



2020 Maryland Guidelines for the Assessment and Management of Childhood Lead Exposure

For Children 6 Months to 72 Months of Age

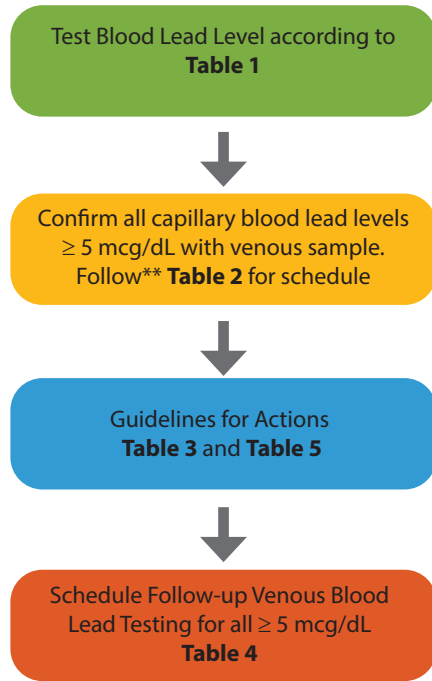


Table 1: Guidelines for Blood Lead Level Testing in Children 6 Months to 72 Months of Age (COMAR 10.11.04, as of 3/28/2016)

For ALL children born on or after 1/1/15, OR on Medicaid									
6 Months	9 Months	12 Months	15 Months	18 Months	24 Months	30 Months	36 Months	48 Months	60 Months
Screen	Screen	Screen	Screen	Screen	Screen	Screen	Screen	Screen	Screen
Test if indicated	Test if indicated	Test Blood Lead Level	Test if indicated	Test if indicated	Test Blood Lead Level	Test if indicated	Test if indicated	Test if indicated	Test if indicated
For children born before 1/1/15, AND not on Medicaid									
6 Months	9 Months	12 Months	15 Months	18 Months	24 Months	30 Months	36 Months	48 Months	60 Months
Screen	Screen	Screen	Screen	Screen	Screen	Screen	Screen	Screen	Screen
Test if indicated	Test if indicated	Test if indicated	Test if indicated	Test if indicated	Test if indicated	Test if indicated	Test if indicated	Test if indicated	Test if indicated
Screening <ul style="list-style-type: none"> Perform Lead Risk Assessment Questionnaire (questions found in Lead Risk Assessment Questionnaire section of this document) Clinical assessment, including health history, developmental screening and physical exam Evaluate nutrition and consider iron deficiency Educate parent/guardian about lead hazards 									
Indicators for Testing <ul style="list-style-type: none"> Parent/guardian request Possible lead exposure to symptoms of lead poisoning, either from health history, developmental assessment, physical exam or newly positive item on Lead Risk Assessment Questionnaire. (Questions can be found in Lead Risk Assessment Questionnaire section of this document.) Follow-up testing on a previously elevated Blood Lead Level (Table 4) Missed screening: If 12 month test was indicated and no proof of test, then perform as soon as possible after 12 months and then again at 24 months. If 24 month test was indicated and no proof of test, then perform test as soon as possible. For more information about lead testing of pregnant and breastfeeding women, see: http://www.cdc.gov/nceh/lead/publications/leadandpregnancy2010.pdf 									

Table 2: Schedule for Confirmatory Venous Sample after Initial Capillary Test**

Capillary Screening Test Result	Perform Venouse Test Within
< 5 mcg/dL	Not Required
5 - 9 mcg/dL	12 weeks
10 - 44 mcg/dL	4 weeks
45 - 59 mcg/dL	48 hours
60 - 69 mcg/dL	24 hours
70 mcg/dL and above	Immediate Emergency Lab Test

** Requirements for blood lead reporting to the Maryland Childhood Lead Registry are located at COMAR 26.02.01. Reporting is required for all blood lead tests performed on any child 18 years old or younger who resides in Maryland.

