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LEAD POISONING IN YOUNG CHILDREN

The Center of Disease Control has for some time mandated that Pediatricians screen children for lead poisoning. The target populations have been changed and significantly modified over the past few years for screening frequency, intervention, and treatment. It is important to note that lead poisoning is NOT solely a problem of inner city or minority children! Scientific evidence now shows that adverse effects occur with blood lead levels as low as 10 micrograms in the blood. This "acceptable lead level" has decreased quite a bit over the past few years. Despite the mandate, almost 1 million children in the United States have elevated levels of lead in their blood

Young children, usually less than 6 years old, are obviously prone to have an increased lead exposure because their normal hand-to-mouth activity may introduce many non-food items into the gastrointestinal tract. Children with lead exposure may have problems with brain development, learning disabilities, nerve conduction, cognitive development, seizures, coma, kidney problems and anemia. Children may ingest significant amounts of lead from the following sources:

• Dust and paint chips from old lead based paint
• Homes built before 1950, particularly those that are in need of repair or are in deteriorating condition
• Homes built before 1978 that are being renovated
• Soil that has lead in it
• Hobby materials such as stained glass, paints, solders, fishing weights, and buckshot
• Folk or foreign remedies
• Breathing in dust contaminated with lead (as in painters who scrape old paint)
•Drinking water from pipes held together with lead solder
• Workplace dust brought home on the clothing of people who have jobs that use lead, such as foundry workers, smelter workers, and radiator repair mechanics
• Food stored in some ceramic dishes (especially if made in another country)
• Older painted toys and antique furniture such as cribs
• Tap water in older homes that have lead pipes or lead solder in their pipes
• Automobile batteries

Children with high lead levels are almost universally without symptoms. Certain hobbies may expose children to lead. Children may ingest soil contaminated with lead from paint, which has flaked off. You may have heard that children can be harmed by the lead in

pencils. There is no actual lead in pencils and there is no lead in the paint; pencils contain graphite, which is harmless. It is important to note that lead does not dissipate, biodegrade, or decay. The lead deposited in the soil may remain in the upper level of the soil's surface for an indeterminate amount of time.

Children will routinely be tested for lead exposure at the 18 month exam. If your child is HIGH RISK (see below), then please inform us and we will test your child earlier. The earliest time to even consider testing a child is at 6 months of life. A HIGH RISK CHILD is one who is positive for the following factors:

1. Does your child live in or regularly visit a house that was built before 1950, including a home child care center or the home of a relative?
2. Does your child live in or regularly visit a house built before 1978 that has been remodeled in the last 6 months? Are there any plans to remodel?
3. Does your child have a brother, sister, housemate, or playmate who is being treated for lead poisoning?
4. Does your child live with an adult whose job or hobby involves exposure to lead?
5. Does your child live near an active lead smelter, battery-recycling plant, or other industry likely to release lead into the environment?
6. Does your child live within 1 block of a major highway or busy street?
7. Has your child ever been given home remedies such as azarcon, greta, or pay looah?
8. Has your child ever lived outside the United States?
9. Does your family use pottery or ceramics for cooking, eating, or drinking?
10. Have you seen your child eat paint chips?
11. Have you seen your child eat soil or dirt?
12. Have you been told your child has low iron?

(Adapted from the Centers for Disease Control and Prevention's *Screening Young Children for Lead Poisoning: Guidance for State and Local Public Health Officials)*

You may choose to ask us to screen your child prior to the 18 month exam if you answer "yes" to any of the following questions, especially numbers 1, 2, and 3.

You may prevent lead exposure by doing the following:

• If your home was built before 1950, inform us so that we may test your child for lead.
• If your home was built before 1978, talk with us about safe ways to remodel *before* any work is done.
• When removing lead paint, be sure to use a certified contractor. Trying to remove the paint on your own can often make the condition worse. Know your state's laws regarding lead removal. Some states only allow certified contractors to remove all lead. Be sure to seal off the room or area you are remodeling with heavy plastic until the job is done.
• Clean and cover any chalking, flaking, or chipping paint with a new coat of paint, duct tape, or contact paper. It is important to check for paint dust or flaking paint at window areas where children often play. Be aware that these are temporary measures only, and that lead must be completely removed for your child's best protection.
• Repair areas where paint is dusting, chipping, or peeling before placing cribs, playpens, beds, or highchairs next to them.

• Wet mop floors, damp sponge walls and horizontal surfaces, and vacuum with a high-efficiency particulate air vacuum (HEPA vac) if you are concerned about the possibility of lead dust in your home. Although good cleaning is a temporary solution, complete removal of the lead is extremely hard to do but is certainly the best protection.
• Encourage your children to wash their hands often, especially before eating.
• Have your home or apartment checked for possible lead contamination before moving in. Keep in mind that landlords are legally responsible for removing any lead found on their property.
• If you work around lead or have hobbies that involve lead, change clothes and shoes before entering your home. Keep clothes at work or wash work clothes as soon as possible.
• Check with us or your health department to see if your area has a problem with lead in the water.
• If you have lead pipes, run the first morning tap water for 2 minutes before using it for drinking or cooking. Use cold tap water for mixing formula, drinking, or cooking because hot tap water can have higher amounts of lead in it.
• Make sure your child eats a well balanced diet. Give your child nutritious, low-fat foods that are high in calcium and iron, like meat, beans, spinach, and low-fat dairy products. Calcium and iron in particular reduce the amount of lead absorbed by the body.

If your child has a documented high blood lead level from a finger stick sample, we will need to obtain another sample by taking blood from a vein in their arm. If this confirmatory level is also elevated, we may either again re-test your child in 3 or 6 months (depending on the level of lead in the blood), or refer you for further investigation.

The blood lead level will be obtained with a stick from your child's finger by our office nurse. Since all blood draws cause some discomfort to the child, we will request that the parents help hold the child as we obtain the blood specimen so that we do not harm the child or have to stick more than once. We <u>will</u> certainly give you a telephone call if your child's level is 10 or above. If it is less than 10, we will <u>NOT</u> phone you and you may safely assume your child's lead level is normal. We track the lead levels METICULOUSLY and will follow-up on all the lab results.

The treatments for lead poisoning include:
For children with *low* levels of lead in their blood, the local health department should be contacted to identify and eliminate the sources of lead to avoid future health problems.
Children with *high* levels of lead in their blood usually need to take a drug that binds the lead in the blood and helps the body get rid of it. This treatment may be given as a series of shots or as oral medicine depending on the severity of the lead poisoning.
Some children with lead poisoning need more than one type of treatment and several months of close follow-up. If the damage is severe, the child will be admitted to the hospital for chelation therapy by I.V.

Thank you for your understanding and if you have any questions about lead poisoning or detection, please ask the Doctor or the Nurse.

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