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Educate to Prevent: A Look at Concussion Prevention

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There has been a push to educate physicians, coaches, parents and students about concussion prevention. A concussion is a mild traumatic brain injury (TBI) caused by a blow to the head.¹ While a concussion is not life-threatening, it can lead to negative outcomes over time including changes in cognition and increased risk of epilepsy, Alzheimer's and Parkinson's Diseases.¹ The Canadian Medical Association Journal published a prospective case series in 2011 looking at the prevalence of concussions in the NHL. The estimated incidence of concussions in the NHL was found to be 1.8/1,000 player hours.² They also concluded that post-concussion headache, post-concussion low energy or fatigue, amnesia and an abnormal neurological examination were significant predictors of time off the ice amongst players with TBI.² The concussion rates amongst some other sports, however, have been shown to be higher than that of the NHL. Rugby has a concussion rate of 3.8/1,000 athlete exposures, while mixed martial arts (MMA) has a rate of 15.4/1,000 athlete exposures.^{3,4} Sports-related head injuries presenting to US Emergency Departments in 2009 showed cycling, football and baseball to be the top three most prevalent causes of TBI.⁵

The Centers for Disease Control and Prevention have created the "Heads Up" online resources for coaches, parents and players, which include the signs and symptoms of TBI and what to do if one suspects TBI. Symptoms of a concussion include headache, dizziness, nausea and feeling unsteady, as well as signs of loss of consciousness, poor coordination, poor concentration and vomiting.⁶ Patients may also be confused and disoriented, and may have emotional symptoms such as depression.⁶ The CDC has also listed practical tips about how to prevent concussion – how to create a concussion action plan, how to educate others and the importance of monitoring athletes' health.¹ "Think First" is a Canadian non-profit organization that focuses on prevention of

TBI with education-based programs. Not only does their website contain information about concussions, but it also has resources for physicians, including the SCAT2, a sports concussion assessment tool.⁶ This tool is a standardized assessment for evaluating concussions.⁶ The "Think First" website also offers guidelines for return to play. Physicians are able to direct patients to these sites so they can learn more about concussion prevention, in the hope that we can reduce the number of brain injuries amongst those involved in contact and/or competitive sports. As physicians, we can help educate our patients about concussions and we can use these resources to do so. Education is the key to injury prevention in competitive sports and to a reduction in the number of traumatic brain injuries.⁶

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