

The Harmful Effects of Lead on Children's Health

Ensuring children's healthy growth and development should be a priority for all North Carolinians. Ending childhood lead exposure is one way to protect their long-term health. In North Carolina, public health officials have been working for more than 30 years to eliminate childhood lead poisoning - and have come very close to doing so. Child blood lead levels have dropped dramatically population-wide.

Unfortunately, some pockets of high exposure still remain - often in lower-income neighborhoods where older housing and buildings mean that old lead paint and lead pipes are still in use. Timely interventions that protect kids from exposure can help us eliminate childhood lead poisoning once and for all.

There is no safe level of lead exposure

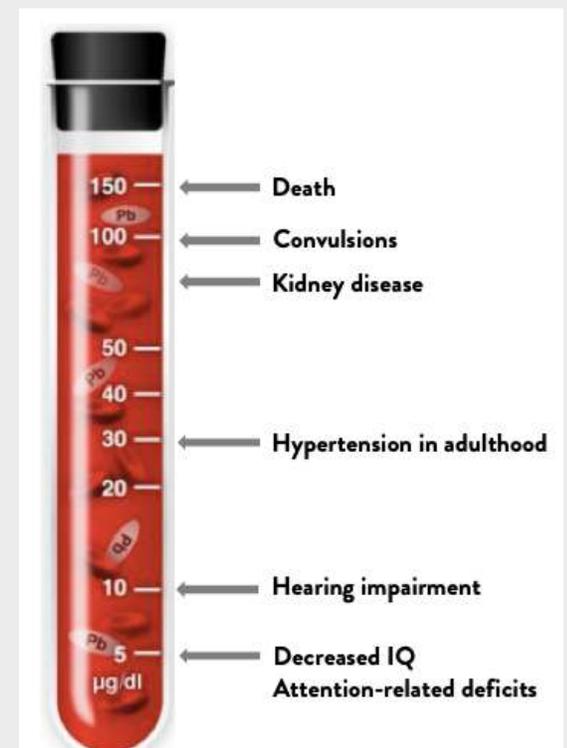
No amount of lead in the body is safe. Even at the lowest levels of exposure, lead can reduce IQ, and harm children's ability to concentrate and focus in school. Lead exposure damages attention and impulse control and can increase aggression. The effects are permanent and can affect a child's long-term health outcomes.¹

Blood lead levels matter. When lead is ingested or inhaled, it enters the bloodstream and becomes a health hazard. North Carolina recently updated the blood lead action level for pregnant women and children under the age of 6, lowering it from 10 to 5 micrograms per deciliter. When blood lead levels meet or exceed the action level, clinicians recommend steps to lower the blood lead level, and remove lead exposures from the child's environment. **But children should not be our lead detectors.** Preventative measures are the most effective way to reduce toxic lead from homes and spaces where children congregate.

Children under the age of 6 are more vulnerable to harm from lead exposure than adults for three important reasons:

- Children's exposures are greater. Children are rapidly growing and have high energy demands. They eat more food, drink more water and breath more air per pound of body weight than adults.

Health Effects of Lead in Children by Blood Lead Level



Source: Kim Gaetz, NC DHHS Division of Public Health. Bellinger, D.C., Bellinger, A.M. (April 2006). Childhood lead poisoning: The torturous path from science to policy. *Journal of Clinical Investigation*, 116(4), 853-7.

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Thus, toxic contaminants like lead are delivered in higher quantities to small children.

- Children's immature organs and systems are more susceptible to damage. Because their body systems are growing, children's ability to detoxify and eliminate toxics is variable, and toxicity may be increased.
- Children do things adults would not. Exploration is key to brain development. Children's age-appropriate behaviors – like putting everything into their mouths – means more frequent exposure than adults would get.

Protecting high-risk communities

Many children in low-income families, families of color, and immigrant families reside in neighborhoods with older housing and older buildings that still contain legacy lead. Lead can persist in paint, water pipes, and appliance fixtures. This can become hazardous if not properly monitored or maintained.ⁱⁱ Common-sense solutions to ending childhood lead poisoning should address structural factors that place some communities at a higher risk of exposure to toxic lead. These include aging and poorly-maintained infrastructure, and the lack of lead surveillance in schools and homes.

Lead Exposure is Preventable

The best way to protect kids from lead exposure is to be proactive about getting rid of lead, rather than waiting for a child to be found with elevated levels in their blood. We can prevent harm, save money, and improve health outcomes for children with common-sense approaches that reduce or eliminate hazardous exposures. These include making sure that all children live in safe, lead-free homes and have access to clean drinking water. Every child deserves the opportunity to grow up in an environment free of developmental hazards.

Citations

i National Institute of Environmental Health Sciences. Lead. Retrieved from <https://www.niehs.nih.gov/health/topics/agents/lead/index.cfm>

ii Pell, M. B. The thousands of US locales where lead poisoning is worse than Flint (December 2016). Reuters. Retrieved from <https://www.reuters.com/investigates/special-report/usa-lead-testing/#interactive-lead>