

# Child Lead Screening at a Glance

## Minnesota Initial Refugee Health Assessment

<b>Please fill in for all refugees:</b>	HEIGHT (in)	WEIGHT (lbs)	HEAD CIRCUM. (< 3 yrs old, cm)	PULSE	BP- SYS/DIAS
	BLOOD GLUCOSE (mg/dL)	HEMOGLOBIN	HEMATOCRIT %	VIT. B12 (pg/ml)	LEAD (<17 yrs old)

- Lead poisoning is an important health issue facing children around the world, and refugees may be at special risk.
- Children are at special risk of lead poisoning due to higher gastrointestinal absorption, hand-to-mouth activity, and spending time on or near floors where lead dust may be present.
- Refugee children had up to three times the risk of lead poisoning compared with the general population of Minnesota children. MDH 2011 data suggests that up to 2 percent of newly arrived refugee children less than 17 years of age in Minnesota had lead levels greater than 10 micrograms of lead per deciliter of blood (ug/dL) in past years.
- Lead’s effects on children may occur with no overt outward symptoms and blood lead testing is the only way to determine whether exposure has occurred.
- The MDH Childhood Lead Poisoning Prevention Program (MN CLPPP) recommends that all refugee children under 17 years of age arriving in Minnesota receive a blood lead test.



In 2010, Refugee children had up to three times the risk of lead poisoning compared with the general population of Minnesota children. Between 2004–2011 3 percent of newly arrived refugee children less than 17 years of age in Minnesota who received a screening had elevated lead levels.

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## Key Resources

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MDH Lead Poisoning Prevention Program

651-201-4620

800-657-3908 (toll free)

[www.health.state.mn.us/divs/eh/lead/](http://www.health.state.mn.us/divs/eh/lead/)

CDC Lead Poisoning Prevention Program

[www.cdc.gov/nceh/lead/](http://www.cdc.gov/nceh/lead/)

# Child Lead Screening

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## Purpose

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Blood lead testing of refugees will help identify children who require medical intervention or additional effort to avoid continued lead exposure. This may include investigation of prospective housing and education of families about preventing lead exposure.

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## Background

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While exposure of U.S. children to lead occurs primarily from lead-based paint chips and dust in older homes, in many parts of the world lead exposure still occurs through other routes. This is due to combustion of leaded gasoline, smelters, chemical or battery plants, burning of fossil fuels and solid waste, ammunition manufacturing and use, use of lead as a bearing element in rural flour mills, and traditional remedies or foods, where lead compounds are added to increase weight or as a dye. Several factors increase the potential for lead exposure in developing countries, including poor nutrition, environmental pollution, absent or lax environmental regulations, hot climates that imply a prolonged stay in the outdoor environment, airy housing construction, and concentration of populations around traffic arteries.

The blood lead reference value in the U.S. was set at 5 µg/dl in 2012 by the Centers for Disease Control and Prevention (CDC) and MDH. However, the effects of lead depend on the dose and recent literature indicates there is no “safe” level of exposure. High lead levels are associated with toxicity to all major organ systems, and even death, while lower levels are associated with deficits in neurological development and changes in behavior. A child’s lead



exposure may begin in utero due to mobilization of maternal bone lead stores and ongoing maternal lead exposure. Neurotoxic and behavioral effects of lead are irreversible and may not be observed until the child enters school, even though exposure occurred in utero or during the first two years of life. Younger children are more susceptible to lead poisoning than older children due to higher gastrointestinal absorption, hand-to-mouth activity, and spending time on or near floors where lead dust may be present.

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## Information Summary

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The information that follows is a summary of pertinent information about child lead screening. This summary is designed to assist the provider in completing the child lead screening section of the *Minnesota Initial Refugee Health Assessment*, and in providing appropriate diagnosis and treatment in the event that the screening test is positive.



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## Screening

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- Refugee screening clinics should perform venous blood lead tests for all new refugee children under 17 years old.
- If a capillary test is performed and is greater than 5 ug/dL, it should be confirmed with a venous test.
- The laboratory will send a copy of the lead result to the clinic that performed the test. If the level is elevated the clinic will be responsible for getting the child back in for a re-test, or performing medical intervention. The local public health agency will assist with these efforts.
- Follow-up activities may include investigation of the child's home and other environments for lead hazards, as well as testing of all family members.
- You may consult the MDH guidelines (available on the lead program website: [www.health.state.mn.us/divs/eh/lead/guidelines/index.html](http://www.health.state.mn.us/divs/eh/lead/guidelines/index.html)) for information on follow-up activities at different blood lead levels. The MDH State Case Monitor keeps in touch with local health agencies about follow-up testing and intervention.

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## Risk Reduction

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- Most lead exposure for children in the U.S. is dust from deteriorated lead paint in homes. Other sources are drinking water, soil, herbal remedies and spices, and “take-home” lead from a parent's occupation or hobby.
- To reduce exposure, parents should wash children's hands, pacifiers, bottles, and toys frequently with soap and water.
- If a home was built before 1978, any chipping and peeling paint should be repaired using lead-safe work practices or by a qualified contractor. Information on lead-safe work practices can be found in the “Homeowner” section of the MDH lead program website ([www.health.state.mn.us/divs/eh/lead/homeowners/index.html](http://www.health.state.mn.us/divs/eh/lead/homeowners/index.html)).
- Exposure to lead in older homes can be reduced by wet washing with detergent or using a HEPA vacuum. A regular vacuum should not be used for lead hazard reduction because it spreads the dust around more.
- Work clothes should be removed before entering the home and washed separately from the family's clothes.
- Lead education materials are available from MDH in Hmong, Karen, Spanish, and Somali.
- Traditional remedies and products, used in their home country, can often contain high levels of lead, so it is important to ensure they are lead-safe before use.