



Child and Teen Checkups (C&TC) FACT Sheet

For Primary Care Providers

Lead Screening

C&TC Requirements:	Qualified Personnel	Documentation
<p>A blood lead test is required for children at their 12 and 24 month C&TC/well child screening.</p> <p>Test a child at any age if:</p> <ul style="list-style-type: none"> • the parent expresses a concern about, or asks for their child to be tested for blood lead poisoning • the child moved from a major metropolitan area or another country within the last 12 months <p>Routine Screen: Child health care providers should use a blood lead test to screen children at 12 and 24 months of age and children up to 6 years of age who have not previously had a blood lead test. In addition a child should be tested for elevated blood lead levels whenever the history indicates that there are risk factors for lead poisoning. The most common risk factors for lead poisoning in children include: living in or regularly visiting homes built before 1978, being a recent immigrant, and living in poverty. Routine Blood Lead Screening Risk Questionnaire and Periodic Blood Lead Screening Risk Questionnaire (PDF)</p> <p>Periodic Evaluation: In order to monitor a change in the child’s status, administer the following questions annually to all children 3 - 6 years of age whose previous test results were less than 10 $\mu\text{g}/\text{dL}$. Screen the child with a blood lead test if the answer to any of the following questions is “Yes” or “Don’t Know”.</p> <p>Since the child’s last blood lead test:</p> <ul style="list-style-type: none"> • Does the child have a playmate, housemate, or sibling who has recently been diagnosed with an elevated blood lead? • Has the child moved to or started regularly visiting a home, childcare, or other building built before 1950? • Has there been any repair, remodeling, or damage (such as water damage or chipped paint) to a home childcare, or other building built before 1978 that the child lives in or regularly visits? <p>Laboratories performing blood lead analyses are required to report all results to the Minnesota Department of Health.</p>	<p>Physician, Nurse Practitioner, Physician Assistant, Nurse, Certified Medical Assistant, Lab Technician, or Nurse Midwife</p>	<p>Document lab tests ordered, including date and results of testing.</p> <p>In order to receive credit for a complete C&TC, document blood lead level result as reported by the lab.</p> <p>For more information about lead risks, exposure, and testing please visit the MDH lead webpage as found below under Resources.</p>

Follow-up Care Information:

If result of capillary blood lead screening test ($\mu\text{g/dL}$) is:	Perform diagnostic test on venous blood within:
5 - 9.9	Confirmatory test not required, but optional. Provide family education on preventing lead poisoning.
10 – 14.9	3 months
15 – 44.9	1 week
45 – 59.9	48 hours
≥ 60	Immediately (as an emergency lab test)

Either capillary or venous blood may be used as the specimen for the direct blood lead test. When the result of the capillary blood lead test is greater than or equal to 10 micrograms lead per deciliter of blood (10 $\mu\text{g/dL}$) then a venous blood lead test is required to confirm the results of the capillary draw. A child with a venous blood lead level greater than or equal to 10 $\mu\text{g/dL}$ must be referred for diagnosis and treatment. <http://www.health.state.mn.us/divs/eh/lead/index.html>

Facts about the Importance of Lead Testing:

- Lead toxicity can affect every organ system. Even low levels of exposure have been shown to produce many subtle health effects.
- The developing nervous system of a child can be affected adversely at blood lead levels of less than 10 $\mu\text{g/dL}$. It is often impossible to determine these effects upon clinical examination [2]
- In young children, the effects of low levels of lead may not appear until the children enter school and display learning difficulties, reduction in IQ, or behavior problems [3] Childhood lead poisoning can lead to *irreversible* health effects later in life including neurological damage, renal disease, hypertension and other cardiovascular effects, reproductive toxicity, and developmental problems with their future offspring [1].
- Certain populations of children are at increased risk of lead poisoning. For example, children enrolled in Medicaid, MinnesotaCare or other medical assistance programs are more likely to live in older homes in poor condition, have poor nutrition, and live in urban areas that may contain lead-contaminated soils. Refugees and immigrants are also at increased risk for the same reasons but in addition, they may have been previously exposed and never tested in their countries of origin and their cultural traditions may include practices that could potentially increase a child's exposure to lead based products [2].
- In Minnesota approximately 70,000 children are born every year. In 2007 approximately 93,000 children between birth to 6 years of age had a BLL test done. Of these 93,000 children, 1,098 had blood lead levels of 10 $\mu\text{g/dL}$ or greater and 197 children had a venous blood lead level of 15 $\mu\text{g/dL}$ or greater. [2].
The only definitive way to find out if a child has been exposed to lead is to do a blood lead level test. Administering the Blood Lead Screening Risk Questionnaire alone *without* a blood lead test at 12 and again at 24 months of age does not meet C&TC requirements for completing a blood lead test screening.
- The most common source of lead is found in the dust created by the leaded paint found in houses built before 1978.
- Other common sources of lead in the environment include
 - Bare soil, dust

