

Should Children be Heading Footballs?

Heading footballs can lead to memory loss and a significant inhibition (restriction) of brain function, and can lead to brain diseases such as Alzheimer's.

Studies have shown that heading footballs can significantly affect the player's memory and brain function for 24-hours, and that memory performance was reduced by between 41% and 67% in the 24-hours after a training session of heading practice. One of the studies' authors has said that football should be avoided if there was, say, an important exam or interview the next day. The first study to detect these issues was from Scotland's University for Sporting Excellence. Scientists tested the players' brain function before and after heading a ball 20 times, from a machine simulating the power and pace of a corner kick, and increased restriction in the brain was detected after just one session.

Sean Ingle has studied US women footballers. It was proven that heading footballs can cause permanent brain damage. Plus, children are marginally more prone to head injuries than adults, as their neck muscles are not strong enough to brace against the impact of the ball in a header.

In recent years, the potential link between brain injury in sport and increased risk in dementia has concentrated on whether heading a football may lead to long-term brain causes, like dementia.

Cognitive neuroscientist Dr Magdalena Letswaart from Psychology at the University of Stirling said:

“Using a drill most amateur and professional teams would be familiar with, we found there was in fact increased inhibition in the brain immediately after heading and that performance on memory tests was reduced significantly. Although the changes were temporary, we believe they are significant to brain health, particularly if they happen over and over again as they do in football heading. With large numbers of people around the world participating in this sport, it is important that they are aware of what is happening inside the brain and the lasting effect this may have.”

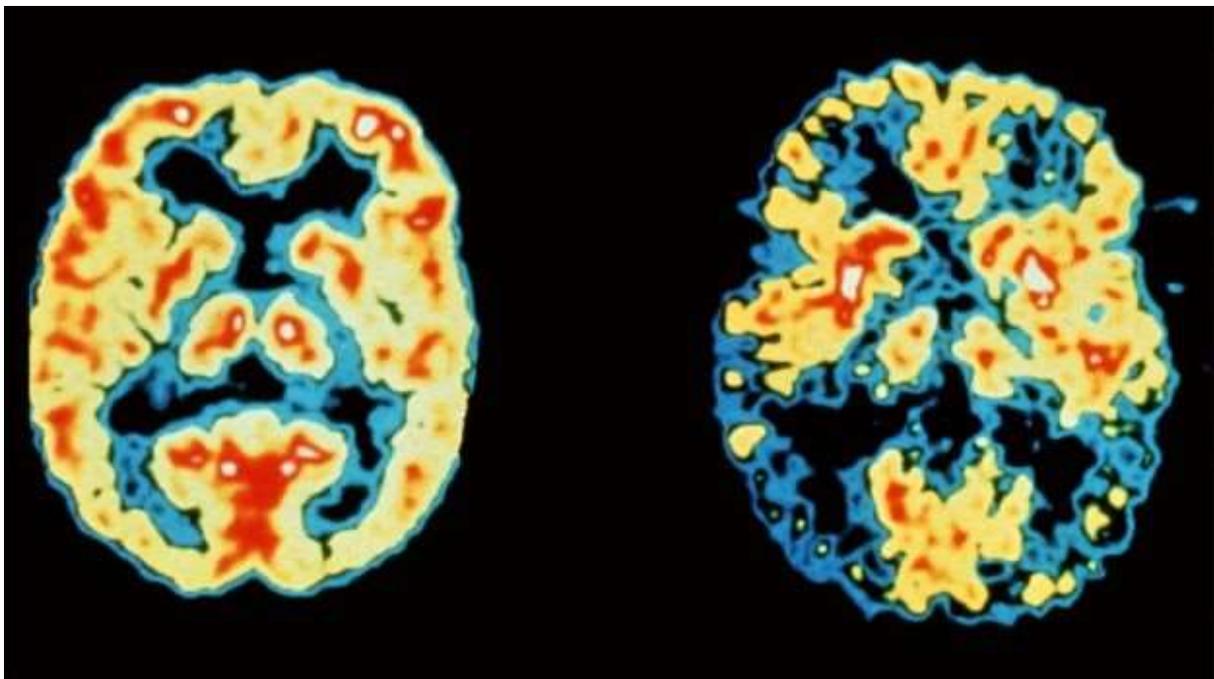
Dr Letswaart was supported in the research by Dr Angus Hunter, Reader in Exercise Physiology in the Faculty of Health Sciences and Sport, Stirling neuropsychology Professor Lindsay Wilson and PhD student... Tom Di Virgilio consulting with leading Glasgow University Medical

School Neuropathologist Dr Willie Stewart and a wider multi-disciplinary team.

Dawn Astle was the daughter of former England and West Brom striker Jeff Astle, who died aged 59 from early onset dementia, and she said that it was “obvious that it [his dementia] was linked to his footballing career”. She also stated that her father was aged 55 and physically very fit when a doctor diagnosed him with dementia. By the end he “didn’t even know he’d ever been a footballer”, she said, and then added: “Everything football ever gave him, football had taken away.”

Researchers from University College London and Cardiff University studied the brains of six people; five being 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 (tests to find the causes of death of a person), scientists found signs of brain injury- called **chronic traumatic encephalopathy (CTE)** in four cases. CTE has been linked to memory loss, depression and dementia and has been seen in other contact sports, such as rugby, boxing and stunt performing.



Each of these brains showed signs of Alzheimer’s disease and some blood vessel changes that can also lead to dementia.

The following are extracts from our interview with Saint Philip Howard's PE teacher and head of Middle School, Mr Adam Collyer

How do you feel about children heading footballs?

If we teach it correctly using the front top part of the forehead instead of the top of the head or the temples, it's a very very safe movement.
If it's taught correctly it's a very safe procedure.

What do you think about the people who make the footballs? Do you think the way they make them also links to brain damage?

We use Mitre balls, it's a well-established company and brand, they're expensive so you'd hope they're made with good quality materials. Every brand uses a different weighted material.

What age do you think children should be heading footballs at?

Depending on the skill of the child, I think it comes down to an individual situation. You might as a primary school decide heading is banned unless they play football outside of school. I think it's safe at any age as long as it's the correct ball, correct size and correct weight for the child.

How serious do you think this matter is?

I don't think it's very serious but unfortunately there are some cases you hear of students who are resulting in brain damage.

What consequences do you think this has on children's lives?

The consequences, naturally, if they are to hurt themselves from a very young age it can knock their confidence and it can knock their ability to take part in certain activities. Unfortunately, if something is that severe when they are young, it can affect their lives.

Why is heading needed? Do you think it would affect the game if it was banned?

I believe it would, there are occasions where you need to head the ball to save a goal, to head the ball to score a goal. Being that you're not allowed to use your hands, you need the tallest part of the body to connect with the ball in the air, it is an aerial game, meaning the ball is in the air quite a lot. If it was to be banned from the game, it would have a detrimental effect on the game, and therefore a lot of people might actually decide against playing it.