in young female players. Clinical Journal of Sport Medicine, 24(4), 326-330.		

Review of Sport Injury Burden, Risk Factors and Prevention

Ringette

Incidence and Prevalence

There is a paucity of research that has examined injuries in the sport of ringette. Based on data from the Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP), a program that collects information about injuries to people evaluated in emergency departments from across 11 paediatric and 5 general hospitals in Canada, ringette accounted for 324 sport-related injuries between 2007-2010 and 494 injuries between 2004-2010 (Fridman, Fraser-Thomas, McFaull, & Macpherson, 2013; Keays, Gagnon, & Friedman, 2014). The most common injuries in ringette include soft tissue injury (35.0%), intracranial injury (30.2%), sprains/strains (19.0%), and fractures (14.6%) (Keays et al., 2014). Most injuries (73.8%) were considered minor and did not require follow-up, observation, and/or admission (Keays et al., 2014). Almost half of the injuries (42.6%) involved the head/neck area with 73% of those injuries being concussion or suspected concussion (Keays et al., 2014). Another study that evaluated injuries using CHIRRP data for 13 different sports reported that ringette had the greatest amount of concussions (17.1% of emergency department visits) (Fridman et al., 2013).

A limitation of the studies reported here, is that CHIRRP uses self-reported data, and is therefore subject to potential recall bias. In addition, these studies were only able to capture youth injures at hospitals that used the CHIRRP system, and is unable to account for injuries treated at other emergency departments.

Risk and Protective Factors

There is a lack of studies that specifically examine risk factors for injury in ringette. Although ringette is a non-contact sport, body contact either intentional or unintentional is reported to account for 63% of all reported injuries. Further, body contact (either intentional or unintentional) is more likely to be the mechanism of injury for older age groups than younger. The playing stick was involved in 9.1% of injuries, which mostly affected the upper extremities (51.1%), while the ringette (the rubber ring) was not involved in any injury (Keays et al., 2014).

Opportunities for Prevention: Effective Interventions, Cost-Effectiveness, Implementation and Evaluation

Although injury prevention strategies have yet to be investigated in this population, researchers have suggested that enforcing policies regarding body contact, use of proper protective equipment, maintenance of ice conditions, and proper skill training may be beneficial to reducing injuries in ringette (Keays et al., 2014).

References

Fridman, L., Fraser-Thomas, J. L., McFaull, S. R., & Macpherson, A. K. (2013). Epidemiology of sports-related injuries in children and youth presenting to Canadian emergency departments from 2007-2010. *BMC Sports Science, Medicine and Rehabilitation, 5*(1), 30. doi:http://dx.doi.org/10.1186/2052-1847-5-30

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