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Objective: To provide certified athletic trainers, team physicians, emergency responders, and other health care professionals with recommendations on how to best manage a catastrophic cervical spine injury in the athlete.

Background: The relative incidence of catastrophic cervical spine injury in sports is low compared with other injuries. However, cervical spine injuries necessitate delicate and precise management, often involving the combined efforts of a variety of health care providers. The outcome of a catastrophic cervical spine injury depends on the efficiency of this management process and the timeliness of transfer to a controlled environment for diagnosis and treatment.

The incidence of spinal cord injury in the United States is estimated to include 11,000 new cases each year. Serious spinal injuries have devastating sequelae, including neurologic impairment and premature mortality. Sport participation constitutes the fourth most common cause (approximately 7.4%) of these injuries overall but is the second most common cause for those younger than 30 years of age. Since 2000, the majority of all cervical spine injuries have occurred in individuals between the ages of 16 and 30 years.

American football in the United States is associated with the greatest number of catastrophic spinal injuries for all US sports. Although catastrophic cervical spine injuries have decreased compared with the incidence in the early 1970s, an average of 7.8 catastrophic cervical spine injuries with incomplete recovery and 6 quadriplegic events occurred annually in football alone (data from 1997–2006). Of particular concern is a recent trend of double-digit catastrophic spine injuries in 3 of the 4 years between 2003 and 2006; from 1991 to 2002, only data from 1999 showed catastrophic spine injuries measuring in the double digits.

Epidemiologic data have established the risk of catastrophic cervical spine injury in other sports as well. For example, an average of 15 catastrophic spine injuries occur annually in ice hockey in Canada and the United States. Sports such as skiing, rugby, gymnastics, swimming and diving, track and field (eg, pole vaulting), cheerleading, and baseball all involve activities that place participants at risk for spine injuries. In fact, the incidence of nonfatal, direct catastrophic injuries in the sports of lacrosse, gymnastics, and men’s ice hockey is higher than that in American football (Table 1).

Regardless of the sport, proper management and accurate diagnosis of acute spinal injuries are paramount because of the recognized risk of neurologic deterioration during and after the initial management of the injury. Consequently, sports medicine providers must be familiar with the appropriate acute management guidelines for the cervical spine–injured athlete.

Purposes

The purpose of this position statement is to provide athletic trainers, team physicians, emergency responders, and other health care professionals with recommendations and clinical considerations for managing a major, potentially catastrophic cervical spine injury. A catastrophic cervical spine injury is defined as “a structural distortion of the cervical spinal column associated with actual or potential damage to the spinal cord.”

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**Key Words:** catastrophic injuries, emergency medicine, neurologic outcomes