

Reducing Lead in in Schools

Why is Lead a Concern

EPA REGION 8

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Today's Presentation

- ❑ Children's Environmental Health
- ❑ Health Effects of Lead for Children
- ❑ Sources of Lead in Schools
- ❑ Resources for Schools

Children's Environmental Health

Children's surroundings
-- including the air they
breathe, the water and
food they consume,
and where they live,
learn and play --
influence children's
health



Children have higher exposures to some toxicants than adults due to:



Lower to the ground

Crawling
Hand-to-mouth
behavior



Eating, drinking, &
breathing more

Lack of control over
their environment



Children are not little adults

- More **vulnerable** to harm from the exposure
 - Organ systems still developing
 - Metabolism and excretion not as efficient
 - Adults may suffer little or no harm from exposure to a chemical (lead, mercury, alcohol) when that same exposure can cause life-long damage to a child
- Early chronic exposures pose greater risk
 - Many years within which to become sick



How are children exposed?



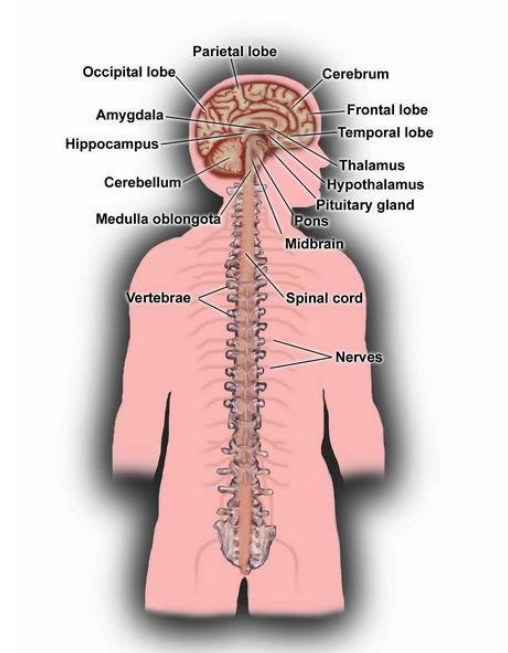
- Ingestion (what we eat and drink)
 - Food & beverages
 - Soil & dust
- Inhalation (what we breathe)
- Skin absorption
- Pre-natal exposures



Why is Lead a Concern?

Health Effects of Lead: For Children

- ❑ Reduced IQ and Attention Span
- ❑ Learning Disabilities
- ❑ Poor Classroom Performance
- ❑ Hyperactivity
- ❑ Behavioral Problems
- ❑ Impaired Growth
- ❑ Hearing Loss



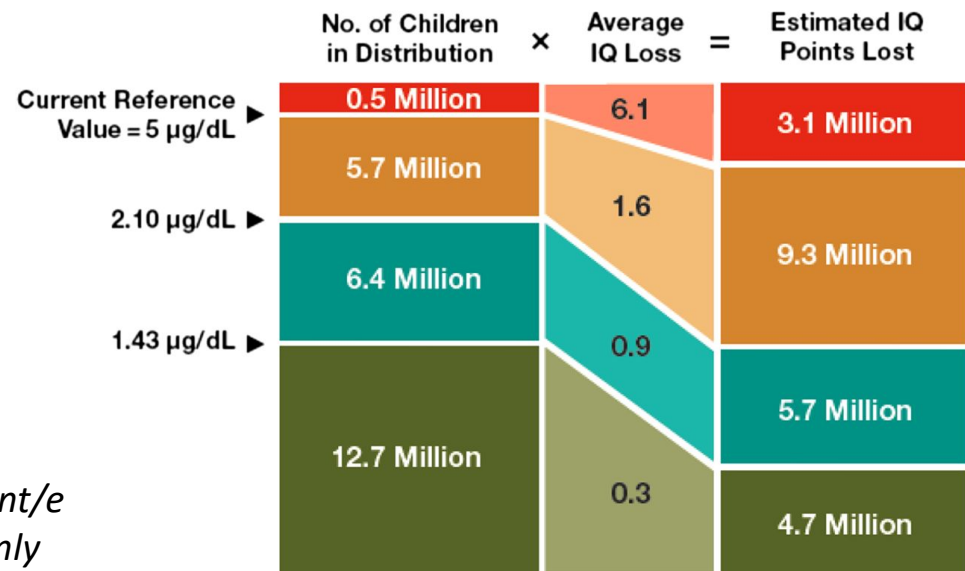
Health Effects of Lead

- Children - cause impaired mental development, behavioral disorders, lower IQ, hyperactivity
- Adults – increase blood pressure risk, mental fog

Lead is odorless and tasteless

<http://pediatrics.aappublications.org/content/early/2016/06/16/peds.2016-1493.figures-only>

Estimated Loss of IQ in US Children at Different Intervals of Blood Lead ($\mu\text{g}/\text{dL}$)



Information About Lead



Lead is a toxic metal that affects multiple body systems, particularly the nervous system.

Lead enters the body primarily through inhalation and ingestion.

Once lead enters the body, it is distributed to the brain, liver, kidney and bones. It is stored in the teeth and bones, where it accumulates over time.

The human body cannot tell the difference between lead and calcium (a mineral that strengthens bones).

Pregnant women and their developing fetus, infants, and young children are most vulnerable to the effects of lead.

Children's Environments:

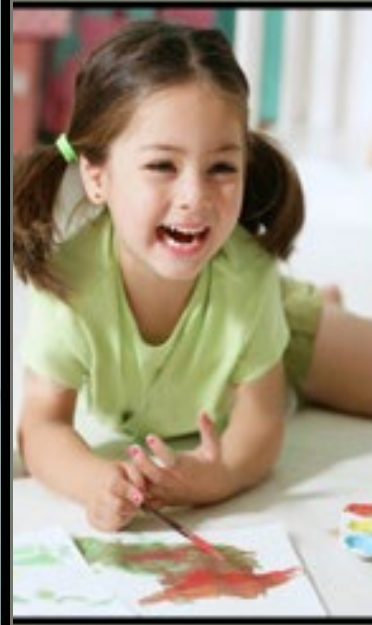
Protecting Children Where they Live, Learn, and Play



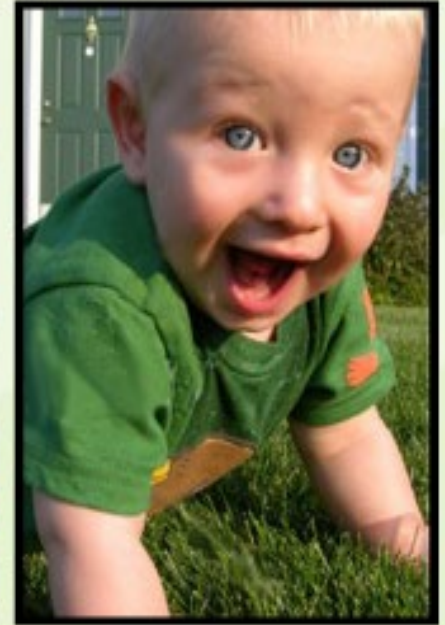
home



school



childcare



outdoors

Nearly 50 million children attend more than 100,000 K-12 schools every day in the U.S.

