

Exercise may prevent brain shrinkage in early Alzheimer's disease

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Mild Alzheimer's disease patients with higher physical fitness had larger brains compared to mild Alzheimer's patients with lower physical fitness, according to a study published in the July 15, 2008, issue of *Neurology*, the medical journal of the American Academy of Neurology.

For the study, 121 people age 60 and older underwent fitness tests using a treadmill as well as brain scans to measure the white matter, gray matter and total volume of their brains. Of the group, 57 were in the early stages of Alzheimer's disease while the rest of the group did not have dementia.

"People with early Alzheimer's disease who were less physically fit had four times more brain shrinkage when compared to normal older adults than those who were more physically fit, suggesting less brain shrinkage related to the Alzheimer's disease process in those with higher fitness levels," said study author Jeffrey M. Burns, MD, of the University of Kansas School of Medicine in Kansas City and member of the American Academy of Neurology.

The results remained the same regardless of age, gender, severity of dementia, physical activity and frailty. There was no relationship between higher fitness levels and brain changes in the group of people without dementia.

"People with early Alzheimer's disease may be able to preserve their brain function for a longer period of time by exercising regularly and

potentially reducing the amount of brain volume lost. Evidence shows decreasing brain volume is tied to poorer cognitive performance, so preserving more brain volume may translate into better cognitive performance," Burns said.

"This is one of the first studies to explore the relationship between cardiorespiratory fitness and Alzheimer's disease," said Burns.

Burns says people should be cautious when interpreting the study results because scientists only observed the standard measure of fitness at one point in time.

Source: American Academy of Neurology

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