

# Former NFL player Kevin Turner diagnosed with CTE

By Nadia Kounang, CNN

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Photos: Athletes and CTE

Chris Henry played five seasons for the Cincinnati Bengals before dying at the age of 26. [He died after falling from the bed of a moving pickup](#) during a fight with his fiancée, ending a life plagued by behavioral problems. His young age prompted concern over how quickly athletes start to suffer from CTE.

Hide Caption

12 of 22

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Offensive lineman Terry Long of the Pittsburgh Steelers committed suicide by drinking antifreeze. Although the antifreeze caused swelling of the brain, football-related brain injuries were a contributing factor to his death.

Hide Caption

13 of 22

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Pro Football Hall of Famer John Mackey suffered from dementia for years before dying at the age of 69.

Hide Caption

14 of 22

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Ollie Matson, who played 14 NFL seasons starting in the 1950s, suffered from dementia until his death in 2011.

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15 of 22

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Andre Waters spent most of his 12 seasons with the Philadelphia Eagles before his suicide at age 44.

Hide Caption

16 of 22

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Tom McHale of the Tampa Bay Buccaneers, right, died in 2008 [of an apparent drug overdose](#) at the age of 45.

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17 of 22

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Junior Seau [took his own life](#) in 2012 at the age of 43. The question of CTE came up immediately after his death; scientists at the National Institutes of Health confirmed the diagnosis in January 2013.

Hide Caption

18 of 22

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Wrestler Chris Benoit was found dead at his suburban Atlanta home along with his wife, Nancy, and son in an apparent murder-suicide. Testing found that the damage to his brain was similar to that of an elderly Alzheimer's patient.

Hide Caption

19 of 22

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Reggie Fleming, who played for six NHL teams, mainly in the 1960s, was the first hockey player to be diagnosed with CTE.

Hide Caption

20 of 22

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Hockey player Bob Probert was found to have CTE after suffering from heart failure at the age of 45.

Hide Caption

21 of 22

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[Ryan Free](#) became the first MLB player to be diagnosed with CTE nearly a year after he committed suicide at age 36.

Hide Caption

22 of 22



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Former pro football player Kevin Turner, shown here during a 1998 NFL game, has been diagnosed with chronic traumatic encephalopathy, known as CTE, a neurodegenerative disease associated with repeated head trauma.

Scientists believe repeated head trauma can cause CTE, a progressive degenerative disease of the brain. Symptoms include depression, aggression and disorientation, but scientists can definitively diagnose it only after death. Here are a few of the former athletes who have been diagnosed with CTE.

Hide Caption

1 of 22

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BMX star Dave Mirra, who was found dead of a self-inflicted gunshot on February 4, was found to have chronic traumatic encephalopathy.

Hide Caption

2 of 22

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[Charles "Bubba" Smith](#), a two-time Pro Bowl pick and actor who died in 2011, was also diagnosed with CTE. Smith played for the Baltimore Colts, the Oakland Raiders and the Houston Oilers.

Hide Caption  
3 of 22

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Former Minnesota Vikings linebacker Fred McNeill died in November at 63 due to complications from ALS. However, an autopsy confirmed that he suffered from CTE. What makes McNeill's case even more remarkable, though, is that he was potentially the first to be diagnosed while alive. Doctors used an experimental new technology to examine his brain.

Hide Caption  
4 of 22

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NFL MVP and Oakland Raiders quarterback Ken Stabler, who died in July, suffered from chronic traumatic encephalopathy, researchers at Boston University said.

Hide Caption  
5 of 22

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Kansas City Chiefs linebacker Jovan Belcher shot and killed his girlfriend before killing himself two years ago. Pathology reports show he probably had CTE.

Hide Caption  
6 of 22

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Hall of Famer Mike Webster was the first former NFL player to be diagnosed with CTE. After his retirement, Webster suffered from amnesia, dementia, depression, and bone and muscle pain.

Hide Caption  
7 of 22

Photos: Athletes and CTE

The death of 36-year-old Pittsburgh Steelers offensive lineman Justin Strzelczyk put the link between football and CTE in the national spotlight. Strzelczyk was [killed in 2004](#) in a car crash after a 40-mile high-speed chase with police in New York.

Hide Caption  
8 of 22

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Evidence of CTE was found in the brain of football player Lew Carpenter after his death in 2010 at the age of 78.

