Simple Device May Help To Diagnose Concussions

BY ROBERT FINN

A simple device that tests an athlete’s reaction time is showing promise in diagnosing concussions, according to a study announced at the annual meeting of the American Academy of Neurology.

Seven of eight Division I athletes who had a concussion showed significantly increased length of reaction times with the device.

Major Finding: Seven of eight athletes who had a concussion had significantly increased length of reaction times with the device.

Data Source: Screening of 209 Division I athletes.

Disclosures: A provisional patent application has been filed on an updated version of the device. The study was supported by the Foundation for Physical Medicine and Rehabilitation and the University of Michigan.

There’s a little rubber disc, which is actually a hockey puck that’s embedded in it. The device is so simple that it has the potential of being used on the sidelines of a football game. The person being tested sits with his or her forearm resting on a table. The person administering the test holds the device so that the subject’s hand is encircling, but not touching, the hockey puck. At a random moment the investigator drops the device, and the subject catches it as soon as he or she can.

“We measure then how many centimeters it fell before they caught it, and then we use a simple physics equation for a body falling under the influence of gravity to convert that into how many milliseconds it fell for,” Dr. Eckner said.

Dr. Eckner and his colleagues recruit 209 members of Division I football, wrestling, and soccer teams. Before the start of the season the investigators measure each athlete’s normal baseline reaction time. During the course of the season, eight of the athletes suffered concussions diagnosed by a physician. The investigators tested those eight athletes within 72 hours of their injury.

Seven of the eight athletes showed significantly increased length of reaction times.