# Study: Lasting Evidence of Brain Injuries Present in College Football Players

Biomarker shows there are likely head injuries that cause damage but go undiagnosed

## Orlando Health

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### **NEWS PACKAGE**

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SUGGESTED TEASE	FOOTBALL PLAYERS TAKE SOME HARD HITS, BUT QUESTIONS STILL REMAIN ABOUT THE LONG-TERM HEALTH CONSEQUENCES FOR ATHLETES.  COMING UP, A NEW STUDY REVEALS THAT CHANGES IN THE BRAIN ARE SHOWING UP IN FOOTBALL PLAYERS AT AN ALARMINGLY YOUNG AGE.	
ANCHOR LEAD	IT'S A DECISION THAT A LOT OF PARENTS WRESTLE WITH: WHETHER OR NOT TO ENROLL THEIR CHILD IN CONTACT SPORTS. EMERGING CASES OF LONG-TERM HEALTH CONSEQUENCES IN FOOTBALL PLAYERS ARE CONCERNING <sup>1</sup> , AND MAY START AT A YOUNGER AGE THAN YOU THINK. A NEW STUDY <sup>2</sup> IS SHEDDING LIGHT ON HOW EARLY DAMAGE TO THE BRAIN IS EVIDENT IN YOUNG FOOTBALL PLAYERS AND HOW MANY OF THESE INJURIES ARE LIKELY GOING UNDETECTED. BARB CONSIGLIO HAS THE DETAILS.	
(PACKAGE START)		
CG: Courtesy: Orlando Health :00 - :03	(Nats - Austen catching football) :02  AFTER PLAYING FOOTBALL MOST OF HIS LIFE,	
Shots of Austen throwing football	AUSTEN RANKIN DECIDED IT WAS TIME TO HANG UP HIS CLEATS. :05	
CG: Austen Rankin Former football player	"I definitely had some concussions that weren't diagnosed probably in middle school, high school, but in college I had one that was diagnosed." :06	
Shots of football practice	(Nats - football players colliding) :01	
Shots of Dr. Papa reviewing brain images	WHILE CONCUSSIONS ARE A MAJOR CONCERN, A NEW STUDY SUGGESTS EVERY TACKLE AND HIT MAY HAVE AN IMPACT ON PLAYERS' BRAINS. THE STUDY TESTED COLLEGE FOOTBALL PLAYERS FOR BIOMARKERS IN THE BLOOD THAT DETECT CONCUSSIONS.3:08	

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## CG: Linda Papa, MD "It was most interesting, and actually a little bit shocking Orlando Health that they were elevated even before the season started." :09 DOCTOR LINDA PAPA LED THE STUDY AT Shots of Dr. Papa conducting ORLANDO HEALTH IN COLLABORATION WITH THE cognitive tests with patient CONCUSSION NEUROIMAGING CONSORTIUM AND SAYS THIS MEANS THAT DAMAGE IS NOT ONLY PRESENT, BUT IS PERSISTING OVER TIME. RESEARCHERS ALSO CONDUCTED COGNITIVE TESTS ON ATHLETES BEFORE AND AFTER THE Shots of Dr. Papa conducting SEASON, AND FOUND THAT THOSE WHO balance tests with patient STRUGGLED WITH THINGS LIKE BALANCE AND MEMORY HAD HIGHER LEVELS OF THE BIOMARKERS IN THEIR BLOOD, EVEN IF THEY HAD NEVER HAD A CONCUSSION. :19 (Nats of Dr. Papa - "You're going to close your eyes, and keep your balance."):02 Shots of football tackle PAPA SAYS THIS SUGGESTS THAT REPEATED BLOWS TO THE HEAD MAY CAUSE INJURIES THAT AREN'T SEVERE ENOUGH TO BE DIAGNOSED AS A CONCUSSION, BUT ARE STILL DOING DAMAGE. :06 Dr. Papa (CG'd earlier) "Validating patients' symptoms is an important part of this, and saying, 'No, we know that you've had an injury. We have the biomarker level that has shown us that you've had an injury. Now we need to help you." :12 Shots of football practice AND WHILE STEPS LIKE BETTER HELMETS AND CONCUSSION PROTOCOLS HAVE HELPED REDUCE CONCUSSIONS IN RECENT YEARS, IT'S IMPORTANT TO RECOGNIZE THE IMPACT OF EVERY HIT. Shots of Austen studying FOR AUSTEN, IT MEANT LEAVING FOOTBALL BEHIND AND FOCUSING ON HIS FUTURE. :13 Austin Rankin (CG'd earlier) "I kind of wanted to get myself out of that situation and into something where I could succeed and start what I want to do for the rest of my life early.":07 Shots of football players AT ORLANDO HEALTH, THIS IS BARB CONSIGLIO REPORTING: :02 (PACKAGE END) ------**ANCHOR TAG** EXPERTS SAY THEY HOPE THAT IN THE NEAR FUTURE, BLOOD TESTS WILL BE ABLE TO SHOW EXACTLY WHAT LEVEL OF CONCUSSION SOMEONE HAS TO ENSURE THAT THOSE LOWER LEVEL BRAIN

