



CDC Updates Blood Lead Reference Value for Children

On October 28, 2021, the Centers for Disease Control and Prevention (CDC) updated its [blood lead reference value \(BLRV\)](#) from 5 µg/dL (micrograms per deciliter) to 3.5 µg/dL in response to the [Lead Exposure Prevention and Advisory Committee \(LEPAC\)](#) recommendation made on May 14, 2021. The BLRV is intended to identify children with higher levels of lead in their blood compared to most children, based on the 97.5th percentile of the blood lead level (BLL) distribution in U.S. children ages 1–5 years. Given that no safe BLL has been established, earlier recognition of lead exposure enables providers and families to intervene by stopping exposure that might otherwise result in higher blood lead concentrations.

Background

Exposure to lead can cause serious harm to a child’s health. The amount of lead measured in blood, or blood lead level (BLL), is used as an indicator of exposure to lead. However, no safe BLL exists and even small amounts of lead in the blood can result in damage to the brain and nervous system, slowed growth and development, and learning and behavior problems. While lead exposure significantly decreased in the U.S. with the removal of lead in gasoline for on-road vehicles and lead-containing consumer paint, millions of children in the U.S. continue to be exposed to lead, primarily those who have been socially and economically marginalized.

In Alaska, the leading risk factors for elevated blood lead levels among children include parent occupation or hobby, such as work in mining or with airplanes, cars, or firearms; consumption of game meat hunted with lead ammunition; and residing in pre-1978 housing or home renovation. Children can also be exposed to lead by ingesting dust from or mouthing products that contain lead (e.g., toys, jewelry, antiques, collectible items, bullets, and fishing weights); consuming food and water contaminated with lead; using lead-glazed pottery; and using cosmetics, ceremonial powders, and traditional remedies that contain lead. For more information about lead exposure in Alaska, visit the [Alaska Lead Surveillance Program website](#).

In 2012, CDC adopted a BLRV as a way of identifying the 2.5% of U.S. children ages 1–5 at greatest risk for lead exposure. The BLRV is based on the 97.5th percentile of the BLL distribution among children aged 1–5 years in the U.S. from the two most recent cycles of data from the [National Health and](#)

[Nutrition Examination Survey \(NHANES\)](#). Thus, based on the NHANES data from 2015–2018, CDC accepted the LEPAC recommendation to update the BLRV to 3.5 µg/dL.

The BLRV is not a clinical reference value defining an acceptable range of BLLs in children nor is it a health-based toxicity threshold. It is a policy guide to identify children in the upper end of the blood lead distribution in the United States and thereby initiate follow-up actions to reduce the harmful effects of lead and eliminate/control lead exposure risks in the environment. The BLRV can also serve as a standard for evaluating the effectiveness of lead exposure prevention efforts.

Call to Action for Health Care Providers

- Continue to test children for elevated blood lead levels (EBLLs).
 - Testing is required for Medicaid recipients at 12 and 24 months of age, and any Medicaid recipients between 24–72 months that have not been tested.
 - Test all children with a suspected lead exposure, regardless of insurance type. Use the [DHSS Childhood Lead Risk Questionnaire](#) as a screening tool.
- Conduct confirmatory and follow-up testing using venous samples according to the schedule shown in Tables 1 and 2 of CDC’s [recommended child-specific response actions](#).
- Report all BLL test results to the Section of Epidemiology in accordance with the Alaska Public Health Reporting Law ([7 AAC 27.014](#)).
- Strive to ascertain possible sources of exposure by taking an environmental history.
- Provide guidance on exposure reduction, regardless of whether a source(s) is identified.
- Provide nutritional counseling related to iron and calcium intake, as a diet high in iron and calcium will reduce iron absorption. Consider laboratory evaluation of iron status when appropriate.
- Assess developmental progress at regular intervals and provide referral to supportive services as needed.
- Cooperate with the Section of Epidemiology during follow-up investigations. The Section of Epidemiology will conduct follow-up investigations of all children with a reported EBLL of ≥3.5 µg/dL in an effort to identify and eliminate or control the source(s) of lead.

Additional Information

For AK-specific questions, please contact the Section of Epidemiology at (907) 269-8000 or eph@alaska.gov. For more information about blood lead levels in children, visit [Blood Lead Levels in Children | Lead | CDC](#).