

DOCTOR:
JOAN REIBMAN

Air Zero

To provide care for her patients made ill by exposure to World Trade Center dust, Dr. Joan Reibman first had to overcome the skepticism of government officials.

BY:
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Joan Reibman, M.D., heads the World Trade Center Environmental Health Center at Bellevue Hospital.

▶ **ELEVEN MONTHS AFTER** she was caked in dust following the collapse of both World Trade Center towers, after violent daytime coughing fits and nights that left her gasping for air, Jill Fenwick had lost two jobs, her health, and much of her independence. Diagnosed with reactive airway disorder, the Staten Island grandmother was beginning to lose hope. • Then she was referred to lung specialist Joan Reibman, M.D., associate professor of medicine and environmental medicine. Fenwick eventually endured two major surgeries, including the removal of large portions of her sinus cavities, which were blocked by dried mucus and dust. But at last, she could breathe. “Dr. Reibman saved my life,” she says. “I think if it wasn’t for her, I would have died.”

Fenwick’s ordeal is just one of some 2,000 stories told by the patients treated since 2005 — for everything from acid reflux to severe lung disease — in a second-floor clinic within Bellevue Hospital. That year, a \$2.1 million, two-year grant from the American Red Cross Liberty Disaster Relief Fund established the World Trade Center Environmental Health Center, with Dr. Reibman at the helm.

In 2006, the city finally acknowledged the strengthening link between 9/11 and the lingering health problems of Lower Manhattan residents and workers, fortifying the center with \$16 million in funding over five years. The clinic soon added social workers, a psychiatrist, psychologists, gastroenterologists, and otolaryngologists to its staff. With a subsequent funding

increase, the center has added a pediatric program and is expanding to two sites in Manhattan and one in Queens, where city health officials hope thousands more can be treated. With its growing database, the one-of-a-kind program could prove a vital asset for understanding the inner workings of environmentally induced lung disease.

But for now, the center is focused on the physical and mental-health needs of people like Fenwick, one of the first in a stream of patients initially directed to the NYU/Bellevue Asthma Center. The only common thread among them, it seemed, was the dust. The initial exposure for many, says Paul Lioy, Ph.D., deputy director of the Environmental and Occupational Health Sciences Institute at the Robert Wood Johnson Medical School, arrived with the billowing clouds of pulverized cement, glass, wallboard, office furnishings, computers, paper, and other components of the Twin Towers.

The airborne particles, with a striking alkalinity that exacerbated lung irritation, initially contributed to what came to be known as “World Trade Center cough.” Although the vast majority of particles and fibers were relatively large, a significant percentage, explains Dr. Lioy, were capable of lodging deep within the smaller airways of the lungs. Further exposure could have come from the dust’s gradual settling, from the infiltration of particles into homes and businesses, and from the largely unidentified stew of gases released by fires at Ground Zero. “We’ll never know the whole story,” he says.





Dr. Reibman, the longtime director of Bellevue's Asthma Center, realized that many of her regular patients lived and worked in the same downtown Manhattan neighborhoods engulfed by dust, fumes, and toxins. But which of the new symptoms she was seeing were due to the disaster? A study she and her colleagues published last year in the *Journal of Asthma* found a significant association between new and persistent respiratory symptoms and contaminants in the homes of area residents. The results built on similar findings the researchers had published in the *American Journal of Epidemiology and Environmental Health Perspectives*. However, a dearth of preexisting medical information for those residents, such as X-rays and lung-function studies, makes a definitive link hard to prove. "What's going to make things more difficult is that there's not a World Trade Center disease," says Dr. Reibman. "No one has a simple black-and-white story."

Beyond the varied exposures, Dr. Reibman says individuals may react very differently to the same particles or toxins. Even so, researchers have made some disturbing connections. A separate study

of New York City firefighters, for example, found that a significant number were coughing up mineral particles two years after the disaster. Dr. Reibman and her colleagues are now searching their own database of lung biopsies and bronchoscopies for similar signs of mineral debris lodged in their patients' lungs.

Patients often open up for the first time about their ordeals during treatment at the center. "We go through boxes of Kleenex," says Dr. Reibman. Between 40 and 50 percent of new arrivals, in fact, score positive for post-traumatic stress disorder, anxiety, or depression, according to Julian Manetti-Cusa, Psy.D., a psychologist who has directed the center's mental health program for the past year. Unlike patients at other clinics, he says, 90 percent of those he treats for a mental-health issue have another significant medical problem, and each can exacerbate the other.

Despite the obstacles, some patients have improved dramatically. Other narratives are still a work in progress. Jill Fenwick now works from home, marketing a low-cost health and dental insurance plan. But maintaining her own health, she says, has become her primary job.

Beyond her regular checkups, she's seeing a neurologist for numbness and tingling in her extremities, a speech therapist to strengthen her damaged vocal cords, and a therapist for her post-traumatic stress disorder. Fenwick is unsure what will happen next, but she takes comfort in others who can relate to her adversity. "When I go to counseling," she says, "it just makes me feel better, because I know I'm not alone in this."

Skepticism among lawmakers has waned, and sympathetic congressional officials are pushing for more comprehensive funding. Repeated pleas by researchers, community activists, and New York's sympathetic U.S. Congressional officials yielded \$108 million in year-end appropriations to expand 9/11-related treatment programs. For the first time ever, the federally funded programs will be open to students, residents, and employees exposed to environmental hazards during and after the attack, though it's still unclear how the money will be divided. "There's still so much that we don't know," says Dr. Reibman. But this much is certain: many of the center's patients will require years of treatment. ●