**Recommended Chelation Protocol for Children With BLLs ≥45 μg/dL**

**Before Providing Chelation Therapy:**
- Confirm the blood lead level (BLL) ≥45 μg/dL with a venous specimen processed as an emergency test unless symptoms of encephalopathy are present.
- Obtain an abdominal x-ray to look for lead solid ingestion; if radio-opaque particles are found or recent ingestion is witnessed, use a cathartic.
- Arrange hospitalization and chelation therapy at a facility with expertise in treating lead-poisoned children.
- Provide chelation therapy in, and discharge child to, a lead-safe environment. Do not discharge until the NYC Health Department inspects the home.
- Inform the NYC Health Department of the hospital admission by calling 646-632-6002. The Health Department can monitor EP level to help assess timing of exposure.

### Chelation Therapy For Children with Venous BLLs ≥45 μg/dL

<table>
<thead>
<tr>
<th>BLL (μg/dL)</th>
<th>Agent, Dosage,* and Administration</th>
<th>Special Considerations</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;45</td>
<td>Chelation therapy not typically recommended</td>
<td></td>
<td>See Reverse for Recommended Follow-up Blood Lead Test Schedule for Children</td>
</tr>
</tbody>
</table>
| 45 to <70  | DMSA (succimer, 2,3-meso-dimercaptosuccinic acid)  
1050 mg DMSA / m² / 24 hours* ÷ q8 hours PO 5 days; round dose to nearest 100 mg/day and then ÷ 100-mg capsules as evenly as possible for q8-hour dosing schedule.  
On discharge, continue DMSA 700 mg / m² / 24 hours* ÷ q12 hours x 14 days.† | Monitor for anemia, neutropenia, and hepatic toxicity. | Schedule weekly health care visits to monitor compliance and signs of toxicity. |
| 70 and no symptoms of encephalopathy | OR (alternative treatment if DMSA not tolerated, ie, vomiting medication)  
CaNa₂EDTA (calcium disodium edetate, calcium disodium versenate)  
1000 mg CaNa₂EDTA / m² / 24 hours* ÷ q6 hours IV infused slowly x 5 days | Maintain urine specific gravity below 1.015.  
Discontinue any iron.  
Monitor for renal and hepatic toxicity. | Monitor BLLs biweekly until level stabilizes, then follow Recommended Follow-up Blood Lead Test Schedule for Children (see reverse). |
| 70 and symptoms of encephalopathy | Combine DMSA and CaNa₂EDTA²  
1050 mg DMSA / m² / 24 hours* ÷ q8 hours PO x 5 days; round dose to nearest 100 mg/day and then ÷ 100-mg capsules as evenly as possible for q8-hour dosing schedule.  
AND (beginning 2 hours after first dose of DMSA)  
1000 mg CaNa₂EDTA / m² / 24 hours* ÷ q6 hours IV infused slowly x 5 days.  
On discharge, continue DMSA 700 mg / m² / 24 hours* ÷ q12 hours x 14 days.† | Maintain urine specific gravity below 1.015.  
Discontinue any iron.  
Monitor for anemia, neutropenia, and renal and hepatic toxicity. | Schedule weekly health care visits to monitor compliance and signs of toxicity. |
| 70 and symptoms of encephalopathy | Combine BAL (British anti-Lewisite, dimercaprol) and CaNa₂EDTA²  
450 mg BAL / m² / 24 hours* ÷ q4 hours IM x 3-5 days (number of days on BAL based on clinical improvement).  
AND (beginning 4 hours after first dose of BAL)  
1500 mg CaNa₂EDTA / m² / 24 hours* (2 g / 24 hours max) as continuous infusion x 5 days. | Monitor mental status.  
Screen for peanut allergy and G6PD deficiency.³  
Pretreat with antihistamines.  
Discontinue any iron.  
Monitor for neutropenia, and renal and hepatic toxicity. | Retest 3 days after chelation course completed; if BLL ≥45 μg/dL, provide second chelation course. |

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* For children aged <5 years, body surface area calculations typically give higher doses, which are recommended.²  
Calculate body surface area using the Body Surface Area Nomogram (see reverse).

† Additional 14 days of q12 hour dosing reduces BLL rebound after therapy ends.

‡ Found effective and safe in this range in a limited number of children.¹

§ BAL is prepared in peanut oil. BAL has also caused hemolysis in patients with G6PD.

The BLL reflects more recent exposure to lead, while the EP reflects more chronic exposure.  
Once elevated, the EP remains elevated for several months even after exposure has ceased and the BLL has fallen.


Recommended Follow-up Blood Lead Test Schedule for Children

<table>
<thead>
<tr>
<th>Capillary Test Result (µg/dL)</th>
<th>Confirmatory Venous Test</th>
<th>Venous BLL (µg/dL)</th>
<th>Early Follow-up Test (first 2 to 4 tests after identification)</th>
<th>Late Follow-up Test (after BLL begins to decline)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 to &lt;10</td>
<td>1 to 3 months</td>
<td>5 to &lt;10</td>
<td>3 months</td>
<td>6 to 9 months</td>
</tr>
<tr>
<td>10 to &lt;45</td>
<td>1 week to 1 month</td>
<td>10 to &lt;20</td>
<td>1 to 3 months</td>
<td>3 to 6 months</td>
</tr>
<tr>
<td>≥45</td>
<td>Immediately</td>
<td>20 to &lt;25</td>
<td>1 to 3 months</td>
<td>1 to 3 months</td>
</tr>
<tr>
<td>25 to &lt;45</td>
<td></td>
<td>25 to &lt;45</td>
<td>2 weeks to 1 month</td>
<td>1 month</td>
</tr>
<tr>
<td>≥45</td>
<td></td>
<td>≥45</td>
<td>As soon as possible</td>
<td>Chelation with follow-up</td>
</tr>
</tbody>
</table>