

# Shrinking in hippocampus area of brain precedes Alzheimer's disease

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People who have lost brain cells in the hippocampus area of the brain are more likely to develop dementia, according to a study published in the March 17, 2009, print issue of *Neurology*, the medical journal of the American Academy of Neurology.

The study involved 64 [people](#) with Alzheimer's [disease](#), 44 people with [mild cognitive impairment](#), which is the stage of memory problems that precedes Alzheimer's disease, and 34 people with no memory or thinking problems.

[MRI](#) scans were performed on all of the participants at the beginning of the study and again an average of a year and a half later. During that time, 23 of the people with mild cognitive impairment had developed Alzheimer's disease, along with three of the healthy participants.

The researchers measured the volume of the whole [brain](#) and the [hippocampus](#) area, which is affected by Alzheimer's disease, at the beginning and end of the study, and calculated the rate of shrinkage in the brain over that time.

For the people who did not have [dementia](#) at the beginning of the study, those with smaller hippocampal volumes and higher rates of shrinkage were two to four times as likely to develop dementia as those with larger volumes and a slower rate of atrophy.

"This finding seems to reflect that at the stage of mild cognitive impairment, considerable atrophy has already occurred in the hippocampus," said study author Wouter Henneman, MD, of VU University Medical Center in Amsterdam, The Netherlands. "In people who already have Alzheimer's disease, the loss of nerve cells is more widespread throughout the brain."

Source: American Academy of Neurology ([news](#) : [web](#))

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