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Problems getting around in old age? Blame your brain

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New research shows how well people get around and keep their balance in old age is linked to the severity of changes happening in their brains. The study is published in the March 18, 2008, issue of *Neurology*. White matter changes, also called leukoaraiosis, are frequently seen in older people and differ in severity.

The three-year study called LADIS (Leukoaraiosis and Disability), coordinated by the Department of Neurological and Psychiatric Sciences of the University of Florence, involved 639 men and women between the ages of 65 and 84 who underwent brain scans and walking and balance tests. Of the group, 284 had mild age-related white matter changes, 197 moderate changes, and 158 severe changes.

The study found people with severe white matter changes were twice as likely to score poorly on the walking and balance tests as those people with mild white matter changes. The study also found people with severe changes were twice as likely as the mild group to have a history of falls. The moderate group was one-and-a-half times as likely as the mild group to have a history of falls.

“Walking difficulties and falls are major symptoms of people with white matter changes and a significant cause of illness and death in the elderly,” said study author Hansjoerg Baezner, MD, PhD, with the University of Heidelberg in Mannheim, Germany. “Exercise may have the potential to reduce the risk of these problems since exercise is associated with improved walking and balance. We’ll be testing whether

exercise has such a protective effect in our long-term study of this group."

"Mobility is one of the key determinants of independent aging," said Baezner. "Limitations in mobility often lead to hospitalization and nursing home placement. This will become a major problem for our social and economic systems in the upcoming decades."

In addition, Baezner says monitoring white matter changes may be useful in the early detection of walking problems, which have been linked to other health problems. "Recently, gait abnormalities have been shown to predict non-Alzheimer's disease dementia, so recognition, early diagnosis and treatment of this disabling condition may be possible through early detection of walking and balance problems."

Baezner says researchers do not fully understand why some people's white matter changes are worse than others or what causes the changes, however, a clear link to insufficiently treated high blood pressure has been shown.

Source: American Academy of Neurology

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