

Heading a football 'could lead to brain damage'

Footballers who regularly head the ball could be putting themselves at risk of long-term brain damage, scientists believe.



Chelsea's Drogba goes for a header between Barcelona's Alves and Xavi, 2009 Photo: REUTERS



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They say they have found "compelling evidence" of brain changes that lead to problems with memory, attention, planning ability and even sight.

Those who head the ball more than about 1,000 times a year - or 20 times a match for those playing weekly - are in danger, say the American researchers.

They scanned the brains of 32 amateur players, whose average age was 31, and who had all been playing regularly since childhood. All were asked how regularly they headed the ball, and were ranked accordingly.

The researchers found that those who headed the ball the most had more damaged nerve cells (axons) in white matter. The brain scans allowed them to measure how smoothly water molecules moved along the axons, which gives a score of 'fractional anisotropy' (FA).

Earlier studies have linked low FA values with brain problems in traumatic brain injury patients.

Dr Michael Lipton, of the Albert Einstein College of Medicine in New York, said while heading a ball was not enough to "lacerate nerve fibres in the brain", that "repetitive heading could set off a cascade of responses that can lead to degeneration of brain cells".

The study, results of which will be presented today (Tuesday) to the Radiological Society of North America, show regular heading can lead to degeneration in five brain regions.

Dr Lipton said: "What we've shown here is compelling evidence that there are brain changes that look like traumatic brain injury as a result of heading a soccer ball with high frequency."