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MEDICINE

GOLISANO  
CHILDREN'S HOSPITAL

# Lead:

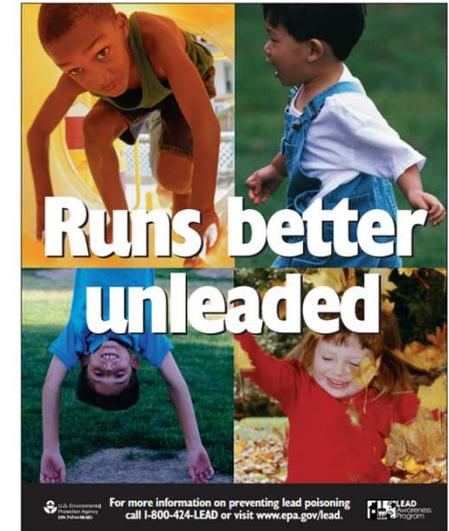
## An Ongoing Threat to Children's Health

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Western NY Lead Poisoning Resource Center

MEDICINE *of* THE HIGHEST ORDER

# Topics of Discussion

- What is lead and where is it found?
- How are children exposed to lead?
- What is lead poisoning?
- What are the long term effects of lead exposure?
- How do we prevent lead exposure?
- What is the role of medical and public health professionals?
- How do we work together to overcome lead poisoning?



# What is lead and where is it found?

Lead is a naturally occurring element, and it has been used in hundreds of ways, including:

Sweetener

Pipes/plumbing

Ammunition

Pewter and bronze

Leaded glass/crystal

Building material

Inks and dyes

Cosmetics

Traditional medicines

Paints and glazes

Gasoline

Radiation shields

Car batteries

Plastics

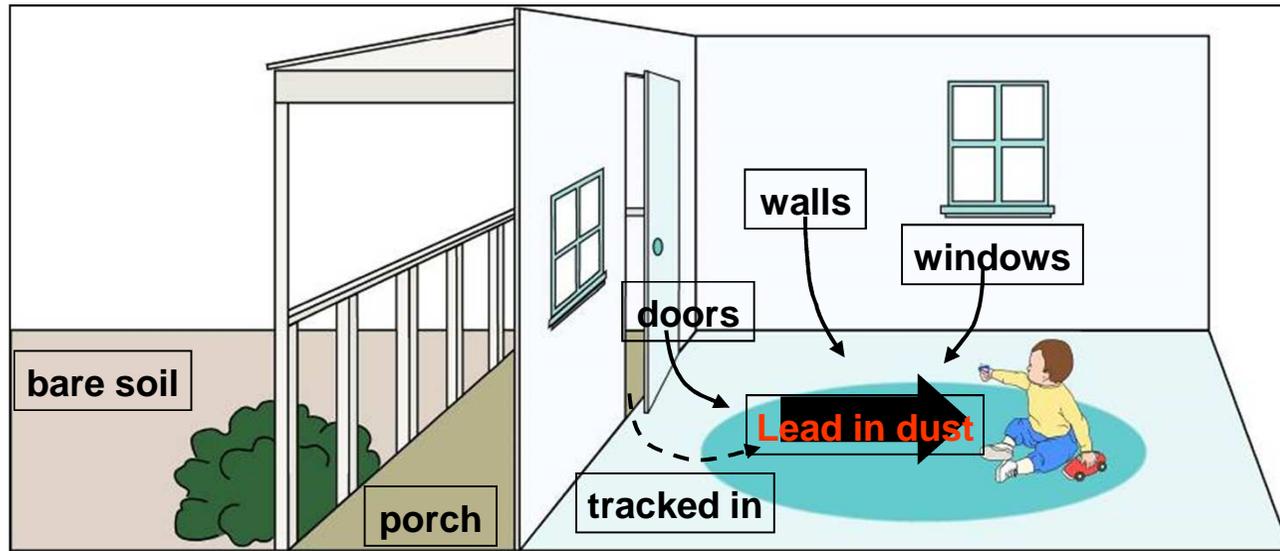


All forms of lead are TOXIC to people and animals



# How are children exposed to lead?

The biggest contributor to childhood lead poisoning is lead in dust (not by eating paint chips)



# How are children exposed to lead?

Homes built before 1978 can have cracked and peeling old lead paint on their walls.

Home renovations that disturb old lead paint can spread invisible lead dust.



# How are children exposed to lead?

Windows and Porches are especially likely to have been painted with lead.



# How are children exposed to lead?

Lead from old exterior lead paint may contaminate soil from scrapings years ago. Also significant lead dust remains from leaded gasoline fumes that have settled in soil, especially in high traffic areas.