Table 3: Abbreviated Clinical Guidance for Management of Lead in Children Ages 6 Months to 72 Months (Full Guidelins in Table 5)

Blood Lead Level	Follow-up Testing	Management
< 5 mcg/dL	On schedule Table 1	<ul style="list-style-type: none"> Continue screening and testing on schedule. Continue education for prevention. If new concern identified by clinician, then retest blood lead level.
5 - 9 mcg/dL	3 months See Table 4	All of above AND: Investigate for exposure source in enviroment and notify health department. <ul style="list-style-type: none"> For more detail consult Table 5
≥ 10 mcg/dL	See Table 4	Consult Table 5

Table 4: Schedule for Follow-up Venous Blood Lead Testing after Blood Lead Level ≥ 5 mcg/dL

Venous Blood Lead Level	Early follow-up testing (2-4 tests after identification)	Later follow-up testing after blood lead level declining
5 - 9 mcg/dL	1 - 3 months ***	6 - 9 months
10 - 19 mcg/dL	1 - 3 months ***	3 - 6 months
20 - 24 mcg/dL	1 - 3 months ***	1 - 3 months
25 - 44 mcg/dL	2 weeks - 1 month	1 month
≥ 45 mcg/dL	As Soon As Possible	As Soon As Possible, based on treatment plan

Seasonal variation in Blood Lead Levels exist, greater exposure in the summer months may necessitate more frequent follow-up.

*** Some clinicians may choose to repeat elevated blood lead tests within a month to ensure that their Blood Lead Level is not rising quickly. (Advisory Committee on Childhood Lead Poisoning Prevention - CDC 2012)

Table 5: Clinical Guidance for Management of Lead in Children Ages 0 - 6 years						
Confirmed Blood Lead Level (mcg/dL) ¹	< 5	5 - 9	10 - 19	20 - 44	45 - 69	≥ 70
Primary Prevention: parent/guardian education about lead hazards ²	X	X	X	X	X	X
Medical/nutritional history and physical	X	X	X	X	X	X
Follow-up blood lead monitoring ³	X	X	X	X	X	X
Evaluate/treat for anemia/iron deficiency		X	X	X	X	X
Home environmental investigation		X ⁴	X	X	X	X
Exposure/environmental history ⁵		X	X	X	X	X
Coordinate care with local health department		X ⁶	X	X	X	X
Nutritional counseling related to calcium and iron intake		X	X	X	X	X
Obtain developmental and psychological evaluation ⁷			X	X	X	X
Consult with lead specialist, who will also evaluate for chelation therapy				X	X	X
Consider abdominal x-ray (with bowel decontamination if indicated) ⁸				X	X	X
Urgent evaluation for chelation therapy					X	X
Hospitalize for medical emergency						X

¹Refer to information about confirmation of capillary tests in Table 2.

²Includes discussion of pica and lead sources including house paints (before 1978), ceramics, paint on old furniture, soil, foreign travel, traditional folk medicines, certain imported items (candies, food, jewelry, toys, cosmetics, pottery), and parental occupations that can bring home lead dust and debris (e.g., painting, construction, battery reclamation, ceramics, furniture refinishers, radiator repair.)

³Refer to schedule of follow-up blood lead testing in Table 4.

⁴Initial confirmed blood lead of 5 - 9 mcg/dL may require home environmental investigation. Contact LHD for more guidance.

⁵Exposure/environmental history to identify potential lead sources. (See screening questions.) Consider Notice of Defect (information at right) for child living in pre-1978 rental property.

⁶Contact LHD for more information about care coordination for blood lead levels of 5 - 9 mcg/dL.

⁷Use validated developmental screen for levels 10 - 19 mcg/dL, such as Ages and Stages Questionnaire (ASQ). Refer children as appropriate for further evaluation. Children with BLL over 20 mcg/dL should be evaluated in consultation with an experienced clinician, specialist, or LHD regarding further evaluation.

