

# Lead (Pb) TESTING/SCREENING PROVIDER GUIDELINES

## STATEWIDE LEAD SCREENING/LEAD TESTING PLAN\*

There are four criteria for testing a child for lead poisoning:

- GEOGRAPHY:** All children living in one of Michigan's 14 Target Communities should be tested. Target Communities include:
 

Battle Creek	Flint	Jackson	Pontiac
Benton Harbor	Grand Rapids	Kalamazoo	Saginaw
Dearborn	Hamtramck	Lansing	
Detroit	Highland Park	Muskegon/Muskegon Hgts	
- MEDICAID and WIC: ALL MEDICAID- and WIC-ENROLLED CHILDREN MUST BE TESTED—NO EXCEPTIONS OR WAIVERS EXIST.**
- QUESTIONNAIRE:** The parents or guardians of children not in one of the previous two categories should be asked exposure questions to determine each child's risk. If the answer is "Yes" or "Don't Know" to any of the exposure questions, the child should be tested.
- REFUGEE CHILDREN/FOREIGN ADOPTEES/IMMIGRANTS/FOSTER CARE CHILDREN:** The CDC recommends that newly arrived refugee children and internationally adopted children (ages 6 months to 16 years) receive blood lead testing upon entry to the United States; repeat testing of children six months to six years at 3 to 6 months after placement in permanent residences.

\* The complete Statewide Lead Testing/Lead Screening Plan can be found at : [http://www.michigan.gov/documents/mdch/testing-screening071009\\_287511\\_7.pdf](http://www.michigan.gov/documents/mdch/testing-screening071009_287511_7.pdf)

## POSSIBLE SOURCES OF EXPOSURE

### OCCUPATION OF PARENTS

Battery manufacture/repair  
 Bridge/tunnel/elevated highway repair  
 Firing Range Workers  
 Plumber, pipe fitter (older buildings)  
 Welding and cutting painted metal  
 Wrecking and Demolition  
 Cable (telephone/electric) repair and reclamation  
 Renovation/remodeling older homes  
 Lead soldering (e.g., electronics)  
 Brass/copper/bronze/lead/iron foundries  
 Paint removal (lead remediation or painters)  
 Paint manufacture (non-residential paint)  
 Machining/grinding/melting lead alloys  
 Leaded glass manufacturing  
 Stained glass manufacture/repair

### HOBBY OF PARENTS

Lead shot, bullets, and fishing sinkers  
 Jewelry/Pottery/Stained Glass making  
 Indoor pistol shooting  
 Reloading bullets

### IMPORTED COSMETICS

▪ **Middle East, India, Pakistan, Africa:** Kohl, Surma, Al Kohl

### FOODS

▪ **Middle East:** Lozeena  
 ▪ **Mexico:** Tamarind Candy, Chocolate-Covered Grasshoppers

### FOLK REMEDIES

▪ **Hispanic:** Azarcon, Alarcon, Coral, Estomaquil, Luiga, Maria Luisa, Rueda  
 ▪ **Mexico:** Greta ▪ **Tibet, India:** Ayurvedic Medicine, Tibetan Herbal Vitamin ▪ **India:** Ghasard, Surma ▪ **Iran:** Bint Al Zahab  
 ▪ **Saudi Arabia:** Bint Dahab, Santrinj, Traditional Saudi Medicine ▪ **Kuwait:** Bokhoor  
 ▪ **China:** Jin Bu Huan, Po Ying Tan, Ba-Baw-San ▪ **Vietnam:** Pay-Loo-Ah

### ENVIRONMENTAL

Lead dust from deteriorating paint  
 Ceramics/pottery/lead crystal  
 Lead-soldered cans (imported)  
 Burning lead-painted wood  
 Use of water from lead pipes  
 Soil/dust near industries/smelters/heavily-traveled roadways  
 Mini-blinds (imported)  
 Candles with lead wicks  
 Some imported painted toys

## BLOOD LEAD TESTING TIPS

- **"TESTING"** requires a blood specimen.
- **"SCREENING"** is asking exposure-related questions and appropriate only when a child is NOT Medicaid-enrolled and does NOT live in a target community.
- There is NO requirement that the initial blood test for a child be a venous specimen; a capillary specimen is acceptable.
- If the capillary result is below 10 µg/dL, the CDC's level of concern, no additional procedure is necessary until the next recommended testing time.
- If the capillary result is ≥10 µg/dL, then a confirmatory venous sample needs to be obtained. The venous sample need not be done in the primary care provider's office.
- If the capillary or venous specimen is collected in the provider's office and packaged for mailing, CLIA certification for the office is NOT required.
- Blood specimens may be sent through the U.S. Post Office.

