



CASE DEFINITION

Mercury (Elemental)

Clinical description

Inhalation exposure is the most typical route of elemental mercury toxicity. Acute toxicity might result in fever, fatigue, and clinical signs of pneumonitis. Chronic exposure results in neurologic, dermatologic, and renal manifestations. Signs and symptoms might include neuropsychiatric disturbances (e.g., memory loss, irritability, or depression), tremor, paresthesias, gingivostomatitis, flushing, discoloration and desquamation of the hands and feet, and hypertension (1-4).

Laboratory criteria for diagnosis

- *Biologic:* A case in which elevated urinary or whole blood mercury levels ($>10 \mu\text{g/L}$) (20,58) exist, as determined by a commercial laboratory. No definitive correlation exists between either blood or urine mercury levels and mercury toxicity.

-OR-

- *Environmental:* Detection of mercury in environmental samples, as determined by NIOSH or FDA.

Case classification

- *Suspected:* A case in which a potentially exposed person is being evaluated by health-care workers or public health officials for poisoning by a particular chemical agent, but no specific credible threat exists.
- *Probable:* A clinically compatible case in which a high index of suspicion (credible threat or patient history regarding location and time) exists for elemental mercury exposure, or an epidemiologic link exists between this case and a laboratory-confirmed case.
- *Confirmed:* A clinically compatible case in which laboratory tests have confirmed exposure.

The case can be confirmed if laboratory testing was not performed because either a predominant amount of clinical and nonspecific laboratory evidence of a particular chemical was present or a 100% certainty of the etiology of the agent is known.

Additional resources

1. Sue Y-J Sue. Mercury. In: Goldfrank LR, Flomenbaum ME, Lewin NE, Howland MA, Hoffman RS, Nelson LS, eds. Goldfrank's toxicologic emergencies. 7th ed. New York, NY: McGraw-Hill; 2002:1239--

Case Definition: Mercury (Elemental)

(continued from previous page)

2. CDC. Current trends acute and chronic poisoning from residential exposures to elemental mercury--Michigan, 1989-1990. MMWR 1991;40:393-5. Available at www.cdc.gov/mmwr/preview/mmwrhtml/00014464.htm.
3. CDC. Elemental mercury poisoning in a household--Ohio, 1989. MMWR 1990;39:424-5. Available at www.cdc.gov/mmwr/preview/mmwrhtml/00001652.htm.
4. Agency for Toxic Substances and Disease Registry. Toxicologic profile for mercury. Atlanta, GA: Agency for Toxic Substances and Disease Registry, Division of Toxicology; 1999. Available at www.atsdr.cdc.gov/toxprofiles/tp46.html.

This document is based on CDC's best current information. It may be updated as new information becomes available. For more information, visit www.bt.cdc.gov/chemical, or call CDC at 800-CDC-INFO (English and Spanish) or 888-232-6348 (TTY).

March 9, 2005

Page 2 of 2