

Risk of Injury Associated With Body Checking Among Youth Ice Hockey Players

Carolyn A. Emery, PhD, BScPT

Jian Kang, PhD

Ian Shrier, MD, PhD

Claude Goulet, PhD

Brent E. Hagel, PhD

Brian W. Benson, MD, PhD

Alberto Nettel-Aguirre, PhD

Jenelle R. McAllister, MSc

Gavin M. Hamilton, MSc

Willem H. Meeuwisse, MD, PhD

Context Ice hockey has one of the highest sport participation and injury rates in youth in Canada. Body checking is the predominant mechanism of injury in leagues in which it is permitted.

Objective To determine if risk of injury and concussion differ for Pee Wee (ages 11-12 years) ice hockey players in a league in which body checking is permitted (Alberta, Canada) vs a league in which body checking is not permitted (Quebec, Canada).

Design, Setting, and Participants Prospective cohort study conducted in Alberta and Quebec during the 2007-2008 Pee Wee ice hockey season. Participants (N=2154) were players from teams in the top 60% of divisions of play.

Main Outcome Measures Incidence rate ratios adjusted for cluster based on Poisson regression for game- and practice-related injury and concussion.

Results Seventy-four Pee Wee teams from Alberta (n=1108 players) and 76 Pee Wee teams from Quebec (n=1046 players) completed the study. In total, there were 241 injuries (78 concussions) reported in Alberta (85 077 exposure-hours) and 91 injuries (23 concussions) reported in Quebec (82 099 exposure-hours). For game-related injuries, the Alberta vs Quebec incidence rate ratio was 3.26 (95% confidence interval [CI], 2.31-4.60 [n=209 and n=70 for Alberta and Quebec, respectively]) for all injuries, 3.88 (95% CI, 1.91-7.89 [n=73 and n=20]) for concussion, 3.30 (95% CI, 1.77-6.17 [n=51 and n=16]) for severe injury (time loss, >7 days), and 3.61 (95% CI, 1.16-11.23 [n=14 and n=4]) for severe concussion (time loss, >10 days). The estimated absolute risk reduction (injuries per 1000 player-hours) that would be achieved if body checking were not permitted in Alberta was 2.84 (95% CI, 2.18-3.49) for all game-related injuries, 0.72 (95% CI, 0.40-1.04) for severe injuries, 1.08 (95% CI, 0.70-1.46) for concussion, and 0.20 (95% CI, 0.04-0.37) for severe concussion. There was no difference between provinces for practice-related injuries.

Conclusion Among 11- to 12-year-old ice hockey players, playing in a league in which body checking is permitted compared with playing in a league in which body checking is not permitted was associated with a 3-fold increased risk of all game-related injuries and the categories of concussion, severe injury, and severe concussion.

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Author Affiliations: Sport Medicine Centre, Roger Jackson Centre for Health and Wellness Research, Faculty of Kinesiology (Drs Emery, Kang, Benson, and Meeuwisse, Ms McAllister, and Mr Hamilton), Alberta Children's Hospital, Department of Pediatrics, Faculty of Medicine (Drs Emery, Hagel, and Nettel-Aguirre), and Department of Community Health Sciences, Faculty of Medicine (Drs Emery, Hagel, Nettel-Aguirre, and Meeuwisse), University of Calgary, Calgary, Alberta, Canada; Centre for Clinical

Epidemiology and Community Studies, Lady Davis Institute for Medical Research, Jewish General Hospital, McGill University, Montreal, Quebec, Canada (Dr Shrier); and Department of Physical Education, Faculty of Education, Laval University, Quebec City, Quebec (Dr Goulet).

Corresponding Author: Carolyn A. Emery, PhD, BScPT, Sport Medicine Centre, University of Calgary, 2500 University Dr NW, Calgary, AB, T2N 1N4, Canada (caemery@ucalgary.ca).

Effect of bodychecking on rate of injuries among minor hockey players

MICHAEL D CUSIMANO, NATHAN A TABACK, STEVEN R McFAULL, RYAN HODGINS, TSEGAYE M BEKELE, NADA ELFEDI; ON BEHALF OF THE CANADIAN RESEARCH TEAM IN TRAUMATIC BRAIN INJURY AND VIOLENCE

Michael D Cusimano, MD, PhD, FRCSC, is a neurosurgeon with the Division of Neurosurgery and director of the Injury Prevention Office, St. Michael's Hospital, University of Toronto, Toronto, Ont., Canada. Dr. Cusimano leads the Canadian Research Team in Traumatic Brain Injury and Violence. **Nathan A Taback**, PhD, is an assistant professor of Biostatistics at the Dalla Lana School of Public Health, University of Toronto. **Steven R McFaull**, MSc, is a research analyst at the Centre for Healthy Human Development at the Public Health Agency of Canada. **Ryan Hodgins**, MD, is a medical resident at the University of Calgary, Calgary, Alberta. **Tsegaye M Bekele**, MPH, is a research analyst at the Ontario HIV Network. **Nada Elfedi**, MSc, is a Research Coordinator with the Injury Prevention Research Office at St. Michael's Hospital, University of Toronto.

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Correspondence: Dr. M.D. Cusimano, Division of Neurosurgery and Injury Prevention Research Office, St. Michael's Hospital, University of Toronto, 30 Bond St., Toronto ON M5B 1W8; 416 864-5312; fax: 416 864-5857; injuryprevention@smh.toronto.on.ca

ABSTRACT

Background: Bodychecking is a leading cause of injury among minor hockey players. Its value has been the subject of heated debate since Hockey Canada introduced bodychecking for competitive players as young as 9 years in the 1998/1999 season. Our goal was to determine whether lowering the legal age of bodychecking from 11 to 9 years affected the numbers of all hockey-related injuries and of those specifically related to bodychecking among minor hockey players in Ontario.

Methods: In this retrospective study, we evaluated data collected through the Canadian Hospitals Injury Reporting and Prevention Program. The study's participants were male hockey league players aged 6–17 years who visited the emergency departments of 5 hospitals in Ontario for hockey-related injuries during 10 hockey seasons (September 1994 to May 2004). Injuries were classified as bodychecking-related or non-bodychecking-related. Injuries that occurred after the rule change took effect were compared with those that occurred before the rule's introduction.

Results: During the study period, a total of 8552 hockey-related injuries were reported, 4460 (52.2%) of which were attributable to bodychecking. The odds ratio (OR) of a visit to the emergency department because of a bodychecking-related injury increased after the rule change (OR 1.26, 95% confidence interval [CI] 1.16–1.38), the head and neck (OR 1.52, 95% CI 1.26–1.84) and the shoulder and arm (OR 1.18, 95% CI 1.04–1.35) being the body parts with the most substantial increases in injury rate. The OR of an emergency visit because of concussion increased significantly in the Atom division after the rule change, which allowed bodychecking in the Atom division. After the rule change, the odds of a bodychecking-related injury was significantly higher in the Atom division (OR 2.20, 95% CI 1.70–2.84).

Interpretation: In this study, the odds of injury increased with decreasing age of exposure to bodychecking. These findings add to the growing evidence that bodychecking holds greater risk than benefit for youth and support widespread calls to ban this practice.