

# Retinal layer thickness linked to cognitive decline in older adults

May 27 2022

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Macular retinal nerve fiber layer (RNFL) thickness is associated with

cognitive decline in older adults, according to a study published online May 26 in *JAMA Ophthalmology*.

Hyeong Min Kim, M.D., from the Seoul National University College of Medicine in South Korea, and colleagues examined the association between retinal layer thickness and [cognitive impairment](#) and future [cognitive decline](#) in a community-based population cohort of 430 Korean individuals aged 60 years or older; 215 completed a mean of 5.4 years of follow-up. The thickness of six retinal layers in the macular region, the peripapillary RNFLs, and the subfoveal choroid were assessed at baseline.

The researchers observed an association between baseline macular RNFL thickness and the baseline Consortium to Establish a Registry for Alzheimer's Disease (CERAD) score and Mini-Mental State Examination (MMSE) score. A larger decline in the CERAD and MMSE scores during follow-up was seen in association with thinner baseline total macular RNFL thickness. Furthermore, a greater decline in cognitive scores and a higher prevalence of cognitive impairment and Alzheimer disease was seen for participants with baseline total macular RNFL thickness below the lowest quartile cutoff value versus those with RNFL thickness above the lowest quartile cutoff value.

"We propose that a thinner macular RNFL may predict a decline in cognitive performance," the authors write. "Overall, macular RNFL thickness may be considered a noninvasive ocular biomarker for assessing changes in cognitive function in patients."

**More information:** Hyeong Min Kim et al, Association Between Retinal Layer Thickness and Cognitive Decline in Older Adults, *JAMA Ophthalmology* (2022). [DOI: 10.1001/jamaophthalmol.2022.1563](https://doi.org/10.1001/jamaophthalmol.2022.1563)

Rajendra S. Apte, Retinal Imaging as a Predictor of Cognitive

Impairment, *JAMA Ophthalmology* (2022). DOI: [10.1001/jamaophthalmol.2022.1721](https://doi.org/10.1001/jamaophthalmol.2022.1721)

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