

Brain damage seen on brain scans may predict memory loss in old age

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Areas of brain damage seen on brain scans and originally thought to be related to stroke may help doctors predict a person's risk of memory problems in old age, according to research published in the August 11, 2009, print issue of *Neurology*, the medical journal of the American Academy of Neurology.

Researchers tested 679 people age 65 and older without dementia for mild [cognitive impairment](#), the stage between normal aging and dementia. Participants underwent brain scans where scientists looked for small areas of [brain damage](#) called [white matter](#) hyperintensities, often referred to as ministrokes. They also looked for infarcts, or areas of dead tissue usually called strokes. Both types of brain damage may be caused by vascular disease in the brain.

The study found that people with white matter hyperintensities were nearly twice as likely to have mild cognitive impairment that included [memory loss](#). However, people who had infarcts on their [brain scans](#) were more likely to experience mild cognitive impairment in abilities other than memory loss.

The results remained the same regardless of a person's age, gender, ethnic group, education, and if they had a gene thought to be a strong risk factor for dementia, called the ApoEε4 gene.

"The most interesting finding in this study was that white matter hyperintensities, or ministrokes, predicted memory problems, while

strokes predicted non-memory problems," said study author José Luchsinger, MD, MPH, with Columbia University Medical Center in New York.

"Traditionally, ministrokes and strokes are thought to have a common origin and to more strongly predict non-memory cognitive problems. There are an increasing number of studies challenging the idea that all white matter hyperintensities are similar to strokes. The fact that white matter hyperintensities more strongly predicted [memory problems](#) could challenge traditional views that white matter hyperintensities are milder versions of [stroke](#) that are produced only by conditions such as high blood pressure," said Luchsinger.

Luchsinger says more work is needed to understand white matter hyperintensities and to identify which are related to stroke and which are related to other conditions such as Alzheimer's disease. He says this could eventually help doctors and researchers to design preventive strategies for memory and other types of cognitive impairment.

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

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