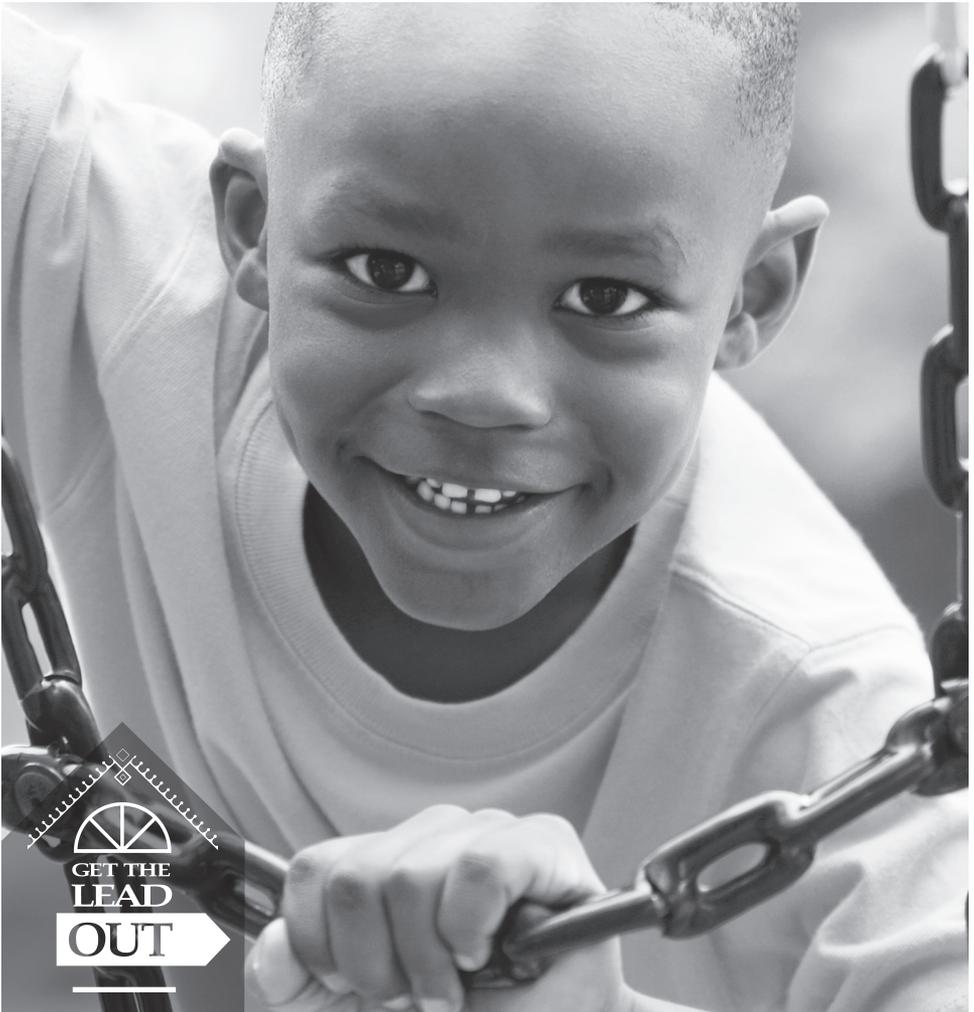




State of Illinois
Illinois Department of Public Health

Preventing and Testing for Childhood Lead Poisoning

A Reference Guide for Physicians and
Health Care Providers



GET THE
LEAD
OUT

Guidelines for Illinois Physicians and Health Care Providers

December 2015

Illinois Department of Public Health
Illinois Lead Program
525 W. Jefferson St., Third Floor
Springfield, IL 62761
217-782-3517

The Illinois Department of Public Health is providing you with these recommendations for lead risk evaluation and blood lead testing. This document summarizes key guidelines and directs you to more detailed sources of information and related agencies.

Several dedicated pediatricians, child advocates and local health department staff participated in the development of this document. Their various backgrounds and interest in protecting Illinois children from the harmful effects of lead poisoning helped immensely with the development of this reference guide. Their input was vital and should help physicians and child advocates who treat young children.

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THE RISK OF LEAD POISONING IN ILLINOIS CHILDREN

Childhood lead poisoning is a preventable environmental health problem. Each year thousands of children continue to be exposed to lead from various sources. However, leaded paint remains the major source of exposure for children, and still exists in 75% of Illinois' older housing.

In Illinois, approximately 300,000 blood lead tests are conducted annually by local health departments, pediatric, family medicine and other health providers. Approximately 2,500 Illinois children have been determined to have a blood lead level (BLL) ≥ 10 $\mu\text{g}/\text{dL}$ and are receiving case management services from IDPH nurses or delegate agency staff.¹

CHILDREN AT HIGHEST RISK

Research has determined that lead poisoning is not equally distributed among children in the United States. High-risk populations include:

- **Young children and those with persistent oral behaviors.**
The most common way for children to get lead into their body is by ingesting it. Frequent hand exposures to surfaces with lead-containing dust (e.g., crawling on the floor, playing at a window) and oral behaviors promote lead ingestion.
- **Children residing in older homes.**
Nationally, an estimated 22 percent of U.S. children six years of age and younger, live in a home where there is a lead hazard (defined as lead in an accessible condition, such as deteriorated lead-containing paint, or lead-contaminated dust or dirt).² Of homes built before 1940, an estimated 68 percent have a lead hazard; 43 percent of homes built between 1940 and 1959 have a lead hazard. Rental units where low-income families and young children reside are most likely to have a lead hazard.
 - In Illinois, 23 percent of homes were built before 1940 and 24 percent were built between 1940 and 1959.
 - In Chicago, 38 percent of homes were built before 1940 and 31 percent were built between 1940 and 1959.³
- **Children in low-income households**
Based on 2014 Illinois childhood blood lead information, approximately, 1 in 100 Illinois children tested, aged 12 to 72 months and enrolled in Medicaid/All Kids, had a BLL ≥ 10 $\mu\text{g}/\text{dL}$ and 1 in 15 of these children had a BLL ≥ 5 $\mu\text{g}/\text{dL}$.
- **Children with low iron**
Absorption of lead increases in the low-iron state. Iron deficient children can absorb up to about 50 percent of the lead they ingest.

- **Newborn of Lead-bearing mother**
If a child is born to a woman with a known elevated blood lead level, (EBLL) the infant's BLL is expected to be that of the mother.
- **Racial disparity** in lead poisoning has narrowed across the years. Still, in Illinois, African-American children are 1.5 times more likely to have an EBLL compared to white children.⁴

MEDICAL EVALUATION AND MANAGEMENT FOR PREGNANT WOMEN

Blood lead testing of all pregnant women in the United States is not recommended. However, the Centers for Disease Control and Prevention (CDC) recommends that pregnant women be evaluated for risk for lead exposures. Those having a risk factor for lead exposure should have blood lead measured when initiating prenatal care. IDPH has developed a questionnaire, Prenatal-risk Evaluation for Lead Exposure, for evaluation of pre-natal lead risk exposure to help identify pregnant women in need of blood lead testing, see Appendix A. If the pregnant woman answers "yes" to any of the questions, she is at risk for lead exposure and a venous blood lead test should be performed.

