



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? Yes No
(Sometimes pregnant women have the urge to eat things, which are not food, such as clay, soil, pottery, plaster or paint chips.)
6. Do you have or have you had any oral piercings? Yes No
(Oral piercing jewelry may contain lead which can cause lead poisoning.)
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? Yes No
(Many identified lead-poisoned pregnant women are foreign born.)
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



Guidelines for Prenatal-risk Evaluation for Lead Exposure

What is the influence of lead exposure on health outcomes during pregnancy?

The Centers for Disease Control and Prevention (CDC) has determined that lead exposure negatively affects health during pregnancy and that the threshold for exposures causing effects has not been established. Lead exposure is associated with increased risk for gestational hypertension. For the child, prenatal lead exposure, even at maternal blood lead levels (BLLs) $<10 \mu\text{g/dL}$, is inversely related to fetal growth and neurodevelopment.

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 blood lead level at or above $5 \mu\text{g/dL}$ and public health actions to reduce lead exposures for pregnant women who have a BLL at or above $10 \mu\text{g/dL}$. National surveys indicate that about 1% of U.S. women of child-bearing age have a BLL at or above $5 \mu\text{g/dL}$ and 0.3% have a BLL at or above $10 \mu\text{g/dL}$.

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 prenatal lead risk exposure to help identify pregnant women in need of blood lead testing.

How do I provide care for pregnant women who have a BLL at or above $5 \mu\text{g/dL}$?

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>. Table 1 provides guidance on time to follow-up testing for BLLs by BLL value.

How will the IDPH Lead Program help me manage lead exposures for a pregnant woman with a BLL at or above $10 \mu\text{g/dL}$?

Effective January 2015, the Illinois Department of Public Health Lead Program will provide services to pregnant women who have a BLL at or above $10 \mu\text{g/dL}$. 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.



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

Blood Lead Level* µg/dL	Actions for Care of Pregnant Women	Time Frame for Follow-up Blood Lead Tests†
<5 µg/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 • Re-evaluate at next visit
5 – 9 µg/dL	<ul style="list-style-type: none"> • Confirm and refer, as appropriate • Attempt to determine source of lead exposure and reduce/eliminate 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 µg/dL	<ul style="list-style-type: none"> • Above actions • Notify health department • Refer occupationally exposed women to occupational medicine specialists • Recommend removal from occupational exposure • Environmental assessment and abatement of lead hazards 	<ul style="list-style-type: none"> • Within 1 month • Obtain a maternal BLL‡ or cord BLL at delivery
15 – 24 µg/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 lead testing may be indicated based on risk factor history
25 – 44 µg/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
45 – 69 µg/dL	<ul style="list-style-type: none"> • Above actions • Treat as high-risk pregnancy • Consider chelation therapy in consultation with a clinician experienced in the management of pregnant women with BLLs in this range is strongly advised 	<ul style="list-style-type: none"> • Within 24 hours and then at frequent intervals, depending on clinical interventions and trend in BLLs • Obtain a maternal BLL‡ or cord BLL at delivery
70 µg/dL or greater	<ul style="list-style-type: none"> • Medical emergency • Chelation therapy • Above actions 	<ul style="list-style-type: none"> • Above actions

* Venous blood sample is recommended for maternal blood lead testing.

† The higher the blood lead level on the screening test, the more urgent the need for confirmatory testing.

‡ If possible, obtain a maternal blood lead level before delivery because blood lead levels tend to increase over the course of pregnancy.

Source: Modified from Centers for Disease Control and Prevention. Guidelines for the identification and management of lead exposure in pregnant and lactating women. Atlanta (GA): CDC; 2010. Available at: <http://www.cdc.gov/nceh/lead/publications/leadand-pregnancy2010.pdf>. Retrieved February 5, 2015 and <http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Lead-Screening-During-Pregnancy-and-Lactation>. Retrieved February 11, 2015.