# How are children exposed to lead?

Parents may have jobs that may involve lead :

Construction,

Automobile repair,

Plumbing,

Printing,

Military and police work  
arms, and

Home renovations.



# How are children exposed to lead?

Or they may have hobbies that involve lead:

Car radiator repair,

Artistic painting,

Pottery glazing,

Stained glass making,

Glass, metal or electronics soldering,

Target shooting, and

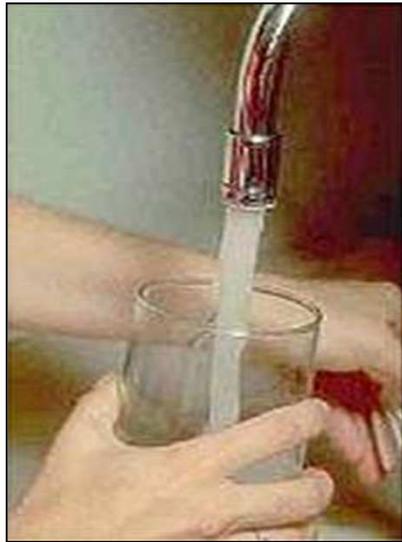
Making of bullets, slugs or fishing sinkers



# How are children exposed to lead?

Lead can enter water by leaching from

- Lead-containing pipes
- Faucets
- Solder



Boiling water from the faucet does not get rid of lead.

Running cold water before using may reduce exposure.

# How are children exposed to lead?

## Lead is still in many products:

- Airplane fuel
- Bridge paint
- Computers
- Solder
- Pewter
- Costume jewelry



# How are children exposed to lead?

Lead can contaminate food, such as root vegetables, or beverages through

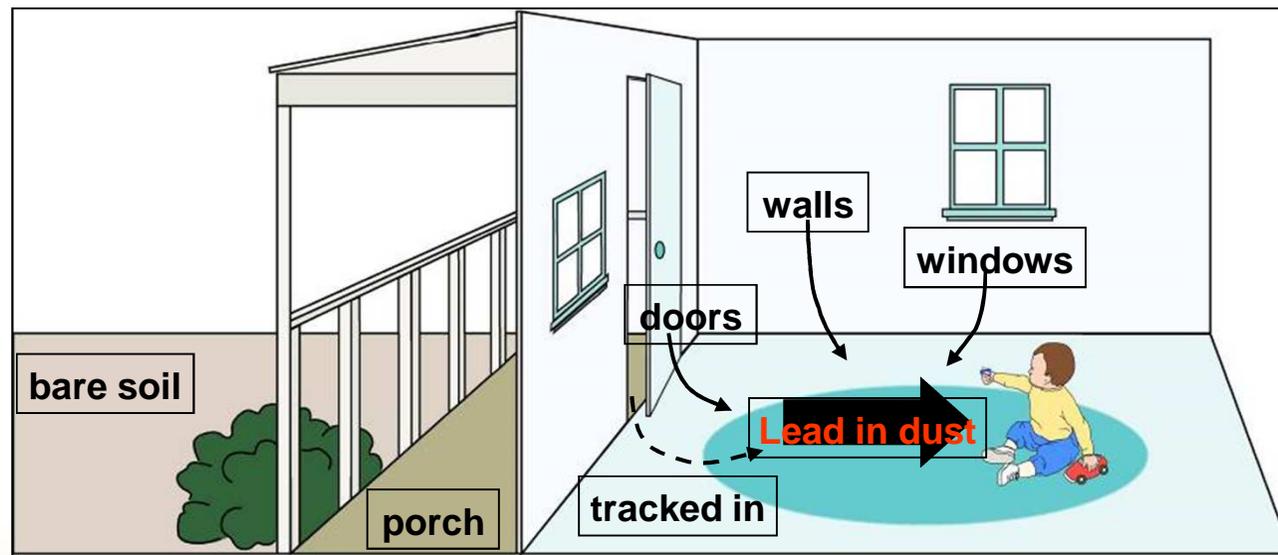
- Production/Packaging
- Storage
- Serving dishes



# How are children exposed to lead?

Again - the biggest contributor to childhood lead poisoning is lead in dust.

The more lead dust in a home,  
the higher the levels of lead in children.



# What is lead poisoning?

We used to think. . .

lead poisoning was when lead caused extreme brain damage, coma or death.