Hide Caption  
9 of 22

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Pro Football Hall of Famer Louis Creekmur, who played for the Detroit Lions from 1950 to 1959, suffered decades of cognitive decline before his death.

Hide Caption

10 of 22

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Linebacker John Grimsley of the Houston Oilers died of an accidental gunshot wound to the chest. Analysis of his brain tissue confirmed damage to the neurofibrillary tangles that had begun to affect his behavior and memory.

Hide Caption

11 of 22

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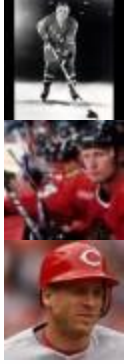
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Hide Caption

11 of 22







## Story highlights

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- Kevin Turner was a lead plaintiff in a concussion lawsuit against the NFL
- Turner was diagnosed in 2010 with ALS, which was brought on by his CTE

**(CNN)** Former pro football player Kevin Turner died having the most advanced stage of chronic traumatic encephalopathy, known as CTE, a neurodegenerative disease associated with repeated head trauma.



### NFL acknowledges CTE link with football. Now what?

Turner was a star running back at the University of Alabama from [1988 to 1991](#) before being picked in the third round of the draft by the New England Patriots. He played for the Patriots for three seasons followed by five seasons with the Philadelphia Eagles. He was diagnosed with amyotrophic lateral sclerosis (ALS), also known as Lou Gehrig's disease, in 2010 and died in March of ALS.

It was believed that he had only ALS, but Thursday's announcement, made by Dr. Ann McKee of Boston University and the Concussion Legacy Foundation, changed that understanding.

In a statement, McKee said, "The severity of Mr. Turner's CTE was extraordinary and unprecedented for an athlete who died in his 40s.

"While he had typical cognitive symptoms and problems with impulse control associated with CTE, it also appears that CTE decimated the motor cortex of his brain at a young age, likely leading to his ALS symptoms," she added. McKee clarified that Turner's CTE brought on his ALS.

## Hard hits linked to neurodegenerative diseases

In a 2013 interview with CNN affiliate [WGCL](#), Turner discussed how he believes playing football played a large part in his ALS diagnosis: "I really believe that had I not played all those years, that I wouldn't have this condition."



### Inflammation in the brain can be a marker for CTE

The eight-year NFL veteran was a lead plaintiff on the concussion-related lawsuit filed by more than 5,000 former players.

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After his retirement, Turner dedicated his life to research and awareness of the health impacts of football and created the [Kevin Turner Foundation](#) to raise awareness for ALS.

Professional football players are [four times more likely to have ALS](#) and three times more likely to die from neurodegenerative diseases like ALS or Alzheimer's.

CTE has been diagnosed in 91 of 95 professional football players who donated their brains for CTE research at the VA-BU-CLF Brain Bank and the [Concussion Legacy Foundation](#). The disease has Alzheimer's-like symptoms including dementia, memory loss, mood swings, aggression and depression.

Scientists are working to find potential biomarkers so the disease can be diagnosed in people while they are still alive.

"After now completing the analysis of the brains of 228 former football players, we have seen a clear trend that length of career is associated with CTE severity," McKee added in a statement.

Turner played 25 seasons in his career, starting to play tackle football at the age of 5.

## CTE and the NFL

While much of the talk surrounding head safety in football is around concussions, researchers believe that CTE is a result of repeated hits to the head, which then result in a

buildup of the abnormal protein tau. Unlike Alzheimer's, the tau protein tangles of CTE appear in the brains of younger people and take over specific parts of the brain, regions typically not affected by Alzheimer's.

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Some of the most famous names to have suffered from the disease include Hall of Famer and legendary sportscaster [Frank Gifford](#), who died at the age of 84 in summer 2015, as well as San Diego Chargers player and fellow Hall of Famer Junior Seau. Seau was just 43 years old when he took his own life in 2012.

Though the disease is most commonly associated with football players, it has also been diagnosed in hockey players and wrestlers.

"I was the one telling these parents that it's a safe game to play. 'Look at me. I've been playing since I was 5,' and turned out I was wrong," Turner said in the 2013 interview. "I was just so dead wrong about the hits to the head thing. I feel ignorant now."

<http://www.cnn.com/2016/11/03/health/kevin-turner-cte-diagnosis/index.html>