Researchers at National Jewish Health will seek to understand the role of particulate matter exposure from burn-pits in causing or worsening asthma and asthma-like symptoms in military personnel. The four-year, $2.65 million research grant is funded through the Congressionally Directed Medical Research Programs and continues more than a dozen years of work done by National Jewish Health researchers and clinicians into deployment-related lung disease.

“We will drill down into the mechanisms by which burn pit particulate matter leads to asthma-like symptoms in these warfighters deployed to Southwest Asia,” said Brian Day, PhD, Vice President of Research, Director of the Office of Research Innovation at National Jewish Health and principal investigator on the grant. “Specifically, we are seeking to illustrate how particulates collected from military bases from the conflict region damage epithelial cells and lung microphages that trigger inflammation leading to limitations in airflow and airway obstruction.”

Military personnel deployed to Afghanistan and Iraq have suffered an increased rate of respiratory disease, ranging from chronic asthma to severe bronchiolitis obliterans. While exposure to various air pollutants, ranging from desert dust, to smoke particulates generated from burning garbage in pits to industrial fires are suspects, no clear causes have been discovered and no specific treatments have been identified. Using preclinical models, a team of National Jewish Health researchers hope their work will lead to explanations as to why military personnel experience respiratory disease following burn pit exposure, uncover understanding into the interaction of particulate matter exposure and lung inflammation, and provide insights that lead to treatment options.

“National Jewish Health has been heavily invested for years working to find innovative ways to protect the respiratory health of our military service members,” said Dr. Day. “This grant allows us to build on more than a decade of research accomplishments from clinicians and scientists.”

Since 2011, warfighters with respiratory symptoms have come to the Center of Excellence on Deployment-Related Lung Disease at National Jewish Health. National Jewish Health is a Veterans Choice Program approved hospital, providing eligible military veterans access to our specialty care center.

National Jewish Health is the leading respiratory hospital in the nation. Founded 125 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 children and adults 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 Resources

We have many faculty members, from bench scientists to clinicians, who can speak on almost any aspect of respiratory, immune, cardiac and gastrointestinal disease as well as lung cancer and basic immunology.

- Accomplishments & Awards
- Annual Report
- Financials

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Our team is available to arrange interviews, discuss events and story ideas.

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