Pregnant women at highest risk for having an EBLL include: exposure to lead contaminated dust during renovation/repair work in pre-1978 housing; workers in several high-risk occupations; foreign-born recent immigrants; and those practicing high-risk behaviors, such as pica. Because lead persists for years in the body, the lead exposures may have occurred before pregnancy.

CDC's Guidelines for the Identification and Management of Lead Exposure in Pregnant and Lactating Women discusses strategies for the provision of medical care for pregnant women having a BLL at or greater than 5 µg/dL and public health actions to reduce lead exposures for pregnant women who have a BLL at or greater than 10 µg/dL. Effective January 2015, IDPH's Lead Program provided services to pregnant women who have a venous BLL at or greater than 10 µg/dL. Services include an environmental assessment to identify and reduce lead exposures, education on applying recommended nutritional practices, recommendations about breastfeeding and infant follow-up care.

Medical management strategies include counseling about lead avoidance, nutritional assessment and follow-up blood lead testing. Nutritional strategies can act as a protective mechanism to reduce lead absorption.

Pregnant women with confirmed BLLs at or greater than 45 µg/dL should be considered as high-risk pregnancies and their cases should be managed in consultation with experts in lead poisoning and high-risk pregnancy.

Chelation therapy should be considered for pregnant women with confirmed BLLs at or greater than 45 µg/dL on a case-by-case basis, in consultation with an expert in lead poisoning.

Table 1: Frequency of Maternal Blood Lead Follow-up Testing During Pregnancy and Actions for Lead Management Care of Pregnant Women

Blood Lead Level $\mu\text{g}/\text{dL}$	Actions for Care of Pregnant Women	Time Frame for Follow-up Blood Lead Tests
<5 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> • Provide anticipatory guidance and health education materials 	<ul style="list-style-type: none"> • No follow-up testing needed
5 – 9 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> • Provide anticipatory guidance and health education materials • Communicate with parent/guardian to attempt to determine source of lead exposure – If occupational exposure, review proper use of personal protective equipment and consider contacting employer • Assess nutritional adequacy and provide nutritional management, as needed 	<ul style="list-style-type: none"> • Within 1 month, obtain a maternal BLL or cord BLL at delivery
10 – 14 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> • Above actions • Notify health department • Refer for environmental investigation and control current lead hazards • Refer occupationally exposed women to occupational medicine specialists • Recommend removal from occupational exposure 	<ul style="list-style-type: none"> • Within 1 month, obtain a maternal BLL or cord BLL at delivery
15 – 24 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> • Above actions 	<ul style="list-style-type: none"> • Within 1 month and then every 2 - 3 months, obtain a maternal BLL or cord BLL at delivery. • More frequent testing may be indicated based on risk factor history.
25 – 44 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> • Above actions 	<ul style="list-style-type: none"> • Within 1 – 4 weeks and then every month, obtain a maternal BLL or cord BLL at delivery.

Blood Lead Level $\mu\text{g}/\text{dL}$	Actions for Care of Pregnant Women	Time Frame for Follow-up Blood Lead Tests
45 – 69 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> • Above actions • Treat as high-risk pregnancy • Consider chelation therapy: Consult with an expert in lead poisoning 	<ul style="list-style-type: none"> • Within 24 hours and then at frequent intervals depending on clinical interventions and trend in BLLs. • Consultation with a clinician experienced in the management of pregnant women with BLLs in this range is strongly advised. Obtain a maternal BLL or cord BLL at delivery.
≥ 70 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> • Medical emergency • Chelation therapy • Above actions 	Above actions
<i>Source: Centers for Disease Control and Prevention, Guidelines for the Identification and Management of Lead Exposure in Pregnant and Lactating Women</i>		

TRANSFER OF MATERNAL LEAD TO THE FETUS AND INFANT

Lead is transferred to the fetus during pregnancy and to the infant through breast milk.⁵ Adequate calcium intake during both pregnancy and lactation reduces maternal circulating lead somewhat (by about 10 percent) and, thus, can reduce transfer.⁶ Breastfeeding has many beneficial effects, and it should be encouraged unless the mother's BLL is ≥ 40 $\mu\text{g}/\text{dL}$.

Table 2: Action for Lactating Women

0 – 39 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> • Breastfeeding should be encouraged
5 – 39 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> • Breastfeeding may be continued if infants BLLs are monitored
≥ 40 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> • Lactation should be continued, but breast milk should be pumped and discarded until BLLs < 40 $\mu\text{g}/\text{dL}$
<i>Source: Centers for Disease Control and Prevention, Guidelines for the Identification and Management of Lead Exposure in Pregnant and Lactating Women</i>	

NEWBORN OF A LEAD-BEARING MOTHER

If a child is born to a woman with known EBLL, the BLL of the newborn should be monitored closely. An infant's BLL is expected to be equal to that of the mother. If the BLL of the infant is ≥ 10 $\mu\text{g}/\text{dL}$, appropriate case management activities should take place.

While outreach, education and primary prevention are most important in identified high-risk locations, they can be beneficial to all communities, regardless of risk factor.

MAJOR SOURCES OF LEAD POISONING

- Lead-based paint and lead-contaminated-dust in older homes
- Unsafe renovation or remodeling practices causing lead-contaminated dust (likely with scraping or sanding of paint containing lead)
- Outdoor exposures to soil or track-in of soil contaminated with lead (from past exterior paint deterioration, past use of leaded gasoline, deposition from past industrial emissions or industrial contamination)
- Specialty foods, such as imported Mexican candies and spices from various countries
- Imported food cans with lead solder seams (production banned in United States)
- Some traditional medicines or cosmetics
- Pottery with glazes containing lead
- Parental hobbies or occupations that involve exposures to lead
- Toys, oral piercings, jewelry or other objects containing lead (medical provider judgment on a case-by-case basis)
- Water contamination from the corrosion of lead solder, pipes or fixtures. (On average, drinking water contributes to low levels of lead exposure and may be minimized by flushing waterlines, using cold water or using water filters. You may consult Environmental Protection Agency Safe Drinking Water Hotline, 1-800-426-4791, for more information).

You may obtain a fact sheet on the various sources of lead poisoning including specific hobbies and occupations by contacting the Illinois Lead Program.

EFFECTS OF LEAD

No safe level of lead has been identified for children. Lead damages the developing brain and nervous system, leading to:

- Reduced cognitive potential and increased learning disabilities;
- Higher risk for behavior problems, including aggression and hyperactivity;
- Interference with red blood cell formation leading to anemia (at BLL \geq 40 $\mu\text{g}/\text{dL}$); and
- In its most advanced stages, seizures, coma and sometimes death.

ACUTE SYMPTOMS OF LEAD POISONING

Despite experiencing the effects of lead on behavior and development, most children with EBLs have no obvious acute symptoms. Symptoms of severe lead poisoning may include:

- Irritability
- Headaches
- Vomiting
- Seizures
- Anemia/fatigue
- Loss of appetite and/or weight loss
- Stomachaches and cramping/constipation

Because these symptoms are not specific to lead poisoning, blood lead testing is the only effective way to detect lead poisoning.

