

Concerned with long-term damage from head injuries, Ravens offensive lineman John Urschel retires

Ravens offensive lineman John Urschel announces his retirement.

[Childs Walker, Scott Dance and Jeff Zrebiec Contact Reporters](#) The Baltimore Sun

[John Urschel](#), a [Ravens](#) player known as much for his mathematical ability as his football skills, on Thursday joined a list of young NFL players who have retired because of concerns about long-term damage from head injuries.

Although Urschel, 26, released a statement that didn't mention head injuries, team sources indicated his decision was related to a study published this week on chronic traumatic encephalopathy, or CTE, a debilitating brain disease. The report in the Journal of the American Medical Association showed the existence of CTE in the brains of 110 of 111 deceased former NFL players who donated their brains to research.

The team sources were informed of reasons behind Urschel's decision but were not authorized to speak publicly. Urschel in the past has discussed the issue of head injuries, including how a 2015 concussion affected his ability to do math problems. In his statement Thursday, Urschel asked for privacy.

"It wasn't an easy decision, but I believe it was the right one for me," Urschel said. "I'm excited to start working on my doctorate in mathematics full time at

MIT. I'm looking forward to the chance to take courses that are only offered in the fall semester, while spending time with my fiancée and preparing myself for the new challenges that will come with fatherhood. We're expecting our first child in December."

Thank you to everyone for the kind words today. It wasn't an easy decision, but I believe it was the right one for me. There's no big story here, and I'd appreciate the right to privacy.

I'm extremely grateful to the Ravens, and blessed to have been able to play the game I love at the highest level. It is a great game. There are some games — like the playoff game at Pittsburgh — that I will never forget.

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Urschel started 13 games for the Ravens over the previous three seasons at either guard or center on the offensive line. He did not reply to a call and a text message.

Ravens coach John Harbaugh said after the team's first training camp practice Thursday that Urschel told him retiring "was something that's been on his mind for quite a while, throughout the offseason."

"That's what he decided to do, so we respect John tremendously. Probably the rest of it is for him to answer, whatever the details are," said Harbaugh, who found out Thursday morning when Urschel called him. "It was out of the blue. He had been working hard. He was here all summer. He was working on his snaps all summer. He was doing a great job. It was definitely a lightning bolt that way."

The recent trend of players retiring at or near their physical primes began in 2015, when [San Francisco 49ers](#) linebacker Chris Borland walked away after just one season over concerns about head injuries. Other players who followed his example included [Buffalo Bills](#) linebacker A.J. Tarpley, [New York Jets](#) tackle D’Brickashaw Ferguson, 49ers tackle [Anthony Davis](#) and, most recently, [New England Patriots](#) wide receiver [Andrew Hawkins](#).

The study published Tuesday in the Journal of the American Medical Association is considered a significant step in examining CTE in football players because it involved the largest sampling of players’ brains in scientific literature to date.



In the experiment, four independent neuropathologists analyzed brain samples from more than 200 football players with experience in the sport ranging from recreational to professional — but the doctors were not given any information about the patients’ medical (or athletic) history. They found evidence of CTE in 87 percent of the samples, and in 99 percent of former NFL players’ brains.

Dr. Jesse Mez, an assistant professor of neurology at Boston University who is one of the authors of the study, said researchers expected their findings to get a lot of attention because “the numbers are striking.” And they would be

pleased to see the research inform more decisions like Urschel's among NFL players as well as parents of younger athletes, he said.

“He has mentioned in the past that he’s thought about this a lot,” Mez said of Urschel. “If he didn’t have all the information in hand prior, and now he does and this changed his thinking on the issue, then I think that would be a good thing.”

Mez said researchers are looking next into better understanding the link between football and CTE — how long someone has to play it to face a substantial risk of the disease — and how to diagnose it in a living person, so scientists can also study how to treat it.

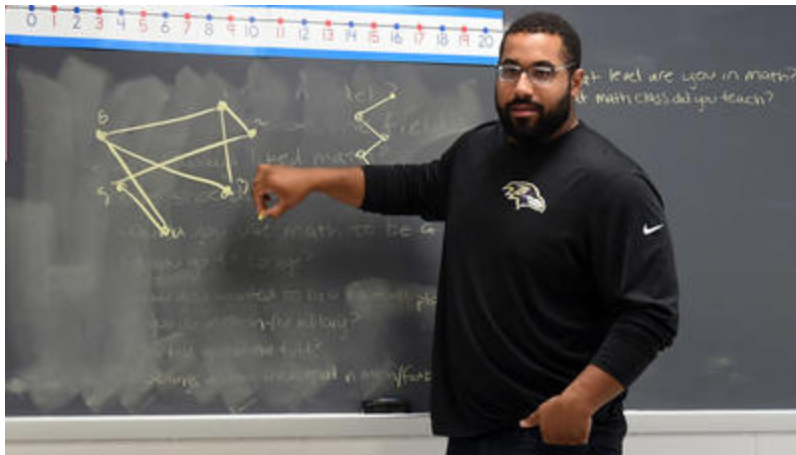
Dr. Robert Cantu, co-founder of the CTE Center at the Boston University School of Medicine, said the study’s findings were so striking that he would not be surprised if they motivated Urschel’s decision, or if they prompt other young players to retire.

