
LEAD POISONING PREVENTION & TREATMENT UPDATES

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Welcome

The newsletter will provide you with information from the current research literature and updates on available resources related to lead poisoning prevention. With your help we will strive to reach the goal of eliminating lead as an environmental hazard by 2010. This quarterly newsletter is a collaborative effort between the Virginia Department of Health's Lead-Safe Virginia Program and the University of Virginia's Virginia Children Division of Medical Toxicology.

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PHONE NUMBERS TO KNOW

- **Lead-Safe Virginia, Virginia Department of Health**
(877) 668-7987
- **Healthcare Lead Emergency Hotline**
(866) SOS-LEAD

Items Recalled Due To Lead Poisoning Risks

Lead-based paint remains the most common source of lead exposure for children in the United States. Recently, however, there have been increasing reports of metallic toys and trinkets containing lead. Increasing numbers of lead-contaminated items intended for use by children are manufactured in countries with limited government regulation of lead in consumer products. This has led to the Consumer Product Safety Commission recalling over 100 million pieces of imported metallic toy items in the past few years. Health-care providers should consider lead poisoning in young children with increased intracranial pressure, unexplained and prolonged gastric symptoms, or a history of mouthing or ingesting nonfood items. Health-care providers also should warn caregivers against allowing children to mouth any metal objects. The following reports excerpted from the medical literature serve as examples of such cases.

Death of a Child After Ingestion of a Metallic Charm --- Minnesota, 2006 MMWR March 23, 2006;55

This report describes the death of a child from acute lead poisoning caused by lead encephalopathy after ingestion of a heart-shaped metallic charm containing lead; the charm had been attached to a metal bracelet provided as a free gift with the purchase of shoes manufactured by Reebok International Ltd.

A 4-year old boy was brought to a hospital pediatric emergency department in Minneapolis, Minnesota, with a chief complaint of vomiting. Probable viral gastroenteritis was diagnosed, and the boy was administered ondansetron, an antiemetic; his parents were encouraged to increase his fluid intake, and he was released. He returned to the emergency department two days later with intractable vomiting, poor oral intake, "sore tummy," and listlessness. He

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RESOURCES

Search for other recalled lead items:

- U. S. Consumer Product Safety Commission
www.cpsc.gov
- Iowa Dept. of Public Health List:
http://www.idph.state.ia.us/eh/common/pdf/lead/lead_source.pdf

Lead-Safe Virginia
www.vahealth.org/leadsafe

Download copies of the *Guidelines for Childhood Lead Poisoning Screening in Virginia*:
http://www.vahealth.org/leadsafe/Rev_Screening_04.pdf

CDC Spotlights on Lead
<http://www.cdc.gov/nceh/lead/>

EPA Lead Page
www.epa.gov/opptintr/lead/index.html

HUD Office of Lead Hazard Control
www.hud.gov/offices/lead

Children's Environmental Health
<http://www.niehs.nih.gov/oc/factsheets/ceh/home.htm>

National Lead Information Center
<http://www.nsc.org/ehc/lead.htm>

National Center for Lead Safe Housing
<http://www.cehn.org/cehn/resourceguide/nclsh.html>

ONLINE LEAD EDUCATION

New! Lead poisoning education topics for health care professionals. Current courses:

- Lead Pathophysiology
- Sources of Lead Poisoning

More courses to follow. <http://www.leadpoison.org>

was dehydrated and had normal blood sodium and elevated blood urea nitrogen levels. He received intravenous fluid replacement and was admitted to the hospital. Ten hours after admission, the boy became agitated and combative and exhibited possible posturing. During transport to the radiology department, the boy suffered a respiratory arrest associated with seizure-type activity. He was resuscitated and placed on mechanical ventilation. A CT scan revealed diffuse cerebral edema, and the boy underwent emergent ventriculostomy and decompressive craniotomy. A heart-shaped object was observed on his abdominal radiographs. The next day, a blood lead level (BLL) of 180 $\mu\text{g}/\text{dL}$ was reported; cerebral blood flow studies indicated no flow to the brain, and the boy met clinical brain death criteria. On the fourth day of hospitalization, the child was removed from life support and died. Upon autopsy, a heart-shaped charm imprinted with "Reebok" was removed from the child's stomach. The mother recognized the object as a charm that came with a pair of shoes belonging to another child whose home her son had visited. The mother was not aware that her son had ingested the charm, and he had no history of ingesting nonfood substances. The Minneapolis Public Health Department Laboratory determined that the charm consisted of 99.1% lead.

Brief Report: Lead Poisoning from Ingestion of a Toy Necklace --- Oregon, 2003 MMWR June 18, 2004;53:509-511

This report describes an investigation by the Deschutes County Health Department and the Oregon Department of Human Services of lead poisoning in a boy who swallowed a medallion pendant from a necklace sold in a toy vending machine.

A 4-year old boy was taken to a physician in Oregon after several days of abdominal cramping, vomiting, and diarrhea without fever. His symptoms resolved until 1- 2 weeks later when he had another bout of vomiting and abdominal pain. He was returned to his physician, and his condition was diagnosed as probable viral syndrome and anemia of undetermined etiology. Two days later he was brought to the Emergency Department with worsening symptoms, including constipation and inability to eat or sleep because of his abdominal pain. An abdominal radiograph showed a metallic object in the stomach with no evidence of obstruction; repeat laboratory studies showed a persistent normocytic anemia. Endoscopy was performed, resulting in retrieval of a medallion pendant from the boy's stomach. Three days later, the boy returned with edema of the left

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DEVELOPED BY THE VIRGINIA DEPARTMENT OF HEALTH STATEWIDE SCREENING PLAN WORK GROUP, FOLLOWING CDC GUIDELINES AND VIRGINIA REGULATIONS.

FUNDED BY THE CENTERS FOR DISEASE CONTROL AND PREVENTION AND THE VIRGINIA DEPARTMENT OF HEALTH.



cheek and gingiva, suggesting either a dental abscess or excessive biting of the cheek. Concern that the cheek bite might have been caused by a seizure prompted testing of his BLL, which was 123 $\mu\text{g}/\text{dL}$ (Center for Disease Control and Prevention's (CDC) level of concern = ≥ 10 $\mu\text{g}/\text{dL}$). The boy was admitted to the pediatric intensive care unit for intravenous chelation therapy. No evidence of encephalopathy was found; a sleep electroencephalogram was normal. The boy was treated with dimercaprol (i.e., BAL) followed by calcium disodium versenate (i.e., EDTA), and his BLL decreased to 57 $\mu\text{g}/\text{dL}$. He was switched to oral succimer (i.e., DMSA), but received a repeat course of EDTA when his BLL increased to 69 $\mu\text{g}/\text{dL}$. After three courses of succimer, his BLL was < 40 $\mu\text{g}/\text{dL}$. The medallion retrieved from the boy's stomach was reportedly purchased from a toy vending machine in Oregon, approximately three weeks before it was retrieved. The state environmental quality lab found the medallion's contents to be 38.8% lead.