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## **NEW STUDY FINDS LASTING EVIDENCE OF BRAIN INJURIES IN FOOTBALL PLAYERS AT SURPRISINGLY YOUNG AGE**

*College football players found to have cognitive issues and blood biomarkers indicating brain injuries*

Orlando, Fla - There have been more and more cases confirming that repeated hits to the head have lifelong consequences for professional football players, but a new study by [Orlando Health](#) in collaboration with the Concussion Neuroimaging Consortium finds evidence of lasting effects from head injuries at a much younger age than expected. The study tested biomarkers in the blood called microRNA's and found that the college football players had elevated levels of these biomarkers that indicate concussions before the season even started.

"It was quite shocking to learn that the biomarkers were high before they were even involved in one hit or tackle for the season," said [Linda Papa, MD](#), lead author of the study and emergency medicine physician at Orlando Health "This suggests that the effects of past head injuries are persisting over time."

Researchers also conducted cognitive tests with each study participant before and after the season and found that those who struggled with balance and memory had higher levels of the biomarkers. "Some of these players had never been diagnosed with a concussion but they still had elevated biomarker levels in their blood, indicating they likely experienced head injuries that were not severe enough to be clinically diagnosed, but still caused damage. These injuries are also known as subconcussive injuries," said Papa.

Papa says that these biomarkers can potentially help identify those less severe head injuries so that players can get the proper treatment.

"We're hoping that the biomarkers are actually going to give us a quantity of injury, rather than just saying whether this a concussion or not," said Papa. "We can say to these players, 'Yes, I can see you have had an injury because the levels of the biomarkers are elevated, and now we are going to help you.'"

While concussion protocols and improved equipment have helped in recent years, this new research shows how important it is to monitor players' brain health and understand how continuous hits can lead to chronic issues. "There is a lot more awareness about head injuries than there used to be, and it's really up to each parent to do their research and talk to coaches and athletic trainers," said Papa.

“Researchers from across the country are coming together to examine this issue. Once we're aware of the dangers and risks, we can take steps to minimize them and keep the sport as it should be, a healthy activity for everybody to participate in.”

Health concerns were part of Austen Rankin's decision to hang up his cleats in the middle of his college football career. He was sidelined by a concussion once in college, but says he likely suffered concussions while playing football growing up that were undiagnosed.

“Being injured was seen as just part of the game,” said Rankin. “When you took a hard hit, you just got up, shook it off and kept going. Maybe the next day you couldn't think clearly or light would bother you, but when I was younger there weren't procedures in place to deal with that.”

Austen is now a trainer and coach, and helps educate other players about protecting themselves and playing smart. “It can be really tough to put aside your love for the game and put your health first,” said Rankin. “I didn't want to be 40 or 50 years old and have memory problems, so I decided to stop playing and focus on my future career.”

Papa says, in the future, testing for these microRNA biomarkers will potentially serve as measures of neurocognitive status and help to identify at-risk athletes to monitor them more closely so they get the treatment they need early.

**B-ROLL, SOUND BITES, WEB ELEMENTS & HI-RES STILL PHOTOS** - Including HD video available for free/unrestricted use by the news media: <http://bit.ly/2MSHFp8>

*Courtesy: Orlando Health*

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Orlando Health is a \$3.8 billion not-for-profit healthcare organization and a community-based network of hospitals, physician practices and outpatient care centers across Central Florida. The organization is home to the area's only Level One Trauma Centers for adults and pediatrics, and is a statutory teaching hospital system that offers both specialty and community hospitals. More than 3,000 physicians have privileges across the system, which is also one of the area's largest employers with more than 23,000 employees who serve nearly 155,000 inpatients, more than 3 million outpatients, and more than 10,000 international patients each year. Additionally, Orlando Health provides more than \$345 million in support of community health needs. More information can be found at [www.orlandohealth.com](http://www.orlandohealth.com).