UM to study sports concussions, brain health of - Detroit News, The (MI) - February 2, 2023 - page A6
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When the National Football League features its star players during the Pro Bowl Games in Las Vegas on Sunday, almost missing from the field was Miami Dolphins quarterback Tua Tagovailoa.

Tagovailoa was taken off the field on a stretcher after the Dolphins lost to the Green Bay Packers on Christmas Day. It was his second **concussion** of the 2022 season. Until Wednesday, when it was reported he'd cleared the NFL's **concussion** protocol, it was unclear he would be able to play.

Concussions in sports have been a vexing and increasingly high-profile issue in recent decades, experts say. But the relationship between sports-related head injuries and long-term neurological health is not completely understood.

That's why University of Michigan researchers are embarking on a study that seeks a deeper understanding of mild traumatic brain injuries and their potential connection to long-term brain health. The initial pilot study recently launched with a focus primarily on UM alumni to collect data for a larger study. It still is recruiting alums to participate.

"While (concussions) have become in the forefront of society's minds, there is still a lot we do not understand," said James Eckner, a UM associate professor of physical medicine and rehabilitation, and associate director for research at the Michigan **Concussion** Center. "We are trying to understand more of the relationship between concussions and sports-associated head impacts when you are younger, and what it may mean for your brain health as you age."

Among the UM alumni who are supportive of UM's work is Jarrett Irons, a former UM linebacker from 1992-96 and a two-time All American player who now serves on UM **Concussion** Center's advisory board.

While Irons never had a major injury, he remembers his trainers diagnosed him with a mild **concussion** after he got his "bell rung" when his head hit a player in the chest during a game. He got up, felt dizzy, had a headache and was kept out of the game for a few series before going back in to play the end of the game.

Back then, no one was talking about the long-term impact of concussions, said Irons.

"It was all about being the toughest guy you can be," said Irons. "If you are hurt, are you really hurt or are you injured? When you are hurt, you can continue to play. That's the motto of football. If you are injured, that means you can't play anymore. If someone got a mild **concussion**, or got their bell rung, they normally came back and played, because we didn't know as much as we know now."

People are talking about it now, and technology is getting better. So is protective gear, such as helmets. What's not clear is the link between concussions and long-term brain health.

It's something Irons has wondered about a lot. His father, Gerald Irons, played football professionally for 10 seasons for the Oakland Raiders and Cleveland Browns – and wore a helmet that didn't have any cushioning. As his father aged, he suffered from early onset Parkinson's Disease and Lewy Body Dementia before dying in 2021 at the age of 73.

Irons said it's hard to say whether the neurological conditions his dad endured before dying were linked to his years playing football.

"I do feel that way, but you have to be able to prove it," said Irons of Detroit. "That's why I am very passionate to bring more awareness to this subject so we can get better technology and testing. To be able to test someone while they are living would be huge. We have to push technology and industry to figure it out."

Long studied, but lots of unknowns

Many sports carry a risk of **concussion**, a traumatic injury to the brain that can have a range of manifestations including headache, dizziness, nausea, balance and coordination issues and sometimes loss of consciousness and memory, Eckner said. Generally, contact sports carry the highest risk of **concussion**, such as boxing, martial arts, ice hockey, lacrosse, wrestling and football. People recover, but what happens long-term is still unclear.

For about a century, there has been some recognition of the potential long-term effects of concussions. Symptoms of long-term brain damage were first studied in boxers suffering from what was referred to as "punch-drunk syndrome," Eckner said.

Since then, more advanced research has been conducted to try to understand the connection between concussions and chronic traumatic encephalopathy, a progressive brain disease, and other long-term impacts. For instance, a study unveiled this week by researchers at the University of Oxford and University of Exeter in England showed that three or more concussions can be linked to worse brain function as people age.

But there is a lot that is not known, said Eckner, and a gap that the research is trying to bridge.

"Population-based research done in former high school football athletes demonstrates no adverse effects on brain health with age," Eckner said. "In contrast, pathological CTE has been found in the majority of brains of deceased former professional football players who have donated their brains to science. This study will help us understand what's going on between those two extremes."

UM's study, the Michigan Alumni Brain Health Study, is recruiting men and women who graduated from UM at least 10 years ago to participate in a survey about their participation in sports in their youth, said Philip Veliz, co-investigator and associate research professor at the School of Nursing. It is seeking athletes and non-athletes to share whether they experienced concussions, how many and the severity. It will also ask about health measures such as high blood pressure and substance abuse, and will examine issues including cognitive, mood, sleep and pain, and functional outcomes.

The data will be analyzed in March, with preliminary results potentially in May, said Veliz.

Another reason for doing the study is to emphasize the benefits of sports, including physical activity and building skills that prepare people for life, Eckner said.

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