New tool for diagnosing concussions shows some promise

By ACSH Staff — April 30, 2014

Concussions are a major concern among athletes and individuals in the military. The long-term effects of sustaining a concussion are not definitively known at this point, but concern about potential harm has spurred research on how to better detect concussions. At this point, you are relying on patients telling you how they feel and they are often motivated by the desire to get back in the game, according to Sam Akhavan, a sports medicine specialist at Allegheny General Hospital.

New research [1] by Allegheny Health Network and Neuro Kinetics Inc. suggests that using a new test based on eye movements may become an important tool in helping to diagnose concussions. The test, known as the I-Portal, uses high-speed digital photography and tracks a patient’s eye movements in reaction to light and other visual stimuli. Researchers tracked eye movements in 292 high school football players with no history of brain injury. They later re-administered the test to ten players who sustained concussions and found that they performed significantly worse on this test as compared to their previous performance and the performance of their peers.

According to Dr. Jeff Kutcher, director of Michigan NeuroSport at the University of Michigan and Steven Broglio, director of the University of Michigan’s NeuroSport Research Laboratory and lead author of the National Athletic Trainers Association policy on concussions, I-Portal is less likely to be the magic bullet for diagnosing concussions than another tool health professionals will have available to them. To increase the accuracy of concussion detection, some professionals use multiple tests on a patient.

ACSH’s Dr. Elizabeth Whelan says, It’s very important that we have more specific, objective tests to diagnose concussions, as relying on patient reporting is not going to necessarily result in accurate diagnosis. In a culture where athletes are encouraged to play through the pain, relying on patient reporting may result in harm to the athlete. Although this is only a preliminary study, it is encouraging to see innovation in the field of concussion detection, and hopefully we’ll eventually have very precise diagnostic tools to ensure the health of athletes.