

# Researchers find first physical evidence bilingualism delays onset of Alzheimer's symptoms

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Researchers at St. Michael's Hospital have found that people who speak more than one language have twice as much brain damage as unilingual people before they exhibit symptoms of Alzheimer's disease. It's the first physical evidence that bilingualism delays the onset of the disease.

"This is unheard of – no medicine comes close to delaying the onset of symptoms and now we have the evidence to prove this at the neuroanatomical level," said Dr. Tom Schweizer, a neuroscientist who headed the research.

Dr. Schweizer's team studied CT scans of patients who had been diagnosed with probable [Alzheimer's disease](#) and who had similar levels of education and cognitive skills, such as attention, memory, planning and organization. Half were fluently bilingual; the other half unilingual.

Despite the fact that both groups performed equivalently on all measures of cognitive performance, the scans of the bilingual patients showed twice as much atrophy in areas of the [brain](#) known to be affected by Alzheimer's.

The findings [have been published](#) on-line in the journal *Cortex*.

Dr. Schweizer said that bilingual people are constantly using their brain and keeping it active, which may contribute to overall brain health.

That's why many physicians encourage older people to do crossword puzzles or Sudoku.

Dr. Schweizer said that because bilingual people constantly switch from one [language](#) to another or suppress one language to speak in the other, their brains may be better prepared to compensate through enhanced brain networks or pathways when Alzheimer's sets in.

Previous observational studies have found that bilingualism delays the onset of Alzheimer's symptoms by up to five years, but this is the first to find physical proof through CT scans.

Dr. Schweizer said the results are especially important in Canada, which is officially bilingual and has large numbers of immigrants for whom French and English are at least second languages. His study was conducted in Toronto, where the second language of many study participants was French, English or Chinese.

Dr. Schweizer noted that [bilingualism](#) does not prevent Alzheimer's. Once Alzheimer's symptoms appear in bilingual people, it is not clear whether the disease progresses at an accelerated rate.

He said the next steps would be to repeat the study in a larger sample of patients followed over time using more sophisticated MRIs. He said it wasn't clear from this study whether a second language had to be learned early in life to provide maximum benefit.

Provided by St. Michael's Hospital

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