- Water (from lead pipes)
- Traditional Remedies/Cosmetics such as empacho, pay-loo-ah
- Occupations/Industries such as auto repair/auto body work, construction, industrial machinery/equipment, plumbing, salvaging metal or batteries, jewelry making or repair.
- Hobbies/Miscellaneous such as antique/imported toys, remodeling and repairing/renovating home, firing guns at a shooting range, making stained glass [2]. <http://www.health.state.mn.us/divs/eh/lead/sources.html>

Professional Recommendations:

The Centers for Medicare and Medicaid (CMS) – All children eligible for Medical Assistance or MinnesotaCare programs are considered at risk and must be screened for lead poisoning by receiving a blood lead test at 12 months and 24 months of age. Children between the ages of 36 months and 72 months of age must receive a screening blood lead test if they have not been previously tested for lead poisoning [4].

American Academy of Pediatrics – The AAP and the Centers for Disease Control and Prevention (CDC) recommend universal screening for lead poisoning. Because the prevalence of elevated blood lead concentrations has decreased since 1998, a shift toward targeted screening has begun.

All Medicaid-eligible children must be screened at 12 months and 24 months of age. For children not eligible for Medicaid, several states and some municipalities have developed targeted screening recommendations or policies using suggestions made by the CDC.

Inquire about lead hazards in housing and childcare settings. Some of MDH's current recommendations support screening all children who are at risk -

- Receiving services from Minnesota Care (MnCare), the Supplemental Food Program for Women, Infants, and Children (WIC), or Medical Assistance (MA) – which includes the Prepaid Medical Assistance Program (PMAP);
- The child lives within the city limits of Minneapolis or St. Paul

see MDH guidelines for a complete list of recommendations: <http://www.health.state.mn.us/divs/eh/lead/index.html>

Recent immigrants, refugees, or international adoptees should be screened on arrival in the United States. Provide anticipatory guidance to parents of all infants and toddlers about preventing lead poisoning in their children. <http://www.health.state.mn.us/divs/eh/lead/faqs.html>

In areas with old housing and lead hazards, encourage application for HUD or other funding available for remediation [3].

Resources: (Accessed February 15, 2011)

- Minnesota Department of Health (MDH), Lead Poisoning Prevention
 - <http://www.health.state.mn.us/divs/eh/lead>
 - Fact Sheets and brochures <http://www.health.state.mn.us/divs/eh/lead/fs/index.html>
 - Screening and clinical treatment guidelines available at: <http://www.health.state.mn.us/divs/eh/lead/reports/index.html>
- Hagan JF, Shaw JS, Duncan PM, eds. (2008). *Bright Futures: Guidelines for health supervision of infants, children and adolescents, 3rd edition*. Elk Grove Village, IL: American Academy of Pediatrics. Available online: <http://www.brightfutures.aap.org>
- Centers for Disease Control and Prevention (CDC), Childhood Lead Poisoning Prevention Program website: <http://www.cdc.gov/nceh/lead>
- Minnesota Department of Human Services (DHS)
 - Periodicity Schedule of Age-Related Screening Standards. Available online: <http://edocs.dhs.state.mn.us/lfservlet/Legacy/DHS-3379-ENG>



- Minnesota Health Care Programs (MHCP) Provider Manual Available online:
<http://www.dhs.state.mn.us/provider/ctc>
- DHS C&TC Provider Guide Available online:
<https://edocs.dhs.state.mn.us/lfs/legacy/DHS-4212-ENG>
- DHS C&TC Documentation Forms, [Online] http://www.dhs.state.mn.us/id_028848
- National Center for Healthy Housing (NCHH). Toys and childhood lead exposure Fact Sheet. Available online at: <http://www.nchh.org/Portals/0/Contents/factsheet-toysleadexposure.pdf>
- U.S. Consumer Product Safety Commission (CPSC). Recalls and product safety for toys. Website: <http://www.cpsc.gov>

References: (Accessed February 15, 2011)

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2. MDH, Environmental Health Division. *2009 Blood Lead Surveillance Report*. Retrieved from, <http://www.health.state.mn.us/divs/eh/lead/reports/surveillance/profile2009.pdf> (<http://www.health.state.mn.us/divs/eh/lead/reports/index.html>)
3. American Academy of Pediatrics, Committee on Environmental Health. (2005, Reaffirmed May 2009). Lead exposure in children: Prevention, detection, and management. *Pediatrics*, 116 (4), 1036-1046. Retrieved from, <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;116/4/1036>
4. Centers for Medicare and Medicaid Services (CMS). EPSDT Benefits. Lead toxicity screening. Retrieved from, http://www.cms.hhs.gov/MedicaidEarlyPeriodicScrn/02_Benefits.asp