Button Battery Ingestion on the Rise

Every three hours, a child under the age of 18 will show up at an emergency room to be treated for button battery ingestion and that rate is accelerating, according to a new study published in the online version of Pediatrics magazine this week. The first description of a button battery ingestion fatality in the medical literature was published in 1977, when a two and a half-year-old child swallowed a camera battery. Today, the nation’s emergency rooms see an estimated 3,289 children annually for button battery ingestion, according to Pediatric Battery-Related Emergency Department Visits in the United States, 1990-2009. Over the 20-year period of the study, the researchers from the Center for Injury Research and Policy at Nationwide Children’s Hospital in Columbus, Ohio examined a nationally representative sample from the National Electronic Injury Surveillance System and found that such visits had significantly increased during the last eight years of the study.

The researchers drew no conclusions about the causes of the increase:

“This study was unable to determine whether the observed increase in pediatric battery-related ED visits was due to increased exposure to batteries, increased severity of the exposures, or changes in health care-seeking behavior by child caregivers due to increased public knowledge of battery-related injury,” the authors wrote.

But, Dr. Toby Litovitz who has published a series of papers examining the data on button battery ingestion, beginning in 1983, says that a pronounced uptick in “serious and fatal button battery ingestions” in the last six years can be linked to the emergence of the 20mm lithium coin cell as a popular household battery.

A 2010 statistical analysis, also published in Pediatrics noted that while a total of 13 fatalities had been identified from 1977–2009 incidence data, 9 or 69 percent had occurred since 2004. From the late 1970s, when fatal ingestion was first noted, to the mid-1990s, most batteries passed or were removed with little negative consequence to human health. Physicians mostly debated the best clinical course, says Litovitz, who works at of the National Capital Poison Center, a private not-for-profit organization.

In 1980, the National Poison Center estimated that between 510 and 850 button (miniature) battery ingestions occurred annually in the U.S., leading to the creation of The National Button Battery Ingestion Study, “to gather data to resolve conflicting recommendations for the management of button battery ingestions.” A 1983 editorial in the Journal of the American Medical Association noted that button battery ingestion had become a serious problem: “The data presented clearly show that we cannot any longer consider these batteries to be nonhazardous, smooth foreign bodies. There is a significant potential for major injury associated with these ingestions.”

As a result of that 2010 study, the American Academy of Pediatrics launched a media campaign. In addition, the U.S. Consumer Product Safety Commission, the electrical manufacturers, Rayovac and the Consumer Electronics Association have taken steps to address the hazard via warnings, public education and voluntary secure battery access standards.

In June 2010, one month after the Pediatrics study was published, the National Electrical Manufacturers Association sent the following to its members:

“Our appeal to device manufacturers, therefore, is to consider redesigning products to ensure that battery compartments are secure and only accessible through use of a tool, such as a coin or screwdriver. This is the approach recommended by toy manufacturers for electronic toys and can be found in ASTM F963-07. We also recommend warning language be added to product packaging, instructions, and even products to the extent possible.”

The CPSC has issued a warning to consumers, and has been following the progression of and submitting comments to an amendment an existing standard to address battery access and warning language in household products that used button batteries by the Consumer Electronics Association and Underwriters Laboratory. This voluntary standard has not yet been released.

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