

Concussion damage adds up, study says



Four years ago, the New York Times cited research showing that former NFL player Andre Waters, who suffered numerous concussions throughout his career and committed suicide at age 44, had the brain tissue of a man twice his age. The revelation brought the issue of concussions and their risks to prominence.

Gene Sweeney /Allsport

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Otherwise healthy high school athletes who have suffered multiple concussions are more likely to report feeling “foggy” and “slowed down” than peers with only one concussion, even four months removed from their last incident, according to a new study that raises a series of stark questions over the long-term implications of the injury.

Researchers in the United States reviewed data from more than 2,500 students over three states, concluding that teenagers with two or more concussions tend to endure an array of symptoms at higher levels than classmates who have never been concussed, or those who have only been concussed once.

“These are really just everyday normal kids, and they’re not looking like they’re impaired, but they’re different than the other kids,” said Dr. Philip Schatz, who led the study. “And the thing is, is this the precursor? Is this enough to say, ‘If you have slight differences when you’re in high school, if you continue along this road, what are you going to be like when you’re 40 or 50?’”

That question has risen to prominence in the National Football League following years of dogged reporting in The New York Times, which has combined anecdotal evidence with a growing body of scientific research to build a series of warning signs. Brain tissue from deceased athletes has revealed links from repeated head trauma to depression, and to conditions such as dementia and Alzheimer’s.

Concussion has also become a dominant issue in the National Hockey League, where star Sidney Crosby has been forced to withdraw from this weekend’s all-star festivities with a concussion. Crosby is only 23, not much older than those high school students.

Schatz, a neuropsychologist at Saint Joseph’s University in Philadelphia, did not want to extend his group’s findings to what might

be happening with Crosby. He also stressed the data collected in the study is not enough to say students with multiple concussions will be at risk for serious problems later in life — repeating that it is not a causal relationship.

The students recorded their symptoms on a questionnaire when they reported to school after the summer break. Schatz said students with a concussion history might just have been more sensitive to the symptoms — headaches, new sleeping patterns or feelings of being “foggy” — than those who had only had one, or zero.

But, he said, the results should still be a caution for parents.

“That’s where it got me,” he said. “I said, ‘We know what happens when people are 40 or 50 and some of their brains look like they’re 80. And if that link is there in retired football players, what are these kids going to look like? What were these football players like when they were in high school, and what are these kids going to look like if they follow along on this trajectory?’

“And that’s what scares me.”

The study will be published in *Neurosurgery*, a journal of the Congress of Neurological Surgeons in the U.S.

“Adults can make decisions about their own lives and their own careers,” Schatz said. “Sidney Crosby can determine for himself: ‘I’m rich enough and I don’t want to do this ... I don’t want to play anymore, I know the risks.’ Or it’s, ‘I know what they are, and I want to continue.’”

Awareness of concussion, and its risks, is still a relatively new concept. The issue rose to prominence four years ago after the Times cited research that revealed Andre Waters, the retired (and oft-concussed) NFL safety who had committed suicide at the age of 44, had the brain tissue of a man double his age.

The neuropathologist who examined his degraded brain tissue told the newspaper that, had he lived another decade, Waters “would have been fully incapacitated.”

That story prompted a parade of sad stories, each with a link to repeated head trauma that was suffered in the line of duty on the field. Hockey was pulled into the procession two years ago when the Times reported that Reggie Fleming, one of the NHL’s first enforcers, was found to have chronic traumatic encephalopathy — a condition linked to repeated blows to the head.

Schatz and his team — which included Dr. Rosemarie Scolaro Moser (Sports Concussion Center of New Jersey), Dr. Tracey Covassin (Michigan State University) and Dr. Robin Karpf (The Lawrenceville School) — examined the results from students in Pennsylvania, Michigan and in New Jersey. The sample was taken from athletes between 1997 and 2008, and most of the athletes were male.

“The parents need to be the advocates,” Schatz said. “They need to know their kids, they need to know the symptoms and recognize that it’s not just a little bump on the head. It’s a mild traumatic brain injury, and that scares people ... if you had a mild heart attack, would you just pooh-pooh it?”

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