

UTAH CHILDHOOD BLOOD LEAD SCREENING RECOMMENDATIONS

Background:

Lead poisoning can affect nearly every system in the body. Because lead poisoning often occurs with no obvious symptoms, it frequently goes unrecognized. Lead poisoning can cause learning disabilities, behavioral problems, and, at very high levels, seizures, coma, and even death.

The major source of lead exposure among U.S. children is lead-based paint and lead-contaminated dust found in deteriorating buildings. Lead-based paints were banned for use in housing in 1978. Eighty-three percent of all homes built in the United States before 1978 still contain some lead-based paint at a concentration of at least one mg/cm². The older the house, the more likely it is to contain lead-based paint and to have a higher concentration of lead in the paint. Housing built before 1950 poses the greatest risk of exposure to children.

Children under the age of 6 years are at highest risk, because they are growing so rapidly and because they tend to put their hands or other objects into their mouths. Lead poisoning is entirely preventable. The key is stopping children from coming into contact with lead and treating children who have been poisoned by lead. Children who are at risk of lead poisoning need to be tested, and, if necessary, treated.

The Centers for Disease Control and Prevention (CDC) has identified national risk factors for children with elevated blood lead levels. Those risk factors include living in or regularly visiting older housing, other children in the family or neighborhood with elevated blood lead levels, adults of the family who participate in lead-related occupations or hobbies, and living in a neighborhood that is close to active industries that can potentially release lead into the atmosphere, race, ethnicity and low income.

The United States General Accounting Office (GAO) published a report on elevated blood lead levels in children. The basis of the GAO report was from their analysis of the most recently released phase of the National Health and Nutrition Examination Survey (NHANES). According to the GAO report, children receiving Medicaid were more than three times as likely to have elevated blood lead levels compared to children not under Medicaid.

Five years ago, the Lead Screening Advisory Committee convened by the Environmental Epidemiology Program (EEP) developed and approved a lead screening policy for children ages between one and two years and from 36-72 months of age for the Utah Department of Health. That policy is reviewed below. That Advisory Committee recommended that the policy be reviewed in three to five years, after completion of the "Prevalence of Elevated Blood Leads in Utah Medicaid Children" study that would determine if Medicaid children in Utah are at increased risk for lead poisoning compared to non-Medicaid children. If this study demonstrated that Utah Medicaid children were at higher risk for lead poisoning than non-Medicaid children, universal screening of all Medicaid children would be added to the screening policy. That study demonstrated that Utah Medicaid children were not at increased risk for lead poisoning.

Existing Screening Policy

All children in Utah, that live in a zip code that has $\geq 27\%$ pre-1950 housing*, should have at least one venous or capillary blood lead test, at one and two years of age, and children 36-72 months of age who have not been screened previously.

In addition, since age of housing has been identified as the major risk factor for childhood lead poisoning in Utah, all children in Utah living in Pre-1978 housing should have at least one venous or capillary blood lead test between the ages of 12 and 24 months and children 25-72 months of age should have a blood lead test if the child has not been previously screened.

Note: Whenever a parent or health care provider suspects that a child is at risk for lead exposure, a blood lead test should be performed regardless of health department recommendation.

CDC recommends the use of 27% pre-1950 housing as a cut-off point for universal screening in designated areas. Housing data can be used as a proxy for BLL data; 27% of U.S. housing stock was built before 1950.

New Information

The study of “Prevalence of Elevated Blood Lead Levels in Utah Medicaid Children,” found that elevated blood lead levels in children ages 12 to 36 months old in Utah, enrolled in Medicaid were not higher than the prevalence in non-Medicaid children in Utah. This study demonstrated that Medicaid status is not a risk factor in Utah for lead poisoning. This result was important because in other parts of the country, Medicaid-eligible children had higher prevalence rates of elevated blood lead.

Risk factors for lead poisoning in Utah Medicaid children identified by the Medicaid study include: minority race, male children, placing fingers in the mouth, chewing on toys, eating dirt or other non-food items, living in an urban neighborhood, peeling or chipping paint in the home, and living in pre-1950 housing.

Proposed Screening Policy:

Based on the above findings, the Environmental Epidemiology Program recommends that the existing policy be continued without change.

Implementation of the screening policy:

- 1) The statewide screening recommendations will be distributed to state agencies, local health officers and child health care providers.
- 2) The EEP will develop a pamphlet to increase the needed awareness in parents and health care providers to be able to more sufficiently screen children who have not been previously screened for EBLL's.

3) In determining if a child is at risk of lead poisoning the child's health care provider should use the following basic-risk questionnaire. If a parent/guardian responds "yes" or "don't know" to any of the questions the child should be screened.

1 – 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.

2 – 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)?

3 – Does your child have a sibling or playmate who has or did have lead poisoning?

4 – Does your child live near or play on tailings from mining or milling operations?

*A list of Utah Zip Codes, with \$ 27% of housing built before 1950 is found on page 4.

**Zip Codes With Greater Than or Equal to 27% of
Housing Built Before 1950 (2000 Census)**

Beaver: 84713, 84751, 84752
Box Elder: 84301, 84306, 84307, 84309, 84311, 84312, 84313, 84314, 84316, 84324, 84329,
84330, 84331, 84334, 84336, 84340
Cache: 84304, 84305, 84320, 84326, 84328, 84333, 84335, 84338, 84339
Carbon: 84501, 84520, 84526, 84529, 84539
Daggett: percent of housing built before 1950 is less than 27% in all zip codes.
Davis: percent of housing built before 1950 is less than 27% in all zip codes.
Duchesne: 84073
Emery: 84522, 84523
Garfield: 84712, 84718, 84726, 84759, 84776
Grand: percent of housing built before 1950 is less than 27% in all zip codes.
Iron: 84753, 84760, 84761, 84772
Juab: 84628, 84639, 84648
Kane: 84758
Millard: 84631, 84635, 84636, 84637, 84638, 84640, 84650, 84656
Morgan: 84018
Piute: 84723, 84732, 84740, 84743, 84750
Rich: 84064, 84086
Salt Lake: 84006, 84101, 84102, 84103, 84104, 84105, 84106, 84108, 84111, 84115
San Juan: 84530
Sanpete: 84621, 84622, 84623, 84627, 84629, 84630, 84632, 84634, 84642, 84643, 84646,
84647, 84662, 84667
Sevier: 84620, 84652, 84654, 84657, 84701, 84724, 84730, 84744, 84754, 84766
Summit: 84024
Tooele: 84034, 84069, 84071, 84080
Uintah: 84076
Utah: 84626, 84633
Wasatch: percent of housing built before 1950 is less than 27% in all zip codes.
Washington: 84733
Wayne: 84715, 84747, 84749
Weber: 84401