Sample Lead and Pregnancy Policy  
(_______) County Health Department

<table>
<thead>
<tr>
<th>Manual:</th>
<th>Applicable Signatures/Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:  Lead and Pregnancy Risk</td>
<td>Program Coordinator/Specialist:</td>
</tr>
<tr>
<td>Program Policy: Maternity Program</td>
<td>Supervisor:</td>
</tr>
<tr>
<td>Program Procedure: __________ Program</td>
<td>Medical Director:</td>
</tr>
<tr>
<td>Distributed to: All personnel.</td>
<td>Health Director:</td>
</tr>
<tr>
<td></td>
<td>Board of Health Chair:</td>
</tr>
<tr>
<td></td>
<td>Effective Date: Revised</td>
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<tr>
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<td>Supersedes:</td>
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Purpose:

The purpose of this policy is to assure that all pregnant females at (_______) County Health Department are screened for and educated on lead exposure health impacts at their initial obstetrics (OB) visit based on the CDC’s 2010 Lead and Pregnancy Guidelines at www.cdc.gov/nceh/lead/publications/LeadandPregnancy2010.pdf. The research suggests that prenatal lead exposure is inversely related to fetal growth and neurodevelopment and is associated with risk of gestational hypertension, spontaneous abortion, and low birth weight (CDC Guidelines, pages 5-10). Assessment for lead exposure, based on risk factor questionnaires or blood lead testing, should take place at the earliest contact with the pregnant patient. Tools for assessment and patient education are available at http://whb.ncpublichealth.com/services.htm.

Policy Statement:

This document provides guidance regarding blood lead testing and follow-up care for pregnant and lactating women with lead exposure above background levels. CDC is applying public health principles of prevention in recommending follow-up blood lead testing and interventions when prudent. These guidelines recommend follow-up activities and interventions beginning at blood lead levels (BLLs) ≥5 μg/dL in pregnant women.

As documented in the CDC Guidelines, there is good evidence that maternal lead exposure during pregnancy can cause fetal lead exposure and can adversely affect both maternal and child health across a wide range of maternal exposure levels.

Definitions: The following terms/abbreviations are defined and may be used throughout the policy.

- CDC – US Centers for Disease Control and Prevention
- BLL - Blood Lead Level
- μg/dL – Micrograms per deciliter
- 4116E – Blood and Lead Screening Questionnaire in English
- 4116S – Blood and Lead Screening Questionnaire in Spanish
- Chelation Therapy – The use of a chelating agent (chemical compounds that bind to metals) to remove toxic metals, such as lead, from the body.

Responsibilities: The Maternal Health (MH) Coordinator (or other designated staff member) is responsible for assuring that all prenatal clients are screened for blood lead exposure during the pregnancy and initiates follow-up for all positive blood lead test results based on the procedure in this policy. The RN completing the initial
OB history will assure that the client completes or is assisted in completion of the Blood and Lead Screening Questionnaire, DHHS 4116E or 4116S. If the client responds “yes” to any of the questions on the form the client will be educated on lead exposure and impacts to the pregnancy and encouraged to have a blood sample drawn to test for lead.

**Procedure:**

1. At the initial new OB history appointment educate the client on blood and lead exposure and share a copy of the *Are You Pregnant? Protect Your Baby from Lead Poisoning* brochures available in English and Spanish.

2. Ask the client to complete the Blood and Lead Screening Questionnaire, DHHS 4116E or 4116S. This form can be self-administered by the patient or verbally administered by staff. The RN will assist the client if there are any questions.

3. If the client marks “yes” to any of the questions on form DHHS 4116E or 4116S, the client shall be directed to the lab to have a blood sample drawn to test for lead (venous blood sample is recommended, ensure that you are ordering a test only for lead (not other toxicants) costing $12-16). **Note:** Question # 5 must have a “yes” response to both letters a. and b.

4. Complete steps consistent with the internal lab process, where the reports are returned and filed, the MH Manager (or other designated staff member) conduct follow-up, etc.

