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CDC ENVIRONMENTAL HEALTH NEXUS

HEALTHY ENVIRONMENT, HEALTHY YOU

Environmental Health Nexus

CDC's Environmental Health Nexus (EH Nexus) shares environmental health messages with the public and gives special attention to environmental justice.

EH Nexus newsletters provide info about environmental health issues and offers information that promotes actions to help save lives. Each newsletter will communicate how to reduce harm from many threats, including climate change, contaminated food and water, toxic environments, and inadequate systems and practices.

This issue covers the following topics:

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CDC Environmental Health Nexus Webinar: Lead

Lead-based paint and lead-contaminated dust, soil, and drinking water are the most common sources of lead exposure for young children in the U.S. Learn more about preventing childhood lead exposure by joining the Environmental Health Nexus Webinar on Lead.

Subject matter experts from CDC will discuss sources of lead in children's environments, populations at higher risk, current trends among children in the U.S., prevention strategies, and current initiatives at CDC.

This important webinar will broadcast on Wednesday, August 4, from 1:00–2:00 p.m. ET via Zoom. Closed captioning will be available.

If you received this newsletter after the broadcast, visit the Environmental Health Nexus website to view archived webinars.

Lead and Your Health

Lead is a common and versatile metal. It is dense yet malleable, has a low melting point, and does not corrode easily, leading to its use in a variety of products. However, lead can harm your health.

Lead-based paint and lead-contaminated dust, soil, and water are the primary sources of lead for U.S. children. Lead-based paints were banned for use in housing after 1978. All houses built before 1978 are likely to contain some lead-based paint. However, it is the deterioration of this paint that causes a problem.

Approximately 22.3 million housing units have deteriorated leaded paint and elevated levels of lead-contaminated house dust. An estimated 2.6 million homes with children less than 6 years of age have one or more lead-based paint hazards.

It does not matter if a person breathes-in, swallows, or absorbs lead particles, the health effects are the same; however, the body absorbs higher levels of lead when it is breathed in. Within our bodies, lead is absorbed and stored in our bones, blood, and tissues. It can take decades for the amount of lead stored in the bones to decrease. Although lead in blood represents only a portion of the lead in a person's body, a blood lead test is the most readily available way to assess a person's exposure to lead. If there is no additional exposure, lead in the blood usually begins to drop within a few months.

There are many different factors that affect blood lead levels such as the source of exposure, length of exposure, and underlying susceptibility (e.g., child's age, nutritional status, and genetics). Even in the absence of exposure, blood lead levels can rise during periods of bone turnover (e.g., periods of growth, metabolic disease, pregnancy, lactation, and osteoporosis).

No safe blood lead level in children has been identified

Learn About Lead, a Serious Problem for Children

Children are particularly vulnerable to even small amounts of lead exposure because their bodies are still developing and growing rapidly. Lead exposure can cause detrimental health effects and long-term harm.

Children can breathe in lead dust or eat lead from soil, dust, or paint chips when they put their fingers in their mouths. Younger children also tend to put their hands or other objects, which may be contaminated with lead dust, into their mouths, so they are more likely to be exposed to lead than older children. Children living at or below the poverty line and those who live in older housing are at greatest risk. Children of some racial and ethnic groups are disproportionately affected by lead because they may not have access to safe, affordable housing or face discrimination when trying to find a safe, healthy place to live.

Additionally, lead can pass from a mother to her unborn baby. Thus, children born to lead-exposed mothers are at a greater risk for lead exposure.

Other countries have less strict regulations to protect children from lead exposure; therefore, children who are immigrants, refugees, or recently adopted from outside of the United States are also at risk for higher lead exposure.

Lead is quickly absorbed into the blood stream. Once a child ingests lead, their blood lead level rises. Once a child's exposure to lead stops, the amount of lead in the blood decreases gradually. The child's body releases some of the lead through urine, sweat, and feces.

Many things affect how a child's body handles exposure to lead, including

- Child's age
- Nutritional status
- Sources of lead exposure
- Length of time the child was exposed
- Presence of other underlying health conditions

Prevent Childhood Lead Poisoning

Exposure to lead can seriously harm a child's health.

Damage to the brain and nervous system

Slowed growth and development

Learning and behavior problems

Hearing and speech problems

This can cause:

- Lower IQ
- Decreased ability to pay attention
- Underperformance in school

Lead Poisoning in Children is Preventable

Protecting children from exposure to lead is important for lifelong good health. No safe blood lead level in children has been identified. Even low levels of lead in blood have been shown to affect learning, ability to pay attention, and academic achievement.

