ABOUT VISION LOSS

• VA’s Office of Blind Rehabilitation Services estimates there are approximately 157,000 Veterans in the United States who are legally blind, and more than a million Veterans who have low vision that causes a loss of ability to perform necessary daily activities.

• Among Veterans who have served in Iraq and Afghanistan, blast-related brain injuries can be followed by vision problems such as blurred vision, double vision, sensitivity to light, and difficulty reading. VA estimates that as many as 64 percent of service members with traumatic brain injuries (TBIs) also have a vision problem.

• Throughout the nation, VA operates 13 Blind Rehabilitation Centers (BRCs). These are residential inpatient training programs that help Veterans adjust to their blindness. BRCs offer a variety of courses designed to help blinded Veterans achieve a realistic level of independence.

• The Visual Impairment Center to Optimize Remaining SIGHT (VICTORS) program complements existing BRCs to support Veterans who are not blind but have significant visual impairment. VICTORS provides rehabilitation through offering definitive medical diagnosis and functional visual evaluation, prescribing low-vision aids and training Veterans in their use, and providing counseling and follow-up.

VA RESEARCH ON VISION LOSS: OVERVIEW

• VA research projects in the area of vision loss and vision restoration cover the entire spectrum of Veterans’ needs.

• In addition to developing vision-restoring treatment, VA investigators are designing and improving assistive devices for those with visual impairments, as well as doing work on a number of innovative wayfinding systems to help Veterans with vision loss navigate in various environments and perform everyday tasks.

• Investigators are also developing more accurate and efficient methods of vision testing, and are studying the connections between injury and vision loss in eyes that have suffered no overt damage.

• VA’s Atlanta-based Center for Visual and Neurocognitive Rehabilitation is focused on enhancing Veterans’ health by conducting research on the rehabilitation of visual and related neurological impairments.

• Researchers at the VA Center for the Prevention and Treatment of Visual Loss, located at the Iowa City VA Health Care System, focus on the early detection of potential blinding disorders of the Veteran and general population. These include retinal disease, glaucoma, and TBI. Researchers at the center test new ways of determining early signs of disease progression and response to treatment. They also develop new treatments.

SELECTED MILESTONES AND MAJOR EVENTS

1947 – Developed the first mobility and orientation rehabilitation training program for blind persons

1948 – Established the first Blind Rehabilitation Center for Veterans in Hines, Ill.

1975 – Developed the C-5 laser cane to help blinded veterans navigate

2003 – Conducted the first tests of electrical stimulation of the human retina using an implanted microelectrode array to help restore vision to patients with blindness.

2013 – Found that more than 65 percent of Veterans with blast induced TBIs had vision problems, and 77 percent had sensitivity to light.

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**RECENT STUDIES: SELECTED HIGHLIGHTS**

- **Physical activity can protect eyes as they age**, according to researchers at the Atlanta VA Medical Center and Emory University. The researchers ran mice on a treadmill for two weeks before and after exposing the animals to bright light that causes retinal degeneration. They found that treadmill training preserved photoreceptors and retinal cell function in the mice. The exercised animals lost only half the number of photoreceptor cells as animals that spent the same amount of time on a stationary treadmill. The team believes their work may one day lead to tailored exercise regimens or combination therapies to treat retinal degenerative diseases. ([The Journal of Neuroscience](https://www.jneurosci.org), February 2014)

- **Sensory problems are common among Veterans who have had TBIs**. Researchers from the Palo Alto VA Health Care System learned that perimetry (visual field testing) for Veterans with TBIs within two months of their combat blast exposure provides a reliable indicator of long-lasting vision problems. These tests also reveal high rates of visual-field deficits among those tested, indicating that blast wave forces may significantly affect both the eye and visual pathways. ([Ophthalmology](https://www.journalofneurology.com), February 2016)

- **Two specific formulas of supplements containing high doses of zinc and other antioxidants can slow the deterioration of the eye’s macula** (the central part of the retina). A research team from the Providence VA Medical Center and three universities examined 11 different supplements to see if they were prepared in accordance with either formula. None of the supplements precisely duplicated either one. The team concluded that ophthalmologists should educate their patients on what to look for in supplements. ([Ophthalmology](https://www.journalofneurology.com), March 2015)

- **A study affirmed the quality of surgeries done by VA ophthalmologic residents**. Researchers with the VA Boston Health Care System looked at more than 4,200 cataract surgery cases at VA facilities throughout the nation, and found that Veterans who were operated on by residents had an overall significant improvement in visual acuity (the clarity of their vision) and visual function (the ability to discern forms, colors, and movement) compared with before their surgery, even if complications arose as a result of their procedure. Those who had complications, however, showed a less marked improvement in their vision. Residents are medical-school graduates engaged in specialized practice under supervision in a hospital. ([Journal of Cataract and Refractive Surgery](https://www.journalofneurology.com), March 2016)

- **The SightBook app allows patients to test their vision frequently on their smartphones** and share their test results with their designated physician in real time. A research team from the Miami VA Healthcare System and the University of Miami tested the accuracy of readings from SightBook compared with readings using a Snellen eye chart, the standard eye chart that is read at a distance of 20 feet; and with near card eye charts, which are designed to be read at shorter distances. They found that while there were discrepancies in results between each of the methods of testing visual acuity, the results from each method could be successfully reproduced, and that baseline SightBook acuity measures allow for future vision comparisons. ([Retina](https://www.journalofneurology.com), May 2016)

For more information on VA studies on vision loss and other key topics relating to Veterans’ health, please visit [www.research.va.gov/topics](http://www.research.va.gov/topics)