



Mount Sinai Investigations: Exposures and Health Effects Among Workers at Ground Zero

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Key issues being investigated

- What health effects have been seen in rescue and recovery workers?
- What factors make it more or less likely for individuals to develop health effects?



Research conducted to date

- Nearly 100 ironworkers have been evaluated
- Around 500 individuals have sought care related to WTC exposures at the Center for Occupational and Environmental Medicine



Ongoing project

- World Trade Center Worker and Volunteer Medical Screening Program
 - 8,500 workers and volunteers will be examined over the next year



What have we focused on?

- Physical effects in upper and lower respiratory tracts
- Psychological effects of the World Trade Center disaster on individuals



Conclusions

In the workers we evaluated, we found persistent symptoms of:

- Rhinitis/sinusitis 52%
- Cough 64%
- Shortness of breath on exertion 51%
- Chest tightness 45%
- Wheezing 45%
- “Provocable” symptoms 55%



Worker health effects


Pulmonary Function Test Results Indicated a High Percentage of Breathing Problems

- 31% had large and/or small airway obstruction
- This was independent of smoking history
- But only 7% had a prior history of asthma



World Trade Center worker health effects

- 66% had persistence of one or more indicator(s) of psychological distress, including:
 - Feeling distant from others
 - Emotional numbness
 - Feeling “on guard” or on edge
 - Feeling “jumpy” or easily startled
 - Trouble sleeping
 - Nightmares/bad dreams
 - Persistent anxiety



Other Mt. Sinai studies – what do they show?

Fire Department of New York: Acute and Long-Term Effects Seen

- After the first 48 hours: 90% had an acute cough, chest tightness or burning and nasal congestion
- After 6 months: 333 FDNY rescue workers had World Trade Center related cough severe enough to require more than 4 weeks of medical leave.



Other studies – what do they show?

Fire Department of New York : Acute and Long-Term Effects Seen (con't)

- After 11 months: 358 firefighters and 5 EMS workers are on medical leave or light duty because of respiratory illness.



Nearby High School and College Worker Study Symptom Survey

- Researchers looked at the new onset of symptoms occurring after 9/11/01
- Looked at persistent symptoms (through March 2002)
- Comparison group: similar workers more than 5 miles away on 9/11/01



More Persistent Symptoms (High School) Found Near WTC

■ Eye irritation	29%	(15%)
■ Nose/throat irritation	31%	(17%)
■ Cough	27%	(10%)
■ Shortness of breath	19%	(7%)
■ Wheezing	11%	(3%)
■ Depression	34%	(18%)
■ PTSD	23%	(6%)



Health Effects Study Findings

- Respiratory and psychological symptoms persist over a year after the attacks
- Many have not sought medical attention



Future plans

- Expand the Ironworker study to include more exposed workers as well as unexposed controls
- Determine which factors contribute to persistence of symptoms
- Report findings from the Screening Program



Recommendations

- Because symptoms persist after a disaster, anyone who continues to experience symptoms should seek professional assistance
- Chest x-rays, in general, are not necessary
- Pulmonary function tests should be performed in individuals with symptoms