

NEWS RELEASE

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New National Study Examines Concussion Management in High School Sports

High school athletes assessed with computerized neuropsychological testing less likely to return to play within 1 week of being diagnosed with a concussion

(COLUMBUS, Ohio)- Each academic year, an estimated 136,000 sports-related concussions occur among high school athletes in the United States. A new study conducted by researchers at the Sports Concussion Clinic at Children's Hospital Boston and the Center for Injury Research and Policy of The Research Institute at Nationwide Children's Hospital examined concussions in high school athletes during the 2008-2009 school year.

The study, published in the December issue of the *American Journal of Sports Medicine*, found that the majority of concussions (76 percent) occurred during contact with another player, usually a head-to-head collision (53 percent). The most common symptom reported by concussed athletes was headache (94 percent), followed by dizziness or unsteadiness (75 percent), difficulty concentrating (57 percent), and confusion or disorientation (46 percent). Additionally 25 percent of athletes with concussions reported experiencing amnesia and fewer than 5 percent reported loss of consciousness. The data also revealed that symptoms resolved for most of the athletes (83 percent) within one week (27 percent resolved within 24 hours); however, 2 percent of the injured athletes had symptoms that lasted longer than one month.

Computerized neuropsychological testing was used to evaluate 26 percent of the athletes after they were injured, and tested athletes were less likely to return to play within a week of their injury than untested athletes. "Computerized neuropsychological testing can be an important resource in the management of sports-related concussion," said study co-author, William Meehan III, MD and director of the Sports Concussion Clinic at Children's Hospital Boston. "However, it is important to remember that it should never be used alone to determine if an athlete is ready to return to play. The results of neuropsychological testing should be used in conjunction with a trained medical care professional's analysis of concussion signs and symptoms to determine when the athlete is ready to return to activity."

Although the majority of concussions occurred in football players (57 percent), injured football players were less likely to have had computerized neuropsychological testing conducted after they were injured than those athletes injured in other sports. "We were quite surprised to find that football players are being tested less frequently than athletes in other sports," said study co-author, Dawn Comstock, PhD, principal investigator in the Center for Injury Research and Policy

at Nationwide Children's Hospital. "It is essential that we conduct additional research to determine how high schools are deciding which athletes are evaluated using computerized neuropsychological testing and to more fully assess the role such testing plays in return-to-play decisions across different sports."

This is the first national study to describe the mechanism of injury, the symptoms and the management of sport-related concussions in U.S. high school athletes. Sports studied included football, boys' soccer, girls' soccer, boys' basketball, girls' basketball, wrestling, baseball, volleyball and softball. Data for this study were collected from the 2008-2009 National High School Sports-Related Injury Surveillance System, High School RIOTM (Reporting Information Online), which was funded in part by the Centers for Disease Control and Prevention.

The Center for Injury Research and Policy (CIRP) works globally to reduce injury-related pediatric death and disabilities. With innovative research at its core, CIRP works to continually improve the scientific understanding of the epidemiology, biomechanics, prevention, acute treatment and rehabilitation of injuries. CIRP serves as a pioneer by translating cutting edge injury research into education, advocacy and advances in clinical care. For related injury prevention materials or to learn more about the Center for Injury Research and Policy go to <http://www.injurycenter.org>. While visiting our website, sign up for the RSS feed in the *What's New* section of our media center to receive e-mail updates of our latest news.