⁸<https://www.cdc.gov/nceh/lead/advisory/acclpp/actions-blls.htm>

Lead Risk Assessment Questionnaire Screen Questions:

1. Lives in or regularly visits a house/building built before 1978 with peeling or chipping paint, recent/ongoing renovation or remodeling?
2. Ever lived outside of the United States or recently arrived from a foreign country?
3. Sibling, housemate/playmate being followed or treated for lead poisoning?
4. Was child tested at 12 and/or 24 months?
5. Frequently puts things in his/her mouth such as toys, jewelry, or keys, eats non-food items (pica)?
6. Contact with an adult whose job or hobby involves exposure to lead?
7. Lives near an active lead smelter, battery recycling plant, or other lead-related industry, or road where soil and dust may be contaminated with lead?
8. Uses products from other countries such as health remedies, spices or food, or store or serve food in leaded crystal, pottery or pewter?

Table 6: Clinical Guidance for Lead Case Closure in Children Ages 0 - 6 years

For children with elevated blood lead levels, case closure will occur after implementation of environmental lead remediation and repeat testing demonstrates a blood lead level below 5mcg/dL. Testing should be repeated every 3 months until at least 2 consecutive tests results with a blood lead level below 5mcg/dL.

A Notice of Defect is a written notice that tells the landlord that there is chipping, flaking or peeling paint or structural defect in the home that is in need of repair. A Notice of Defect may also tell the landlord that a 'Person at Risk' (a child under the age of six or a pregnant woman) has a lead level of 5mcg/dL or above and that repairs need to be made in the home.*

*As of 7/1/20, the action level in Maryland was lowered from ≥ 10mcg/dL to ≥ 5mcg/dL to align with CDC's reference level. (COMAR 26.16.08.03).

The Notice of Defect must be sent by certified mail, return receipt (be certain to retain a copy of the return receipt) and the rental property owner has 30 days to repair the listed defects. It is illegal for a property owner to evict a tenant or raise the rent for reporting problems and/or defects in the home or that a child has been poisoned by lead. To download a copy of the Notice of Defect form, visit: <https://mde.maryland.gov/programs/LAND/Documents/LeadPamphlets/LeadPamphletMDENoticeOfTenantsRights.pdf>

For more information or assistance with filing a Notice of Defect, contact the Maryland Department of the Environment, Lead Poisoning Prevention Program or the Green & Healthy Homes Initiative.

Clinical Resources

Mid-Atlantic Center for Children's Health & the Environment
 Pediatric Environmental Health
 Specialty Unit
 866-622-2431
kidsandenvironment@georgetown.edu
<https://kidsandenvironment.georgetown.edu>

Mount Washington Pediatric Hospital Lead Treatment Program
 410-367-2222
www.mwph.org/health-services/lead-treatment

Maryland Poison Control
 800-222-1222
www.mdpoison.com

American Academy of Pediatrics - Policy Statement: Prevention of Childhood Lead Toxicity
<https://pediatrics.aappublications.org/content/pediatrics/138/1/e20161493.full.pdf>

American Academy of Family Physicians
<https://www.aafp.org/afp/2010/0315/p751.html>

Regulatory Programs and Resources

Maryland Department of Health
 866-703-3266
dhmh.envhealth@maryland.gov
<http://phpa.dhmh.maryland.gov/OEHFP/EH/Pages/Lead.aspx>

Maryland Department of the Environment
 Lead Poisoning Prevention Program
 410-537-3825 | 800-776-2706
<http://www.mde.state.md.us/programs/Land/LeadPoisoningPrevention/Pages/index.aspx>

Local Health Departments
<http://dhmh.maryland.gov/PAGES/DEPARTMENTS.ASPX>

Center for Disease Control and Prevention
<https://www.cdc.gov/nceh/lead/default.htm>

Green & Healthy Homes Initiative
 410-534-6447 | 800-370-5223
www.greenandhealthyhomes.org

National Center for Healthy Housing - Lead Resources
<https://nchh.org/information-and-evidence/healthy-housing-policy/state-and-local/lead>