UNDER ILLINOIS LAW YOU MUST CONDUCT BLOOD LEAD TESTS AND RISK EVALUATIONS, AS APPROPRIATE

IDPH has identified ZIP code areas in which children have an increased risk for exposure to lead due to higher percentages of older homes and low-income families (see Appendix B). Illinois law mandates that every physician and health care provider must obtain a blood lead measurement on children living in high-risk ZIP code areas.⁷ Children living in low risk ZIP code areas must be evaluated using the Childhood Lead Risk Questionnaire (see Appendix C) and those deemed at risk through the evaluation process must receive blood lead testing as described below. (Refer to page 24 for web link to the Act). (See Appendix D, Evaluation and Testing Algorithm on page 23).

WHICH CHILDREN ARE REQUIRED BY LAW TO HAVE BLOOD LEAD TESTS?

- 1. CHILDREN ELIGIBLE FOR MEDICAID OR ALL KIDS HEALTH INSURANCE** are required to have a blood lead test prior to one and two years of age. If a child presents at ages one and two years with an unknown blood lead status, a BLL is required. For children ages three through six years, with unknown blood lead test status or increased lead exposure, a BLL is required.
- 2. CHILDREN LIVING IN HIGH-RISK ZIP CODE AREAS (REGARDLESS OF THEIR ELIGIBILITY FOR MEDICAID/ALL KIDS)** are required to have a blood lead test at ages one and two years. If a child presents at ages one and two years with unknown blood lead status, a BLL is required. For children ages three through six years, with an unknown blood test status or increased lead exposure, a BLL is required.
- 3. ALL CHICAGO CHILDREN ARE CONSIDERED TO LIVE IN A HIGH RISK ZIP CODE.** A blood lead test should be performed. Lead evaluation and testing guidelines may differ for the city of Chicago. For current information for the Chicago Department of Public Health you may access their Web site at www.cityofchicago.org/health.

WHICH CHILDREN SHOULD BE EVALUATED USING THE CHILDHOOD LEAD RISK QUESTIONNAIRE?

- 1. EVALUATION OF CHILDREN LIVING IN LOW-RISK ZIP CODE AREAS** should start by using the Illinois Childhood Lead Risk Questionnaire, which has been developed to determine the need for blood lead testing at ages one and two years and to evaluate changes in exposures to lead for older children. (Available by visiting the IDPH website at www.dph.illinois.gov)
- 2. CHILDREN WITH ANY QUESTIONNAIRE RESPONSE** answered "YES" or "DON'T KNOW," need a blood lead test at approximately ages one and two years. If past blood lead tests are known and are <10 µg/dL, additional blood lead testing at ages three and older is not needed unless risk for exposure to lead has increased.

TESTING COMMENDATIONS FOR INTERNATIONAL ADOPTEE CHILDREN

These children should have a blood lead test upon entering the United States. (Additional testing and medical care related to blood lead results should adhere to state and local policies and laws, as above).

TESTING RECOMMENDATIONS FOR REFUGEE CHILDREN

1. All refugee children six months to 16 years of age must be tested within 90 days of entry to the United States.⁸ Pre-existing health conditions such as malnutrition, and iron deficiency, along with cultural, language, and economic barriers may increase refugee children's risk for exposures to lead.
2. For ALL refugee children aged six months to six years, repeat the blood lead test three to six months after the child is in a permanent residence. All children with an initial BLL of 5 µg/dL or greater should have repeat testing, as indicated. Evaluation of risks for exposure to lead may warrant repeat testing of older children with initial BLLs <10 µg/dL.

Further information on blood lead testing and management for this population can be obtained from IDPH.

BLOOD LEAD SAMPLE COLLECTION

- Venous blood samples analyzed at a licensed laboratory are considered to most accurately reflect body lead burden.
- Blood specimens that are analyzed using a Lead Care II or equivalent will be considered as capillary specimens.
- Blood collected via finger stick can be used for testing. Environmental contamination can be minimized if proper collection technique is followed. Elevated finger stick tests require confirmation. A venous sample analyzed at a licensed laboratory is the preferred confirmation method.
- For children who are a difficult stick, two finger stick capillary tests conducted within a 12 week period analyzed at a licensed laboratory can be considered confirmatory and the initiation of services for the child should be considered.
- Filter paper sampling is used by some providers. Elevated results need confirmation using a method other than filter paper collection. Filter paper lead results may be less accurate in children with anemia.

FOLLOW-UP BLOOD LEAD TESTING

If there is reason to believe that the BLL may rise rapidly, follow-up testing sooner than that presented in Table 3 may be indicated. Timing of additional testing is based on medical and environmental assessments and follow-up test results.

Table 3. Schedule for Follow-up Venous Blood Lead Testing

Venous blood lead level	Early follow-up (first 2 – 4 tests after identification)	Late follow-up (after BLL begins to decline)
Reference value – 9 µg/dL	3 months (optional)	6 - 9 months (optional)
10 – 14 µg/dL	3 months	6 - 9 months
15 – 19 µg/dL	1 – 3 months	3 – 6 months
20 – 24 µg/dL	1 – 2 months	1 – 3 months
25 – 44 µg/dL	2 – 4 weeks	1 month
≥ 45 µg/dL	As soon as possible	Chelation with subsequent follow-up

See the Centers for Disease Control and Prevention (CDC) treatment and case management recommendations: **Managing Elevated Blood Lead Levels Among Young Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention, U.S. Dept. of Health and Human Services, Public Health Service, March 2002.** (Refer to page 25 for Web link)⁹ To obtain a printed copy of the new Case Management document, you may call (toll-free) 888-232-6789.

NOTE: If there is a BLL of 5 – 9 µg/dL, consideration should be given to repeating the blood lead test sooner than the testing guidelines, especially for a child aged <2 years (blood lead is likely to be on the rise in this age group), or if testing was done in winter or spring, (when blood lead results are generally lower).

REPORTING OBLIGATIONS

Directors of private laboratories that perform blood lead analyses are required by Illinois law to report all results to the IDPH, INCLUDING LEVELS BELOW 10 µg/dL. (Refer to page 24 for Web link to law).¹⁰ This includes all blood lead tests analyzed in medical office laboratories and tests performed using Lead Care desk top analyzers. NOTE: All tests at all BLLs must be reported to the IDPH along with child identifying information.

- BLL ≥10 µg/dL must be reported within 48 hours.
- Results <10 µg/dL must be reported within 30 days of the end of the month in which the test was performed.

Every physician, health care provider, nurse, hospital administrator or public health officer who has verified information of any child's blood lead result is required to report this information to the IDPH lead program. Providers using the IDPH Lab are not required to report blood lead tests processed at that laboratory.

Check with your laboratory regarding their reporting status. About 20 percent of blood lead results sent by laboratories to the IDPH have insufficient information to identify the child's home address, or even the county in which the child lives. Child identifying information is needed for home evaluation and nurse case management. When in doubt, report.

Reports should be made to the Illinois Lead Program reporting system:

Phone: 217-782-3517 Fax: 217-557-1188

A blood lead fax reporting form is available at:

http://www.dph.illinois.gov/sites/default/files/forms/bloodleadtestresultsreportform-7-13-2015_0.pdf

PUBLIC HEALTH FOLLOW-UP SERVICES

Follow-up and case management services are provided for children throughout Illinois. Some local health departments also offer free or low cost blood lead testing. Contact your local health department if you have questions regarding follow-up services. Contact the Illinois Lead Program or your local health department for more information.

