

# Diabetes in mid-life linked to increased risk of Alzheimer's disease

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Men who develop diabetes in mid-life appear to significantly increase their risk of developing Alzheimer's disease, according to a long-term study published in the April 9, 2008, online issue of *Neurology*, the medical journal of the American Academy of Neurology.

“Our results have important public health implications given the increasing numbers of people developing diabetes and the need for more powerful interventions,” said study author Elina Rönnemaa, MD, with Uppsala University in Uppsala, Sweden.

The study involved 2,269 men in Sweden who underwent glucose testing at age 50 to test for diabetes, which is caused by abnormal insulin levels. During an average follow up of 32 years, 102 participants were diagnosed with Alzheimer's disease, 57 with vascular dementia and 235 with other types of dementia or cognitive impairment.

The study found that the men with low insulin secretion capacity at age 50 were nearly one-and-a-half times more likely to develop Alzheimer's disease than people without insulin problems. The risk remained significant regardless of blood pressure, cholesterol, body mass index and education.

“Our results suggest a link between insulin problems and the origins of Alzheimer's disease and emphasize the importance of insulin in normal brain function,” said Rönnemaa. “It's possible that insulin problems damage blood vessels in the brain, which leads to memory problems and

Alzheimer's disease, but more research is needed to identify the exact mechanisms.”

The study also found the association between diabetes and risk of Alzheimer's disease was strongest in people who did not have the APOE4 gene, which is known to increase the risk of Alzheimer's disease. Rönnekaa says this shows that insulin problems are an important risk factor for Alzheimer's disease when the high risk gene is missing.

Source: American Academy of Neurology

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