# What is lead poisoning?

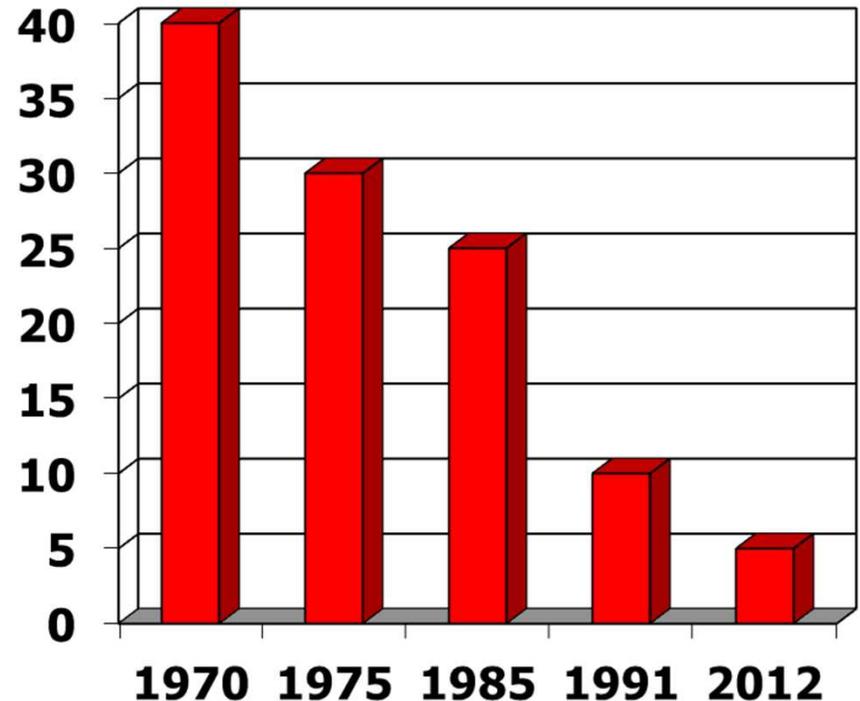
Now we know . . .

Lead can cause harm even at very low levels, especially in young children.

There is no safe threshold for lead.

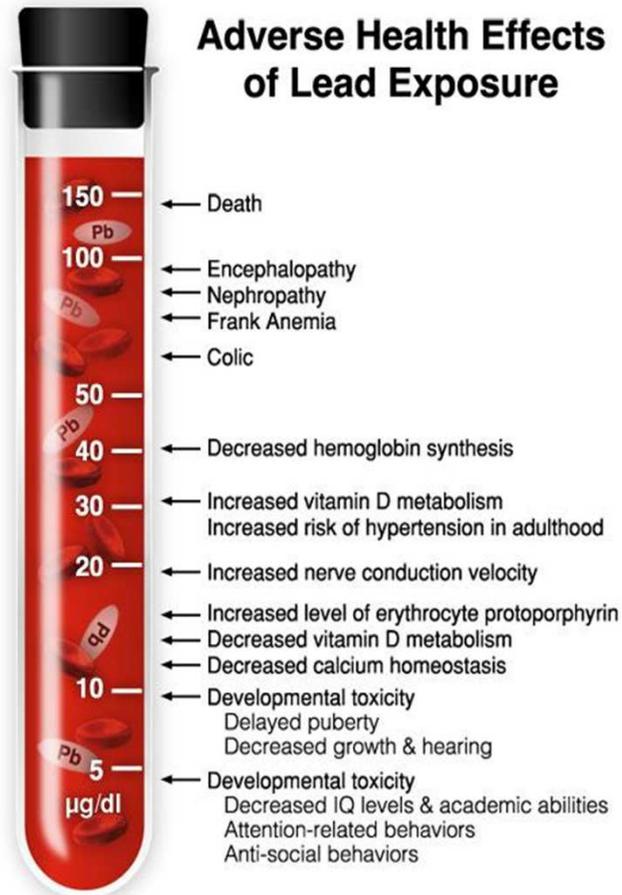
Adults experience similar effects, but generally at higher levels of exposure.

