



**Massachusetts
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Society**

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Op Ed – Should We Be Worried About Lead Poisoning In Our Children?

Lead is a neurotoxin, yet lead poisoning is a preventable and treatable disease. These facts are important to remember as we follow reports about the Flint, Michigan lead exposures and the recent warning in Jackson, Mississippi not to drink tap water due to elevated lead levels in some homes (www.nbcnews.com, Feb 25 2016 'People Are Scared': Jackson, Mississippi, Copes With Lead Alarm). Members of the Massachusetts Neuropsychological Society (www.massneuropsychology.org) praise the Boston Globe for informing us about the status of our own water system with regard to environmental risk to our children (“Lead declines in Boston-area water supply, but caution still advised” Feb 21, 2016). In that vein, we would like to provide more information about the prevalence, impact, and intervention for exposure to lead in young children.

The irony of these reported situations in Michigan and Mississippi is that reduction and prevention of lead poisoning was a major public health achievement of the late 20th century in the US. National data collected from 1976-1980 showed that 88 percent of children under age 6 had levels of 10 micrograms per deciliter or higher, which in 1991 the Center for Disease Control had deemed as “action levels” for intervention. In 2014, just 0.53 percent of young children reached this level. In Massachusetts in 2014, the percentage was even lower, at 0.37 percent.

How did we accomplish these results? Laws banning lead in gasoline, paint, imports and other sources have resulted in a much lower likelihood of exposure. Recommendations for universal proactive screening of infants provided the opportunity to intervene before damage to the brain or other physiological systems becomes irreversible. Since 1997, screening between 9-12 months and around 24 months is recommended for any child considered to be at risk. The CDC is currently recommending case management for children with blood levels above 5 ug/dl. For children with severe elevations (>45 ug/dl), a medical treatment called chelation can be considered.

Lead absorption can interfere with development of brain networks involved in impulse control, reaction time, thinking, remembering, and other brain-based behaviors. In protracted, systemic exposure - such as living near a highway in the 1960s before unleaded gas became the norm, or ingesting lead from cooking and beverages when it is in the water supply - lead's effects can go undetected and affect large populations in subtle ways.

While most of the lead pipes in Massachusetts water system have been replaced, some homes and some communities still have the old lead service lines that run from the street to individual houses. If you have questions about the connection to your house, you should contact your local water department. In the meantime, the Massachusetts Water Resource Authority website offers some simple, common-sense recommendations to reduce lead exposure.

Lead produces its long-term harm when undetected and untreated. If you or your child has been exposed to lead in the environment, speak to your physician about screening. If lead is detected in your child, understand the protective effects of good nutrition, strong iron and calcium reserves, and aggressive monitoring and treatment.

In cases where high lead levels are identified in screening, your physician may refer your child for neuropsychological or developmental assessment. Children with a preexisting neurological condition may be at greater risk. Neuropsychologists are among the experts on development and brain function who created and refined the methodology to understand how lead affects cognition.

Flint and Jackson remind us that we all need to be educated, vigilant, and advocate to prevent exposure to lead, even here in Massachusetts.

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