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### **Concussion: The invisible danger (Excerpts)**

**Sunday, January 10, 2010 Meir Rinde STAFF WRITER**

High school coaches, trainers and medical professionals say awareness of the dangers of concussions has improved tremendously in the last 10 years. Recent media attention to the long-term effects of concussions on retired NFL players has further heightened public interest in the condition, they say.

In high school sports alone, about 400,000 concussions occurred nationwide last school year, more in football than in any other sport, according to researchers at Nationwide Children's Hospital in Columbus, Ohio, and Ohio State University.

The effects -- memory loss, throbbing headaches, depression -- are only part of more serious medical problems that could threaten every aspect of a young person's future.

Concussions occur when the body suddenly stops moving and the brain continues forward, slamming against the bony skull. The main cure is rest, which typically means no contact sports and sometimes a break from studies and other stimuli. If a young athlete suffers one or more additional shocks before having time to heal, the injury can become permanent.

Neuropsychologist Rosemarie Moser of RSM Psychology Center in Lawrence said she became alarmed in the 1990s, when she saw that her son and his fellow recreation league hockey players weren't getting the same kind of medical attention as professional athletes.

"They would get hit, and then feel dazed. If they said they were feeling OK, and if they could see whether there were two or three fingers being held up in their sight, they would go back on the ice," said Moser, an early innovator in post-concussion testing in youth. "These kids would be knocked down and go right out again."

Until recently, even neurologists did not have good information about when a child was ready to return to play. The dizziness and headaches of a brain injury would fade, but an athlete might still be dangerously vulnerable and unfit to return to play.

To help athletic trainers and medical personnel better gauge brain condition, ImPACT was created in the early 1990s. The 25-minute computer test measures memory, reaction time and other brain functions.

The key to effective concussion management is having a baseline score for an athlete prior to an injury, doctors say. With the help of a baseline score, a medical professional can determine when a player has returned to the baseline cognitive levels.

"Many children didn't know they were having concussions. They weren't saying, 'Hey, Mom I feel dazed,'" said Moser, who has run training sessions on concussions for schools, teams and medical groups. "Now we're educating athletes so they can help their peers and let an adult know if someone's skating slowly or seems off during a play. Unfortunately, often kids just keep skating, especially if they're in the middle of the play," she said.

Even with today's heightened awareness of the terrible impacts of brain injury, such decisions can still be painful, Moser said. "It's very difficult emotionally when you have been a star athlete and this is so much a part of who you are," she said. "It's a big emotional and social adjustment. You can transition to track or golf or tennis or something else, but still, it's not the sport you really defined yourself by. It's really tough." FULL ARTICLE AT <http://www.nj.com/times/>