Sample Template Policy/Procedure/Protocol for Local Health Departments’

Lead and Pregnancy Risk

Purpose: This policy is intended to assure that all pregnant women who reside in ____________ County and seek healthcare from the ____________ County Health Department, will be offered blood lead screening and if appropriate, provided education on lead exposure and its potential dangers per the CDC 2010 Lead and Pregnancy Guidelines http://www.cdc.gov/nceh/lead/publications/LeadandPregnancy2010.pdf. Screening should be facilitated at the earliest contact with the patient using the Bilingual Lead and Pregnancy Risk Questionnaire. The results from the questionnaire may suggest further intervention that includes venipuncture specimen collection.

Policy: This policy provides current evidenced-based recommendations by the Centers for Disease Control and Prevention (CDC) of blood lead testing and follow-up care for pregnant/lactating patients with confirmed lead exposure above background levels. Lead crosses the placenta during pregnancy so maternal exposure can adversely affect both maternal/fetal well-being across the life span. CDC is applying public health principles of prevention when recommending follow-up testing and interventions when indicated.

Follow-up interventions begin with blood lead levels (BLLs) ≥5 micrograms per deciliter (μg/dL) in this population.

Responsible Person(s): The Maternal Health (MH) Coordinator (or other designated staff) is responsible for assuring that all prenatal patients are screened for blood lead exposure during the pregnancy and initiates follow-up for all confirmed “positive” blood lead test results based on interventions recommended in this policy. The RN completing the initial obstetric (OB) history will assure that the patient completes or is assisted in completing the screening questionnaire (DHHS 4116E/4116S). If the patient responds “yes” or “unsure” to any of the questions on the form, the patient will receive education on lead exposure and its impact on pregnancy. The patient should then be encouraged to have a venipuncture specimen promptly drawn and sent for testing.

Procedures:
1. At the initial OB history appointment, the patient will be educated on lead poisoning prevention, with emphasis on relevant risk factors, and given a copy of Are You Pregnant? Protect Your Baby from Lead Poisoning brochure. These are available in English/Spanish. http://nchealthyhomes.com/lead-poisoning/

2. Ask the patient to complete the Bilingual Lead and Pregnancy Risk Questionnaire in English (4116E) or in Spanish (4116S). This form may be completed by the patient or verbally administered by staff.

3. If the patient indicates “yes” or “unsure” to any of the questions on the form the patient will be counseled and encouraged to agree to lead testing.

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4. Note that for prenatal testing, a venous sample must be drawn and sent out to a reference laboratory for analysis. Capillary sample results and results from samples analyzed on a point-of-care blood lead analyzer will not be accepted for prenatal referrals.

5. If the patient agrees to testing, staff will facilitate the following steps for collecting a venous blood lead specimen for analysis at the State Laboratory:
   a. Venipuncture blood specimens are to be collected in a lavender-top tube
   b. Ensure that order requisition is only for lead and that (Form DHHS #3707) accompanies specimen
   c. Complete steps in collection that are consistent with internal lab processes
   d. Assure that the Prenatal box is checked appropriately and that the provider’s name and NPI is on the form
   e. This is a cost-free service for only those patients who seek prenatal care through the health department. The specimen must be drawn on-site and analyzed at the NC State Laboratory of Public Health (NCSLPH)
   f. Health department billing/finance should only be filing for potential reimbursement on patients covered by Medicaid funding. NCSLPH does not maintain the capability to bill private insurance and therefore does not request private, third-party insurance data from health departments who might collect such data on their patients.
   g. Currently the cost of uninsured patient testing is covered by the revenues generated. The NCSLPH will continue to assess cost recovery on an annual basis.

6. Results are to be reviewed by a provider in a timely manner.

7. If the results are ≥ 10 μg/dL, NCSLPH will notify the provider and the North Carolina Childhood Lead Poisoning Prevention Program. A hardcopy of the final laboratory results will be forwarded promptly to both parties.

8. Provider will write an order for recommended follow-up as indicated per CDC guidance.

9. If the results are ≥ 5 μg/dL, a confirmatory venous sample must be drawn and sent out to a reference laboratory for analysis, before the patient is referred for a lead investigation.

10. Provider may initiate referral for a home investigation if patient has 2 consecutive blood lead test results ≥ 5μg/dL within a 12-month period. For more information contact the NC Childhood Lead Poisoning Prevention Program at 919-707-5950 or Fax a completed Environmental Referral Form to 919-841-4015.

