

The Lancet "Mercury contamination in the home" by McClanahan, Mark A.

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Sir-Bonhomme and colleague provide further documentation that cleaning activities can spread contamination of elemental mercury. The contaminant is often spread when persons responsible for custodial care of the facility use common cleaning equipment such as vacuum cleaners, brooms, and mops; this is especially true after spills of elemental mercury. I have spoken with several individuals responsible for clean-up after elemental mercury spills who found that initial use of common vacuum cleaners spread mercury vapour throughout the building. In addition, the vacuum cleaner contributed to tracking mercury from the spill site, thus expanding the area of localised mercury contamination in the carpet. However, the larger issue in the spread of contamination is the discharge of air containing mercury vapour. This discharge occurs whenever and wherever the vacuum operates after initial collection of mercury in its dirt reservoir. The title of Bonhomme and colleagues' letter identifies the difficulty as one of mercury spread by a vacuum-cleaner aerosol. These workers describe the vacuum cleaner as spraying very small drops of mercury throughout the house and garage. Did they examine these droplets by microscopic examination of samples or infer their presence on the basis of recovery of mercury in air samples collected from these locations? A vacuum cleaner can vaporise elemental mercury but it is not an efficient dispenser of small drops of the metal.

They cite the carpet in the children's room as having the highest contamination, which presents the possibility that the children may have obtained elemental mercury from friends or acquaintances and played with it in the room. Play by adolescents with mercury has caused several household mercury contamination episodes in the USA. When mercury contamination occurs in a household, further investigation for other sites in the community is necessary. I encourage persons confronted with similar situations to thoroughly investigate the mercury source within the house. If children have played with mercury in the home, other homes in the community may have a similar problem, as yet undetected. Parents are usually the last to know about mercury in the house. For public-health reasons this unawareness should not continue. The possibility exists that activities of former residents have caused the contamination. An investigation to identify the source of the mercury in this episode is important. Identifying this source may lead to the discovery of other dwellings that have had a similar mercury contamination episode.

Bonhomme and colleagues cite the use of an ozone meter to determine the focus of environmental mercury contamination, but the use of this meter for mercury detection is not well known in the USA. Perhaps they could explain this use. They also state that the vacuum-cleaner hose was the most highly contaminated, but only provide data for samples from the vacuum cleaner. Perhaps my error is inferring that the reference to vacuum cleaner samples meant from the dust bag, whereas they meant the hose. Nor do they provide information about the sampling methods used, or suggest the reasoning behind sampling the garage. Were these samples air samples, dust samples, or vapour samples? How were the samples collected (eg, details of type of collection device, adsorbent media, length of the sample period, and volume of air sampled). Residential contamination episodes raise the issue of occupant evacuation. Did the occupants of this household remain in the house during the clean-up. If evacuation occurred, what criteria defined acceptable mercury residues to allow re-entry? What criteria for mercury residues defined the end of clean-up activities for the subject house?