

Glass Thermometers Still a Safety Hazard

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(PhysOrg.com) -- A study by emergency physicians at Children's Hospital Boston provides a wakeup call to parents to get rid of their old glass thermometers. A 12year review of patients seen in Children's emergency department (ED) shows that glass thermometers pose one more safety hazard in addition to mercury exposure injuries from broken glass.

Moreover, the incidence of glass thermometer injuries has only decreased minimally despite bans on mercury-containing glass thermometers in several states, including Massachusetts.

"Just because glass thermometers are not sold doesn't mean people don't have them in their homes," says co-author Lois Lee, MD, MPH, of Children's Division of Emergency Medicine, who also directs the hospital's [Injury](#) Prevention Program. "They may not realize what the dangers are."

Researchers reviewed records from Children's ED from October 1995 to October 2007. During this period, the ED saw 33 patients with glass thermometer-related injuries, approximately one to six injuries per year (including three in 2007, despite the 2002 ban in Massachusetts). The findings are detailed in the October issue of Pediatric Emergency Care.

Out of all the patients treated:

- 84 percent had broken glass injuries to their mouth or rectum

- 66 percent required imaging procedures for a potential foreign object
- 42 percent were exposed to mercury
- about 80 percent were younger than 4 years
- despite repeated warnings and legislation, glass thermometer-related injuries decreased by less than 9 percent annually.

Amir Kimia, MD, of Children's Division of Emergency Medicine, the study's senior investigator, acknowledges that the numbers are small, but notes that these injuries are unnecessary and may require imaging to locate the glass, sometimes exposing children to radiation in the genital area if a rectal thermometer was used.

Though glass thermometers containing mercury may be more accurate than other kinds of thermometers, health professionals have recommended against their use once they recognized mercury as a risk. However, an unknown number of households that still have mercury thermometers have not discarded them. Meanwhile, several manufacturers have replaced the mercury in their glass thermometers with a non-toxic alternative, which still makes the thermometers a broken glass hazard despite making them mercury-free.

The authors of the study suggest that pediatricians discuss safer, non-glass thermometers with parents as part of well-child appointments or while talking about fever management. If parents are still insistent on using the most accurate thermometers, pediatricians should be prepared to discuss the different thermometers readily available. The difference in temperature readings is often within tenths of a degree--too small to justify exposing children to the risk of the thermometer breaking. "In

reality, we don't need that degree of accuracy," Kimia says.

"Hospitals are using digital thermometers, which don't contain glass, in their standard care," Lee adds. "They're accurate as well as being faster and therefore, easier to use, particularly in the younger children."

Provided by Children's Hospital Boston ([news](#) : [web](#))

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