

Infrequent home computer use may be indicative of early cognitive decline

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Credit: George Hodan/Public Domain

A new study sheds light on a powerful tool that may detect signs of Alzheimer's disease before patients show any symptoms of cognitive decline: the home computer.

An early online version of this paper detailing the findings has been published and is scheduled for publication in the *Journal of Alzheimer's*

Disease (volume 52, issue 2).

OHSU researchers have found a significant correlation between infrequent daily [computer](#) use and brain imaging signs commonly seen in early-stage Alzheimer's patients.

Using an MRI scan, the researchers measured the volume of the hippocampus—a brain region integral to memory function—in adults aged 65 years and older who were cognitively intact and dementia-free.

Diminished [hippocampal volume](#) is a well-known sign, or biomarker, of Alzheimer's disease and the eventual development of dementia.

The study, led by Lisa Silbert, M.D., with the OHSU Layton Center for Aging & Alzheimer's Disease, found that an additional hour of computer use a day was associated with a .025 percent larger hippocampal volume. A smaller hippocampal volume is an indicator of increased risk for developing Alzheimer's disease. The researchers will continue to follow these participants to see if their smaller hippocampal volume and decreased computer use predict future [cognitive decline](#).

Silbert and colleagues hypothesize that the reason that patients with smaller hippocampal volumes may spend less time using their home computer is it requires the use of multiple cognitive domains, including executive function, attention and memory.

The researchers have been following a group of volunteers in Portland for nine years through a suite of embedded technology in their homes. These tools allow the researchers to assess their mobility, sleep, socialization, computer use and medication intake. The purpose of this monitoring is to identify meaningful changes in everyday life that don't involve the participants taking tests or going to doctor appointments.

More information: Less Daily Computer Use is Related to Smaller Hippocampal Volumes in Cognitively Intact Elderly, *Journal of Alzheimer's Disease* [DOI: 10.3233/JAD-160079](https://doi.org/10.3233/JAD-160079) , content.iospress.com/articles/...rs-disease/jad160079

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