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## **CONCUSSION ELEVATES INJURY RISK IN COLLEGE FOOTBALL PLAYERS AFTER THEY RETURN TO PLAY**

LAS VEGAS, June 26, 2019 – College football players who have had a concussion are at high risk for sustaining a core or lower-extremity injury or another concussion, even if they are symptom-free, suggests a study being presented at the [National Athletic Trainers' Association \(NATA\) 70<sup>th</sup> Clinical Symposia & AT Expo](#).

“Some of the basic tests used for determining when an athlete is recovered from concussion aren’t sensitive enough and don’t fully tax the athlete to assess how well the brain and body are communicating. So even when we believe athletes have recovered, they often aren’t fully ready to participate. More research is needed to determine how to effectively address this issue,” said Shellie Acocello, PhD, ATC, senior author of the study and assistant professor for the University of Tennessee at Chattanooga. “Concussions need to be managed by a multidisciplinary team, including a physician and athletic trainer, who can help athletes re-acclimate through therapies that mimic the environment they will experience when they return to their sport.”

For example, wide receivers require full coordination of their cognitive and motor skills to reduce the risk of injury as they think about how to run the route successfully. This includes being fully aware of the environment, including where the defender and the quarterback are, and determining whether the ball is being thrown to them or someone else.

“Between 1.6 and 3.8 million athletes suffer a sports-related concussion every year. While neurocognitive function, coordination and balance usually improve in seven to 10 days, subtle perceptual and motor control deficits can last far longer,” said Dr. Acocello.

In the study, researchers screened 89 National College Athletic Association (NCAA) Division I football players prior to the preseason. At the end of the season, 30 athletes had suffered an injury such as joint sprains and muscle strains and researchers determined the following factors increased the risk of being injured:

- Having suffered a concussion prior to the season: 33 of the 89 players reported having had a concussion, which made them twice as likely to sustain an injury than players who did not have prior concussion history.
- Playing in five or more games during the season, making them nearly six times more likely to sustain an injury than players who played in less than five games.
- Receiving lower scores on several tests prior to the season, including:
  - Sports Fitness Index survey of persistent effects of injuries, with higher scores (out of 100 total) indicating better musculoskeletal function. Those who scored 82 or lower were nearly three times more likely to be injured.

- Visuomotor reaction time (VMRT), via the Dynavision D2 System, which assesses how quickly an athlete responds to external stimuli by manually hitting illuminated buttons as quickly as possible during a 60-second test. Those who took 745 milliseconds or longer to respond were 3-1/2 times more likely to sustain an injury.
- Whole-body reactive agility (WBRA) using the Trazer® Sport Stimulator, which assesses how quickly the brain communicates information to the body. The players were timed as they performed 20 lateral shuffling movements to the right and left as directed by the appearance of virtual reality targets on a monitor. Those who took 101 seconds or longer to complete the test were more than 2-1/2 times likely to sustain an injury.

The VMRT and WBRA tests are costly and not widely available and other simpler tests need to be developed, researchers note.

“We need to reassess how we rehabilitate athletes after an injury,” said Dr. Acocello. “Athletic trainers play key roles in injury prevention, including prescreening athletes and putting into place specific interventions to reduce their injury risk and assessing when it is safe for them to return to play.”

#### **About NATA: National Athletic Trainers’ Association (NATA) – Health Care for Life & Sport**

Athletic trainers are health care professionals who specialize in the prevention, diagnosis, treatment, and rehabilitation of injuries and sport-related illnesses. They prevent and treat chronic musculoskeletal injuries from sports, physical and occupational activity, and provide immediate care for acute injuries. Athletic trainers offer a continuum of care that is unparalleled in health care. The National Athletic Trainers' Association represents and supports 45,000 members of the athletic training profession. For more information, visit [www.nata.org](http://www.nata.org).

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