**Child Medical Management**

**Quick Guide for Lead Testing & Treatment**

**Lead Poisoning**

**Schedule For Obtaining Venous Sample**

<table>
<thead>
<tr>
<th>Capillary Blood Lead</th>
<th>Confirm For Venous Test Within</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;4 mcg/dL</td>
<td>Not Necessary unless other risk factors. Test children &lt;12 mos. in 3 – 6 mos. as BLL may increase with mobility.</td>
</tr>
<tr>
<td>4-9 mcg/dL</td>
<td>Confirm in 3-6 months if &lt; 3 yrs. Confirm based on risk factors if over age 3</td>
</tr>
<tr>
<td>10-19 mcg/dL</td>
<td>1 month</td>
</tr>
<tr>
<td>20-44 mcg/dL</td>
<td>1 week</td>
</tr>
<tr>
<td>45-69 mcg/dL</td>
<td>48 hours</td>
</tr>
<tr>
<td>70+ mcg/dL</td>
<td>Immediately as an emergency test</td>
</tr>
</tbody>
</table>

The higher the capillary test result, the more urgent the need for a confirmatory venous test.

**Schedule For Venous Re-testing**

<table>
<thead>
<tr>
<th>Venous Blood Lead</th>
<th>Follow-Up and Re-testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 4 mcg/dL</td>
<td>Retest child at 1 yr. and 2 yr. old. Retest child 6 – 12 mos. if child is at high risk or risk changes during time frame.</td>
</tr>
<tr>
<td>4-9 mcg/dL</td>
<td>3 months* Greater exposure in warmer months. May necessitate frequent follow-up testing.</td>
</tr>
<tr>
<td>10-19 mcg/dL</td>
<td>3 months</td>
</tr>
<tr>
<td>20-39 mcg/dL</td>
<td>1-2 months</td>
</tr>
<tr>
<td>40-69 mcg/dL</td>
<td>1-2 weeks</td>
</tr>
<tr>
<td>70+ mcg/dL</td>
<td>Initiate chelation and re-test within 1-2 weeks</td>
</tr>
</tbody>
</table>

*Some providers may choose to repeat BLL tests within 1 month to ensure BLL is not rising more quickly than anticipated.

**Clinical Treatment Guidelines for Venous Confirmed Blood Lead Levels**

<table>
<thead>
<tr>
<th>3 - 9 mcg/dL</th>
<th>10 - 44 mcg/dL</th>
<th>45 - 69 mcg/dL</th>
<th>70+ mcg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Provide factsheets to parents (Lead &amp; Children, Lead &amp; Nutrition)</strong></td>
<td><strong>Continue management, AND:</strong></td>
<td><strong>Confirm BLL within 2 days</strong></td>
<td><strong>EMERGENCY!</strong></td>
</tr>
<tr>
<td><strong>Follow-up BLL monitoring</strong></td>
<td><strong>Rule out iron deficiency &amp; prescribe iron if needed</strong></td>
<td><strong>Stop iron therapy prior to chelation</strong></td>
<td><strong>Confirm BLL immediately</strong></td>
</tr>
<tr>
<td><strong>Retest infants earlier than 3-6 months</strong></td>
<td><strong>Neurodevelopmental monitoring &amp; consider referral for evaluation</strong></td>
<td><strong>Begin chelation in consultation with clinician experienced in lead toxicity therapy</strong></td>
<td><strong>Hospitalize even if asymptomatic</strong></td>
</tr>
<tr>
<td><strong>Test siblings for EBLL</strong></td>
<td><strong>Patients with BLL of 25-44 mcg/dL need aggressive environmental intervention</strong></td>
<td><strong>Consider directly observed therapy with CHEMET (succimer)</strong></td>
<td><strong>Contact PEHSU at Children’s Hospital (1-888-347-2632) for immediate consultation on lead toxicity therapy</strong></td>
</tr>
<tr>
<td><strong>HHLPPP sends letter to home, notifying parents of EBLL</strong></td>
<td><strong>For BLL 25 - 44 mcg/dL, CHEMET (succimer) is NOT as there is no cognitive benefit</strong></td>
<td><strong>Contact PEHSU at Children’s Hospital (1-888-214-5314) for chelation guidance and/or follow AAP Treatment Guidelines</strong></td>
<td><strong>Stop iron therapy prior to chelation</strong></td>
</tr>
<tr>
<td></td>
<td><strong>HHLPPP provides nurse case management &amp; environmental lead investigation</strong></td>
<td><strong>Ensure child is discharged to a lead-free environment</strong></td>
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</tr>
</tbody>
</table>