Key Points for Nutrition and Lead for Pregnant and Lactating Women

- The human body's nutritional status affects the absorption, deposition, and excretion of lead and may also affect lead toxicity.
- Lead exposure can also modify the body's ability to utilize nutrients.
- Avoidance of lead exposure remains the primary preventive strategy for reducing adverse health effects. However, the existence of nutrient-lead interactions suggests that optimizing nutritional status during pregnancy and lactation may assist in preventing the adverse consequences of lead exposure.

General Nutritional Recommendations for Pregnant and Lactating Women

- All pregnant and lactating women should eat a balanced diet in order to maintain adequate amounts of vitamins, nutrients, and minerals.
- All pregnant and lactating women should be evaluated for iron status and be provided with supplementation in order to correct iron deficiency.
- All pregnant and lactating women should be evaluated for adequacy of their diets and be provided with appropriate nutritional advice and prenatal vitamins.
- Refer women in need of assistance to WIC or the Supplemental Nutrition Assistance Program (SNAP).
- All pregnant and lactating women should avoid the use of alcohol, cigarettes, herbal medicines, and any other substances, that may adversely affect the developing fetus or infant.

Nutritional Recommendations for Pregnant and Lactating Women with Elevated Blood Lead Levels

- In pregnant and lactating women with BLLs $\geq 5\mu\text{g}/\text{dL}$ or with a history of lead exposure, a dietary calcium intake of 2,000 mg daily should be maintained, either through diet or in combination with supplementation.
- Because data on the association of lead and Vitamin D are limited, no specific recommendation is made for supplementation of Vitamin D in lead poisoned pregnant or lactating women. Adequate levels of Vitamin D should be maintained. Therefore, if the mother is Vitamin D deficient supplementation may be necessary.
- Studies of the effects of iron supplementation in lead poisoned women are not available. Thus, iron supplementation in pregnant and lactating women should be consistent with those given for pregnancy and lactation. No additional iron supplementation is recommended for woman with EBLs. However, iron status of all pregnant women should be evaluated and supplementation should be provided to correct any deficiency.

Source: *Guidelines for the identification and management of lead exposure in pregnant and lactating women. Atlanta (GA): CDC; 2010.* Available at: <http://www.cdc.gov/nceh/lead/publications/leadandpregnancy2010.pdf>. Retrieved February 11, 2015



Guidelines for Prenatal-risk Evaluation for Lead Exposure

Newborn of a Mother with a BLL at or above 5 µg/dL

The BLL of a child born to a woman with known elevated BLL should be monitored closely. A newborn's BLL is expected to be equal to that of the mother. Medical management strategies should be applied at infant BLLs at or above 5 µg/dL; public health evaluations and appropriate case management activities should be applied at infant BLLs at or above 10 µg/dL, or at infant BLLs at or above 5 µg/dL, if resources permit.

Breastfeeding Recommendations for Women with Elevated BLLs

Human milk is the most complete and ideal source of infant nutrition in the first year of life. Mother's with a BLL <40 µg/dL should be encouraged to breastfeed. Studies of lead in breast milk show breast milk to maternal blood lead ratios of approximately 3% or less. Measurement of levels of lead in breast milk is not recommended. Blood lead monitoring of the infant of a mother with an elevated BLL is recommended. Environmental sources of lead exposure should be evaluated for infants whose blood lead levels are rising or failing to fall by 5 µg/dL or more. If no external source of lead is identified, temporary interruption of breast feeding until the mother's blood lead levels decline should be considered.

Table 2: Actions for Lactating Women

0 –39 µg/dL	Breastfeeding should be encouraged
5 – 39 µg/dL	Breastfeeding may be continued if infants' BLLs monitored
40 µg/dL or greater	Lactation should be continued, but breast milk should be pumped and discarded until maternal BLL is < 40 µg/dL

Source: *Guidelines for the identification and management of lead exposure in pregnant and lactating women. Atlanta (GA): CDC; 2010. Available at: <http://www.cdc.gov/nceh/lead/publications/leadandpregnancy2010.pdf>. Retrieved February 5, 2015 and <http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Lead-Screening-During-Pregnancy-and-Lactation>. Retrieved February 11, 2015.*

Illinois Lead Program
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