“There are a number of players retiring in their late 20s and 30s now who are still able to play, but they’ve made their money and they don’t want to take any further risk,” said Cantu, who is also co-founder and medical director of the Concussion Legacy Foundation. “I’m sure one of the risks they’re thinking about is CTE.”

The study does not improve understanding of how prevalent CTE and other brain damage is among football players. All of the brain samples were donated by families who might have had concerns or seen symptoms of brain degeneration in their loved one.

But it does suggest that the incidence and perhaps severity of CTE increase with more exposure to repeated blows on the field, Cantu said.

“The longer you play it, the more hits you take, the greater the chance you’ll have of getting it,” he said.



Dr. Bennet Omalu, a neuropathology professor at the University of California, Davis, who was the first to publish research studying CTE in NFL players, said the study released Tuesday should encourage parents to keep their children out of high-contact sports. While he said adults should remain free to choose to participate in football or other sports, he praised Urschel's decision to retire.

“Preventing the next blow to his head while playing football is the smartest thing he could do for himself, his family and everyone who loves him,” Omalu said in an email.

The retirements have come against a backdrop of growing concern about the pervasive and devastating effects of concussions suffered routinely by players at all levels of football.

The American Medical Association study released this week was only the latest striking chapter in a story that has changed the way many athletes, parents and fans think about the nation's most popular sport.

The fallout has included a \$1 billion settlement between the NFL and former players seeking compensation for the brain injuries they suffered.

Chris Nowinski, founder and CEO of the non-profit Concussion Legacy Foundation, said the early retirements show that NFL players are better

informed about concussions and are taking the evidence seriously. He does not expect head injuries to end football as we know it.

“It’s still an exciting game, great for television. And I don’t think the NFL is going anywhere,” the former Harvard player said. “Nor does it need to. These are adults, protected by a union that’s making sure they play the game they want to play.”

He hopes the greater impact of Urschel’s story and others will be on youth football.

“If one of the smartest players in the sport looks at the data and decides to walk away, I’d like parents to look at that and not let their kids play tackle football until at least high school,” Nowinski said.



Urschel had long contemplated football’s potential toll on his brain. He often spoke as if there were two people living inside his body — one the burly athlete who thrived on the hand-to-hand combat of the NFL trenches and the other a man who was happiest sitting beside a secluded river with a stack of math textbooks at his side.

His twitter handle, @MathMeetsFball, summed up his dual obsessions.

He wrote about this unusual juxtaposition in a 2015 article for The Players' Tribune titled "Why I Play," a direct response to Borland's sudden retirement.

"It blends together somewhat in that there's this unified competitive nature," he said in a 2015 interview. "Even in math, when I'm trying to solve a problem, I get very competitive about it. But it's different in that for football, I just love the physicality of it. In math, there's real elegance to it. There's beauty in taking this construct, which we have made, and using it to explain this fantastic and complex world we live in."



Photos from 2017 training camp of the Baltimore Ravens

Urschel is no academic dilettante. He's spent the past two offseason at the Massachusetts Institute of Technology pursuing a Ph.D. in applied mathematics. He's also published papers on mathematics and taught a class at [Penn State](#), his alma mater. In addition to his personal studies, he has thrown himself into programs designed to get kids excited about math.

After suffering a concussion in 2015, Urschel said his ability to do high-level math problems was temporarily affected. But as recently as January on an episode of HBO's "Real Sports with Bryant Gumbel," he said he wanted to continue to pursue two things he loved.

"I recognize that this is somewhat irrational," Urschel said on the segment. "But I am doing it. It's more important to me that I'm able to do the two things I love."

Urschel's retirement could lead the Ravens to be more aggressive in their pursuit of free-agent center [Nick Mangold](#).



But in the immediate aftermath, his teammates seemed less focused on such possibilities and more startled by the suddenness of his decision.

"It was a pretty big shock coming right into camp," said Jensen, who would have competed with Urschel for the starting center job. "But I respect his decision and wish him well for his next career."

As with previous cases when players retired abruptly, Urschel's teammates said they understood his perspective but would not reconsider their own careers.

“All of these studies are coming out, but I’m not too worried about it,” Jensen said. “I’m just worried about playing football and making a life for myself and helping my family out.”

Added safety [Eric Weddle](#): “I think it’s personal preference to look into it, to not look into it. I’ve been playing tackle football since first grade and I’m as sharp as ever. I don’t really pay attention to it. I’m just trying to do my job and do the best I can and worry about that stuff later down the line.”

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