INJURIES ARE RECOGNIZED AND TREATED.

TESTING FOR THESE MICRO R-N-A BIOMARKERS

MAY ALSO POTENTIALLY HELP TO IDENTIFY AT-RISK ATHLETES AND MONITOR THEM MORE CLOSELY SO THEY GET THE TREATMENT THEY NEED EARLY.

#### SOCIAL MEDIA

# Share it! Suggested tweet:

A new study by <u>@OrlandoHealth</u> found that evidence of brain injuries are showing up in football players at an alarmingly young age. How blood tests can help doctors diagnose and treat concussions to help keep athletes safer: <a href="http://bit.ly/2MSHFp8">http://bit.ly/2MSHFp8</a>

Suggested post:

Football players often take repeated blows to the head that can lead to long-term health consequences, and the damage may start earlier than you think. A new study by Orlando Health found that college football players already have biologic evidence of brain injuries, even if they've never been diagnosed with a concussion. http://bit.ly/2MSHFp8

#### **EXTRA BITES**

Dr. Papa says the biomarkers showed undiagnosed injuries: "There were athletes that did not have this diagnosis of concussion who had elevated levels of this microRNA biomarker from beginning to end, so it sort of suggests that maybe there were blows to the head that were not enough to be an official concussion, but were enough to elevate the biomarkers."

CG: Linda Papa, MD Orlando Health Dr. Papa says the biomarkers correlated with cognitive issues: "The microRNA biomarkers co-related with the amount of dysfunction that they had. So if they had problems with balance or problems with memory, the marker also elevated in those cases, in those athletes."

Dr. Papa says the biomarkers can help indicate predisposition: "That sort of might give us a clue as to what their predisposition is at the beginning of the season, and perhaps take a little bit more care in how we follow these athletes."

Dr. Papa says the biomarkers can identify the level of injury: "We're looking to refine the biomarker and actually use the level to tell us how bad the injury is."

CG: Austen Rankin Former football player Austen says head injuries were seen as part of the game: "Early in my career there was probably concussions that weren't diagnosed, but it was, at that point it was like it was part of the game, get up, shake it off, keep playing, and then see what happens. Maybe your head hurts the next day, can't think, whatever, lights bothering you."

# CG: Austen Rankin Former football player

Austen says there are bigger things in life than football: "You don't want to be 40, 50 years old and you can't remember your kids' names cause you took so many hits. You know, there's bigger things out there than the game, obviously."

#### References

<sup>1</sup>Clinicopathological Evaluation of Chronic Traumatic Encephalopathy in Players of American Football, **JAMA**, **Volume 318**, **Issue 4**, **July 25**, **2017**. Online: <a href="https://jamanetwork.com/journals/jama/fullarticle/2645104">https://jamanetwork.com/journals/jama/fullarticle/2645104</a>

<sup>2</sup>Elevations in MicroRNA Biomarkers in Serum Are Associated with Measures of Concussion, Neurocognitive Function and Subconcussive Trauma over a single NCAA Division I Season in Collegiate Football Players, **Journal of Neurotrauma**, **Volume 35**, **Issue 21**, **Oct. 20**, **2018**. Online: <a href="https://www.ncbi.nlm.nih.gov/pubmed/30343622">https://www.ncbi.nlm.nih.gov/pubmed/30343622</a>.

<sup>3</sup>Performance of Glial Fibrillary Acidic Protein (GFAP) in Detecting Traumatic Intracranial Lesions on CT in Children and Youth with Mild Head Trauma, Academic Emergency Medicine, Volume 22. Issue 11, August 2015. Online: https://www.ncbi.nlm.nih.gov/pubmed/26469937

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