

The research initiative started in 2010 by Dr. Nicholas Port, Assistant Professor at Indiana University School of Optometry (IUSO), and Dr. Steven A. Hitzeman, IUSO Associate Professor Emeritus, is more timely than ever. They are developing a portable sideline device that will be able to quickly detect signs of mild brain trauma. The focus of their work, the acute phase of concussive events, puts them on the cutting edge of concussion research.

The researchers gathered baseline data on the eye movements and balance of IU athletes and have expanded data collection to include Bloomington North and South high schools and local club and youth sports. To measure concussion symptoms, Port devised a system that consists of eye-tracking goggles within a shoebox-sized device and a balance platform based on technology in Nintendo's Wii gaming system. "The data indicate that some ocular and motor performance can be severely impaired during the acute phase of a concussion, which is the first 10 minutes to an hour after a concussion occurs," Dr. Port said. "The research being conducted will add an objective approach to this problem by developing a device that not only measures symptoms on-site but eliminates an athlete's ability to fool trainers, physicians and coaches into thinking they are fit to play."

Grants from the National Institutes of Health and the Indiana Spinal Cord and Brain Injury Research Fund have helped to support the research.



*IU researchers assess athletes' eye movement and balance.*