

# Lead

## Background

Lead is a naturally occurring metallic element with a well-established toxic profile

Increased environmental lead levels are largely due to historical use in gasoline and paint

Other sources include lead batteries, lead solder, leaded glass, leaded glazes, lead plumbing, and certain imported cosmetic products and home remedies

The primary route of exposure in children is through incidental ingestion of lead-containing dust; though point sources as listed above should be considered

## Health Risk

Children are at special risk for lead exposure and lead-related adverse health effects compared to adults

Multiple organ systems can be affected; even low levels can contribute to learning, attention and behavior problems

Normal hand-to-mouth behavior, and normal contact with ground surfaces increase risk of exposure

Greater ingestion per body mass, plus potential to interrupt development and growth increase risk of harm

## Response

The adverse effects of lead are minimized by reducing exposure and promoting overall determinants of health

Routine blood lead screening can identify children who may be exposed to higher amounts of lead

Identify and eliminate/abate point sources and use frequent wet-cleaning techniques and hand-washing to minimize exposure

Promote appropriate nutrition and a robust educational environment to minimize possible harm

## Instructions for User

A message map delivers three key messages on a particular topic (top row, in yellow), each with three supporting statements (column below each key message, in blue). The key messages provide succinct Background, Health Risk and Response to the topic.

A message map is intended to guide a discussion of health risks and responsive actions pertaining to the topic. It does not represent an exhaustive resource for information on the topic. The presenter is expected to tailor the depth and pacing of information delivery to the needs of the recipient. At the recipient's request, the presenter is expected to bring his/her expertise to the topic and link the discussion to other resources available to the recipient. Some suggested sources of further information are listed below.

### For more information on lead:

Pediatric Environmental Health Specialty Unit (PEHSU) chelation fact sheet  
[http://www.pehsu.net/documents/chelation\\_therapy\\_guidance\\_general\\_public\\_goldman\\_woolf\\_2012.pdf](http://www.pehsu.net/documents/chelation_therapy_guidance_general_public_goldman_woolf_2012.pdf)

New York City Department of Health and Mental Hygiene  
<http://www.nyc.gov/html/doh/html/environmental/lead-homepage.shtml>

New York State Department of Health  
<http://www.health.ny.gov/environmental/lead/>

Centers for Disease Control and Prevention (CDC)  
[http://www.cdc.gov/nceh/lead/acclpp/lead\\_levels\\_in\\_children\\_fact\\_sheet.pdf](http://www.cdc.gov/nceh/lead/acclpp/lead_levels_in_children_fact_sheet.pdf)

National Institutes of Health (NIH): ToxTown  
[http://toxtown.nlm.nih.gov/text\\_version/chemicals.php?id=16](http://toxtown.nlm.nih.gov/text_version/chemicals.php?id=16)

*Risk communication is a science-based approach for communicating effectively and accurately to diverse audiences in situations that are high-concern, high-stress, emotionally charged, and/or highly controversial. Its purpose is to enhance knowledge and understanding, build trust and credibility, encourage constructive dialogue, produce appropriate levels of concern, and provide guidance on appropriate protective behavior and actions following a crisis incident. Although much about risk communication involves elements of common sense, its principles are supported by a considerable body of scientific research.*

Covello V (Center for Risk Communication), Minamyer S, Clayton K (U.S. EPA National Homeland Security Research Center). Effective Risk and Crisis Communication During Water Security Emergencies. Reston, VA: U.S. EPA: March 2007. 72 p. Work Assignment: 4-94. Contract No.: 68-C-02-067.

Environmental Protection Agency (EPA)  
<http://www2.epa.gov/lead>

Agency for Toxic Substances & Disease Registry (ATSDR)  
<http://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=22>