

National Jewish Health Center for Deployment-Related Lung Disease committed to finding answers, providing care for veterans facing debilitating respiratory illnesses

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DENVER — Nearly 70% of military personnel in Iraq and Afghanistan experienced respiratory symptoms during their service and, for many, lung disease continues to impact their ability to serve and also to live their daily lives as civilians. The recent passage of the national Promise to Address Comprehensive Toxics (PACT) Act acknowledges lung injuries that veterans who served in Iraq and Afghanistan often suffered and provides eligibility for medical benefits for those veterans to address the lingering, negative impact to their lives. The PACT act also provides supports finding answers and improved treatments such as those now being studied by researchers at the [Center for Deployment-Related Lung Disease at National Jewish Health](#).

“We saw service members who were very athletic with their units, elite athletes who could run a six-minute mile, who couldn't pass their physical fitness test when they returned home,” said [Richard Meehan, MD](#), a rheumatologist at National Jewish Health and co-director of the Center for Deployment-Related Lung Disease.



Dr. Meehan, a veteran himself, served as a US Navy Seabee battalion surgeon in Iraq where he documented the poor air quality military members were exposed to, as well as the respiratory illnesses he encountered.

“Burn pits that contained toxic materials were at the forefront of the conversation with the PACT Act, but the issue is much more complex,” Dr. Meehan said. “When you also consider exposures to diesel fuel, various chemicals, industrial pollution and especially the extremely thick, yet fine dust that infiltrates the deepest parts of the lungs, you begin to understand just how hazardous this environment was.”

These exposures resulted in a surge of veterans and active military members who experienced chronic symptoms such as coughing and shortness of breath that continued and worsened when they returned home. After seeing an increasing need, Dr. Meehan partnered with [Cecile Rose, MD](#), a pulmonologist at National Jewish Health, to create the Center for Deployment-Related Lung Disease in 2018. Since then, the Center has seen several hundred veterans with a wide range of respiratory conditions.

Researchers found that for some patients, lung function tests may appear normal, in which case physicians have to look deeper, into the smallest airways in the lungs. Frequently, a surgical lung biopsy would be required, which can be risky and painful. So, pulmonologist at National Jewish Health implemented the use of a simple, non-invasive test called a “lung clearance index” that can provide the same valuable information.

“Patients breathe normally into a mouthpiece and the machine delivers gas. Then we are able to observe how long it takes for the lungs to wash that gas out,” Dr. Rose said. “If the small airways are damaged, constricted, or inflamed, then it takes longer for the gas to wash out.”

For each patient at the Center for Deployment-Related Lung Disease, the first step is understanding these injuries and illnesses and assessing possible causes of the symptoms veterans were experiencing. Protocols are then developed to get to the root of the problem.

“We interview each patient about all of their deployments, the jobs they held, the hazards they encountered and the symptoms they noticed,” said Dr. Rose. “We also do a blood draw, analyze their genetics and personal history, and perform complete pulmonary function testing and sophisticated lung imaging.”

Advancements made at the Center are providing answers for veterans like John Sepulveda, an Air Force veteran stationed at Bagram Airbase in Afghanistan in 2011.

“The burn pits were right on the other side of a chain-link fence I worked near every day,” Sepulveda said. “Within a month of being there, I knew something was wrong. I had flu-like symptoms and a constant dry cough.”

When Sepulveda returned home to Colorado Springs, his condition continued to worsen, making any physical activity nearly impossible. He experienced cycles of sickness that left him bedridden for days at a time.

“I went to so many doctors and couldn’t get any answers,” Sepulveda said. “When I was finally referred to National Jewish Health, it was clear that they understood what I was going through and were going to do everything possible to help me.”

Sepulveda has gotten relief through treatments such as corticosteroids and regularly participates in clinical trials at National Jewish Health to help advance research toward more effective treatments.

The ongoing research at the Center for Deployment-Related Lung Disease is being shared with pulmonologists and Veterans Affairs medical centers across the country to help veterans find the specialized respiratory care they need. National Jewish Health is also leading several clinical trials, including one set to begin in January 2023, that will examine a supplement they hope will help control deployment-related asthma.

National Jewish Health is the leading respiratory hospital in the nation. Founded 123 years ago as a nonprofit hospital, National Jewish Health today is the only facility in the world dedicated exclusively to groundbreaking medical research and treatment of patients with respiratory, cardiac, immune and related disorders. Patients and families come to National Jewish Health from around the world to receive cutting-edge, comprehensive, coordinated care. To learn more, visit the [media resources page](#).

Media Contacts

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