



VISION LOSS

VA researchers work in many areas of vision loss. They design new assistive devices for the visually impaired and improve existing ones. They are also exploring the use of GPS and other technologies—such as infrared signals or computer vision—to aid indoor and outdoor navigation for blinded Veterans. Other areas of investigation include the development of an artificial retina to restore vision to those affected by macular degeneration or retinitis pigmentosa, and the design and evaluation of new tests and therapy techniques to address vision problems associated with traumatic brain injury and posttraumatic stress disorder.

EXAMPLES OF VA RESEARCH ADVANCES

TARGETING EDUCATION TO LITERACY LEVELS—Education that takes health literacy into account can help Veterans with glaucoma better care for themselves. A study by a VA team in Durham, N.C., enrolled 127 people. Some received usual care, while others watched a video targeted at their health literacy level: 4th grade, 7th grade, or 10th grade. People at the lowest health literacy level benefited the most: They missed fewer days of taking their glaucoma medicine, compared with a similarly health-literate group who got usual care.

NEW TECHNOLOGIES TO HELP THE BLIND—Researchers from the Baltimore VA Medical Center, the University of Maryland, and VA's Atlanta Vision Loss Center are pioneering a computer system that may one day help vision-compromised Veterans with navigation, obstacle detection, money recognition, and more. The voice-activated system, still in development, uses a clip-on webcam and responds to natural speech. When the user says “find the restroom,” for example, the computer compares the webcam's view with still images of the area around the target that have been preloaded onto the computer. Beeps and other audio signals indicate how he needs to proceed. Computer-generated speech provides additional feedback, such as distance from the target. Future applications may include helping to find lost objects and giving feedback about the facial expressions and body language of others.

ANTI-ANGIOGENICS APPEAR SAFE FOR TREATING “WET” AMD—Two common drugs for the wet form of age-related macular degeneration (AMD) do not increase the risk of mortality, according to results from an Indianapolis VA team. They compared 3,210 people who received bevacizumab or ranibizumab with 117,364 people who did not. Everyone in the study had AMD; those who received the drugs had the wet, less common form of the condition. Over 12 months, about the same percentage of people died in each group. Bevacizumab and ranibizumab are known as anti-angiogenics. They block the growth of abnormal blood vessels that contribute to wet AMD symptoms.

★ **FACTS ABOUT VISION LOSS**—*About 160,000 Veterans in the United States are legally blind, and more than one million Veterans have low vision that impacts daily activities. Many of these Veterans are helped through VA's extensive network of Low Vision Rehabilitation programs. The problem will become more acute in VA in the coming years as more Korean- and Vietnam-era Veterans incur vision loss due to age-related diseases such as macular degeneration, diabetic retinopathy, and glaucoma. Among the newest war Veterans, many who have suffered brain injuries from blasts also experience symptoms such as blurred vision, double vision, sensitivity to light, and difficulty reading. As many as 64 percent of soldiers with traumatic brain injury also have a vision problem.*