

Will individuals with Alzheimer's disease benefit from cataract surgery?

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A multi-institutional team of researchers, led by the Mandel School of Applied Social Sciences at Case Western Reserve University, will begin a five-year, \$2.9 million National Institutes of Health-funded study. They will examine the lives of patients with both cataracts and Alzheimer's disease (AD) to document how restored vision improves everyday life for people with dementia.

"This project addresses a major social justice issue in the disparity in vision care of persons diagnosed with [Alzheimer's disease](#)," said Grover "Cleve" Gilmore, dean of the Case Western Reserve Mandel School and principal investigator of the study.

Gilmore will lead faculty from the departments of Ophthalmology and Visual Sciences and Neurology at the Case Western Reserve University School of Medicine and physicians from the Eye Institute and Neurological Institute at University Hospitals and the Division of Ophthalmology at MetroHealth Medical Center.

In 20 years of research, Gilmore has found people with dementia lose their ability to see objects in medium- and low-contrast environments, but boosting the contrast of objects improves their ability to move around their homes; eat better; read; and do other simple, everyday tasks.

Cataracts cloud and blur the vision in the eye causing AD patients additional problems. If untreated, the cataracts lead to blindness, but

sight can be restored with surgery to remove the cataract.

Co-investigator Jonathan Lass, M.D., the Charles I Thomas Professor and chair of the department of ophthalmology and visual sciences at the Case Western Reserve School of Medicine and director of the Eye Institute at University Hospitals, says, surprisingly, a preliminary study has shown 10 percent of patients over 65 who have an eye exam have some memory impairment along with cataracts. Most people start to show signs of cataracts in their early 60s.

"This research is important because we are a visual world," said Thomas Steinemann, M.D., professor of ophthalmology at the School of Medicine and ophthalmologist in the ophthalmology division at Metrohealth Medical Center.

Steinemann said he has observed improvements in AD patients following cataract surgery. Some who were combative before surgery are more cooperative following it. And even though they still are cognitively impaired to some degree, Steinemann said improved vision may even help AD patients recognize family members.

"Ultimately, if you can't perceive something, it is hard to remember it," says Alan Lerner, associate professor of neurology at the Case Western Reserve School of Medicine and director of the Memory and Cognition Center in University Hospital's Neurological Institute. "If the vision is blurry, then your memory may be more faulty than necessary. The cataract removal may offer benefits of improved quality of life which is a major aim in AD therapeutics overall."

"This grant demonstrates that the NIH recognizes a major disparity in healthcare for individuals with Alzheimer's disease and cataracts," said Gilmore. "We hope to provide evidence that AD patients also benefit from cataract surgery."

In the randomized controlled NIH-funded study, half of the 210 patients will receive [cataract surgery](#) and the other half will have surgery delayed for six months. The researchers will follow the progress of the two groups. During this time, the primary caregivers associated with these patients also will supply information about the patient's quality of life and activity levels by answering surveys and other measures.

In addition to finding scientific evidence that [cataract](#) surgery helps AD patients, the researchers hope to identify a warning sign of AD. They will test changes in the thickness of the retina, a part of the eye that is an extension of the brain. Using a technology called optical coherence tomography (OCT), they will track changes in the retinal thickness of these patients over six months to determine if there is a connection with AD.

By using the technology, Gilmore says they hope to find an indicator of the onset of AD and prompt referrals to neurologist for early interventions and medicines to delay memory loss.

Source: Case Western Reserve University ([news](#) : [web](#))

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