

## Appendix A

### **Blood Lead Testing:**

Testing all patients for elevated BLLs is not recommended. The vast majority of patients will have BLLs below 50 µg/L (5 µg/dL). Blood should be tested based on clinical judgment which takes into account signs and symptoms as well as an individual risk assessment for potential lead exposures. This is especially important for women of childbearing age as well as for young children and for those whose occupation or leisure activity includes higher risk of lead exposure. Most individuals with an elevated blood lead level are asymptomatic or have non-specific symptoms. Colicky abdominal pain, usually occurring at BLL >550 µg/L (>55 µg/dL), is often the symptom that triggers the diagnosis of lead poisoning.

### **Higher risk lead exposures more likely to lead to elevated BLLs may include:**

- Living in an older home (built before 1960) where recent or ongoing renovation is creating dust.
- Having been seen eating paint chips, a solid lead object or having other pica behaviour.
- Living near a point source of ongoing lead contamination, such as a smelter.
- Consuming wild game shot with lead-containing ammunition or regularly using a firing range
- Working with lead or has a hobby that involves lead, or lives in a household with someone who engages in these activities.
- Has a sibling, housemate or playmate with history of lead poisoning.
- Using traditional, folk, or ethnic remedies or cosmetics. (Examples: Greta, Azarcon, Ghasard, Ba-baw-san, Sindoor, certain Ayurvedic remedies and Kohl).
- Immigrant or refugee children from countries who may have on-going lead exposure from imported products.

### **Case Management:**

When elevated serum levels of lead are detected, a history should be obtained to determine the source of the lead exposure. The most important intervention is to remove the ongoing source of exposure. Further, dietary factors should be considered, as nutritional deficiencies can result in an increase in lead absorption. For very high BLLs, chelation therapy may be required. Please see the table for advice on the management of elevated blood lead levels.

## Guidance for clinicians based on blood lead levels

Blood Lead Levels (BLLd)	Children (<12 years of age)	Adults and children ≥12
5-10µg/dL (0.24 – 0.48 µmol/L)	<ul style="list-style-type: none"> <li>Consider whether iron deficiency, low calcium intake or other nutritional factors might be contributing to increased lead absorption. Correct these if indicated.</li> <li>Provide general information on preventing lead exposures.</li> <li>Repeat BLL testing in 6 weeks.</li> </ul>	<ul style="list-style-type: none"> <li>For pregnant and lactating women, check for and if present, correct iron deficiency, low calcium intake or other nutritional factors that might contribute to increased lead absorption. A follow-up BLL is indicated.</li> <li>Provide general information on preventing lead exposures. A remediable source of lead exposure may be difficult to identify at this blood lead level.</li> </ul>
10-20µg/dL (0.48 –0.97 µmol/L)	<ul style="list-style-type: none"> <li>Consider whether iron deficiency or other nutritional factors might be contributing to increased lead absorption. Correct these if indicated.</li> <li>Provide information on preventing lead exposures.</li> <li>Environmental evaluation may help in identifying sources that are contributing to the increased BLL.</li> <li>Repeat BLL testing in 3 weeks.</li> </ul>	<ul style="list-style-type: none"> <li>Consider whether iron deficiency or other nutritional factors might be contributing to increased lead absorption. Correct these if indicated.</li> <li>Provide information on preventing lead exposures.</li> <li>Environmental evaluation may help in identifying the source that is contributing to the increased BLL.</li> <li>Repeat BLL testing in 3 months, earlier during pregnancy.</li> </ul>
≥20 µg/dL (0.97 µmol/L)	<ul style="list-style-type: none"> <li>Actions as for levels 10-20 µg/dL (0.48-0.97 µmol/L).</li> <li>Refer to specialist for assessment of possible lead-related effects and for blood lead management.</li> </ul>	<ul style="list-style-type: none"> <li>Actions as for levels 10-20 µg/dL (0.48-0.97 µmol/L).</li> <li>Refer to specialist for assessment of possible lead-related effects and for blood lead management.</li> <li>Occupational health and safety recommendations may apply <a href="https://www.gov.mb.ca/labour/safety/pdf/lead_medical_screening_guideline.pdf">https://www.gov.mb.ca/labour/safety/pdf/lead_medical_screening_guideline.pdf</a></li> </ul>

Reference: Guidance document prepared for the Council of Chief Medical Officers of Health 2022

Note: Patients who have eaten lead paint chips, or ingested a curtain weight, lead shot, a fishing sinker or other solid lead object may continue to absorb lead over days or weeks. More frequent blood lead monitoring as well as other management to reduce lead exposure may be necessary. Consider early consultation with a specialist.