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No Brain Injury is Too Mild to Ignore, or Too Severe to Lose Hope

Sports-Related Concussion in the Young Athlete

By George J. Carnevale, Ph.D.

With the end of summer comes a return to school and youth athletics. Concussion is a common injury in youth, and its proper assessment and clinical management has become a source of controversy in the medical literature. Due to the lack of systematic controlled research and universally accepted guidelines, coaches, families and physicians are often faced with a daunting task as they must weigh several variables when making decisions regarding return to play after a child has sustained a concussion.

Concussion is defined as a mild brain injury and can present with a wide array of clinical symptoms including transient confusion or "zoning out", slurred speech, amnesia for a period of time surrounding the event, dizziness, nausea/vomiting, disequilibrium, headache, photophobia (increased sensitivity to light) and excessive fatigue.

In more severe concussions, there is a loss of consciousness although this is rarely more than one minute in duration.

With regard to incidence statistics, recent authors have estimated that over 62,000 high school varsity athletes suffer concussions annually in the U.S. with football related injuries accounting for 63 percent of cases. Sports related concussions are estimated to represent about 6 percent of all sports related injuries in the secondary school population.

Younger athletes are believed to be at higher risk for concussions, as some reviews have found that high school players had a three times greater incidence than collegiate players.

Any parent who has children that play sports understands the pressures that can operate in the athlete or on the field which can lead to rapid or perhaps, premature return to play decisions. Recent survey research has found that about 40 percent of injured high school athletes polled reported that they had been playing with residual neurologic symptoms from a prior head injury at the time of their second more disabling event.

In a study of college athletes, Guskiewicz et al found that over 90 percent of players who sustained a second concussion within the same season, did so within 10 days of the initial concussion. These facts underscore the importance of developing effective screening procedures to guide decisions about when, if ever, it is safe for an individual athlete to return to play.

First of all, it is important for coaches and physicians to know the athlete and have some baseline health and cognitive data whenever possible. Increasingly cognizant of this need, many schools have participated in the

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IMPACT program, which utilizes a computerized cognitive assessment tool to obtain pre-season data on each athlete. This type of data can be very sensitive and objective in determining when cognitive functioning has returned to baseline.

With regard to on-field assessment, players need to be supervised closely and if there is any deterioration in level of consciousness, headache, worsening of physical symptoms over time then immediate transfer to a hospital is indicated. In cases where there has been any loss of consciousness or where there is a persistence of confusion and associated symptoms, consensus is strong that athletes should not return to play that day and should be referred for professional evaluation.

Even if there is seemingly quick resolution of symptoms, coaches should challenge the athlete by having them run or do push-ups to see if they continue to be asymptomatic before considering return to play.

How long athletes should be kept out of contact sports after a concussion is a matter of controversy and depends on the initial severity of the concussion, the duration of symptoms, and the history of prior concussion(s). In the absence of strict guidelines, this becomes a very individualized process which should involve communication between the family, coach and medical/ neuropsychology professionals. Clinicians need to keep current on the emerging research in this field to effectively guide and manage young injured athletes.

The Brain Injury Association of New Jersey launched a Concussion in Sports Campaign in 2005 to educate young athletes, coaches, parents, and others that concussion is a brain injury and needs to be taken seriously. For more information visit www.sportsconcussion.com.

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