



# World Trade Center Responders Still Battling Chronic Inflammation

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**It is** ten years since the horrific 9/11/01 attacks on the World Trade Center in New York city, The Pentagon in Washington, DC, and the crashing of Flight 93 in Pennsylvania. At the World Trade Center alone, approximately 3,000 deaths occurred, with victims originating from more than 90 countries. It is estimated that 15 individuals from Trinidad and Tobago, 14 from Guyana and 25 from the Dominican Republic died, and many more individuals from these countries and surrounding nations were affected, both emotionally and physically.

## **Responder Exposure**

Fire fighters, police, military members, paramedics, construction and iron workers, municipal employees, security workers, residents, workers in the area and those who came from afar to help, were exposed to, for days, weeks and months, to different types of toxic chemicals. Among the chemicals to which they were exposed were smoke, thick coatings of dust, asbestos, and dioxin. Fires burned for 69 days and eight months after the destruction and workers were still searching in the rubble for both survivors and bodies.

As 9/11 begins to recede in memory, many responders will not be able to forget because they are paying a significant price for their heroic efforts – their emotional and physical health has declined significantly. Dr Juan Wisnivesky, of the Mount Sinai School of Medicine in New York, has been studying the effects of exposure and says, “Many of these individuals now suffer from multiple (mental and physical) health problems.” Health Issues of Responders

## **Pulmonary**

Forty-two percent of rescue, recovery and clean-up personnel have experienced steep declines in their ability to breathe. They suffer from inflammatory illnesses such as upper airway cough syndrome (UACS), sinusitis (inflammation of sinuses), asthma and sarcoidosis, an autoimmune inflammatory condition that attacks previously healthy organs, especially the lungs, heart and brain.

## **Cancer**

Responders are 19 percent more likely to develop skin, prostate, thyroid and non-Hodgkin’s lymphoma cancers than those without WTC exposure. According to Dr. Ware Kushner, of the Stanford School of Medicine, CA, cancer is an illness that may take years to develop and detect. Therefore, the responders’ problems may just be starting.

## **Mental Health**

This month, the prestigious British journal, Lancet, reports that at some time after 9/11, 32 percent of tested personnel had post-traumatic stress disorder, and 28 per cent experienced depression. Those workers who spent the most time at Ground Zero had the most problems. Other problems such as recurring nightmares, flashbacks, self-medication with alcohol, illegal drugs and medications continue to be a problem for responders, recovery and clean up personnel and residents exposed to the ghastly event.

## **Inflammation – The Body’s Response to Chemical and Biological Threats**

Upon exposure to pathogens, pollutants, or toxins, the immune system mounts an immune, inflammatory response to eliminate the threat. Exposure of the lungs to pollutants and chemicals may trigger airway inflammation and increased mucous production. Other immune molecules cause narrowing of airways, resulting in the contraction of the muscles lining the airways. This combination makes it difficult for air to enter or leave the lungs.

This “weakened” lung function is the perfect environment to support multiplication of mold, bacteria and viruses. The lungs continue to struggle to eliminate the pollutants and pathogens, resulting in a chronic, persistent, dry cough and difficulties in breathing.

Besides pulmonary effects, excessive levels of inflammation in the body, especially those of an autoimmune nature, lead to digestive and joint issues and affects cardiovascular and nervous system function. Inflammation is also a contributor to cancer and vice versa. It is all about balanced immune responses.

## **Immune Homeostasis, Immune Balance**

In order to be healthy, the body has to produce the right amount of inflammation in response to environmental and biological challenges. Workers involved in rescue, recovery and clean-up at the World Trade Center are experiencing chronic inflammation that has not resolved. Too much inflammation causes most of their health issues and “knocks” the body out of immune homeostasis, immune balance. This imbalance affects both the body and its mind-body connection. If their bodies were able to properly regulate the levels of inflammation in the body, however, their quality of life will change significantly.

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