CHILDREN NEED PROOF OF A BLOOD LEAD TEST OR RISK EVALUATION BEFORE ADMISSION TO A CHILD CARE FACILITY OR SCHOOL

Under Illinois law, a parent or guardian of any child between the ages of six months through six years is required to provide certification from a physician or health care provider that his or her child has been tested or received an evaluation for lead exposures in accordance with Illinois guidelines (using the Childhood Lead Risk Questionnaire) before that child may be admitted to a licensed day care center, day care home, preschool, nursery school, Head Start, kindergarten or other licensed child care facility. This statement must be provided prior to admission and subsequently in conjunction with required physical examinations. See the Illinois Lead Poisoning Prevention Act. (Refer to page 24 for Web link).

MANAGEMENT OF CHILDREN WITH BLOOD LEAD LEVELS <10 µg/dL

Evaluation for environmental exposure to lead and counseling are a necessary and recommended part of all health maintenance visits.

Lead education handouts are **available for FREE** through IDPH's website or by contacting the Department toll free at 866-909-3572. Parent handouts to assess risk for exposure to lead and to recommend ways to reduce exposures also can be downloaded from the city of Chicago website at:

http://www.cityofchicago.org/city/en/depts/cdph/supp_info/food_envirom/childhood_lead_poisoningpreventionandhealthyhomesprogram.html.

PREVENTIVE COUNSELING SHOULD FOCUS ON:

- Effects of lead
- Sources of lead exposure
- Methods to reduce exposures to lead (Be sure to caution families that special procedures and training are needed before disturbing paint containing lead. They can contact their local health department for further advice.)
- Ensuring iron sufficiency to reduce absorption of ingested lead and promoting healthy nutritional status including adequate calcium intake
- Educating families about ways to identify sources of lead in their home and their child's environment

For recommendations from the CDC Advisory Committee on Lead Poisoning Prevention, clinicians should read *Interpreting and Managing Blood Lead Levels <10 µg/dL in Children and Reducing Childhood Exposures to Lead*,¹¹ which is available at: <http://www.cdc.gov/MMWR/preview/mmwrhtml/rr5608a1.htm>.

MANAGEMENT OF ELEVATED BLOOD LEAD LEVELS

Medical management services for children with EBLs fall into four categories:

- Medical evaluation and repeat testing
- Education
- Social services referral to assist in obtaining other needed services for the family
- Referral/coordination with the local health department

1. MEDICAL EVALUATION

CONFIRM AND MONITOR BLOOD LEAD LEVELS WITH SERIAL TESTING, AS INDICATED

- **Clinical history**, including clinical symptoms, oral behaviors, nutritional and iron status, family history of lead poisoning, and previous blood lead test results
- **Environmental history**, including exposures/sources of lead (in the home and other places where the child spends time) and occupational histories of adults in the household
- **Developmental screening**, with further evaluations as needed
- **Evaluation of nutritional status**, particularly to identify and address iron insufficiency. Identification of early iron deficiency requires specialized testing (beyond a hemoglobin or complete blood count), using a test such as a ferritin level.

Serial blood lead measurements should be interpreted appropriately. Laboratories are allowed to be within ± 4 $\mu\text{g}/\text{dL}$ or 10 percent of an expected value, whichever is greater. Thus, a change of 5 $\mu\text{g}/\text{dL}$ or more may represent a change in exposures. Some laboratories can achieve a proficiency of ± 2 $\mu\text{g}/\text{dL}$.

2. EDUCATION

- Advise families to identify and address sources of lead for their child. Families can contact their local health department for advice.
- Caution families never to disturb lead paint surfaces themselves without first being trained to do this safely. While repairs are made, **the entire family should be out of the home until thorough post-repair cleanup is completed**. Contractors trained and licensed to perform repairs are available in many areas. Some local health departments provide lead hazard training to property owners to conduct safe repairs. Unsafe disturbance of lead-containing paint can increase the potential for exposures to lead.

TREATMENT RECOMMENDATIONS VARY BY CHILD'S BLOOD LEAD LEVEL

For a full discussion of treatment recommendations for children with EBLLs, clinicians should read *Managing Elevated Blood Lead Levels Among Young Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention* (chapter 3), a CDC publication. (Refer to page 25 for Web link or to order).

Table 4. Chelation Agents

Product Name	Generic Name	Chemical Name	Abbreviation
Calcium Disodium Versenate	Edetate disodium calcium	Calcium disodium ethylenediamine tetra acetate	CaNa ₂ EDTA
BAL in Oil	Dimercaprol	2, 3-dimercapto-1-propanol	BAL
Chemet	Succimer	Meso 2, 3-dimercaptosuccinic acid	DMSA

Table 5. Treatments by Blood Lead Level

BLL	Recommendation
< 5 µg/dL	<ul style="list-style-type: none"> • Review lab results with family. • Repeat the BLL in 6-12 months if the child is at high risk or risk changes during the timeframe. Ensure levels are done at 1 and 2 years of age. • For children tested at age <12 months, consider retesting in 3-6 months as lead exposure may increase as mobility increases. • Perform routine health maintenance including assessment of nutrition, physical and mental development, as well as iron deficiency risk factors. • Provide anticipatory guidance on common sources of environmental lead exposure.
5 – 14 µg/dL	<ul style="list-style-type: none"> • Above actions, plus: • Re-test venous BLL within 1-3 months to ensure the lead level is not rising. If the lead level is stable or decreasing, retest the BLL in 3 months. • Take a careful environmental history to identify potential sources of exposures. Consider other children who may be exposed. • Provide education and information for source identification and avoidance. • Provide nutritional counseling related to calcium and iron. • Ensure iron sufficiency with adequate laboratory testing (CBC, ferritin, CRP) and treatment per AAP guidelines. Consider starting a multivitamin with iron. • Perform structured developmental screening evaluations at child health maintenance visits, as lead’s effect on development may manifest over years. • Ensure that all blood lead test results are reported to Illinois Department of Public Health. • Refer to public health department for environmental investigation and public health nurse visit at 10 µg/dL as mandated by local regulations. Some jurisdictions mandate such a referral at 5 µg/dL.
15 – 44 µg/dL	<ul style="list-style-type: none"> • Above actions, plus: • Confirm the BLL with repeat venous sample within 1 to 4 weeks. • Monitor BLLs monthly until stable and lead hazards have been identified and remediated, then can lengthen testing intervals. • Perform specific evaluations depending on child and exposure history. Generally, abdominal x-ray is not recommended. Any treatment for BLLs in this range should be done in consultation with an expert. • Refer to latest CDC and American Academy of Pediatrics recommendations related to chelation management.

