# ウォーキングはアルツハイマー病の進行を遅延させる

## 1週間に5マイルのウォーキングは脳容積を保ち認知機能低下を遅延させる

Walking five miles per week protects brain volume and slows cognitive decline

ウォーキングは健常成人同様、軽度認知機能障害（MCI）およびアルツハイマー病を有する成人の認知機能低下をも遅延させる可能性があるとのスタディ結果が2010年RSNAで発表された。現在進行中の20年間のスタディのために研究者らは、299人の健常成人（平均年齢78歳）および認知症患者127人（平均年齢81歳、MCI 83人およびアルツハイマー型認知症44人）の計426人における身体活動と脳の形態との関連を解析した。その結果、全体的に身体活動量が大きいほど脳容積が大きいことが示された。認知機能の低下した人々は脳容積を維持し認知機能低下を遅延させるために1週間に58ブロック、つまり約5マイル歩く必要がある。健常人は脳容積を維持し認知機能低下を有意に軽減するためには1週間に72ブロック、つまり6マイル歩く必要がある。十分なレベルの身体活動を厳守しなかった認知機能低下患者はmini-mental state exam（MMSE）スコアが5年間で5ポイント低下したのに対し、必要とされる身体活動を行った患者のスコアは1ポイント低下したのみであった。

## Full Text

Walking may slow cognitive decline in adults with mild cognitive impairment (MCI) and Alzheimer's disease, as well as in healthy adults, according to a study presented at the 2010 annual meeting of the Radiological Society of North America.

"We found that walking five miles per week protects the brain structure over 10 years in people with Alzheimer's and MCI, especially in areas of the brain's key memory and learning centers," said Cyrus Raji, Ph.D., from the Department of Radiology at the University of Pittsburgh in Pennsylvania. "We also found that these people had a slower decline in memory loss over five years."

In cases of MCI, a person has cognitive or memory problems exceeding typical age-related memory loss, but not yet as severe as those found in Alzheimer's disease. About half of the people with MCI progress to Alzheimer's disease.

"Because a cure for Alzheimer's is not yet a reality, we hope to find ways of alleviating disease progression or symptoms in people who are already cognitively impaired," Dr. Raji said.

For the ongoing 20-year study, Dr. Raji and colleagues analyzed the relationship between physical activity and brain structure in 426 people, including 299 healthy adults (mean age 78), and 127 cognitively impaired adults (mean age 81), including 83 adults with MCI and 44 adults with Alzheimer's dementia.

Patients were recruited from the Cardiovascular Health Study. The researchers monitored how far each of the patients walked in a week. After 10 years, all patients underwent 3-D MRI exams to identify changes in brain volume.

"Volume is a vital sign for the brain," Dr. Raji said. "When it decreases, that means brain cells are dying. But when it remains higher, brain health is being maintained."

In addition, patients were given the mini-mental state exam (MMSE) to track cognitive decline over five years. Physical activity levels were correlated with MRI and MMSE results. The analysis adjusted for age, gender, body fat composition, head size, education and other factors.

The findings showed across the board that greater amounts of physical activity were associated with greater brain volume. Cognitively impaired people needed to walk at least 58 city blocks, or approximately five miles, per week to maintain brain volume and slow cognitive decline. The healthy adults needed to walk at least 72 city blocks, or six miles, per week to maintain brain volume and significantly reduce their risk for cognitive decline.

Over five years, MMSE scores decreased by an average of five points in cognitively impaired patients who did not engage in a sufficient level of physical activity, compared with a decrease of only one point in patients who met the physical activity requirement.

"Alzheimer's is a devastating illness, and unfortunately, walking is not a cure," Dr. Raji said. "But walking can improve your brain's resistance to the disease and reduce memory loss over time."

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## TOPICS