

# Do soccer players have an increased risk of amyotrophic lateral sclerosis?

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An MRI with increased signal in the posterior part of the internal capsule which can be tracked to the motor cortex consistent with the diagnosis of ALS. Credit: Frank Gaillard/Wikipedia

Playing professional soccer may be linked to an increased risk of developing amyotrophic lateral sclerosis (ALS), according to a preliminary study released today that will be presented at the American Academy of Neurology's 71st Annual Meeting in Philadelphia, May 4 to 10, 2019. The study also found that soccer players may develop the disease 21 years earlier than people in the general population do.

ALS is a rare neurologic disease that mainly affects the nerve cells responsible for controlling voluntary muscle movement such as walking or talking. It is a disease that gets worse over time and eventually leads to death, most often from respiratory failure. There is currently no cure for ALS.

"There have been several deaths among Italian professional [soccer](#) players from ALS, and previous ALS research has found repeated head injuries may be a risk factor for the disease, so our study sought to determine if professional soccer players are more likely to get ALS than someone in the general population," said study author Ettore Beghi, MD, of the Mario Negri Institute for Pharmacological Research in Milan, Italy, and a Fellow of the American Academy of Neurology.

For the study, researchers reviewed soccer trading cards of about 25,000 male professional soccer players who played in Italy from 1959 to 2000. The trading cards were housed in an archive of a major Italian trading card publisher. Researchers recorded the birth date and place of birth for each player as well as soccer position and their playing history with the

team. They used news reports to determine which players developed ALS.

Researchers found 33 soccer players developed ALS, or an average of 3.2 cases per 100,000 people every year. The rate of ALS in the general population, calculated from an Italian population registry, would have resulted in an expected 18 cases of ALS, or an average of 1.7 cases per 100,000 people every year. The difference translated to soccer players being nearly twice as likely to develop ALS. When looking just at soccer players age 45 and younger, the rate of developing ALS was 4.7 times higher than for people in the general population.

The average age of developing ALS among soccer players was 43 years compared to 63 years for the [general population](#).

"It is important to note that repeated [traumatic events](#), heavy physical exercise and substance use could also be factors in the increased ALS risk among [soccer players](#)," said Beghi. "In addition, genetics may play a role."

Since researchers studied only professional players, the results cannot be applied to those who play soccer at lower levels of play.

Beghi noted that ALS is still a rare disease and the study results should not be construed to suggest that people should stop playing soccer or not start the sport.

A limitation of the study was that few details were available on participants' ALS diagnosis.

Provided by American Academy of Neurology

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