Table 5. Treatments by Blood Lead Level (continued)

BLL	Recommendation
45 – 69 µg/dL	<ul style="list-style-type: none"> • Above actions, plus: • Confirm the BLL with repeat venous sample within 48 hours. • Consider hospitalization and/or chelation therapy (managed with the assistance of an experienced provider). Succimer (oral, 350 mg/m² dose) or CaNa₂EDTA (IV, 1000 mg/m²/day x 5 days, in divided doses). • Perform specific evaluation of the child, such as abdominal x-ray to initiate bowel evacuation if lead sources, such as paint chips, are identified. • Do not start iron therapy if on CaNa₂EDTA. • Ensure adequate hydration. • Monitor urine for heme. • A minimum of two weeks between courses is recommended, unless more prompt treatment is indicated. • Ensure safety of the home with respect to lead hazards, isolation of the lead source, family social situation, and chronicity of the exposure are factors that may influence management.
>70 µg/dL	<ul style="list-style-type: none"> • Hospitalize and monitor BLLs. • Abdominal radiograph to check for lead chips, evacuate bowel as needed. • Begin management with BAL (IM, BAL 450 mg/m²/day, Q4 hours, x up to three days; four hours after a first BAL dose initiate CaNa₂EDTA therapy – rational CaNa₂EDTA transiently increases BLLs, while BAL does not. • Stop BAL when BLL <50 µg/dL • CaNa₂EDTA for five days by continuous infusion or in divided doses. • Ensure adequate hydration. • Monitor urine for heme. • A minimum of two weeks between courses is recommended, unless more prompt treatment is indicated. • Do not start iron therapy if on CaNa₂EDTA.
SYMPTOMATIC CHILDREN	<ul style="list-style-type: none"> • Above with these modifications: • Use BAL, as above x three days and CaNa₂EDTA 1500 mg/m²/day x five days. • Interrupt therapy for two days and repeat treatment, as necessary.

CHELATION CAUTIONS

Contact your local or state lead poisoning prevention program, local poison control center, or IDPH with questions. A child with an EBLL and signs or symptoms consistent with encephalopathy should be chelated in a center capable of providing appropriate intensive care services.

The appropriate level at which to initiate chelation therapy and which drugs are most appropriate is controversial. A double-blinded, randomized, controlled trial of up to three 26-day courses of Succimer treatment of young children with BLLs <45 $\mu\text{g}/\text{dL}$ lowered their blood lead, but failed to improve their neurodevelopmental test scores. (Refer to page 26 for Web link).

Chelation therapy is addressed in an American Academy of Pediatrics, 1995 document on pharmaceutical agents in the treatment of lead poisoning.¹² (Refer to page 26 for Web link).

Some chelation agents may be difficult to locate. If you experience difficulties in locating chelation please contact the Lead Program at 217-782-3517 or 866-909-3572.

Succimer (Chemet)

The Food and Drug Administration has approved Succimer for use in lead poisoned children with BLLs ≥ 45 $\mu\text{g}/\text{dL}$. Succimer (Chemet) is an oral chelating agent which lowers BLLs. The drug's specificity for lead substantially reduces the risk of essential mineral depletion associated with conventional parenteral chelating agents.

Indications and Usage - Succimer is indicated for the treatment of lead poisoning in children with BLLs ≥ 45 $\mu\text{g}/\text{dL}$. An active, ongoing reduction in exposures to lead should always accompany use of Succimer.

Dosage and Administration - Dosage should begin at 350 mg/m^2 per dose orally three times daily for five days. The dose should then be reduced to 350 mg/m^2 per dose two times daily for an additional two weeks. Doses based on administration of 10 mg/kg dose results in substantial under-dosing for most young children. The total length of a single treatment course is 19 days. Succimer is in capsule form (100 mg) containing beads. The capsule can be separated and the beads mixed with food or fruit juice drinks for young children who cannot swallow the capsule whole. The beads and liquid can have a "rotten egg" sulfur odor due to the presence of the sulfhydryl moieties in the molecular structure.

Side Effects - Adverse effects have been reported in very few instances. The most common are gastrointestinal symptoms and rash.

Monitoring Parameters - Baseline and post-chelation therapy blood lead concentrations are, of course, important parameters to follow in patients being treated with Succimer. An expected rebound in blood lead after one 19-day course of Succimer is to 78 percent of the baseline level, due to redistribution

of body stores of lead. Repeat testing is recommended within seven to 21 days, until the BLLs are stable. A two-week interval between courses is recommended unless the clinical condition indicates a need for more rapid intervention. Succimer chelates are excreted in urine; therefore, adequate hydration is essential. In the succimer chelation trial elevations of liver enzymes and blood count abnormalities were similar in placebo and drug treatment groups.¹³

Post Chelation Follow-Up:

Recheck BLLs seven to 21 days after treatment. Determine if retreatment is necessary. Then, follow the testing schedule for EBLLs as shown on Table 3.

In children who received chelation therapy, repeat hospitalization and treatment with BAL and CaNa₂EDTA are indicated if the blood lead concentration rebounds to ≥ 70 $\mu\text{g}/\text{dL}$ or if symptoms are present. When the rebound level is < 70 $\mu\text{g}/\text{dL}$ and there are no symptoms, treatment with Succimer can be considered.

Do not discharge a child from the hospital until a lead safe environment can be assured. For some children, appropriate alternative housing is necessary while all lead hazards in his/her home or elsewhere are being controlled and eliminated. Lead-safe housing (usually with friends or relatives) where the child can live with his/her family during the entire abatement/remediation process through clean up should be identified.

BLLs may remain elevated for prolonged periods. The expected time for 50 percent of children with a BLL of 25-29 $\mu\text{g}/\text{dL}$ to reach a BLL < 10 $\mu\text{g}/\text{dL}$ is 24 months.

Children with past EBLLs need monitoring and may need referrals for further evaluation and services. For any questions, concerns or for referrals to speak with medical doctors with experience in the treatment of lead poisoned children, please contact IDPH at 217-782-3517.

APPENDIX A



State of Illinois
Illinois Department of Public Health

Prenatal-risk Evaluation for Lead Exposure

Testing is only recommended for women who are at risk. If a woman answers "yes" to any of these questions, she is at risk for lead exposure and should have a blood lead test.

Please Print

Name _____ Date of Birth _____
Last First

Address _____ Phone Number _____

City _____ County of Residence _____

Medicaid Number _____ (if applicable)

RESPONSE

1. Do you live in a house built before 1978? Yes No
2. Do you live in a house built before 1978 with ongoing renovations that generate dust from sanding and scraping? Yes No
3. Have you ever had an elevated blood lead level? Yes No
If "yes", when? _____
4. Do you live with someone who has an elevated blood lead level? Yes No
If "yes", who? _____
5. Do you crave or have you eaten a non-food item during this pregnancy? (Sometimes pregnant women have the urge to eat things, which are not food, such as clay, soil, pottery, plaster or paint chips.) Yes No
6. Do you have or have you had any oral piercings? (Oral piercing jewelry may contain lead which can cause lead poisoning.) Yes No
7. Do you use any imported cosmetics, herbal remedies, or food products? Yes No
8. Do you use pottery, painted china, leaded glass or other products that were made in another country? Yes No
9. Do you or others in your household have an occupation, hobby or activity which may expose you or them to lead? Yes No
10. Were you born, or have you spent any time outside of the United States? (Many identified lead-poisoned pregnant women are foreign born.) Yes No
11. Are you eligible for or enrolled in the Women's, Infants and Children (WIC) Program or Medicaid? Yes No

Signature of Doctor/Nurse Date of Evaluation

Provider's full address _____ Provider # _____

City _____ State _____ Phone Number _____

Blood Lead Test Result _____ Capillary Venous

Date of Test _____ Date Reported _____

If this questionnaire includes a blood lead test result, please fax to:

Illinois Lead Program

525 West Jefferson Street, Third Floor
Springfield, Illinois 62761-0001
Phone: 217-782-3517 • Fax: 217-557-1188
TTY (hearing impaired use only) 800-547-0466

Printed by Authority of the State of Illinois
P.O.#5515614 200 2/15

IOCI 15-627

How do I identify pregnant women in need of blood lead testing?

