

Frequency of heading in soccer tied to later cognitive impairment

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Heading the ball in soccer is associated with a higher risk for later

cognitive impairment, according to a study published online July 17 in *JAMA Network Open*.

Shima Espahbodi, Ph.D., from University of Nottingham in the United Kingdom, and colleagues examined whether heading [frequency](#) is associated with the risk for cognitive impairment in retired professional soccer players. The analysis included data from 459 retired male professional soccer players (aged 45 years and older).

The researchers found that the prevalence of cognitive impairment was 9.78 percent for zero to five headings per match, 14.78 percent for six to 15 headings, and 15.20 percent for more than 15 headings. The adjusted odds ratios (aORs) were 2.71 (95 percent confidence interval, 0.89 to 8.25) for players reporting six to 15 headers per match and 3.53 (95 percent confidence interval, 1.13 to 11.04) for players reporting more than 15 headers per match (P = 0.03 for trend) compared with players reporting zero to five headers per match.

For heading frequency per [training session](#), results were similar (aORs [95 percent confidence intervals], 2.38 [0.82 to 6.95] and 3.40 [1.13 to 10.23], respectively; P = 0.03 for trend). There was greater risk for [cognitive impairment](#) seen with concussion involving [memory loss](#) (aOR, 3.16; 95 percent confidence interval, 1.08 to 9.22). Results were similar for other cognitive tests and self-reported physician-diagnosed dementia/Alzheimer disease.

"Further study is needed to establish the upper threshold for heading frequency to mitigate this risk," the authors write.

More information: Shima Espahbodi et al, Heading Frequency and Risk of Cognitive Impairment in Retired Male Professional Soccer Players, *JAMA Network Open* (2023). [DOI: 10.1001/jamanetworkopen.2023.23822](#)

Peter Ueda, Cognitive Function and Heading Frequency Among Retired Professional Soccer Players—Heading for Clarity?, *JAMA Network Open* (2023). [DOI: 10.1001/jamanetworkopen.2023.24368](https://doi.org/10.1001/jamanetworkopen.2023.24368)

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