

# Pediatric Blood Lead Testing and Follow-Up Information

## Why are children screened for lead?

"Today at least 4 million households have children living in them that are being exposed to high levels of lead. There are approximately half a million U.S. children ages 1-5 with blood lead levels above 5 micrograms per deciliter (mcg/dL), the reference level at which CDC recommends public health actions be initiated."

[Centers for Disease Control and Prevention](#)

While adults and children may be affected by lead, young children are the most at risk for long-term effects from elevated blood lead levels. Children absorb lead more readily than adults. Lead exposure can affect the developing brains and organs of young children. Their normal activities, such as crawling on floors and hand-to-mouth behaviors can expose them to lead.

Because lead exposure often occurs without obvious symptoms, it is frequently unrecognized. To identify exposures to lead and prevent long-term effects of lead exposure, lead screening is recommended at well baby visits, particularly at ages 12 months and 24 months.

## How and when are children in South Carolina tested for Lead?

- **Medicaid:**

The Medicaid EPSDT Program requires that all enrolled children have a blood lead toxicity screening at 12 and 24 months of age. Providers have the option of obtaining the first lead test at 9 or 12 months of age.

Medicaid also requires a lead toxicity screening for any child 36 to 72 months of age who has not previously been screened or who presents with symptoms of possible lead poisoning.

- **Head Start:**

The Head Start program requires a lead screening test for any enrolling child if records of prior testing are not available.

- **Refugees:**

The CDC recommends screening of all refugee children 6 months to 16 years of age, as soon as possible after arrival.

Conduct an additional lead test on all children aged 6 months - 6 years within 3-6 months of placement in a permanent residence, regardless of the results of the initial lead test.

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- **International Adoptees:**

The CDC recommends that all internationally adopted children have a blood lead test during their first medical examination in the U.S. and at 12 and 24 months of age.

- **Lead Testing of Any Child** is recommended if the well-child history identifies any of the following risks:

- lives in or regularly spends time in a house built before 1950, or a home built before 1978 that is undergoing remodeling currently or in past 6 months;
- lives in or regularly visits a home with vinyl miniblinds made before 1997 or not labeled as “lead safe”;
- has a family member or playmate with elevated blood lead levels or lead poisoning diagnosis;
- lives with an adult whose job or hobby involves working with lead (such as house painting, welding, auto body work, working with batteries, fishing, stained glass, or ceramics);
- has pica, especially if observed eating paint chips, or soil/dirt; or
- family reports use of imported remedies or cosmetics known or suspected to have lead content (kohl, azarcon, greta, etc.).

- **Specimens:**

- Capillary (fingerstick) screening is acceptable for initial tests, or follow-up tests if initial results were <5 mcg/dL.
- All follow-up of elevated blood lead levels (EBLLs) 5 mcg/dl or greater should be performed on venous blood.
- Venous specimens should be sent for reference laboratory analysis.
- Providers using point-of-care machines to test specimens for blood lead should follow manufacturers’ instructions.

### **What is done when lead levels are equal to or above 5 µg/dL in children?**

All elevated capillary blood lead results should be confirmed with venous testing (see chart below). Children whose blood lead level (BLL) results from the fingerstick (capillary) test are greater than or equal to five micrograms of lead per deciliter of blood ( $\geq 5$ mcg/dL) should be followed by their primary care provider.

Management by the child’s medical home, including health and nutrition education, lead risk discussions, developmental screening, and re-testing, begins at 5 mcg/dL. Providers can use DHEC’s Screening Questionnaire for Lead Exposure (<http://www.scdhec.gov/library/D-3511.pdf>) to help families identify sources of

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lead in their home or other places visited by the child. Public health actions at this stage include tracking of results, and provision of lead education to providers and families.

<b>If the initial BLL (finger stick) test is (mcg/dL)*:</b>	<b>Collect venous confirmatory test:**</b>	<b>If confirmed at this level, perform follow-up testing:</b>
5-9	Within 3 months	Every 3-6 months until result is under 5 mcg/dL
10-14	Within 1 month	Every 3 months for 2-4 tests, then every 6 months after BLL begins to decline, until level decreases to less than 5
15-19	Within 1 month	Every 1-2 months for 2-4 tests, then every 3-6 months after BLL begins to decline, until level decreases to less than 5
20-44	Within 1 week	Every 2-4 weeks months for 2-4 tests, then monthly after BLL begins to decline, until level decreases to less than 5
45-69	Within 48 hours as an urgent lab test	Retest as indicated by chelation product, or at least every 2 weeks if child is not being chelated due to ongoing exposure. Test monthly once results begin to decline to 20-44 range
≥70	Immediately, as an emergency lab test	If confirmed 70 or greater, hospitalize child and begin medical treatment immediately, including parenteral chelation therapy Retest per recommendations from chelation product

\* micrograms of lead per deciliter of blood

\*\* If a point-of care analyzer is used for lead testing in the medical office, venous testing should be scheduled as soon as the family is given results of the initial lead test.

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## **When are environmental assessments done?**

An environmental assessment is an investigation of the child's home and/or areas in which the child routinely spends significant amounts of time. It can be offered when a child has **EITHER** a confirmed venous BLL result  $\geq 20$  mcg/dL **OR** **persistent** elevated blood lead levels (defined as two venous BLL results between 15 and 19 mcg/dL at least three months apart).

## **How are lead tests reported to DHEC?**

- All blood lead testing results are reportable to DHEC from doctor's offices, hospitals, and labs when a test is done for an SC resident.
  - Lead results other than blood are not reportable to DHEC.
  - Providers who send lead specimens out for processing at reference laboratories do not need to submit these results to DHEC when received.
  - Providers who perform lead analysis in the medical office using a point of service machine should assure that these results are sent to DHEC.
  - Results are reportable regardless of age of the person being tested, the type of test (capillary or venous), where the test was performed (laboratory or point-of-care), or the result obtained.
- Reports should include:
  - Identifying/demographic information for the patient, including name, address, phone, county, date of birth, race/ethnicity, sex
  - Reporting source (lab, medical office, hospital) and person making report
  - Ordering provider, office, phone number
  - Lab/office where test was performed
  - Collection date
  - Specimen source – capillary fingerstick test or venous test
  - Numerical or quantifiable result (e.g., 10.4 mcg/dL, <2.2 mcg/dL, "none detected"), not a descriptor (e.g., low, high, negative)
- The DHEC 1129 Disease Reporting Form (<http://www.scdhec.gov/library/D-1129.pdf>) may be used to submit lead reports, or other forms may be used so long as the required data above are included.

## **Reports may be submitted via:**

Mail: SC DHEC Division of Children's Health, Lead Program  
2100 Bull Street Columbia, SC 29201

Fax: 803-898-0577 (it is recommended that an initial test fax be sent prior to sending patient information to DHEC via fax)

Email, FTP: Contact the Division of Children's Health's Lead Line (1-866-4NO-LEAD) to establish electronic reporting

## **Pediatric Blood Lead Testing and Follow-Up Information**

Additional information on lead reporting is available from DHEC's List of Reportable Conditions:

<http://www.scdhec.gov/Health/FHPF/ReportDiseasesAdverseEvents/ReportableConditionsInSC/>

### **How can I get more information?**

If you have any questions or would like additional information, please contact SC DHEC's Division of Children's Health at 803-898-0767 or call the DHEC Lead Line: 1-866-4NO-LEAD.