**Football headers 'linked to brain damage'**

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**Repeated headers during a footballer's professional career may be linked to long-term brain damage, according to tentative evidence from UK scientists.**

The research follows anecdotal reports that players who head balls may be more prone to developing dementia later in life.

The Football Association says it will look at this area more closely.

Experts said recreational players were unlikely to incur problems.

Dawn Astle, the daughter of former England and West Brom striker Jeff Astle, who died aged 59 suffering from early onset dementia, said it was "obvious that it [his dementia] was linked to his footballing career".

The inquest into his death in 2002 found that repeatedly heading heavy leather footballs had contributed to trauma to his brain.

Ms Astle told BBC Radio 5 Live: "At the coroner's inquest, football tried to sweep his death under a carpet. They didn't want to know, they didn't want to think that football could be a killer and sadly, it is. It can be."

She said her father was 55 and physically very fit when he went to the doctor, who diagnosed him with the early onset of dementia.

By the end he "didn't even know he'd ever been a footballer", she said, before adding: "Everything football ever gave him, football had taken away."

Media captionJeff Astle's daughter tells Today it's "unforgivable" the problem was ignored for so long

Researchers from University College London and Cardiff University examined the brains of five people who had been professional footballers and one who had been a committed amateur throughout his life.

They had played football for an average of 26 years and all six went on to develop dementia in their 60s.

While performing post mortem examinations, scientists found signs of brain injury - called [**chronic traumatic encephalopathy**](http://www.nhs.uk/conditions/chronic-traumatic-encephalopathy/Pages/Introduction.aspx) (CTE) in four cases.

CTE has been linked to memory loss, depression and dementia and has been seen in other contact sports.

Prof Huw Morris, of University College London, told the BBC: "When we examined their brains at autopsy we saw the sorts of changes that are seen in ex-boxers, the changes that are often associated with repeated brain injury which are known as CTE.

"So really for the first time in a series of players we have shown that there is evidence that head injury has occurred earlier in their life which presumably has some impact on them developing dementia."

In the study, published in the journal Acta Neuropathologica, the report's authors make it clear they were not analysing the risks of heading by children.

But the science is far from clear-cut.

Each brain also showed signs of Alzheimer's disease and some had blood vessel changes that can also lead to dementia.

Researchers speculate that it was a combination of factors that contributed to dementia in these players.

But they acknowledge their research cannot definitively prove a link between football and dementia and are calling for larger studies to look at footballers' long-term brain health.

Dr David Reynolds, at the charity Alzheimer's Research UK, said: "The causes of dementia are complex and it is likely that the condition is caused by a combination of age, lifestyle and genetic factors.

"Further research is needed to shed light on how lifestyle factors such as playing sport may alter dementia risk, and how this sits in the context of the well-established benefits of being physically active."

He added that for people who are recreational footballers, football injuries are unlikely to cause long-term problems and he pointed to expert advice that the benefit of exercise is likely to outweigh the risks.

A number of previous cases involving boxers and American footballers have suggested that repetitive blows can cause long-lasting and progressive brain damage.

But until now there have only been a few case reports of individual footballers with CTE in the UK and the extent of the issue is still unknown.

The Football Association welcomed the study and said research was particularly needed to find out whether degenerative brain disease is more common in ex-footballers.

Dr Charlotte Cowie, of the FA, added: "The FA is determined to support this research and is also committed to ensuring that any research process is independent, robust and thorough, so that when the results emerge, everyone in the game can be confident in its findings."