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DHEC Health Update

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**Guidance for Follow-Up on Pediatric Blood Lead Test Results;
Lowered Threshold for DHEC Follow-Up for Children with Elevated
Blood Lead Levels; Updated Reporting Guidance**

Summary

During National Lead Poisoning Prevention Week, DHEC is sharing updates to reporting, medical management, and environmental follow-up of childhood lead poisoning prevention. This health update includes:

- an updated medical management and follow-up chart for pediatric and family health care providers,
- a new lowered threshold for environmental assessments and nursing case management for children with elevated blood lead levels (EBLLs), and
- changes in where lead test results are sent/information on electronic data submission.

Key Points

- All children should be screened for risks for lead exposure. If risks are identified, children should be tested, even if testing is not required by periodicity schedules.
- Elevated capillary blood lead test results (≥ 5 mcg/dL) should be confirmed with a venous test. Medical management of EBLLs is based upon the confirmed/venous blood lead level.
- Nursing case management of EBLL children and assessments of the environment(s) where children live and spend considerable time may be offered for children at confirmed (venous) elevated blood lead levels of 10 micrograms per deciliter (mcg/dL) or greater.
- All blood lead test results are reportable to DHEC, regardless of age of patient, specimen type, or result of test. All results should be reported within 30 days of specimen collection. Elevated levels (≥ 5 mcg/dL) are reportable within 7 days.
- Practices that send specimens to reference laboratories for analysis do not need to submit results of these tests to DHEC; these are received from the reference laboratories.

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Recommendations for Medical Management of Pediatric Blood Lead Levels

Capillary Screening Result	Retesting	Medical Management by Primary Care Provider ¹
<5 mcg/dL	Per periodicity schedule or when lead risks are identified through “paper screening”	<ul style="list-style-type: none"> Report blood lead test result to parent Counsel on lead sources² and prevention of lead exposure in the home or in places regularly visited by the child Retest sooner if risk profile changes or if child is at elevated risk for lead exposure

Capillary Screening Result ^{3,4}	Obtain confirmatory venous specimen	Medical Management of <u>Confirmed Venous EBLL</u> by Primary Care Provider
5-9 mcg/dL	Within 3 months	5-9 mcg/dL – All of above, plus: <ul style="list-style-type: none"> Schedule follow-up venous testing every 3-6 months until result is <5 mcg/dL Consider testing of other children under six years of age in same household Take environmental history to identify lead sources in the home or in places regularly visited by the child, or risks associated with parent/caregivers’ employment or hobbies; discuss lead hazard reduction Counsel on nutrition, including any need for iron or calcium supplementation, determine water sources, assess for pica
10-14 mcg/dL	Within 1 month	10-14 mcg/dL – All of above, plus: <ul style="list-style-type: none"> Refer to WIC program if <5 years of age Schedule follow-up venous testing every 3 months for 2-4 tests, then every 6 months after BLL begins to decline. Continue testing until result ≤5 Refer to DHEC for nursing case management and an environmental investigation for 10+ venous result

¹ Although management by the child’s medical home, including health and nutrition education, lead risk discussions, developmental screening, and re-testing, typically begins at 5 mcg/dL, evidence shows that lead-associated IQ decrements are proportionately greater at the lowest blood lead concentrations. Prevention of elevated blood lead levels through screening and family education can help preserve IQ points.

² Common sources include paint in homes or child care facilities built before 1978, soil near roadways, take-home exposures related to adult occupations, and imported spices, cosmetics, folk remedies, and cookware.

³ If initial elevated blood lead level was identified from a venous specimen, proceed with medical management, and obtain follow-up specimens as indicated for resulted level.

⁴ Capillary specimens are frequently subject to contamination, with false-positive elevated results. Guidance on prevention of contamination of capillary specimens is provided in this video, aimed at medical office staff: <https://www.youtube.com/watch?v=g2p2qREch9g> (or search YouTube for “CDC Mission Unleaded”).



