

ABSTRACT

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- Title: SUSTAINED HEAD IMPACTS AND NEUROCOGNITIVE FUNCTION IN MINOR HOCKEY PLAYERS
- Author(s): *Reed, N.P., University of Toronto; Duggan, C.T., University of Toronto; Taha, T., University of Toronto; McAuliffe, J., Nipissing University; Mihalik, J., University of North Carolina at Chapel Hill; Montelpare, W., Lakehead University; Guskiewicz, K., University of North Carolina at Chapel Hill; Fought, B., Brock University; McPherson, M., Lakehead University; Keightley, M.L., University of Toronto.
- Abstract: **PURPOSE:** This prospective study explores the relationship between sustained head impacts and neurocognitive function within Bantam-aged (13-14 years) minor hockey players. Additionally, this study aims to describe the recovery of neurocognitive function and the resolution of post-concussion symptoms within a single youth hockey player following a hockey-related concussion. **RELEVANCE:** Head injuries and concussion are common in the sport of hockey, in which deficits in neurocognitive function can result. Despite growing public interest, what remains to be explored is the relationship between sustained head impacts and neurocognitive function within the minor hockey player population. **DESCRIPTION:** Data was collected from 13 players of a Bantam boys representative level hockey team. Objective data on sustained head impacts was collected using telemetric accelerometers implanted within the players' helmets. Neurocognitive function was assessed using a series of neurocognitive and post-concussion measures. **DISCUSSION:** Descriptive characteristics of sustained head impacts and neurocognitive function were generated for each player. Findings suggest a relationship between the magnitude of sustained head impacts and specific neurocognitive domains. Results from the case study of a single concussed youth hockey player revealed increased post-concussion symptoms, decreased performance in visual memory functioning and attentional deficits following concussion. **CONCLUSIONS:** This study acts as an initial step towards better understanding sustained head impacts and related neurocognitive impairments that may limit the on and off ice occupational performance of minor hockey players. Results from the case study are discussed regarding time of return-to-play and the potential impact on recovery and occupational performance. The current study attempts to both inform the development of rehabilitative treatment protocols for concussed youth athletes and to expand the scope of occupational therapy into the world of sport. The findings of this study act as a stimulant for further research directed towards the subject of sports-related concussion in youth athletes.
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