

# Are concussions related to Alzheimer's disease?

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A new study suggests that a history of concussion involving at least a momentary loss of consciousness may be related to the buildup of Alzheimer's-associated plaques in the brain. The research is published in the December 26, 2013, online issue of *Neurology*, the medical journal of the American Academy of Neurology.

association between head trauma and amyloid is complex."

Provided by American Academy of Neurology

"Interestingly, in people with a history of concussion, a difference in the amount of brain plaques was found only in those with memory and thinking problems, not in those who were cognitively normal," said study author Michelle Mielke, PhD, with Mayo Clinic in Rochester, Minn.

For the study, people from Olmsted County in Minnesota were given brain scans; these included 448 people without any signs of memory problems and 141 people with memory and thinking problems called [mild cognitive impairment](#). Participants, who were all age 70 or older, were also asked about whether they had ever experienced a brain injury that involved any loss of consciousness or memory.

Of the 448 people without any thinking or [memory problems](#), 17 percent reported a [brain injury](#) and 18 percent of the 141 with memory and thinking difficulties reported a concussion or [head trauma](#).

The study found no difference in any brain scan measures among the people without memory and thinking impairments, whether or not they had head trauma. However, people with memory and thinking impairments and a history of head trauma had levels of amyloid plaques an average of 18 percent higher than those with no head trauma history.

"Our results add merit to the idea that concussion and Alzheimer's disease brain pathology may be related," said Mielke. "However, the fact that we did not find a relationship in those without [memory](#) and thinking problems suggests that any

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