11. Results should be recorded in the patient’s medical record and shared with the patient in a timely manner with follow-up care initiated per agency policy.

Reviewed: 12/2017
Revised: 12/2017
<table>
<thead>
<tr>
<th>BLL Results</th>
<th>Frequency of Follow-Up Testing</th>
<th>Recommended interventions according to BLL in Pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5 µg/dL</td>
<td>No confirmatory or follow-up testing necessary</td>
<td>• Educate on lead exposure sources and risk reduction</td>
</tr>
</tbody>
</table>
| 5-9 µg/dL   | Conduct confirmatory testing within 1 month and follow-up testing every 3 months for the duration of the pregnancy until 2 consecutive BLLs are < 5 ug/dL | Above actions in addition to:  
• Providing case management  
• Attempt to determine source of lead exposure (home, work, pica),  
• Counsel on strategies to reduce exposure  
• For occupationally exposed patients (yes to question #6 on questionnaire); review safe work practices: hand washing, showering before going home, proper laundering of work clothes  
• If required by employment, encourage wearing a clean/well-fitted respirator  
• Provide patient with these materials: “Lead Facts” (2-sided) and “Lead and Your Occupation”  
• Consider contacting the employer about assistance with safe work practices  
• Assess for adequacy of patient’s diet  
• Provide prenatal vitamins and nutritional advice emphasizing adequate Calcium and Iron intake with Vitamin C to enhance absorption  
Obtain maternal BLL or cord BLL at delivery for all BLLs ≥5 ug/dL |
| 10-19 µg/dL | Conduct confirmatory testing within 1 month and follow-up testing monthly for the duration of the pregnancy until 2 consecutive BLLs are < 5 ug/dL | Above actions in addition to:  
• Recommend removal from workplace lead exposure  
• The laboratory must notify the provider and the North Carolina Childhood Lead Poisoning Prevention Program immediately and send a hardcopy of the final... |
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<tr>
<th>Laboratory Level</th>
<th>Actions</th>
<th>Comments</th>
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</table>
| **25-44 μg/dL** | Confirmatory test within 1-4 weeks and follow-up testing monthly for the duration of the pregnancy until 2 consecutive BLLs are < 5 μg/dL | Above actions in addition to:  
- Advise not to breastfeed with BLL ≥ 40  
- Testing milk is not recommended  
- Breastmilk should be discarded |
| **≥ 45 μg/dL** | Confirmatory test within 24 hours and then at frequent intervals for the duration of the pregnancy depending on clinical interventions and trend in BLLs  
Should be considered and treated as high-risk pregnancy  
Patient may require having care transferred to a high-risk obstetrical practice | Above actions in addition to:  
- Consult or transfer to a provider specializing in lead poisoning therapy before considering chelation for the patient |

**Contacts:**
Any additional questions regarding specimen collection, and/or reporting please contact Kate Mason, Hemachemistry Supervisor at (919) 807-8878.

For more information on lead in the home contact Health Hazards Unit, NC Division of Public Health at 919-707-5950.

For occupational health advice contact: Occupational and Environmental Epidemiology Branch, NC Division of Public Health, Raleigh, NC, 919-707-5900.
Testing of Breastfeeding Patients:

*Encourage breastfeeding until BLL≥40μg/dL. Testing milk is not recommended.*

<table>
<thead>
<tr>
<th>Initial Venous BLL</th>
<th>Perform follow-up venipuncture blood specimen testing during lactation:</th>
</tr>
</thead>
<tbody>
<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>
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<tr>
<td>≥40 μg/dL</td>
<td>• Within 24 hours postpartum and then at frequent intervals depending on clinical interventions and trend in BLLs</td>
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<tr>
<td></td>
<td>• Consultation with a clinician experienced in the management of lead poisoning is advised</td>
</tr>
<tr>
<td></td>
<td>• Advise not to breastfeed. Breastmilk should be discarded</td>
</tr>
</tbody>
</table>

Quality Assurance: Compliance with this blood lead screening and follow-up policy will be assessed/assured via the agency’s established quality assurance program review process for maternal health.

References:
• North Carolina Department of Public Health, Maternal Health Agreement Addendum
• American College of Obstetricians and Gynecologist, Perinatal Guidelines
• Centers for Disease Control and Prevention, Guidelines for the Identification and Management of Lead Exposure in Pregnant and Lactating Women

Educational Materials and Resources:
• **Lead Facts**
• **Lead and Your Occupation**
• **North Carolina Referral Resources**