

# RESEARCH ON 202 FORMER FOOTBALL PLAYERS

## Study shows almost all had brain disease

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CHICAGO --- Research on 202 former football players found evidence of brain disease in nearly all of them, from athletes in the Canadian Football League, National Football League, college and even high school.

It's the largest update on chronic traumatic encephalopathy, or CTE, a brain disease linked with repeated head blows.

But the report doesn't confirm that the condition is common in all football players; it reflects high occurrence in samples at a Boston brain bank that studies CTE. Many donors or their families contributed because of the players' repeated concussions and troubling symptoms before death.

"There are many questions that remain unanswered," said lead author Dr. Ann McKee, a Boston University neuroscientist.

"How common is this" in the general population and all football players?

"How many years of football is too many?" and "What is the genetic risk? Some players do not have evidence of this disease despite long playing years," she noted.

It's also uncertain if some players' lifestyle habits --- alcohol, drugs, steroids, diet --- might somehow contribute, McKee said.

Dr. Munro Cullum, a neuropsychologist at UT Southwestern Medical Center in Dallas, emphasized that the report is based on a selective sample of men who were not necessarily representative of all football players. He said problems other than CTE might explain some of their most common symptoms before death --- depression, impulsivity and behaviour changes.

He was not involved in the report.

McKee said research from the brain bank may lead to answers and an understanding of how to detect the disease in life, "while there's still a chance to do something about it." There's no known treatment.

The strongest scientific evidence says CTE can only be diagnosed by examining brains after death, although some researchers are experimenting with tests performed on the living. Many scientists believe that repeated blows to the head increase risks for developing

CTE, leading to progressive loss of normal brain matter and an abnormal buildup of a protein called tau. Combat veterans and athletes in rough contact sports like football and boxing are among those thought to be most at risk.

The new report was published in the Journal of the American Medical Association on Tuesday.

CTE was diagnosed in 177 former players nor nearly 90 per cent of brains studied. That includes seven of eight from former CFL players, 110 of 111 brains from former NFL players; 48 of 53 college players; nine of 14 semi-professional players, and three of 14 high school players. The disease was not found in brains from two younger players.

A panel of neuropathologists made the diagnosis by examining brains, using recent criteria from the National Institute of Neurological Disorders and Stroke, McKee said.

The NFL issued a statement saying these reports are important for advancing science related to head trauma and said the league "will continue to work with a wide range of experts to improve the health of current and former NFL athletes."

After years of denials, the NFL acknowledged a link between head blows and brain disease and agreed in a \$1 billion settlement to compensate former players who had accused the league of hiding the risks. The CFL is facing a \$200-million class-action lawsuit over concussions and brain trauma.

Former commissioner Jeffrey Orridge drew widespread criticism during last year's Grey Cup when he denied the existence of a link between playing football and the development of CTE. Orridge stepped down from the job in June and newly appointed league boss Randy Ambrosie hasn't spoken at length on head injuries. He said at a news conference last month that he is "deeply committed" to player safety.

Tuesday's journal update includes many previously reported cases, including former NFL players Bubba Smith, Ken Stabler, Junior Seau and Dave Duerson.

New ones include retired tight end Frank Wainright, whose 10-year NFL career included stints with Miami, New Orleans and Baltimore. Wainright died last October at age 48 from a heart attack triggered by bleeding in the brain, said his wife, Stacie. She said he had struggled almost eight years with frightening symptoms including confusion, memory loss and behaviour changes.

Wainright played before the league adopted stricter safety rules and had many concussions, she said.

The Associated Press