

Larger head size may protect against Alzheimer's symptoms

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New research shows that people with Alzheimer's disease who have large heads have better memory and thinking skills than those with the disease who have smaller heads, even when they have the same amount of brain cell death due to the disease. The research is published in the July 13, 2010, issue of *Neurology*.

"These results add weight to the theory of brain reserve, or the individual capacity to withstand changes in the brain," said study author Robert Perneczky, MD, of the Technical University of Munich in Germany. "Our findings also underline the importance of optimal brain development early in life, since the brain reaches 93 percent of its final size at age six."

Head size is one way to measure brain reserve and brain growth. Perneczky said that while brain growth is determined in part by genetics, it is also influenced by nutrition, infections and inflammations of the [central nervous system](#), and brain injuries.

"Improving prenatal and early life conditions could significantly increase brain reserve, which could have an impact on the risk of developing Alzheimer's disease or the severity of symptoms of the disease," he said.

For the study, 270 people with Alzheimer's disease took tests of their [memory](#) and [cognitive skills](#) and had MRI scans of their brains to measure the amount of [brain cell death](#). Head size was determined by the circumference measurement.

The study showed that larger head size was associated with a greater performance on memory and thinking tests, even when there was an equivalent degree of brain cell death. Specifically, for every one percent of brain cell death, an additional centimeter of head size was associated with a six percent greater performance on the memory tests.

Provided by American Academy of Neurology

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