

Meeting Updated Requirements of Lead Testing



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Background

Lead exposure is an environmental health disaster that disparately impacts minority groups¹. Low-income and racial minorities have higher rates of hazardous chemical exposure than the general population. Exposure has been linked to neurological, cognitive, physical damage and even death^{2,3}. There is no safe level of lead exposure.

Reasons for the disparity include inferior housing built near toxic waste sites, contaminated resources, disparate access to health information and care, lack of screening by providers and a continued lack of education about the prevalence of lead poisoning. It is a recipe for disproportionate burden of disease.

To mitigate the impacts of disproportionate impact, federal regulations mandate that all Medicaid-enrolled children receive lead testing at 12 and 24 months or between 36 and 72 months if not previously tested⁴. Despite these recommendations, the rate of testing among Medicaid-enrolled children is low⁵.

Washington State pediatric lead screening rates are among the lowest in the nation. Most recently available data indicates only 4.14% of children under 72 months are screened for lead in Washington compared to Connecticut where 99.9% of children are screened before 36 months.

The equity implication from the lack of lead testing is especially concerning as it undermines children's potential and diminishes their prospects. Pediatric lead exposure is a cumulative neurodevelopmental toxicant. Levels of lead exposure that were previously considered 'safe' have been shown to damage children's health and impair their cognitive development. Even low-level lead exposure is associated with a reduction in IQ scores, shortened attention spans and potentially violent behavior later in life.⁶ Children with blood lead levels above 5 µg/dL may score 3-5 points lower on intelligence tests than their unaffected peers.⁷

Widespread cognitive decline, such as those caused by lead exposure, across low-income populations contributes to health disparities and overall decline.

Common Sources of Exposure in WA

Lead based paint and contaminated dust are the primary source of contamination⁸. Buildings constructed prior to 1978 have a higher chance of containing lead-based paint as it was not banned before that year⁹. Chipped lead paint flakes have a sweet taste, so they are particularly likely to be ingested by children¹⁰. Poisoning can also occur

when children inhale lead particles aerosolized during remodeling or from damaged surfaces¹¹. A full list of common sources of lead exposure is on the Washington state Department of Health (DOH) website: [Common Sources of Lead Poisoning](#).

Lead Testing Guideline in WA

DOH guideline requires all healthcare providers assess all children for risk of lead poisoning at 12 and 24 months of age¹². The DOH recommends performing a blood lead test based on the guidance in Table 1. If the parent or caregiver does not know if the child has one of the following risk factors, a blood lead test should be performed. Testing for blood lead levels is the only way to know if a child was exposed to lead.

Testing Methods

According to the World Health Organization, recent exposure to lead is measured in blood samples, while cumulative exposure is measured in teeth or bones¹³. Blood lead testing is the only acceptable laboratory test for screening and confirming lead poisoning. Venipuncture is preferred for specimen collection, but finger stick (capillary) collection is acceptable if care is taken to properly clean and prepare the finger. Capillary samples are easier to contaminate because of the possibility of lead containing dust and dirt on the hand or under the fingernails. Children with capillary specimens testing ≥ 5 µg/dL on a point of care test should undergo confirmatory testing, ideally with a venous specimen.

All blood lead level results, even if not ≥ 5 µg/dL, must be reported to the DOH by the lab or clinic if point of care testing was performed. In 2021, CDC lowered the blood lead reference value from 5 to 3.5 µg/dL but DOH guidelines have not been updated to reflect this change¹⁴. Practitioners should be aware there has been a [recall of test kits for the LeadCare II point-of-care testing machine](#) that many pediatricians use in their offices for blood lead testing.

Barriers to Testing

A 2019 study conducted on barriers to lead screening among pediatric providers in King County, Washington sited numerous reasons for lack of lead testing¹⁵. Misperception about the prevalence of lead poisoning in King County has created uncertainty as to the efficacy of widespread screening. Providers generally do not see elevated blood lead levels, which contributed to providers thinking it is no longer a threat to public health.

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Table 1

Blood Lead Level	Recommendations on confirmatory screening
<5 mcg/dL	Repeat the blood lead level in 12 months if the child is at high risk or risk changes during the timeframe.
5-14 mcg/dL	Re-test venous blood lead level within 1-3 months to ensure the lead level is not rising. If it is stable or decreasing, retest the blood lead level in 3 months.
15-44 mcg/dL	Confirm the blood lead level with repeat venous sample within 1 to 4 weeks.
≥45 mcg/dL	Confirm the blood lead level with repeat venous lead level within 48 hours.

Many providers also cited the invasiveness of venous blood draws as a significant barrier, in addition to the number of preventive care actions at well child visits. Lack of knowledge of [WA State Guidance on screening children](#) was also cited as a barrier to testing.

Provider Action

Addressing lead exposure requires a coordinated effort such as increasing the DOH capacity to monitor and identify sources of lead contamination. However, providers can have an impact by adhering to Medicaid guidelines to screen every child at 12 and 24 months and being up to date on current diagnosis and management of childhood lead exposure. Pediatric health care providers are responsible for the majority of lead exposure screening and clinical follow up. This includes confirmatory testing, developmental and nutritional screening, ongoing monitoring of blood lead levels, referrals, education, reporting to surveillance programs, coordination with public health agencies and treatment where indicated. All test results need to be communicated to families in a timely and appropriate manner. This process continues until the lead-exposed child has a blood lead levels below threshold and environmental investigations and subsequent responses are complete. Providers can also increase knowledge with the following resources: [Promoting Pediatric Lead Screening \(PDF\)](#) and the [Northwest Pediatric Environmental Health Specialty Unit \(PEHSU\)](#).

Endnotes

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