## BLOOD LEAD LEVEL (BLL) DIAGNOSTIC TESTING\*

**NO level of lead in the blood is "normal"**

Capillary Test Result (µg/dL):	Obtain a Venous Test Within:
10 – 19	3 months
20 – 44	1 week – 1 month
45 – 59	48 HOURS
60 – 69	24 HOURS
≥ 70	IMMEDIATELY – EMERGENCY LAB TEST

**NOTE:** If there is a deviation of more than 5 µg/dL between a capillary sample and the venous confirmatory, a follow-up venous test should be done in one month.

## Follow-Up Venous Blood Lead Testing Schedule

Venous Test Result (BLL) (µg/dL)	Early Follow-Up (2-4 tests after identification)	Late Follow-Up (after BLL begins to decline)
10 – 14	3 months	6 – 9 months
15 – 19	1 – 3 months	3 – 6 months
20 – 24	1 – 3 months	1 – 3 month
25 – 44	2 weeks – 1 month	1 month
≥ 45	As Soon As Possible	CHELATION with subsequent follow-up

\* **Diagnostic testing is REQUIRED for capillary blood lead levels ≥ 10 µg/dL.** The higher the blood lead level and the younger the child's age, the more urgency there is for a diagnostic test. See CDC's Screening Young Children for Lead Poisoning: <http://www.cdc.gov/nceh/lead/publications/screening.htm>

## PEDIATRIC CONSULTANTS

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If you are unable to find an answer to your questions here, do not hesitate to contact your local health department, one of the above-listed pediatric consultants who are extremely well-versed in childhood lead poisoning, or a staff member of the MDCH Michigan Childhood Lead Poisoning Prevention Program at 517.335.8885.

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## PROVIDER GUIDELINES

Physician and Health Department Follow-Up		
Blood Lead Level $\mu\text{g}/\text{dL}$	Elevated Blood Lead Levels Actions to Take	Timeframe for beginning intervention
<10	Test again in one year. Provide caregiver with anticipatory guidance at appropriate reading level and language to identify potential sources of exposure.	
10-14	Provide caregiver lead education. Provide follow-up testing. Refer the child for social services if necessary	within 30 days
15-19	Above actions plus: If blood lead levels (BLL) persist, i.e., two venous BLLs in this range at least three months apart; or increase, proceed according to actions for BLLS 20-44.	within 2 weeks
20-44	Above actions plus: Provide coordination of care (case management). Provide clinical evaluation and care. Provide environmental investigation and control current lead hazards	within 1 week
45-69	Above actions	within 48 HOURS
$\geq 70$	Above actions plus: Hospitalize child for chelation therapy immediately.	within 24 HOURS

Schedule for Follow-up Blood Lead Testing		
Venous Blood Lead Level ( $\mu\text{g}/\text{dL}$ )	Early Follow-Up (first 2 – 4 tests after identification)	Late Follow-Up (after BLL begins to decline)
10-14	3 months	6 – 9 months
15-19	1 – 3 months	3 – 6 months
20-24	1 – 3 months	1 – 3 months
25-44	2 weeks – 1 month	1 month
>45	As soon as possible	CHELATION w/subsequent follow-up

Medical Assessment and Intervention		
Blood Lead Level $\mu\text{g}/\text{dL}$	Elevated Blood Lead Levels Actions to Take	Timeframe for beginning intervention
20-44	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">                     Lead education: Dietary &amp; Environmental                      Follow-up blood lead monitoring                      Complete history and physical exam                      Lab work: Hemoglobin or hematocrit &amp; Iron status                 </div> <div style="width: 45%;">                     Environmental investigation                      Lead hazard reduction                      Neurodevelopmental monitoring                      Abdominal X-ray with bowel decontamination if indicated                 </div> </div>	within 1 week
45-69	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">                     Lead education: Dietary &amp; Environmental                      Follow-up blood lead monitoring                      Complete history and physical exam                      Complete neurological exam                      Lab work: Hemoglobin or hematocrit &amp; Iron status FEP or ZPP                 </div> <div style="width: 45%;">                     Environmental investigation                      Lead hazard reduction                      Neurodevelopmental monitoring                      Abdominal X-ray with bowel decontamination if indicated                      Chelation therapy                 </div> </div>	within 24 to 48 hours
$\geq 70$	Hospitalize and commence chelation therapy Proceed according to actions for 45-69 $\mu\text{g}/\text{dL}$ above	Immediately

<b>The following actions are NOT recommended at any blood lead level:</b>		
<ul style="list-style-type: none"> <li>- Searching for gingival lead lines</li> <li>- Testing of neurophysiologic function</li> <li>- X-ray fluorescence of long bones</li> </ul>	<ul style="list-style-type: none"> <li>- Testing of hair, teeth, or fingernails for lead</li> <li>- Radiographic imaging of long bones</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluation of renal function (except during chelation with <math>\text{CaNa}_2\text{EDTA}</math>)</li> </ul>