

## Pediatric Rules and Reminders

### Elevated Lead, Due for retesting

#### **Clinician Summary**

American Academy of Pediatrics Policy Statement:

Because recent epidemiologic data have shown that lead exposure is still common in certain communities in the United States, the Centers for Disease Control and Prevention recently issued new guidelines endorsing universal screening in areas with 27% of housing built before 1950 and in populations in which the percentage of 1- and 2-year-olds with elevated BLLs is 12%. For children living in other areas, the Centers for Disease Control and Prevention recommends targeted screening based on risk-assessment during specified pediatric visits.

US Preventative Service Task Force:

Screening for elevated lead levels by measuring blood lead at least once at age 12 months is recommended for:

- All children at increased risk of lead exposure.
- All children with identifiable risk factors.
- All children living in communities in which the prevalence of blood lead levels requiring individual intervention, including residential
- Lead hazard control or chelation therapy, is high or is undefined.

Evidence is currently insufficient to recommend an exact community prevalence below which targeted screening can be substituted for universal screening. Clinicians can seek guidance from their local or State health department.

There is insufficient evidence to recommend for or against:

- Routine screening for lead exposure in asymptomatic pregnant women, but recommendations against such screening may be made on other grounds.
- Counseling families about the primary prevention of lead exposure, but recommendations may be made on other grounds.

Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP) ACCLPP Recommendations for Health-Care Providers:

- All children enrolled in Medicaid should be screened with a blood lead test at ages 12 and 24 months or at ages 36--72 months if they have not previously been screened.

ACCLPP recommends administration of a blood lead screening test for all children enrolled in Medicaid at ages 12 and 24 months; children who have not previously been screened should be tested at ages 36--72 months (11). Administering a risk-assessment questionnaire instead of a blood lead test does not meet Medicaid requirements.

If children are exposed to lead, their BLLs tend to increase during ages 0--2 years and peak at ages 18--24 months (12). Therefore, screening is recommended at both ages 1 and 2 years to identify children who need medical management and environmental and public health case management (2). Identifying a child with an

elevated BLL at age 1 year might prevent additional increases during ages 1--2 years.

In addition, a child with a BLL <10 µg/dL at age 1 year might have an elevated level by age 2 years, underscoring the importance of rescreening at age 2 years. For example, among children at selected clinics in high-risk areas of Chicago in 1997, the prevalence of elevated BLLs (>10 µg/dL) was 17% among children approximately aged 1 year and 29% among children approximately aged 2 years (Helen Binns, M.D., M.P.H., Children's Memorial Hospital, Northwestern University Medical School, personal communication, January 2000). Thirty-nine percent of children whose BLLs were <10 µg/dL at age 1 year (during 1995--1996) were retested at age >2 years (during 1996--1997), and 21% had developed elevated BLLs since their initial screening. Screening is recommended for previously untested children aged <6 years to rule out subclinically elevated BLLs during critical stages of development.

Within the state or locale for which this recommendation is made, child health-care providers should use a blood lead test to screen. Children at ages 1 and 2, and children 36-72 months of age who have not previously been screened, if they meet one of the following criteria:

- Child resides in one of these zip codes: [place here a list of all zip codes in the state or jurisdiction that have 27% of housing built before 1950. This information is available from the U.S. Census Bureau.]
- Child receives services from public assistance programs for the poor, such as Medicaid or the Supplemental Food Program for Women, Infants, and Children (WIC).
- Child's parent or guardian answers yes or don't know to any question in a basic personal-risk questionnaire consisting of these three questions:
  - Does your child live in or regularly visit a house that was built before 1950? [This question could apply to a facility such as a home, day-care center, or the home of a babysitter or relative.]
  - Does your child live in or regularly visit a house built before 1978 with recent or ongoing renovations or remodeling (within the last 6 months)?
  - Does your child have a sibling or playmate who has or did have lead poisoning?

In the absence of a statewide plan or other formal guidance from health officials, universal screening for virtually all young children, as called for in the 1991 edition of Preventing Lead Poisoning in Young Children (CDC, 1991), should be carried out.

Massachusetts Department of Public Health Childhood Lead Poisoning Prevention Program (CLPPP):

The Massachusetts Lead Law requires that all children be tested for lead between the ages of 9 and 12 months, and again at ages 2 and 3. Additionally, all children living in one of Massachusetts 20 communities considered at high risk for lead poisoning must also be tested at age 4.

This reminder prompts clinicians to retest individuals who have the following recorded indicators within the electronic health record (EHR) system:

- Age < 5 years; and
- most recent lead test (capillary or venous)  $\geq 10$

## References

1. Commonwealth of Massachusetts, Departments of Public Health. Lead Poisoning: Facts and Guidelines; 2002.
2. AMERICAN ACADEMY OF PEDIATRICS POLICY STATEMENT, Screening for Elevated Blood Lead Levels, PEDIATRICS Vol. 101 No. 6 June 1998, pp. 1072-1078.
3. US Preventative Service Task Force, Screening: Elevated Lead Levels in Childhood and Pregnancy; 1996.
4. Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP), Recommendations for Blood Lead Screening of Young Children Enrolled in Medicaid: Targeting a Group at High Risk. MMWR; Dec 08, 2000/49(RR14); 1-13.
5. Centers for Disease Control and Prevention (CDC) National Center for Environmental Health (NCEH), Screening Young Children for Lead Poisoning: Guidance for State and Local Public Health Officials. CDC; Nov 1997.

## Web Links

1. American Academy of Pediatrics (AAP)  
<http://aappolicy.aappublications.org/cgi/content/abstract/pediatrics;101/6/1072>
2. Massachusetts Department of Public Health Childhood Lead Poisoning Prevention Program (CLPPP)  
<http://www.mass.gov/dph/clppp/>
3. US Preventative Service Task Force  
<http://www.ahrq.gov/clinic/uspstf/uspstflead.htm>
4. Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP)  
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4914a1.htm>
5. Centers for Disease Control and Prevention (CDC) National Center for Environmental Health (NCEH)  
<http://www.cdc.gov/nceh/lead/guide/guide97.htm>

## **Implementation Notes**

Rule category	Lead Screening
Rule title	Elevated Lead, due for retesting
Primary Clinical Area	Pediatrics
Secondary Clinical Area	
Risk Group Definition	Age < 5 years
Details for Risk Group	N/A
Triggering Condition	Most recent lead test (capillary or venous) $\geq 10$
Details for Triggering	PB (Blood Lead)
Condition	
Displayed Message	Patient's most recent lead test is $\geq 10$ . Re-testing is recommended.
Coded Responses	Snooze Periods
A: Done today B: Done elsewhere C: Patient refuses D: Deferred E: Other F: G: H:	A': Forever B': Forever C': 1 month D': 1 month E': 1 month F': G': H':

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