

## **Treatment of WTC Exposures: Results from Detoxification**

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The Hubbard method of detoxification has been used to treat exposure symptoms in about 500 professional and volunteer rescue workers who were exposed to large quantities of toxins in the dust, smoke and fumes resulting from the September 11, 2001 terrorist attacks on the World Trade Center (WTC).

Firefighters, paramedics, police, clean-up crews and other personnel labored for weeks and months in the immediate vicinity of the WTC. Personal Protective Equipment (PPE) was not always available or was ineffective in preventing the rescue workers from absorbing contaminants by inhalation, ingestion or dermal exposure.

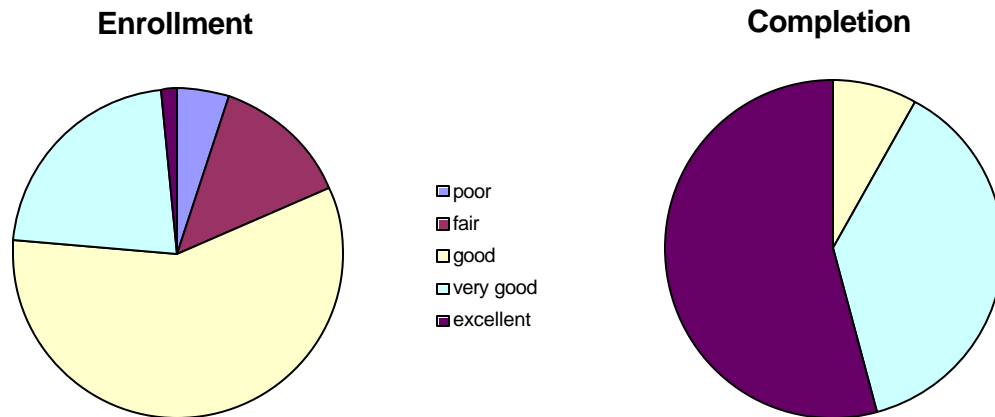
There is no doubt that the tens of thousands of men and women who participated in the rescue and recovery operations were exposed to a wide range of toxins, many of which are known to accumulate in body tissues. Exposure symptoms have not abated with time, instead a substantial number of those exposed are experiencing worsening health status involving multiple organ systems.

Recognizing that they had had an unprecedented exposure, the firefighters and union officials considered timely treatment a priority. They contacted the Foundation for Advancements in Science and Education concerning assistance in making detoxification available to exposed personnel. Previous case reports<sup>1,2</sup> and a number of non-randomized, controlled studies of exposed workers including firefighters<sup>3</sup> have been published over the past two decades. The regimen has been shown to be safe, can reduce tissue levels of lipophilic xenobiotics such as PCBs, and can improve memory, cognitive functions, immune parameters and general physical condition in different study populations<sup>4,5</sup>.

An independent facility funded by private donations was set up in September 2002 in lower Manhattan providing this therapy to date to 484 rescue workers and other exposed persons without charge. To evaluate the efficacy of this rehabilitative therapy, participants complete comprehensive health and symptom surveys before and after detoxification. Program participants: 273 firefighters, 52 sanitation workers, 19 paramedics, 23 police officers, and 117 others; indicate a range of benefits that sum up to improved quality of life and job fitness.

- Prior to enrollment individuals averaged 4.4 days of limited activity and 2.1 days missed work per month.
- After detoxification, these individuals report 0.2 days of missed work or limited activities – this includes the month while they underwent therapy.

## Perception of Health



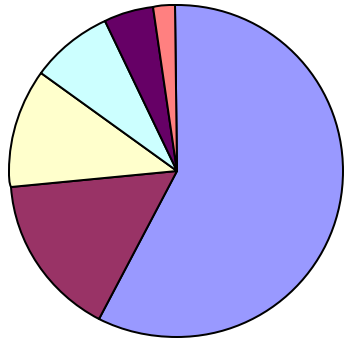
Persistent symptoms such as fatigue irritability, cough, skin disorders, and gastroesophageal reflux have consistently improved on treatment completion.

### Improvement in Symptoms

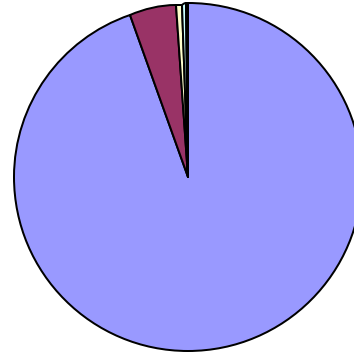
		Fully resolved at discharge	Greatly improved if not fully resolved
<b>Mental Health</b>			
	Impaired Short/Long-term Memory	72.8/69.7%	22/19%
	Poor Concentration	92.1%	7%
	Fatigue	85.5%	14.5%
	Irritability	83.7%	14.2%
	Depression	84.2%	14%
	Impaired Sleep	99.8%	--
	Headaches	76.8%	22.8%
<b>Lung and Airway</b>			
	Shortness of Breath with Exercise	45.2%	35%
	Other Breathing Difficulties	63.0%	76%
	Cough	66.7%	32%
<b>Skin</b>			
	Acne	48.9%	48.8%
	Rash or Dryness	68.0%	29.2%
<b>Musculoskeletal</b>			
	Joint Pain	68.4%	16.2%
	Muscle Weakness	82.9%	12.3%
	Muscle Pain	79.1%	18.1%
<b>Other</b>			
	Impotence	50.0%	45%
	Vision/Hearing/Smell Changes	90.2%	8%
	Gastrointestinal Problems	77.3%	20.1%

As these symptoms abate, clients are able to reduce and ultimately eliminate the medications they are taking.

**Number of Medications at Start of Therapy**



**Number of Medications at Completion**



0  
1  
2  
3  
4  
5+

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<sup>1</sup> Root DE, Lionelli GT. Excretion of a lipophilic toxicant through the sebaceous glands: A case report. *J Toxicol Cutaneous Ocul Toxicol* 1987; 6(1):13-8.

Notes: The oily black substance exuded was later analyzed by the authors and determined to be a 12-carbon chain terpene.

<sup>2</sup> Tretjak Z, Shields M, Beckmann SL. PCB reduction and clinical improvement by detoxification: an unexploited approach? *Hum Exp Toxicol* 1990; 9(4):235-44.

<sup>3</sup> Kilburn KH, Warsaw RH, Shields MG. Neurobehavioral dysfunction in firemen exposed to polychlorinated biphenyls (PCBs): possible improvement after detoxification. *Arch Environ Health* 1989; 44(6):345-50.

<sup>4</sup> Schnare DW, Ben M, Shields MG. Body Burden Reduction of PCBs, PBBs and Chlorinated Pesticides in Human Subjects. *Ambio* 1984; 13(5-6):378-80.

<sup>5</sup> Schnare DW, Robinson PC. Reduction of the human body burdens of hexachlorobenzene and polychlorinated biphenyls. *IARC Sci Publ* 1986; (77):597-603.