

Heading a soccer ball may affect cognitive performance, study finds

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Sports-related head injuries are a growing concern, and new research suggests that even less forceful actions like 'heading' a soccer ball may cause changes in performance on certain cognitive tasks, according to a paper published February 27 in the open access journal *PLOS ONE* by Anne Sereno and colleagues from the University of Texas Health Science Center at Houston.

The researchers tested the effects of non-injurious head-to-ball impacts on cognitive function using a tablet-based app. They found that high school female soccer players were significantly slower than non-players on a task that required pointing away from a target on the screen, but showed no difference in performance when pointing to the on-screen visual target.

According to the study, tasks that involve pointing away from a target require specific voluntary responses, whereas moving toward a target is a more [reflexive response](#). Based on their observations, the authors conclude that sub-concussive blows to the head may cause changes specifically linked to certain cognitive functions. The authors say that the app used in their research may be a quick and effective way to screen for and track [cognitive changes](#) in athletes. They add that a tablet-based application for such quick screens may also have broader applications in the clinic or the field.

More information: Zhang MR, Red SD, Lin AH, Patel SS, Sereno AB (2013) Evidence of Cognitive Dysfunction after Soccer Playing with

Ball Heading Using a Novel Tablet-Based Approach. PLoS ONE 8(2): e57364. [doi:10.1371/journal.pone.0057364](https://doi.org/10.1371/journal.pone.0057364)

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