

Can slow walking speed in elderly signal Alzheimer's disease hallmarks?

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Diagram of the brain of a person with Alzheimer's Disease. Credit: Wikipedia/public domain.

How fast elderly people walk may be related to the amount of amyloid they have built up in their brains, even if they don't yet have symptoms of Alzheimer's disease, according to a study published in the December 2, 2015, online issue of *Neurology*, the medical journal of the American Academy of Neurology.

The study involved 128 people with an average age of 76 who did not have dementia but were considered at high risk for developing it because they had some concerns about their memory. The [participants](#) had [positron emission tomography](#) (PET) scans of their brains to measure

amyloid plaques in the brain. These plaques consist of dense deposits of a protein called [beta amyloid](#), and their progressive buildup in the brain has been associated with the development of Alzheimer's disease. Of the participants, 48 percent had a level of amyloid often associated with dementia.

Participants were also tested on thinking and memory skills and how well they could complete everyday activities. A total of 46 percent of the participants had [mild cognitive impairment](#), which can be a precursor to the dementia that occurs in Alzheimer's disease.

Walking speed was measured with a standard test that times people on how fast they can walk about 13 feet at their usual pace. The average walking speed was 3.48 feet per second. All but two of the participants tested in the normal range of walking speed.

The researchers found an association between slow walking speed and amyloid in several areas of the brain, including the putamen, a key region involved in motor function. The researchers compared how fast people walked both with and without taking into account the amount of amyloid and found that the amyloid level accounted for up to 9 percent of the difference in walking speed.

The relationship between amyloid levels and walking speed did not change when researchers took into account age, education level, or amount of memory problems.

"It's possible that having subtle walking disturbances in addition to memory concerns may signal Alzheimer's disease, even before people show any clinical symptoms," said study author Natalia del Campo, PhD, of the Gerontopole and the Centre of Excellence in Neurodegeneration of Toulouse (University Hospital Toulouse) in France.

Del Campo noted that the study looked only at a snapshot in time and does not prove that [amyloid plaques](#) cause the slowdown in walking [speed](#); it shows the association. She also noted there are many other causes of slow walking in older adults.

Provided by American Academy of Neurology

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