The CDC has recommended that pregnant women routinely be evaluated for risk for lead exposures. Those having a risk factor for lead exposure should have blood lead measured when initiating prenatal care. IDPH has developed a questionnaire for evaluation of pre-natal lead risk exposure to help identify pregnant women in need of blood lead testing.

What blood lead level is considered “elevated” in a pregnant woman?

The CDC has published recommended strategies of medical care for pregnant women having a BLL at or above 5 µg/dL and public health actions to reduce lead exposures for pregnant women who have a BLL at or above 10 µg/dL. National surveys indicate that about 1% of U.S. women of child-bearing age have a BLL at or above 5 µg/dL and 0.3% have a BLL at or above 10 µg/dL.

How do I provide care for pregnant women who have a BLL at or above 5 µg/dL?

Medical management strategies include assessment for sources of lead exposure, lead avoidance counseling, and nutritional assessment and counseling. Nutritional strategies can reduce release of lead from bone stores and lower efficiency of lead absorption. Please refer to <http://www.cdc.gov/nceh/lead/publications/leadandpregnancy2010.pdf>.

How will the IDPH Lead Program help me manage lead exposures for a pregnant woman with a BLL at or above 10 µg/dL?

Effective January 2015, the Illinois Department of Public Health Lead Program will provide services to pregnant women who have a BLL at or above 10 µg/dL. Services IDPH will provide will include an environmental assessment to identify and reduce lead exposures, education on applying recommended nutritional practices, and recommendations on breastfeeding and infant follow-up.

Key points for lead evaluation and nutrition for pregnant and lactating women:

- Avoidance of lead exposure remains the primary prevention strategy
- All pregnant and lactating women should be evaluated for adequacy in their diets including iron status
- Refer women in need of assistance to WIC or the Supplemental Nutrition Assistance Program (SNAP)
- Consultation with a clinician experienced in the management of pregnant women with BLLs is strongly advised

APPENDIX B

PEDIATRIC LEAD POISONING HIGH-RISK ZIP CODE AREAS

Adams	Champaign	DeWitt	Fulton	Henry	Knox
62301	61815	61727	61415	61234	61401
62320	61816	61735	61427	61235	61410
62324	61845	61749	61431	61238	61414
62339	61849	61750	61432	61274	61436
62346	61851	61777	61441	61413	61439
62348	61852	61778	61477	61419	61458
62349	61862	61882	61482	61434	61467
62365	61872		61484	61443	61474
		DeKalb	61501	61468	61485
Alexander	Christian	60111	61519	61490	61489
62914	62083	60129	61520		61572
62988	62510	60146	61524	Iroquois	
	62517	60550	61531	60911	Lake
Bond	62540		61542	60912	60040
62273	62546	Douglas	61543	60924	
	62555	61930	61544	60926	LaSalle
Boone	62556	61941	61563	60930	60470
61038	62557	61942		60931	60518
	62567		Gallatin	60938	60531
Brown	62570	DuPage	62934	60945	61301
62353		60519		60951	61316
62375	Clark	Edgar	Greene	60953	61321
62378	62420	61917	62016	60955	61325
	62442	61924	62027	60966	61332
Bureau	62474	61932	62044	60967	61334
61312	62477	61933	62050	60968	61342
61314	62478	61940	62054	60973	61348
61315		61944	62078		61354
61322	Clay	61949	62081	Jackson	61358
61323	62824		62082	62927	61364
61328	62879	Edwards	62092	62940	61370
61329		62476	Grundy	62950	61372
61330	Clinton	62806	60437	Jasper	Lawrence
61337	62219	62815	60474	62432	62439
61338		62818		62434	62460
61344	Coles		Hamilton	62459	62466
61345	61931	Effingham	62817	62475	
61346	61938	None	62828	62480	Lee
61349	61943	Fayette	62829		60553
61359	62469	62458	62859	Jefferson	61006
61361		62880		62883	61031
61362	Cook	62885	Hancock		61042
61368	All Chicago		61450	Jersey	61310
61374	ZIP Codes	Ford	62311	62030	61318
61376		60919	62313	62063	61324
61379		60933	62316		61331
Calhoun		60936	62318	Jo Daviess	61353
62006		60946	62321	61028	61378
62013		60952	62330	61075	
62036		60957	62334	61085	Livingston
62070		60959	62336	61087	60420
		60962	62354		60460
Carroll		61773	62367	Johnson	60920
61014		Franklin	62373	62908	60921
61051		62812	62379	62923	60929
61053		62819	62380		60934
61074		62822	Hardin	Kane	61311
61078		62825	62919	60120	61313
		62874	62982	60505	61333
Cass		62884			61740
62611		62891	Henderson	Kankakee	61741
62618	Crawford	62896	61418	60901	61743
62627	62433	62983	61425	60910	61769
62691	62449	62999	61454	60917	61775
	62451		61460	60954	
		Cumberland	61469	60969	
		62428	61471		Kendall
			61480	None	None

APPENDIX B (continued)

PEDIATRIC LEAD POISONING HIGH-RISK ZIP CODE AREAS

Logan	McDonough	Ogle	Rock Island	Vermilion	Winnebago
62512	61411	61007	61201	60932	61077
62518	61416	61030	61236	60942	61101
62519	61420	61047	61239	60960	61102
62548	61422	61049	61259	60963	61103
62543	61438	61054	61265	61810	61104
62635	61440	61064	61279	61831	
62643	61470	61091		61832	Woodford
62666	61475		St. Clair	61833	61516
62671	62374	Peoria	62201	61844	61545
		61451	62203	61848	61570
Macon	McHenry	61529	62204	61857	61760
62514	60034	61539	62205	61865	61771
62521		61552	62220	61870	
62522	McLean	61602	62289	61876	
62523	61701	61603	Saline	61883	
62526	61720	61604	62930		
62537	61722	61605	62946	Wabash	
62551	61724	61606		62410	
	61728		Sangamon	62852	
Macoupin	61730	Perry	62625	62863	
62009	61731	62832	62689		
62033	61737	62997	62703	Warren	
62069	61770			61412	
62085		Piatt	Schuyler	61417	
62088	Menard	61813	61452	61423	
62093	62642	61830	62319	61435	
62626	62673	61839	62344	61447	
62630	62688	61855	62624	61453	
62640		61929	62639	61462	
62649	Mercer	61936		61473	
62672	61231		Scott	61478	
62674	61260	Pike	62621		
62685	61263	62312	62663	Washington	
62686	61276	62314	62694	62214	
62690	61465	62323		62803	
	61466	62340	Shelby		
Madison	61476	62343	62438	Wayne	
62002	61486	62345	62534	62446	
62048		62352	62553	62823	
62058	Monroe	62355		62843	
62060	None	62356	Stark	62886	
62084		62357	61421		
62090	Montgomery	62361	61426	White	
62095	62015	62362	61449	62820	
	62019	62363	61479	62821	
Marion	62032	62366	61483	62835	
None	62049	62370	61491	62844	
	62051			62887	
Marshall	62056	Pope	Stephenson		
61369	62075	None	61018	Whiteside	
61377	62077		61032	61037	
61424	62089	Pulaski	61039	61243	
61537	62091	62956	61044	61251	
61541	62094	62963	61050	61261	
	62538	62964	61060	61270	
Mason		62976	61062	61277	
62617	Morgan	62992	61067	61283	
62633	62601		61089		
62644	62628	Putnam		Will	
62655	62631	61336	Tazewell	60432	
62664	62692	61340	61564	60433	
62682	62695	61363	61721	60436	
			61734		
Massac	Moultrie	Randolph		Williamson	
62953	61937	62217	Union	62921	
		62242	62905	62948	
		62272	62906	62949	
			62920	62951	
		Richland	62926		
		62419			
		62425			