**SC DHEC Bureau of Maternal and Child Health
Follow-up on and Reporting of Blood Lead Tests**

Capillary Screening Result^{3,4}	Obtain confirmatory venous specimen	Medical Management of <u>Confirmed Venous EBLL</u> by Primary Care Provider
15-19 mcg/dL	Within 1 month	15-19 mcg/dL -- All of above, plus: <ul style="list-style-type: none"> Physical exam, neurodevelopmental monitoring, hemoglobin/hematocrit, iron status Schedule follow-up venous testing every 1-3 months for 2-4 tests, then every 3-6 months after BLL begins to decline, until level decreases to less than 5.
20-44 mcg/dL 45-69 mcg/dL	Within 1 week Within 48 hours	20-69 mcg/dL -- All of above, plus: <ul style="list-style-type: none"> Consider oral outpatient chelation at ≥ 45 mcg/dL. Consult with chelation expert.⁵ Chelation is generally not recommended at levels below 45 mcg/dL. Abdominal x-ray with bowel decontamination if indicated by history <u>For Results 20-44:</u> Schedule follow-up venous testing every 2-4 weeks for 2-4 tests, then monthly after BLL begins to decline <u>For Results ≥ 45:</u> Retest as indicated by chelation agent, or at least every 2 weeks if child is not being chelated. Test monthly once results begin to decline to 20-44 range.
≥ 70 mcg/dL	Immediately, as an emergency lab test concurrent with initiation of chelation therapy	≥ 70 mcg/dL -- All of above, plus: <ul style="list-style-type: none"> Hospitalize child and begin medical treatment immediately, including parenteral chelation therapy⁵ Retest per recommendations from chelation agent

Nursing Case Management and Environmental Assessments for EBLL Children

When notified by healthcare providers or alerted by DHEC’s lead surveillance data system, **DHEC staff can provide nursing case management and environmental assessments (EA) for children with confirmed elevated blood lead levels of 10 mcg/dL or greater.**

DHEC may also offer these services for a child who has an EBLL below 10 mcg/dL in the presence of another risk including, but not limited to, a sibling housemate with an EBLL below DHEC’s EA threshold, or a child with behavioral/cognitive/neurological or other health findings thought by a referring provider to be related to the child’s lead exposure.

These services include a skilled evaluation of the environment of an EBLL child (e.g., child’s home and secondary residences or facilities, such as out-of-home childcare or school) to identify sources of lead exposure. Also included are parental education during the home visit, education of the owner/operator of a secondary residence/facility, documentation of lead hazards identified, notification of these hazards to the property owner and occupants, and initiation of corrective actions to reduce the child’s exposure.

Contact DHEC’s Childhood Lead Poisoning Prevention Program at 1-866-4NO-LEAD (866-466-5323) to request nursing case management and environmental assessments.

⁵ DHEC’s Childhood Lead Poisoning Prevention Program’s Medical Consultant can provide guidance regarding initiation of and follow-up on chelation for lead poisoning. Call 866-4NO-LEAD (866-466-5323).

Reporting of Blood Lead Test Results

- Results of **all blood lead tests** in adults and children, regardless of age of patient, type of test, or concentration are reportable to DHEC.
 - Providers who perform blood lead testing in the medical office using a point-of-care analyzer should assure that these results are sent to DHEC.
 - Providers who send blood specimens out for lead testing at reference laboratories do not need to submit these results to DHEC when received.
- **Submitting Lead Test Results**
 - Submit electronically via DHEC's web-based reporting system (SCIONx). Call 1-800-917-2093 to learn more about DHEC's SCIONx web-based reporting system
 - Mail to: Bureau of Health Improvement & Equity, Lead Surveillance, c/o Brian Humphries
Sims-Aycock Building, 2600 Bull Street, Columbia, SC 29201
 - Fax to: (803) 898-3236
 - Call (803) 898-3641 to establish electronic reporting via HL7, FTP, or similar

See also DHEC's List of Reportable Conditions:

<https://www.scdhec.gov/sites/default/files/Library/CR-009025.pdf> or

call DHEC's Lead Line: 1-866-4NO-LEAD.



How can I find out if there is
lead in my home?
Answers to Frequently Asked Questions



South Carolina Department of Health and Environmental Control

Resources for Additional Information

SC DHEC

- **Screening Questionnaire for Lead Exposure:**
 - **English:** <http://www.scdhec.gov/library/D-3511.pdf>
 - **Spanish:** <http://www.scdhec.gov/library/D-3511S.pdf>
- **Patient Education Materials:**
<https://apps.dhec.sc.gov/Agency/EML/> Select "Browse Library", then select "Childhood Lead Poisoning Prevention Program" under Program, or type "lead" in Search by Title.
- **Lead Testing and Follow-up Fact Sheet:**
https://scdhec.gov/sites/default/files/docs/HomeAndEnvironment/Docs/SC_ChildhoodLeadTestingInfo.pdf

CDC

- *Mission Unleaded:* Guidance on prevention of contamination of capillary specimens, aimed at medical office staff: <https://www.youtube.com/watch?v=g2p2qREch9g> (or search YouTube for "CDC Mission Unleaded")
- Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention (January 2012). https://www.cdc.gov/nceh/lead/acclpp/final_document_030712.pdf

Contact DHEC's Division of Children's Health and Perinatal Services Lead Line (1-866-4NO-LEAD) with questions about this Health Update.

Access the Health Alert Network / Sign-up to receive DHEC Health Alerts, Advisories and Updates:
<https://apps.dhec.sc.gov/Health/SCHANRegistration/> or (803) 898-0431.