5. When the BLL results are returned the report is reviewed and signed off by the OB clinicians. The provider will write an order for follow-up based on the following CDC Guidelines:

**Table 1. Testing and Follow-Up Recommendations by Blood Lead Level**

<table>
<thead>
<tr>
<th>BLL Result (venous sample recommended)</th>
<th>Frequency of Follow-Up Testing</th>
<th>Recommended Actions by Blood Lead Level (BLL) in Pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5 μg/dL</td>
<td>No follow-up testing</td>
<td>Educate on lead exposure sources and risk reduction.</td>
</tr>
</tbody>
</table>
| 5-9 μg/dL                             | Conduct confirmatory and follow-up testing within 1 month. Obtain maternal BLL or cord BLL at delivery. | Above actions plus:  
  • Attempt to determine source of lead exposure (home, work, pica),  
  • Counsel on strategies to reduce exposure.  
  • Assess for the adequacy of their diet and provide prenatal vitamins and nutritional advice emphasizing adequate calcium and iron intake.  
  • For occupationally exposed women, review safe work practices: hand washing, showering before going home, proper laundering of work cloths and if required at work, wearing a clean/well-fitting respirator.  
  • Consider contacting the employer about assistance with safe work practices. |
10 -14 μg/dL

Conduct confirmatory and follow-up testing within 1 month.

Obtain maternal BLL or cord BLL at delivery.

Above actions plus:
- For tracking purposes, notify NC Childhood Lead Poisoning Prevention Program at 919-707-5951.
- Recommend removal from workplace lead exposure.

15 -24 μg/dL

Follow-up test every 2-3 months (more frequent testing may be indicated based on risk factor history).

Obtain maternal BLL or cord BLL at delivery.

Above actions plus:
Provide case management and refer to NC Childhood Lead Poisoning Prevention Program for a home environmental assessment at 919-707-5951.

25 -44 μg/dL

Follow-up test within 1-4 weeks and then every month.

Obtain maternal BLL or cord BLL at delivery.

Above actions plus:
Advise not to breastfeed with BLL > 40 (Pump and Dump). Testing milk is not recommended.

≥ 45

Follow-up test within 24 hours and then at frequent intervals depending on clinical interventions and trend in BLLs.

Obtain maternal BLL or cord BLL at delivery.

Treat as high-risk pregnancy.

Above actions plus:
Consult or transfer to MD who is an expert in lead poisoning for consideration of chelation therapy.

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6. In the case of lactating women, when the BLL results are returned the report is reviewed and signed off by the OB clinicians. The provider will write an order for follow-up based on the following CDC Guidelines:

**Table 2. Testing of Breastfeeding Women With Blood Lead Level ≥ 5 μg/dL**

<table>
<thead>
<tr>
<th>Initial Venous BLL</th>
<th>Perform follow-up blood lead test(s) during lactation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Encourage breastfeeding until BLL &gt; 40 μg/dL. Testing milk is not recommended.</strong></td>
<td></td>
</tr>
<tr>
<td>5-19 μg/dL</td>
<td>Every 3 months, unless infant blood lead levels are rising or fail to decline.</td>
</tr>
<tr>
<td>20-39 μg/dL</td>
<td>Maternal BLL 2 weeks postpartum and then at 1-to 3-month intervals depending on trend in infant BLLs.</td>
</tr>
<tr>
<td>&gt;40 μg/dL</td>
<td>Within 24 hours postpartum and then at frequent intervals depending on clinical interventions and trend in BLLs. Consultation with a clinician experienced in the management of lead poisoning is advised.</td>
</tr>
</tbody>
</table>

7. For occupational health advice you can call the staff at the Occupational and Environmental Epidemiology Branch, NC Division of Public Health, Raleigh, NC at (919) 707-5900.

8. OB provider conducts follow-up according to blood lead level and CDC Guidelines.
Quality Assurance:

A. This process will be assessed through the quality assurance program review for maternal health.
   1. The program will be audited at least twice a year.
   2. Results of the audit will be forwarded to the program manager, nursing supervisor and the health director to include recommendation from the audit committee.
   3. The program manager will be responsible for developing a corrective action plan to submit the audit committee, nursing supervisor and health director.

B. The program manager will be responsible for annual program review and updates.

C. The program manager will conduct weekly review of all maternal health records to ensure compliance with this policy.

Legal Authority: CDC 2010 Guidelines for the Identification and Management of Lead Exposure in Pregnant and Lactating Women


2012-13 North Carolina Division of Public Health Maternal Health Agreement Addendum