**Initial Capillary Sample**

- 4 mcg/dL or greater

**Less than 4 mcg/dL**

No further action recommended. Use the HHLPPP Screening & Management Guidelines to determine further testing.

**Initial Venous Sample**

- 4 mcg/dL or greater

Average BLL for U.S. children ages 1 – 5 years is 2 mcg/dL
New UNIVERSAL TESTING LAW

- Test all children at 12 mos. and again at 24 mos. (2 tests)*
- Test all children 3 to 6 yrs. old who haven’t been tested
- For refugee children:
  * Test all children between 6 mos. and 16 years old upon entry into the US
  * Regardless of initial testing result, conduct a follow up on all children 6 mos. to 6 yrs. old

*Does not apply to children who are currently or have previously been poisoned.

Interventions to Help Limit Exposure

Educate caregivers by providing three DHHS factsheets:
“Lead and Nutrition”, “Lead and Children” and “Lead Hazards”

- Hand washing—with soap and water
- Clean child’s toys, bottles & pacifiers often
- Feed child Calcium, Iron & Vitamin C foods daily
- Have barriers blocking access to lead hazards
- Wet wipe window sill, door jams, & door frames
- Wet mop floors and stairs once a week or more
- Use HEPA filter vacuum to clean up dust and paint chips

Lead Risk Questions To Ask Parents of children with EBLL’s ≥ 4 mcg/dL

- Developmental delays or learning disabilities?
- Behavioral problems? (e.g. aggression & attention issues)
- Excessive mouthing or pica behavior?
- Ingestion of non-food items?
- Living in pre-1978 housing?
- Attending child care in pre-1978 building?
- Recent renovations/ remodeling in pre-1978 housing or child care
- Recent immigrant, refugee, or international adoption?
- Parent occupation or hobbies have lead exposure? (e.g. renovations, painting, welding, fishing, target shooting, stain glass, jewelry making)
- Imported ethnic spices/ powders that contain lead? (e.g. sindoor, surma, greta, orange shringar, asafetida, turmeric)
- Does child have sibling or playmate that has or did have lead poisoning?

Developmental Assessment & Intervention for Children with EBLL

- For any child with a venous BLL ≥4mcg/dL
  - Annual developmental surveillance and screening at ages 3, 4 and 5 years is recommended
  - Developmental surveillance at annual visit for all ages to identify emerging/unaddressed behavioral, cognitive, or developmental concerns
- For any child with a venous ≥ 20 mcg/dL or persistently ≥ 15 mcg/dL with other developmental risk factors: neurodevelopmental monitoring is needed

Action Steps

- Long term developmental monitoring should be a component of the child’s management plan
- A history of EBLL should be included in the problem list maintained in the child’s permanent medical record, even if BLL is reduced
- Refer child to early intervention or child-check for developmental screening
- Recommend early childhood education and stimulation programs
- Refer to NH Division of Developmental Services for a list of local Family-Centered Early Supports & Services at (603)-271-5143

Developmental Surveillance should include:

- Vigilance for physical, social, emotional, academic challenges at critical transition points in childhood (e.g. preschool, 1st, 4th, 6th & 7th grades)
- Vigilance for in-attention, distractibility, aggression, anti-social behavior, irritability, hyperactivity, low impulse control & poor emotional regulation
- Refer children experiencing neurodevelopmental problems for a complete diagnostic medical evaluation
- Continue to monitor development through a child’s early and middle-school years, even if BLL is reduced

For children of any age: if issues arise between annual visits, encourage parents to bring them to attention of the medical office and school personnel

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NH Department of Health & Human Services, Division of Public Health Services

1-800-897-LEAD or LeadRN@dhhs.nh.gov