APPENDIX C



State of Illinois
Illinois Department of Public Health

Childhood Lead Risk Questionnaire

ALL CHILDREN 6 MONTHS THROUGH 6 YEARS OF AGE MUST BE EVALUATED FOR LEAD POISONING
(410 ILCS 45/6.2)

A blood lead test should be performed on children:

- with any "Yes" or "Don't Know" response
- living in a high-risk ZIP code area
- all Medicaid-eligible children should have a blood lead test prior to 12 months of age and 24 months of age. If a Medicaid-eligible child between 36 months and 72 months of age has not been previously tested, a blood lead test should be performed.

If responses to all the questions are "No":

- re-evaluate at every well child visit or more often if deemed necessary

Child's name _____ Today's date _____

Age _____ Birthdate _____ ZIP Code _____

Respond to the following questions by circling the appropriate answer.

RESPONSE

- | | | | |
|---|-----|----|------------|
| 1. Is this child eligible for or enrolled in Medicaid, Head Start, All Kids or WIC? | Yes | No | Don't Know |
| 2. Does this child have a sibling with a blood lead level of 10 mcg/dL or higher? | Yes | No | Don't Know |
| 3. Does this child live in or regularly visit a home built before 1978? | Yes | No | Don't Know |
| 4. In the past year, has this child been exposed to repairs, repainting or renovation of a home built before 1978? | Yes | No | Don't Know |
| 5. Is this child a refugee or an adoptee from any foreign country? | Yes | No | Don't Know |
| 6. Has this child ever been to Mexico, Central or South America, Asian countries (i.e., China or India), or any country where exposure to lead from certain items could have occurred (for example, cosmetics, home remedies, folk medicines or glazed pottery)? | Yes | No | Don't Know |
| 7. Does this child live with someone who has a job or a hobby that may involve lead (for example, jewelry making, building renovation or repair, bridge construction, plumbing, furniture refinishing, or work with automobile batteries or radiators, lead solder, leaded glass, lead shots, bullets or lead fishing sinkers)? | Yes | No | Don't Know |
| 8. At any time, has this child lived near a factory where lead is used (for example, a lead smelter or a paint factory)? | Yes | No | Don't Know |
| 9. Does this child reside in a high-risk ZIP code area? (see reverse side of page for list) | Yes | No | Don't Know |

If there is any "Yes" or "Don't Know" response; **and**

- the child has proof of two consecutive blood lead test results (documented below) that are each less than 10 mcg/dL (with one test at age 2 or older), **and**
- there has been no change in the child's living conditions, a blood lead test is not needed at this time.

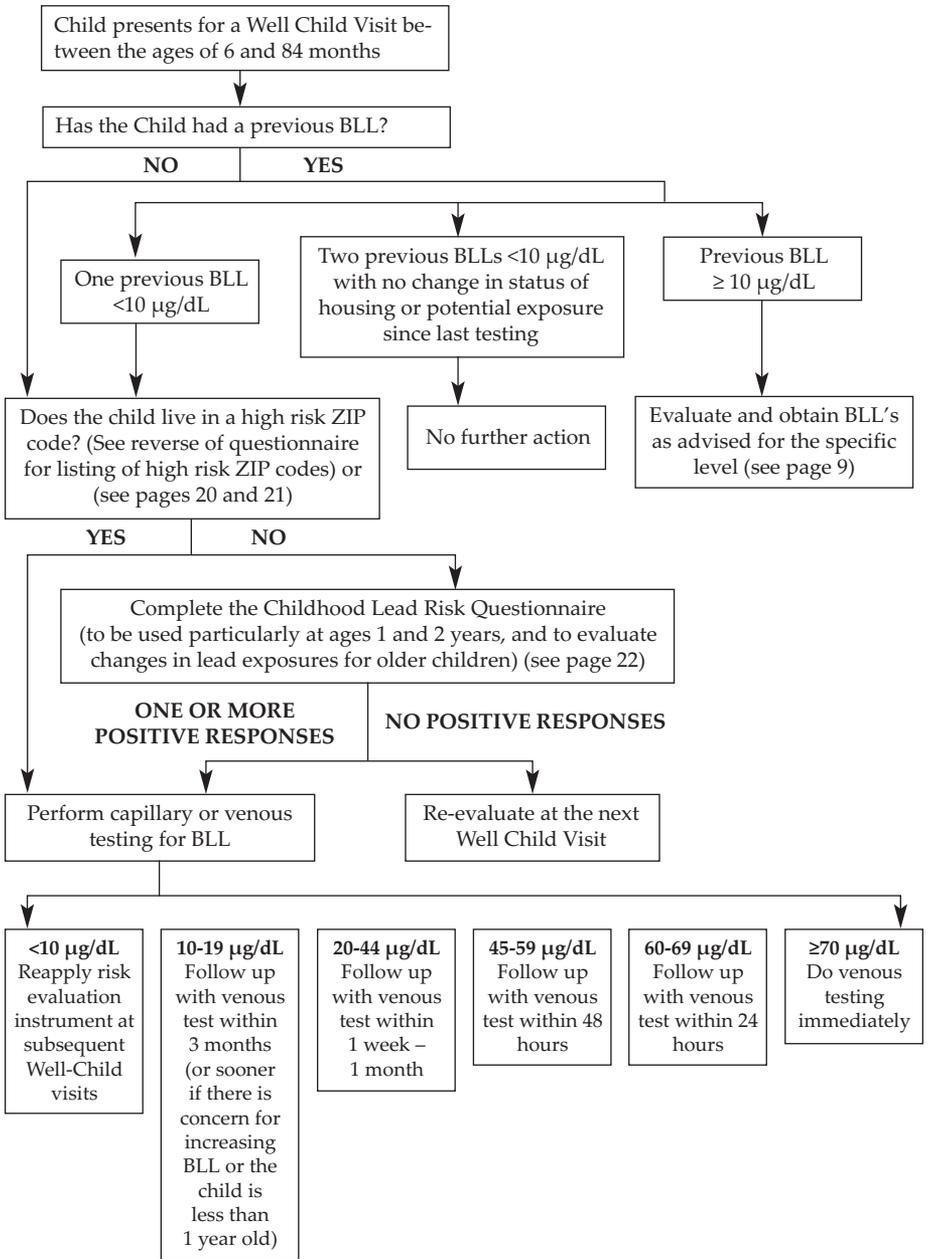
Test 1: Blood Lead Result _____ mcg/dL Date _____ Test 2: Blood Lead Result _____ mcg/dL Date _____

Signature of Doctor/Nurse

Date

Illinois Lead Program
866-909-3572 or 217-782-3517
TTY (hearing impaired use only) 800-547-0466

APPENDIX D ILLINOIS CHILDHOOD LEAD POISONING EVALUATION AND TESTING ALGORITHM



Recommendations for subsequent evaluation, testing and treatment are based on the follow-up blood test.

