

Prenatal—Risk Assessment of Lead Exposure: Education and Anticipatory Guidance



1. Primary prevention of childhood lead poisoning begins before birth
2. All pregnant women should be given anticipatory guidance about potential lead exposure
3. A risk assessment questionnaire (appendix) may be useful in identifying areas of risk reduction for counseling
4. Recommendations for women with affirmative responses
 - a. Any children in the household should have a blood lead test
 - b. Provide information on environmental sources of lead and how to reduce or eliminate exposure
 - c. Provide nutrition counseling to reduce absorption of ingested lead
 - i. Eat frequent and regular meals. Environmental lead is more easily absorbed on an empty stomach
 - ii. Increase the amount of iron and calcium in diet
 - a. Iron - lean red meat, poultry, fortified breads & cereals, cooked legumes (dried beans/peas), spinach
 - b. Calcium—milk, yogurt, cheese, cooked greens, calcium fortified orange juice
 - d. Refer the woman to the Office of Safety and Health Administration if occupational exposure is suspected
 - e. Assessment of maternal blood lead levels in asymptomatic pregnant women solely on the basis of an affirmative response is not recommended
 - i. There are no guidelines regarding medical treatment for women with elevated blood lead levels during pregnancy
 - ii. There are no guidelines that quantify fetal risk on the basis of maternal blood lead levels



*ODH medical guidelines are pending Federal Centers for Disease Control recommendations.

References:

- Ernhart CB. A critical review of low-level prenatal lead exposure in the human: 1. effects on the fetus and newborn. *Reproductive Toxicology*. 1992; 6:9-19.
- Gardella C. Lead exposure in pregnancy: A review of the literature and argument for routine prenatal screening. *Obstetrical and Gynecological Survey*. 2001; 56:231-238.
- Klitzman S et al. Lead poisoning among pregnant women in New York City: Risk factors and screening practices. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*. 2002; 79:225-237.
- Shannon M. Severe lead poisoning in pregnancy. *Ambulatory Pediatrics*. 2003; 3:37-39.
- Stefanak MA et al. Use of the Centers for Disease Control and Prevention childhood lead poisoning risk questionnaire to predict blood lead elevations in pregnant women. *Obstetrics Gynecology*. 1996; 87:209-212.
- The State of New York Health Department (<http://www.health.state.ny.us/nysdoh/lead/handbook/phc10.htm>)
- The State of Minnesota Health Department

Prenatal Risk Assessment Questions for Lead

- ① Sometimes pregnant women have the urge to eat things which are not food, such as clay, soil, plaster or paint chips. Do you ever eat or chew on non-food items? YES NO
- ② Do you live in or regularly visit an old house (built before 1950) with ongoing renovations that generate a lot of dust (e. g. sanding, scraping)? YES NO
- ③ Do you live in or regularly visit an old house (built before 1950) that has peeling, chipping, dusting or chalking paint? YES NO
- ④ Do you have children in the household with lead poisoning? YES NO
- ⑤ Do you have a history of lead poisoning? YES NO
- ⑥ To your knowledge, has your home been tested for lead in the water, and if so, were you told that the level was high? (>15 parts per billion (ppb) or micrograms per liter (mcg/L) is considered high.) YES NO
- ⑦ Do you use non-commercially prepared pottery or leaded crystal? YES NO
- ⑧ Do you or others in your household have an occupation (see below) involving lead exposure? YES NO

Lead abatement	Use of lead-based paints	Home renovation/restoration	Metal scrap yards/other recycling
Manufacturing/installation of plumbing components	Brass/copper foundry	Glass recycling, including	Occupations using firearms stained glass
Firing range work	Pottery making	Production/use of chemical preparations	Bridge, tunnel and elevated highway construction
Motor vehicle parts and accessories	Automotive repair shops	Industrial machinery manufacturing	Battery manufacturing/repair

- ⑨ Do you use any traditional folk remedies or cosmetics (see below) that are not sold in a regular drug store or are homemade, which may contain lead? YES NO

Alkohl (kohl, surma)	Azarcon (reuda, liga, coral, alarcon, maria luisa)	Bali goli
Ghazard	Greta	Pay-loo-ah

- ⑩ Do you or others in your household have any hobbies or activities likely to cause lead exposure (see below)? YES NO

Scraping, sanding, or burning lead-based paint on household structures or furniture	Making or painting on stained glass	Copper enameling	Bronze casting
Making pottery/ceramic ware with lead glazes/paints	Casting ammunition, fishing weights or lead figurines	Collecting, painting, or playing games with lead figurines	Jewelry making with lead solder
Electronics with lead solder	Print making (using lead white, flake white, and chrome yellow pigments)	Liquor distillation	Hunting and target shooting

Yes response = please refer patient to one of the Ohio Lead Regional Resource Centers (RRC) for education.
Northwest RRC = Andrea Cook, 419-447-3691 ext 132
Southwest RRC = Tyree Sherrer, 513-357-7424
Eastern Ohio RRC = Nick Cascarelli, 330-270-2855 ext 138