

Mercury in a Healthcare Setting (E-mailed 05/10/2010)

As of January 1, 2009, state law in Michigan bans the use of mercury-bearing blood pressure devices (sphygmomanometers) in healthcare settings except for calibration of mercury-free devices. ([See PA 493 of 2006.](#)) The law provides an exemption for personal home use. Unfortunately, local health departments, state and federal environmental protection agencies, and MDCH continue to hear about, and respond to, spills from these devices in Michigan healthcare settings. In some cases, the devices had still been in use; in other cases, they had been stored in what was assumed to be a safe location. Either way, when mercury is released, it can pose a substantial health risk to patients and staff and result in costly cleanups.

Touching liquid mercury does not pose a serious health threat. However, mercury that is not contained evaporates very slowly at room temperature. Breathing the vapors can damage the central nervous system and kidneys, if a person is exposed to them for a long time. If the mercury is heated, as when it hits a radiator or stove, higher concentrations of vapors are released to the air and can quickly cause serious harm. Children and fetuses are most at risk, but breathing mercury vapors can affect anyone. Cleaning up a mercury spill takes a careful approach and may require some expertise.

In a recent incident, a healthcare facility had placed a mercury-bearing blood pressure device in a store room where other medical supplies were kept. Someone retrieving supplies knocked over the blood pressure device, causing the mercury in it to spill on the carpeted floor. Luckily, the person immediately reported the incident, which decreased the mercury being tracked out of the room and reduced the potential exposure to staff and the public. The local fire department, local health department, and the U.S. EPA responded to the spill. The MDCH Division of Environmental Health provided advice to ensure the protection of staff and patients' health. A professional cleanup company had to be hired to clean up the spill, and indoor air sampling was necessary to confirm that no harmful levels of mercury vapor remained. The monetary cost of this cleanup was over \$10,000. That did *not* include the time that staff were sent home, the assistance by other agencies, and any potential follow-up that may be necessary (e.g., testing blood or urine of exposed staff, negative publicity, replacement of contaminated items). This spill would not have happened if the facility had properly disposed of the blood pressure device.

Please ensure that your facility does not have a mercury spill:

1. Healthcare facilities and nursing homes should take steps now to be sure they are in compliance with PA 493.
2. They should also ensure that mercury-bearing blood pressure devices are removed from the premises and disposed of properly. Mercury is a heavy metal and can be a hazardous waste. For guidance on hazardous waste compliance or recycling of unbroken equipment containing mercury, check with your building manager or call the Michigan Department of Natural Resources and Environment for guidance at 1-800-662-9278. Do **not** throw mercury-bearing items into the

garbage or into medical waste bags. Incineration of these materials is a major source of mercury contamination of our environment.

3. If you have a mercury spill, close off the area of the spill and prevent people from walking through it. Then call your local health department (some field staff have training in mercury spill response) or hazmat team. See [MDCH guidance](#) for additional information.
4. [PA 494 of 2006](#) states that mercury-bearing esophageal dilators, bougie tubes, and gastrointestinal tubes can no longer be sold in Michigan. Similarly, [PA 578 of 2002](#) states that mercury-bearing fever thermometers can no longer be sold in Michigan. While their use is not prohibited, it would be prudent to find viable alternatives and properly dispose of the mercury-bearing devices.
5. Educate staff and patients that mercury-bearing medical devices in the home can also pose a hazard if the mercury is released. This includes fever thermometers along with blood pressure devices. Encourage people to use alternative devices.