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VA research on **ALZHEIMER'S DISEASE**

Alzheimer's disease is one of the most common forms of dementia and is the sixth leading cause of death in the United States. VA researchers are looking at ways to delay and prevent the disease, and to support Alzheimer's caregivers.

ABOUT ALZHEIMER'S DISEASE

- Alzheimer's disease involves the deterioration of nerve cells in the brain, which in turn affects thoughts, memory, and language. Symptoms of Alzheimer's range from mild forgetfulness to an inability to perform everyday tasks.
- Dementia is a general term for disorders involving a decline in memory, thinking, judgment, and learning ability. Alzheimer's is one of the most common forms of dementia.
- Although physicians can almost always determine if a person has dementia, there is no single test available today that can show whether a person has Alzheimer's or is at risk of developing Alzheimer's.
- Studies have linked low brain levels of insulin to Alzheimer's, and to brain aging in general.

VA RESEARCH ON ALZHEIMER'S DISEASE: OVERVIEW

- VA researchers are looking at ways to delay and possibly prevent the onset of Alzheimer's disease. They are also looking at new ways to detect the disease, to understand its connection to other illnesses and injuries, and to support those

who have the difficult responsibility of caring for Veterans with Alzheimer's.

- The Alzheimer's Disease Neuroimaging Initiative (ADNI), led by a VA investigator, is making it easier for clinicians to diagnose the disease in its early stages.
- Some VA researchers are working on potential drug therapies for the prevention and treatment of Alzheimer's. Others are exploring the genetic and environmental causes of the disease, and studying the best ways to provide long-term care for Alzheimer's patients.
- The department's Resources for Enhancing Alzheimer's Caregiver Health (REACH-VA) program provides much-needed support for caregivers of Veterans with Alzheimer's disease.

SELECTED MILESTONES AND MAJOR EVENTS

- 1906** – German physician Alois Alzheimer first describes the disease
- 2004** – A VA investigator takes on leadership of a nationwide study to identify brain changes linked to Alzheimer's
- 2006** – VA establishes its Center for

Imaging of Neurodegenerative Diseases in San Francisco

2008 – VA launches a nationwide expansion of an Alzheimer's caregiver program (REACH VA)

2014 – A VA cooperative study finds that Vitamin E can significantly delay functional decline among patients with mild to moderate Alzheimer's

RECENT STUDIES: SELECTED HIGHLIGHTS

- **A protein called beta-amyloid 42** collects in the brains of people with Alzheimer's disease, and low levels of the protein in the blood or spinal fluid indicate high levels in the brain. This may lead to a blood test that could be used as an easy-to-administer diagnostic screening test for Alzheimer's, according to researchers associated with ADNI. ([Alzheimers & Dementia](#), July 2012)
- **A nasal insulin treatment improves memory**, thinking skills, and functional ability in people with Alzheimer's disease or mild cognitive impairment, according to researchers at VA's Puget Sound Health Care System in Seattle. Their study built on previous studies that linked low brain

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levels of insulin to Alzheimer's and to brain aging in general. ([Archives of Neurology](#), January 2012)

• **Regular exercise and a diet that's low in saturated fat and refined carbohydrates**, with lots of whole grains and vegetables, can reduce the levels of beta amyloid in spinal fluid and improve visual memory for both patients with mild levels of Alzheimer's and healthy older people, according to investigators at the VA Puget Sound Healthcare System. ([Journal of Alzheimer's Disease](#), 2012)

• **An ongoing study involving ADNI and Department of Defense (DoD)** researchers, funded by DoD, is looking to determine whether Vietnam Veterans with traumatic brain injury or posttraumatic stress disorder are at higher risk for Alzheimer's as they age. Past studies have clearly pointed to head injuries as a risk factor for dementia. ([Alzheimer's Disease Neuroimaging Initiative](#) website)

• **Taking supplemental Vitamin E significantly delays** the decline of cognitive functioning in patients with mild to moderate Alzheimer's disease. A five-year VA study showed that the

vitamin added, on average, six months of better cognitive functioning. ([Journal of the American Medical Association](#), Jan. 1, 2014)

• **Veterans who have been a prisoner of war (POW)** have about a 50 percent greater risk of dementia in later life than other Veterans, according to a study by researchers with VA and the University of California, San Francisco. For those who had been a POW and also developed PTSD, the risk was more than double. Researchers believe stress hormones may play a role in these increased rates. ([Alzheimers & Dementia](#), June 2014)

• **BCI-838, an experimental drug that appears to block plaque-forming beta amyloid** and spurs new brain cells, may be able to arrest Alzheimer's disease at an early stage. Researchers with the James J. Peters VA Medical Center in the Bronx and the Icahn School of Medicine at Mount Sinai Medical Center have tested the drug on mice, and hope to soon begin testing the drug on older adults. ([Molecular Psychiatry](#), Aug. 12, 2014)

• **Veterans diagnosed with a traumatic brain injury** may be at

greater risk for developing dementia late in life. Over a period of nine years, investigators at the San Francisco VA and the University of San Francisco examined more than 188,000 Veterans, and found that 16 percent of Veterans with a past diagnosis of TBI developed dementia, compared with 10 percent among those with no history of TBI. Overall, having TBI was associated with a 60 percent increase in the risk of developing dementia for older Veterans. ([Neurology](#), July 22, 2014)

For more information on VA studies on Alzheimer's disease and other key topics relating to Veterans' health, please visit www.research.va.gov/topics

The Alzheimer's Disease Neuroimaging Initiative, led by a VA investigator, is making it easier for clinicians to diagnose the disease in its early stages.

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