

Sport-Related Concussion in Youth: A Curriculum for Advanced Practice Nurses

Pamela Mapstone, DNP, CPNP

ABSTRACT

Sports-related concussions are a major public health concern for children, parents, and health care providers. Effective management of sports-related concussions in children and adolescents requires timely and accurate diagnosis and appropriate management. Advance practice nursing textbooks often do not address sport-related concussions. Although nurse practitioners routinely care for these patients, they may not have adequate education or training to diagnose and manage them. It is essential to close the gap in education by providing up-to-date recommendations and guidelines for diagnosis and management. Current research and recommendations are presented to facilitate nurse practitioner education about sport-related concussion.

Keywords: curriculum, concussion, education, nurse practitioner, sport-related

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INTRODUCTION

Sport-related concussions in children and adolescents are a major public health concern for parents, coaches, and health care providers. Between 2001 and 2009, the rate of emergency department (ED) visits for sport-related injuries with a diagnosis of concussion increased by 57%, with an estimated 248,418 children age ≤ 19 treated for sport-related concussion.¹ United States Centers for Disease Control and Prevention (CDC) data indicate that sports-related concussions are an “invisible epidemic,” estimating that 50% of sports-related concussions go undiagnosed. Because this trend has increased so quickly and research is in its infancy, providers are often not adequately prepared to diagnose, manage, and educate their patients about sport-related concussion. In fact, physicians and nurse practitioners (NPs) have cited inadequate education and training as a barrier to being able to adequately care for and educate patients and families regarding sports-related concussions.²

Advanced practice nursing (APN) education does not typically include detailed coverage of sport-related injuries, specifically sport-related concussion. Textbooks used to educate NPs typically offer only a small section on concussions and many do not acknowledge sport-related concussion specifically.

This could be because research related to sport-related concussions is in its infancy, and many of the current recommendations for diagnosis and treatment are based on limited evidence and expert consensus opinion. Textbooks are less likely to publish recommendations that do not have a strong evidence base. Yet, with an estimated 38 million children age 5–18 participating in an organized sport each year,³ NPs see children and adolescents on a daily basis for evaluation and management of concussion, and are required by law in most states to be “experts” to clear a patient’s return to sports. Effective management of sport-related concussions in the pediatric population requires timely and accurate diagnosis and management. Therefore, it is essential to provide up-to-date recommendations and guidelines for diagnosis and management in APN education.

Currently, 50 states, including the District of Columbia, have enacted sport concussion legislation. The push for this legislation began in 2010 with National Football League (NFL) commissioner Roger Goodell, who sent a letter to 44 governors asking them to create laws to protect the young people playing football. One consistent aspect of all concussion legislation is that athletes do not return to play if a concussive injury is suspected or confirmed. Another consistency among state concussion laws is

that a provider who is educated about concussions evaluates the athlete after the injury and determines when he/she can return to play. What is not consistent between state concussion laws is who the provider may be. Many states allow only physicians to evaluate and manage sport-related concussions. Some states, but not all, include NPs, athletic trainers, and physician assistants as providers who can clear athletes to return to play. Therefore, educating NPs about sport-related concussions is necessary, especially if it is required by their state concussion legislation. To ensure that NPs are included in every state as providers who can diagnose and manage sport-related concussion, and to ensure compliance with state laws, current NP curriculums must be augmented with information and training specifically related to sport concussion.

PURPOSE

The purpose of this study is to inform practice by presenting an outline for the curriculum titled “Sport-related Concussion for APN Practice.” This is a curriculum that APN educators can implement to educate new NPs, or may be used by current NPs for additional education. Although some key information is included in the outline to help facilitate the development of the curriculum, it is important that educators stay up to date with current information and recommendations regarding sport-related concussion and update the information in the curriculum accordingly. A list of resources is provided to make this simpler (Table 1).

LEARNING OBJECTIVES

The learning objectives for a sports concussion curriculum for APNs should include cognitive,

affective, and psychomotor domains. Therefore, the learning objectives for this curriculum have been developed using Bloom’s Taxonomy of Learning Domains.⁴ Bloom created this taxonomy to promote higher forms of thinking, such as analysis and evaluation, which is appropriate for higher education and advanced nursing practice.

At the completion of this program, the NPs will be able to:

1. Describe the pathophysiology of a concussion.
2. Explain the potential short- and long-term consequences of concussion.
3. Describe common signs and symptoms of concussion.
4. Assess for symptoms in the affective, cognitive, somatic, and sleep domains.
5. Create a management plan based on assessment findings and most current recommendations.
6. Identify patients at risk for protracted recovery and evaluate the need for referral.
7. Apply best practices for return to learn and return to play.

OVERVIEW

The introduction or overview to the course should include: important definitions; potential consequences, both short and long term, of concussion; and the integral role of collaborative care with parents, athletes, trainers, coaches, school nurses, and school administrators.

The most widely accepted definition of sport-related concussion is stated in the Consensus Statement on Concussion in Sport from the 4th International Conference on Concussion in Sport held in Zurich, November 2012:

Concussion is a brain injury and is defined as a complex pathophysiological process affecting the brain, induced by biomechanical forces. Several common features that incorporate clinical, pathologic and biomechanical injury constructs that may be utilized in defining the nature of a concussive head injury include:

1. Concussion may be caused either by a direct blow to the head, face, neck or elsewhere on the body with an ‘impulsive’ force transmitted to the head.
2. Concussion typically results in the rapid onset of short-lived impairment of neurological

Table 1. Provider Resources for the Nurse Practitioner

	www.cdc.gov/headsup/youthsports/
CDC	
American Academy of Neurology	www.aan.com/concussion/
Concussion Legacy Foundation	www.concussionfoundation.org
ImPACT	www.impacttest.com/
American Academy of Pediatrics	www.aap.org

CDC = US Centers for Disease Control and Prevention.

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