



Photo: Corkran, F., Lee/Staff Sgt.



VA research on GULF WAR VETERANS

VA Research is conducting studies to better understand and treat the health problems experienced by some Veterans of the 1990-1991 Gulf War.

ABOUT GULF WAR VETERANS

- Nearly 700,000 men and women served in the Persian Gulf during operations Desert Shield and Desert Storm in the early 1990s.
- A 2016 epidemiological [study](#) by VA Office of Public Health researchers, based on data that were collected in 2012, indicated that almost 20 years after the Gulf War, Veterans of that war continue to report poorer health than those who served at the same time but did not see service in the Gulf.
- VA offers eligible Veterans a free [Gulf War Registry health exam](#) to find possible long-term health problems related to Gulf War service. The comprehensive exam includes an exposure and medical history, laboratory tests, and a physical exam. The registry data helps VA understand and respond to the health problems of Gulf War Veterans more effectively.
- A prominent condition affecting Gulf War Veterans is a cluster of medically unexplained chronic symptoms that can include fatigue, headaches, joint pain, indigestion, insomnia, dizziness, respiratory disorders, and memory problems. VA refers to these illnesses as “chronic multisymptom illness” (CMI) and “undiagnosed illnesses.”
- Because the symptoms vary widely, VA prefers not to use the term “Gulf War Syndrome” when referring to medically

unexplained symptoms reported by Gulf War Veterans. However, the condition is often referred to as “Gulf War illness” by VA clinicians and researchers and in the medical literature. As many as 300,000 Veterans—about [4 in 10](#) of those who deployed to the Persian Gulf during Desert Shield and Desert Storm—are now estimated to have Gulf War illness, based on the latest data.

VA RESEARCH ON GULF WAR VETERANS: OVERVIEW

- VA researchers are learning about conditions affecting Gulf War Veterans and identifying the best ways to diagnose and treat them. Their efforts are guided by a [strategic plan](#) for Gulf War research developed with input from leading scientists and researchers, physicians, and Veterans themselves.
- Along with the specific research areas outlined in the strategic plan, VA investigators are conducting research in many other areas important to Gulf War Veterans. These include studies on pain, autoimmune disease, neurodegenerative disease, sleep disorders, gastrointestinal disorders, respiratory problems, and other chronic diseases.
- The [Research Advisory Committee on Gulf War Veterans’ Illnesses](#) makes

recommendations to the Secretary of Veterans Affairs on government research relating to the health consequences of military service in the Southwest Asia theater of operations during the Persian Gulf War.

- One of the largest studies on the health of Gulf War Veterans is VA’s [Longitudinal Health Study of Gulf War Era Veterans](#). This study compares changes in health status over time between deployed and non-deployed Veterans from the Gulf War era..

SELECTED MILESTONES AND MAJOR EVENTS

- 1995** – Conducted a baseline survey for a [longitudinal health study](#) of Gulf War-era Veterans
- 2003** – [Determined](#) that cognitive behavioral therapy and aerobic exercise can help Gulf War Veterans with symptoms of chronic multisymptom illness
- 2004** – [Found](#) that a year of treatment with doxycycline, an antibiotic used to treat bacterial infections, did not improve the health of Veterans with CMI
- 2011** – [Found](#) that nasal continuous airway pressure can alleviate the sleep problems many Gulf War Veterans face, and may also help with memory and thinking issues

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2011 – [Determined](#) that Veterans known to have been exposed to depleted uranium had no significant evidence of clinically important changes to their bones or kidneys

2012 – Developed the first Gulf War research [strategic plan](#)

2016 – Published [results](#) of the second follow-up survey of Veterans taking part in the longitudinal health study

RECENT STUDIES: SELECTED HIGHLIGHTS

• **Multiple sclerosis is not related to Gulf War deployment**, according to a VA study that compared the clinical and military history of nearly 700,000 deployed and 1.8 million nondeployed personnel. The study also found no correlation between deployment and other diseases that cause deterioration of the myelin sheath that insulates nerves and allows them to function. ([Neuroepidemiology](#), 2014)

• **Gulf War Veterans whose sleep quality was poor had reduced gray matter volume in their brains**, according to a study by researchers at the San Francisco VA Health Care

System and the University of California. Gray matter is made up of neurons, the most important type of brain cell. The study does not necessarily prove that poor sleep causes reduced volume, however, and it is also unclear what impact treating poor sleep has on the brain. ([Sleep](#), March 1, 2014)

• **The composition of human leukocyte antigen (HLA), a protein found in most cells in the body, is different in Veterans with CMI** than in those without the illness. Researchers from the Minneapolis VA and the University of Minnesota concluded that Veterans with CMI had reduced levels of protection from HLA, which regulates the immune system in humans, and were therefore more susceptible to the illness. ([EBioMedicine](#), Nov. 22, 2015)

• **More than 20 years after the Gulf War, Veterans of the war continued to report poorer health than Gulf-era Veterans who were not deployed**, according to the latest results of the Longitudinal Health Study of Gulf War Veterans. Although the prevalence of self-reported health conditions and positive screens of mental health conditions are higher in Gulf War

Veterans, the high rates of these conditions also found in Veterans who did not serve in the Gulf indicates a significant burden of disease in the population of this cohort of Veterans as a whole. This suggests that military service, not solely deployment, has long-term health consequences.

([Journal of Occupational and Environmental Medicine](#), January 2016)

• **A panel of blood markers that can verify a diagnosis of CMI with 90 percent accuracy has been developed** by researchers at the VA Minneapolis Health Care System and the University of Minnesota. Their study found that several commonly used blood tests that indicate inflammation tended to yield different results when given to Veterans who reported symptoms consistent with CMI. The results now need to be validated in larger groups of patients. ([PLoS One](#), June 28, 2016)

For more information on VA studies on Gulf War Veterans and other key topics relating to Veterans’ health, please visit www.research.va.gov/topics

More than two decades after the Gulf War, Veterans of the war continued to report poorer health than Gulf-era Veterans who were not deployed.

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