

# Pulmonary Health Effects in World Trade Center (WTC) Responders

There have been a number of studies by the WTC Health Program Clinical Centers of Excellence evaluating lung conditions in patients exposed to the WTC dust and debris. These studies have all contributed in some way to what we know about lung disease in our responders and survivors today. The WTC Health Program currently covers lung conditions like: asthma, chronic obstructive lung disease, sarcoidosis, and interstitial lung disease. The research evaluating lower airway disease in WTC responders continues to contribute significantly to understanding persistent symptoms in our patients. In addition, it highlights the need for continued research to properly monitor, treat and care for WTC responders with lung disease.

## **Prognosis and Determinants of Asthma Morbidity in WTC Rescue and Recovery Workers**

Dr. Juan Wisnivesky's study evaluates exposure history, treatment needs, evaluation of the influence of comorbidities on disease presentation, and the impact of World Trade Center related asthma on the quality of life of WTC workers. This study provided additional information to WTC workers diagnosed with asthma so they may monitor their disease course, select the best course of treatment and provide potential self-management interventions for workers with asthma.

## **Assessing Inflammatory and Behavioral Pathways Linking PTSD to Increased Asthma Morbidity in WTC Workers**

Asthma and post-traumatic stress disorder (PTSD) are also the most common conditions in WTC rescue and recovery workers. Dr. Juan Wisnivesky's study will evaluate specific laboratory values and relationship between PTSD and increased asthma morbidity. The study will also pilot test an intervention to improve outcomes of WTC workers with asthma and PTSD.

## **Pulmonary Diseases in WTC Workers: Symptoms, Function, and Chest CT Correlates**

Dr. Rafael E de la Hoz evaluated all chest CT scans performed on WTC workers and volunteers at the Mount Sinai Medical Center between 2003 and 2016. The CT scans were then reviewed in detail by radiologists, and by special computer programs, to detect and measure abnormalities related to all types of lung disease. The CT scan abnormalities were then compared with responder respiratory symptoms, breathing test results, and occupational exposures. This study also evaluated trends in lung function over time, and seeks to characterize the WTC related lung diseases and their risk factors, with a special focus on obesity-related indicators.

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