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Sport Concussion Knowledge and Clinical Practices: A Survey of Doctors of Chiropractic With Sports Certification

William J. Moreau DC, DACBSP, CSCS [a, b], **Dustin C. Nabhan DC, DACBSP, CSCS, RMSK** [c, d, *], **Taylor Walden BA** [e]

[a] *Managing Director, United States Olympic Committee, Colorado Springs, CO*
[b] *Associate Professor, Southern California University of Health Sciences, Whittier, CA*
[c] *Associate Director, United States Olympic Committee, Colorado Springs, CO*
[d] *Visiting Scholar, Southern California University of Health Sciences, Whittier, CA*
[e] *Sports Medicine Clinical Data Specialist, United States Olympic Committee, Colorado Springs, CO*

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Abstract

Objective: The purpose of this study is to describe the knowledge base and clinical practices regarding concussion by sports-certified doctors of chiropractic.

Methods: A 21-item survey was distributed to the 312 attendees of the 2014 American Chiropractic Board of Sports Physicians Sports Sciences Symposium. Results were measured by frequency analysis and descriptive statistics for all surveys completed by sports-certified chiropractors.

Results: Seventy-six surveys were returned by sports-certified doctors of chiropractic. All (N = 76) 100% of respondents believe that the evaluation of concussion should be performed by a health care provider with training in concussion. The respondents actively assess and manage concussion in adults (96%), adolescents (95%), and children (75%). A majority (79%) of respondents believe that the Sideline Concussion Assessment Tool–3 represents a current standard of care for the sideline evaluation of the athlete who possibly has sustained a sport concussion. Most respondents agreed or strongly agreed that manual therapies may be appropriate in certain circumstances in adults (80%) and minors (80%).

Conclusion: This cross section of certified sports chiropractors strongly believes that the evaluation of concussion should be performed by a health care provider with specific training in concussion. A high percentage of the sports-certified chiropractors who responded assess and

* Corresponding author at: 7795 Julynn Rd, Colorado Springs, CO, 80919. Tel.: +1 928 580 3642; fax: +1 719 632 9282.
E-mail address: nabhandc@gmail.com (D. C. Nabhan).

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manage sport concussion in their practice, and many of them endorse the use of the Sideline Concussion Assessment Tool–3 as a sideline assessment tool.

Introduction

The prevention and treatment of injuries and disorders related to sport participation are practiced by many types of health care providers. The current level or standard of training in the detection and management of head injury by each profession is unknown and has yet to be mandated by any government or health-related agencies. In sports, the evaluation and management of concussion in all populations are important because concussion is a common occurrence with the potential for serious adverse effects if managed incorrectly both acutely and over the course of an individual's life span.[1] The 2009 incidence of sports and recreational concussive injuries in children (under the age of 19) that were treated in US emergency departments is estimated by the Centers for Disease Control and Prevention (CDC) to represent almost 250,000 concussions or traumatic brain injury.[2] Many sports-related concussions are known to be managed outside the emergency department setting, making the actual incidence difficult to estimate.[2] As a result, the total number of injuries should be expected to be much higher than the reported incidence from the CDC reports.[3]

There are several variables that support that the actual number of concussive injuries is much higher than currently reported.[3] Some of the variables include the following:

1. The culture of placing the team's needs before the individual athlete's needs. Individual athletes may misinterpret the importance of sport to the point of playing with a head injury to avoid letting their team and teammates down. It is well recognized that athletes may cover their injury as well as the injury of their teammates.[4,5]
2. Many sporting activities take place without the presence of a trained health care provider to assess and manage head injuries. Reported concussion incidence has been shown to increase with greater education of the sporting community.[6]
3. Nationwide reporting systems for sports medicine personnel to record concussive injury, regardless of the level of sports participation, do not capture all incidences of concussion.[7]
4. The current definition and methodologies of detecting concussion may miss subclinical head injury.[8]

The importance of detecting concussive injury is an essential competency for sports medicine providers. Cumulative detrimental effects of concussion have been well researched.[9,10] Recognized key variables affecting management decisions for individuals who have sustained concussion include consideration of the temporal relationship of the concussive injury, the number of concussive injuries, and the time to recovery from a concussive injury.[11,12] Health care providers who are not aware of the many clinical presentations of concussion and the clinical cornerstone of removing the head-injured athlete from play until he or she is fully recovered would likely result in missing some concussive injuries and placing concussed athletes at increased peril. The missed diagnosis of concussion with subsequent continued sport participation may lead to additional and potentially more serious concussive injury because of the cumulative effects of concussion and the lowered threshold of an unresolved head-injured athlete sustaining a subsequent concussion or other injury.[1,13]

Best practices in concussion evaluation and management continue to evolve. This is demonstrated by the recent surge in position statements and practice guidelines for sports concussion across a broad spectrum of medical specialties and sport organizations. The American Academy of Neurology, American Chiropractic Board of Sports Physicians (ACBSP), American College of Sports Medicine, American Medical Society for Sports Medicine, National Athletic Trainers Association, and National Association of School Nurses each have recently released position statements on concussion management.[14–19] Review of these consensus-based position statements suggests that there are common themes of identified best practices in concussion management. However, little is known in regard to how well the knowledge of best practices is translated from the statement to the field of clinical setting.

Current best practices in concussion management have been described to rely on full physical and cognitive rest.[20,21] There has been a call for more investigation into physical rest and adjunctive therapies targeted at specific concussion symptoms.[22] Recent investigations have