WEB LINKS TO LAW

Illinois Lead Poisoning Prevention Act

Illinois Compiled Statutes, Public Health, 410 ILCS 45/
www.ilga.gov/legislation/ilcs/ilcs2.asp?ChapterID=35

Illinois Administrative Code, Title 77, Part 845, Lead Poisoning Prevention Code

www.ilga.gov/commission/jcar/admincode/077/07700845sections.html

Testing Requirements

www.ilga.gov/commission/jcar/admincode/077/077008450B00550R.html

Proof of Blood Lead Testing (paragraph d)

www.ilga.gov/commission/jcar/admincode/077/077008450B00550R.html

Illinois Department of Public Health Childhood Lead Risk Questionnaire, ZIP codes, and Guidelines

www.dph.illinois.gov/sites/default/files/forms/formsohpchildhood-lead-risk-questionnaire.pdf

Reporting Requirements

www.ilga.gov/commission/jcar/admincode/077/077008450B00600R.html

REFERENCES

1. Illinois Lead Program, Surveillance Report – 2013
www.dph.illinois.gov/sites/default/files/publications/publicationsohplead-surveillance-report-2013-revised-110915.pdf
2. American Healthy Homes Survey (AHHS), 2011.
http://portal.hud.gov/hudportal/documents/huddoc?id=AHHS_REPORT.pdf
3. Illinois Housing Statistics, U.S. Census 2000
www.infoplease.com/us/census/data/illinois/housing.html
4. Illinois Department of Public Health, Children Enrolled in the Department of Healthcare and Family Services (HFS) Medical Programs Tested for Blood Lead Poisoning; State and Community Based, Illinois Lead Program, 2015
www2.illinois.gov/hfs/MedicalCustomers/MaternalandChildHealthPromotion/Pages/Screening.aspx
5. Adrienne S. Ettinger, Ananya Roy, Chira J. Amarasiriwardena, et al, *Maternal Blood, Plasma, and Breast Milk Lead: Lactational Transfer and Contribution to Infant Exposure*, Environmental Health Perspectives, 2014 Jan 1; 122(1):87-92, www.ncbi.nlm.nih.gov/pmc/articles/PMC3888576
6. Han, Shenggao, Pfizenmajer, David, et al; *Effects of Lead Exposure before Pregnancy and Dietary Calcium during Pregnancy on Fetal Development and Lead Accumulation*, Environmental Health Perspectives, Jun;108(6)527-531. www.ncbi.nlm.nih.gov/pubmed/10856026
7. Illinois Compiled Statutes, Public Health, Lead Poisoning Prevention Act, 410 ILCS 45/
www.ilga.gov/legislation/ilcs/ilcs2.asp?ChapterID=35
8. U.S. Centers for Disease Control and Prevention *Immigrant and Refugee Health*
www.cdc.gov/immigrantrefugeehealth/index.html
9. *Managing Elevated Blood Lead Levels Among Young Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention*, www.cdc.gov/nceh/lead/CaseManagement/caseManage_main.htm
10. Illinois Administrative Code, Title 77, Part 845, Lead Poisoning Prevention Code
www.ilga.gov/commission/jcar/admincode/077/07700845sections.html

11. U.S. Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report, *Interpreting and Managing Blood Lead Levels <10 µg/dL in Children and Reducing Childhood Exposures to Lead, Recommendations of CDC's Advisory Committee on Childhood Lead Poisoning Prevention*, November 2, 2007 / 56(RR08);1-14;16,
www.cdc.gov/MMWR/preview/mmwrhtml/rr5608a1.htm
12. American Academy of Pediatrics, Committee on Drugs. Treatment Guidelines for Lead Exposure in Children. *Pediatrics* 1995;96:155-159
<http://pediatrics.aappublications.org/content/96/1/155.abstract>
13. Treatment of Lead-Exposed Children (TLC) Trial Group. Safety and efficacy of succimer in toddlers with blood lead levels of 20-44 µg/dL. *Pediatrics Res.* 2000;48:593-599
<http://pediatrics.aappublications.org/content/116/4/1036.full>

OTHER LEAD POISONING RESOURCES

1. Office of Lead Hazard Control, U.S. Department of Housing and Urban Development, American Healthy Homes Survey - Lead and Arsenic Findings, http://portal.hud.gov/hudportal/documents/huddoc?id=AHHS_REPORT.pdf
2. U.S. Centers for Disease Control and Prevention, Lead Poisoning Prevention Program, www.cdc.gov/nceh/lead
3. U.S. Centers for Disease Control and Prevention. Morbidity and Mortality Weekly Report, www.cdc.gov/mmwr
4. The Centers for Disease Control and Prevention. Preventing Lead Poisoning in Young Children (2005.) This is the fifth revision of the statement on Preventing Lead Poisoning in Young Children. www.cdc.gov/nceh/lead/publications/PrevLeadPoisoning.pdf
5. The Centers for Disease Control and Prevention, *Managing Elevated Blood Lead Levels Among Young Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention*: Appropriate level at which to initiate chelation therapy. www.cdc.gov/nceh/lead/casemanagement/caseManage_main.htm
6. American Family Physician. Lead Poisoning in Children
Pharmaceutical agents in the treatment of lead poisoning. www.aafp.org/afp/2010/0315/p751.html
7. The Centers for Disease Control and Prevention
Educational materials in foreign languages. www.cdc.gov/pubs/CDCInfoOnDemand.aspx?ProgramID-63
8. American Academy of Pediatrics — How to Buy Safe Toys
www.healthychildren.org/English/safety-prevention/at-home/Pages/How-to-Buy-Safe-Toys.aspx
9. Consumer Products Safety Commission — Recalled products
www.cdc.gov/features/leadintoys/index.html
10. Lead Safe Illinois
For information about legal services and lead information.
www.lead-safe-illinois.org/
11. National Lead Information Center — www.epa.gov/lead
12. Alliance to End Childhood Lead Poisoning
www.nchh.org/Portals/0/Contents/Another_Link_in_Chain.pdf

WHO CAN I CONTACT FOR MORE INFORMATION?

Illinois Lead Program

Lead Education Materials, Parental Handouts, Physician Guidelines,
Childhood Blood Lead Test Reporting

217-782-3517

www.dph.illinois.gov/topics-services/environmental-health-protection/lead-poisoning-prevention

Illinois Department of Public Health

Information and Referral Hotline

866-909-3572

TTY (Hearing impaired use only)

800-547-0466

State Laboratory – Springfield

217-782-6562

Lead Abatement Program

For information about licensed lead inspectors or lead abatement contractors,
or about abatement/remediation funds

217-782-3517

<http://www.dph.illinois.gov/topics-services/environmental-health-protection/lead-poisoning-prevention/abatement-mitigation-licensure>

Chicago Department of Public Health

Childhood Lead Poisoning Prevention Program

312-747-LEAD, 312-746-7810 or 312-746-7820

www.cityofchicago.org/health

If you need more information, call

Illinois Department of Public Health
Illinois Lead Program
866-909-3572 or 217-782-3517
TTY (hearing impaired use only) 800-547-0466