# Childhood Blood Lead Clinical Treatment Guidelines for Minnesota

These guidelines were created for children from 6 to 72 months of age.

<table>
<thead>
<tr>
<th>Blood Lead Levels in Micrograms Per Deciliter (μg/dL)</th>
<th>&lt;5</th>
<th>5-9.9</th>
<th>10-14.9</th>
<th>15-44.9</th>
<th>45-59.9</th>
<th>60+</th>
</tr>
</thead>
</table>

## Medical Evaluation

<table>
<thead>
<tr>
<th>If capillary(^1) result, confirm with venous draw within:</th>
<th>No later than 3 Months</th>
<th>No later than 3 Months</th>
<th>1 Week</th>
<th>48 Hours</th>
<th>IMMEDIATELY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check nutritional status (especially iron and calcium)</td>
<td>X</td>
<td>If venous result</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>• Rule out iron deficiency and treat if present</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete diagnostic evaluation (history, labs, iron studies, physical exam)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>If exhibiting clinical symptoms check neurologic &amp; developmental status (especially language skills and concentration ability)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check abdominal x-ray</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other diagnostic tests: BUN, CBC, Creatinine, UA and liver enzymes</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TREAT AS AN EMERGENCY - potential encephalopathy</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Medical Management

#### Anticipatory Guidance–discuss high risk categories\(^2\), primary sources of lead poisoning and measures to keep children safe from lead, including:

- age of home (built before 1978);
- condition of painted surfaces (chipped/peeling);
- pica,
- remodeling,
- occupations/hobbies,
- folk remedies

Contact the MDH for a list of additional lead sources.

<table>
<thead>
<tr>
<th>If capillary result</th>
<th>X</th>
<th>If venous result</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
</table>

Provide written, culturally appropriate lead poisoning prevention educational materials

<table>
<thead>
<tr>
<th>If capillary result</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
</table>

#### Identify and remove lead source

<table>
<thead>
<tr>
<th>If venous result</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
</table>

Persistently high levels in this range may require more aggressive treatment.

Consult MDH for information regarding chelation treatment

Be sure to stop iron therapy prior to chelation

This level requires chelation–recommend the use of succimer per routine dosage

Consult the MDH for further information/referral if needed

In-home treatment indicated only in situations of:

- Lead-safe environment
- Highly compliant family
- Home health care monitoring

<table>
<thead>
<tr>
<th>If venous result</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
</table>

Discharge inpatient cases ONLY to LEAD-SAFE ENVIRONMENT

<table>
<thead>
<tr>
<th>If venous result</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
</table>

### Follow-up/Comment\(^3\)

| Review risk factors in 1 year | X | X |
| Screen other children in the home if result is a venous test | X | X | X | IMMEDIATELY |
| Repeat venous test | 6 months | 3 months | 1-3 months | 1 week | 48 hours |
| Repeat venous and diagnostic tests 14 days after chelation therapy is complete | X | X |
| MDH or the local public health department will conduct an environmental inspection and public health nursing home visit for children up to 72 months of age. | X | X | X |

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\(^1\) Venous specimens are considered diagnostic tests; Capillary (e.g. finger-stick) specimens are considered screening tests and are prone to false-positive results.

\(^2\) A high risk child lives in Minneapolis or St. Paul, receives services from Minnesota Care (MnCare) or Medical Assistance (MA), or fits one of the following criteria:
- a) lived in or regularly visits home built before 1960;
- b) lived in or regularly visits home built between 1960 and 1978 that is being, or has been, renovated; or
- c) sibling/playmate has EBL.

\(^3\) Additional guidelines for public health case management, screening children, and screening pregnant women are also available from MDH.

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MDH | Department of Health
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Environmental Surveillance and Assessment Section
Environmental Impacts Analysis Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975
Childhood Blood Lead Clinical Treatment Guidelines for Minnesota

Decision flow chart

Minnesota resident receives blood lead test

and the results for a child < 72 months old are

< 5 ug/dL cap or venous

All families receive
Anticipatory Guidance and review of risk factors in 1 year

66% of cap tests are false positives based on 2007 MDH study

Anticipatory Guidance reviews risk factors, primary exposure sources, and prevention measures.

Medical evaluation provided to all families

5 - 9.9 ug/dL capillary

*Anticipatory Guidance
Venous retest within 3 months
Provide written, culturally appropriate lead poisoning prevention literature

5 - 9.9 ug/dL venous

*Venous test required to ensure medical management goes to valid cases

All recommendations > 10 ug/dL stay the same

≥ 10 ug/dL

While recommendations for < 10 ug/dL are appropriate, it is critical to remember that results > 10 ug/dL are, and should remain, the highest priority for medical and public health resources

Venous retest within 3 months

Provide written, culturally appropriate lead poisoning prevention literature

Iron supplement if needed

Screen other kids in house

Venous retest in 6 months

Review risk factors in 1 year

*Educate parents on sources, hazard reduction, nutrition, chronic issues

Not the whole population; anyone receiving a test already has some concern, screening requirement, or concern over lead exposure, and therefore warrants some response

Population served and actions recommended are expanded considerably by lowering medical management threshold to 5, but constrained to those with documented (venous) lead exposures above the population mean

For more information about lead, contact the Minnesota Department of Health at (651) 201-4620
If you require this document in another format, such as large print, Braille or cassette tape, call: (651) 201-5000  1 (800) 657-3908  MDH TTY (651) 201-5797

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