The most important step that parents and caregivers, healthcare providers, and public health professionals can take is to prevent lead exposure before it occurs.

While some effects of lead poisoning may be permanent, if caught early there are things parents can do to prevent further exposure and reduce damage to their child's health.

CDC supports primary and secondary lead poisoning prevention:

- **Primary prevention** is the removal of lead hazards from the environment before a child is exposed. It is the most effective way to ensure that children do not experience harmful long-term effects of lead exposure.
- **Secondary prevention** includes blood lead testing and follow-up care and referral. It remains an essential safety net for children who may already be exposed to lead.

Get your Child Tested for Lead

Most children with any lead in their blood have no obvious immediate symptoms. A blood test is the most readily available way to determine if a child has been exposed to lead. If a child may have been exposed to lead, parents should talk to their child's healthcare provider about getting a blood lead test.

Healthcare providers and most local health departments can test for lead in the blood. Many private insurance policies cover the cost of testing for lead in the blood. Children covered by Medicaid can receive free testing.

During a blood lead test, a small amount of blood is taken from the finger or arm and tested for lead. Two types of blood tests may be used.

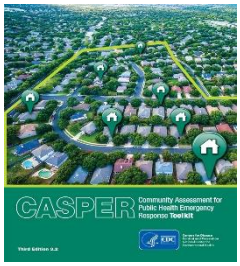
- A **finger-prick, or capillary, test** is usually the first step to determine if a child has elevated blood lead levels. While finger-prick tests can provide fast results, they also can produce inaccurate results if the sample is contaminated. For this reason, a finger-prick test that shows an elevated result is usually followed by a second test to confirm.
- A **venous blood draw** takes blood from the child's vein. This type of test can take a few days to receive results and is often used to confirm elevated blood lead levels seen in the first capillary test.

Treatment
Medical interventions and treatments vary depending on the confirmed blood lead level. Follow CDC's recommended actions based on blood lead level for treatment options.

Learn More About Lead

- HAN Archive - 00445 | Health Alert Network (HAN) (cdc.gov)
- CDC's Childhood Lead Poisoning Prevention Program
- Is There Lead in the Water? (Children's Activity Book)
- A Healthy Home for Everyone: The Guide for Families and Individuals
- Preventing Lead Exposure in Young Children: A Housing-Based Approach to Primary Prevention of Lead Poisoning
- Building Blocks for Primary Prevention: Protecting Children from Lead-Based Paint Hazards

Environmental Health Updates and Resources



The Community Assessment for Public Health Emergency Response (CASPER)

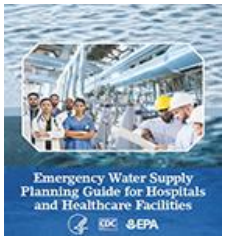
CASPER is an epidemiologic technique designed to provide public health leaders and emergency managers with household-based information about a community. This toolkit has resources and tools to help get quick, reliable, relatively inexpensive, and flexible household-based information.

Private Wells After a Wildfire

Health departments: Learn about threats to well water after a wildfire and explore CDC's rapid assessment form.

CDC Helps Health Departments Reduce Harmful Exposures From Wells and Other Private Drinking Water Systems.

Access videos, posters, and other tools from health departments working to reduce exposures from private wells.



Emergency Water Supply Planning Guide for Hospitals and Healthcare Facilities

Develop an Emergency Water Supply Plan to prepare for, respond to, and recover from a total or partial interruption of health facilities' normal water supply.

Check Out CDC's Harmful Algae and Cyanobacteria Communication Materials.

CDC has created communication materials to help increase the public's awareness about harmful algae and cyanobacteria as a public health concern. Harmful algae and cyanobacteria (sometimes called blue-green algae) can produce toxins (poisons) that can make people and animals sick and affect the environment.

You can help us raise awareness of this important issue by sharing content through your social media platforms and other communication channels. Sample social media messages are available on CDC's new Harmful Algae and Cyanobacteria Awareness Social Media Toolkit.

Thank you for reading. Do not keep this great resource to yourself! Please share it with your colleagues and networks.

If you are not yet a subscriber, please click here, enter your email address, and click the subscribe button at the bottom of the webpage.