Lead Poisoning

UNIVERSITY OF LOUISVILLE
SUPERFUND RESEARCH CENTER

Sources of Lead

- Leaded gasoline
- Lead paint
- Lead pipes
- Contaminated dust, soil, and water
- Industrial exposures
- Foreign-made toys
- Cosmetics
- Folk remedies
- Imported candies and foods
- Lead-glazed ceramics
- Home renovation
- Mining
- Smelting
- Firearms with lead bullets
- Pottery making
- Car repairs

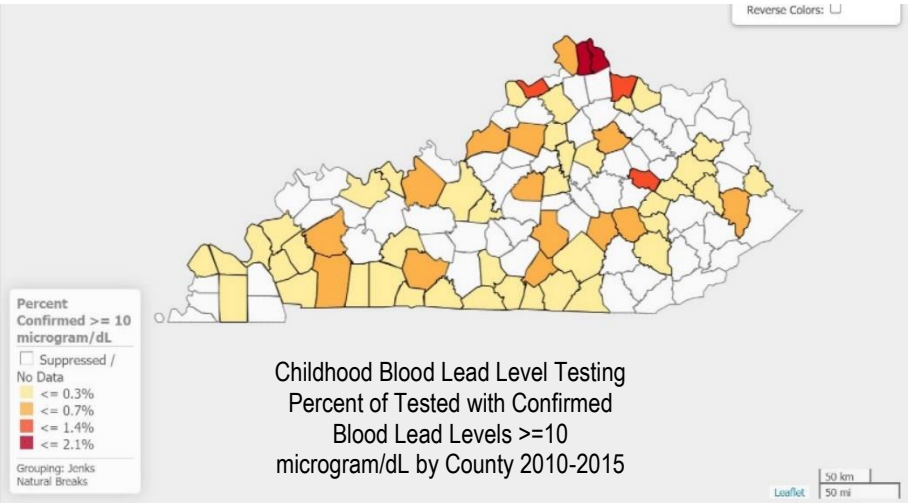
Lead and Lead Poisoning

Lead is a naturally occurring element found in small amounts in the earth's crust. Lead has historically been used in many everyday products and can still be found in many products today. Despite its many uses, lead can be toxic. Lead poisoning is one of the most common environmental health threats to children in the United States, but it is often preventable. Most children are exposed to lead through ingestion, typically by normal hand-to-mouth play through contact with contaminated soils. Blood samples can be used to test for lead poisoning. The amount of lead in blood is referred to as the blood lead level (BLL). There is no known safe BLL. However, the U.S. Centers for Disease Control and Prevention (CDC) currently uses a lead reference value to identify children with an elevated BLL. Although children are most vulnerable to the effects of lead poisoning, adults, especially pregnant women, can also experience harmful health effects due to lead exposure.

Health Effects

Lead Poisoning in Kentucky

In Kentucky, the Childhood Lead Poisoning Prevention Program (CLPPP) works with the CDC, the Kentucky Department for Public Health, and the Louisville Metro Department of Public Health and Wellness to address lead poisoning. The CLPPP's goal is to prevent lead poisoning in all children and pregnant women. This is done through training, educational programs, and blood testing. They also work with Lead Safe Louisville to help clean up contaminated yards. Despite this work, lead poisoning is still a concern in Kentucky. Between 2005 and 2015, 100 or more children under the age of 6 had a measured BLL considered unsafe by the CDC. Many of these cases of lead poisoning have been linked to exposure to lead-based paint. Although lead-based paint was banned in the US in 1978, many older homes still have this toxic paint. The removal of such paint can also result in contaminated dust and soil around the house.



Lead Poisoning in Louisville

According to the 2017 American Community Survey, in Jefferson County, KY, 65% of all housing units were built before 1980 and therefore likely contain lead-based paint or its remnants. This poses a significant risk of lead exposure. It is estimated that 1,413 children in Louisville under the age of 6 have an unsafe BLL. Five zip codes in Louisville have a higher percentage of these children: 40203, 40210, 40211, 40212, and 40215. The Louisville Metro Department of Public Health and Wellness has launched the Healthy Home, Healthy Community campaign. This campaign consists of billboards and digital ads displayed throughout west Louisville that are designed to create awareness of lead contamination and poisoning and to encourage residents to have their homes tested for lead.

How to Protect Your Family Against Lead Exposure

- ✓ Have home tested for lead sources.
- ✓ Utilize technology like LockUpLead to reduce exposure risk.
- ✓ Ask your doctor about having your child's BLL tested.
- ✓ Wash your kids' hands and toys often to prevent oral exposure.
- ✓ Keep dusty surfaces clean with a wet cloth to reduce potential contact with lead dust.
- ✓ Be aware of where your children are playing and keep them away from busy roads where soil may have been contaminated by leaded gasoline.
- ✓ Make sure you are informed about product recalls for toys that may contain lead.
- ✓ Do your best to keep your children's stomachs full. Empty stomachs increase the chance of lead absorption.
- ✓ Serve foods with calcium, iron, and vitamin C. These vitamins and minerals can help reduce the amount of lead absorbed into the body

Sources and Additional Resources

Centers for Disease Control and Prevention Blood Lead Levels in Children: https://www.cdc.gov/nceh/lead/prevention/blood-lead-levels.htm

Centers for Disease Control and Prevention Lead Poisoning Prevention: https://www.cdc.gov/nceh/lead/prevention/default.htm

Centers for Disease Control and Prevention Sources of Lead: https://www.cdc.gov/nceh/lead/prevention/sources.htm

Childhood Lead Poisoning Prevention Program: https://chfs.ky.gov/agencies/dph/dmch/cfhib/Pages/clppp.aspx & https://louisvilleky.gov/government/health-wellness/childhood-lead-poisoning-prevention & https://www.cdc.gov/nceh/lead/about/program.htm

IDEAS xLab. (2021). *Healthy Home, Healthy Community Campaign Results Summary*. Available at: https://louisvilleky.gov/document/2020hhhcsummaryreportideasxlabsmpdf

Kentucky Environmental Public Health Tracking Health Indicator Report of Lead Exposure – Annual Childhood Lead Levels: https://kyibis.mc.uky.edu/ehl/dataportal/indicator/view/LeadExpTestAnn.PercentGT10.Confirmed.Cnty.html

Kids Count Data Center: https://datacenter.kidscount.org/data/tables/1379-children-under-6-with-confirmed-cases-of-elevated-blood-lead-levels?loc=19&loct=2#detailed/2/any/false/573,869,36,868,867,133,38,35,18,17/any/10537

LockUpLead: http://lockuplead.com/

Louisville Metro Department of Public Health and Wellness. (2018). *Childhood Lead Poisoning Prevention Program (CLPPP) Provider Toolkit and Guide.* Available at: https://louisvilleky.gov/document/leadpoisoningpreventionprovidertoolkitandguideversion2pdf

Science Take Out Community Environmental Health Kit—Preventing Lead Poisoning: https://www.sciencetakeout.com/product/preventing-lead-poisoning-community-environmental-health-kit-group/

Science Take Out Community Environmental Health Kit—Safe City Water: https://www.sciencetakeout.com/product/safe-city-water-community-environmental-health-kit-group/

Science Take Out Community Environmental Health Kit—Testing Blood for Lead: https://www.sciencetakeout.com/product/testing-blood-for-lead-community-environmental-health-kit-group/

World Health Organization Lead poisoning and health: https://www.who.int/en/news-room/fact-sheets/detail/lead-poisoning-and-health