

# How long does it really take to recover from concussion?

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A new study suggests that people with mild traumatic brain injuries may

be more likely to have cognitive impairment, cognitive decline or both one year later, compared to people who were not injured. The research is published in the February 16, 2022, online issue of *Neurology*, the medical journal of the American Academy of Neurology. People with poor cognitive outcomes were also more likely to have other symptoms like anxiety and lower satisfaction with life.

"Our results suggest that clinically meaningful poor cognitive outcomes, which we defined as cognitive impairment, cognitive decline or both, one year after a [concussion](#) may be more common than previously thought," said study author Raquel Gardner, MD, of the University of California San Francisco. "They also highlight the need to better understand the mechanisms underlying poor cognitive outcome, even after relatively mild brain injuries, to improve therapy for recovery."

The study looked at 656 people who had been admitted to trauma center emergency rooms with concussions and 156 healthy people without [head injuries](#). Their average age was 40. Participants were given up to three neurological evaluations after their injury, at two weeks, six months and one year. Each of those evaluations provided five scores from three tests of recall, language skills and other cognitive domains.

Poor cognitive outcome was defined as satisfying the criteria for cognitive impairment, cognitive decline or both. Cognitive impairment was defined as lower-than-expected performance on at least two cognitive tests such as one memory [test](#) and one processing speed test. Cognitive decline was defined as clinically meaningful decline on at least two cognitive tests.

Researchers found that 86 out of 656 people with mild brain injuries, or 14%, had poor cognitive outcomes one year later. Of those, 10% had cognitive impairment only, 2% had cognitive decline only and 2% had both. That's compared to eight out of 156 people without concussions, or

5%, who had poor cognitive outcomes one year later. Of those healthy people, 3% had [cognitive impairment](#), none had [cognitive decline](#) only, and 1% had both.

Researchers also found that people who had depression before their injury, had no [health insurance](#), or had a high school education or less were more likely to have a poor cognitive outcome than those who were not depressed before the injury, or had insurance or had more than a [high school education](#).

Researchers found that people who had good cognitive outcomes were more likely to have higher life satisfaction one year after their concussion. The life satisfaction test given to participants ranges in score from five to 35, with lower scores indicating lower life satisfaction. The people with good cognitive outcomes scored an average of 26 on the test, compared to people with poor cognitive outcomes, who scored an average of 21.

The study does not prove that people with concussions will have worse cognitive outcomes one year later, but it shows an association.

"Previous studies of people with moderate to severe brain injuries show that early, intensive rehabilitation can improve people's cognitive outcomes over time. More research is needed to find out the role of cognitive rehabilitation on people with more mild brain injuries who are also at risk for poor cognitive outcomes, and how to predict who falls into this risk category," Gardner said.

A limitation of the study is that people were enrolled at the time of their concussion and their cognitive health before [injury](#) was not known.

Provided by American Academy of Neurology

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