

Research paves the way for eye test to detect Alzheimer's before symptoms

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Diagram of the brain of a person with Alzheimer's Disease. Credit: Wikipedia/public domain.

World-first research led by Western Sydney University has found a connection between the accumulation of rogue proteins in the eye, and Alzheimer's disease. A finding that could pave the way for an eye test to detect Alzheimer's disease long before it damages the brain.

The study, published in *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring*, saw the team produce unique antibodies to detect rogue proteins called 'amyloid beta oligomer.' While scientists already know these rogue proteins can be detected as much as two decades before the onset of Alzheimer's [disease](#), this is the first time they have

been detected in the eye before clinical disease and brain damage have ensued.

Research senior author, Associate Professor Mourad Tayebi from Western Sydney University's School of Medicine, said the finding was significant and that, with adequate funding, [clinical trials](#) could be less than two years away.

"Scientists have previously known that these rogue proteins accumulate in blood, but this is the first time they've been found in the eye before disease manifestation. This could lead to a better understanding of Alzheimer's disease and new diagnostic approaches which could enable the first routine eye-check for Alzheimer's disease," he said.

"Alzheimer's disease has reached 'epidemic' proportions and represents a substantial health burden, affecting the quality of life of millions of patients and their families. Introducing these routine eye-checks that could catch the disease before it impacts the brain could change the lives of millions."

More information: Umma Habiba et al. Detection of retinal and blood A β oligomers with nanobodies, *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring* (2021). [DOI: 10.1002/dad2.12193](https://doi.org/10.1002/dad2.12193)

Provided by Western Sydney University

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