Centers for Disease Control Guidelines:  
Blood Lead Level in mcg/dL



was “Level of Concern” . . .  
now “Reference Level”

# What is lead poisoning?

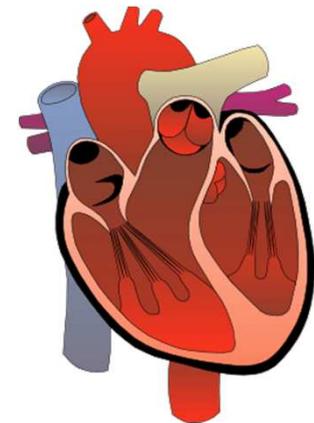
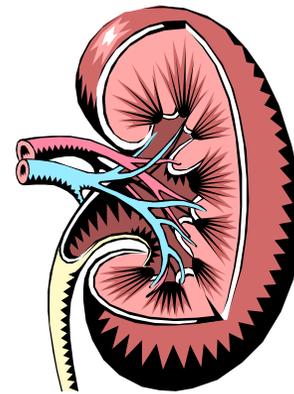
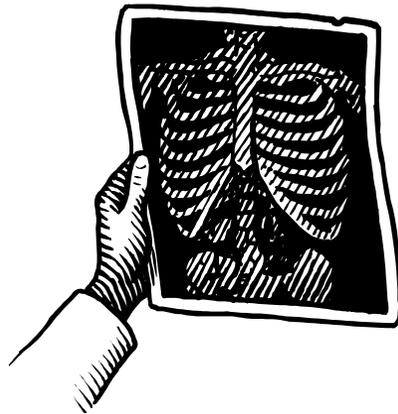
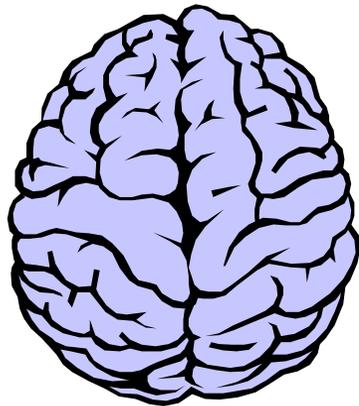


It takes an extremely small amount of lead to cause irreversible health effects. The unit of measure for lead in blood is a microgram/deciliter. In more familiar terms, lead causes problems in the concentration of . . . **one MILLIONth of a teaspoon per 1/4 cup of blood!**

# What are long term effects of lead exposure?

The brain is very sensitive to lead.

Exposure to high levels of lead can permanently affect the brain, bones, kidneys, and the heart.



# What are long term effects of lead exposure?

Effects on young children\* can include:

- Lowered IQ
- Learning disabilities
- Attention deficit and hyperactivity
- Other behavioral issues – anti-social, violent
- Impaired hearing
- Anemia
- Decreased growth



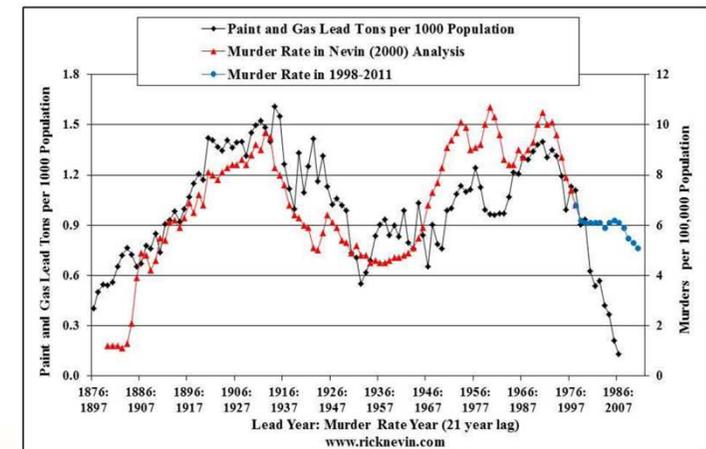
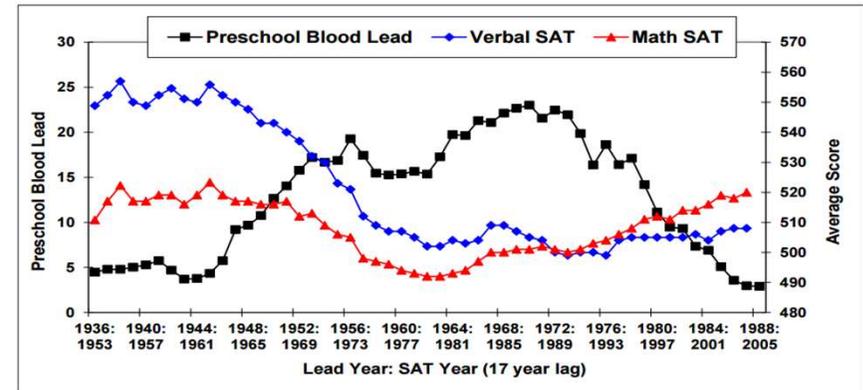
\*including those exposed in the womb

# What are long term effects of lead exposure?

## Effects on Society

- Educational Attainment
- Lifetime earnings
- Crime
- Incarceration
- Teen Pregnancy
- Divorce

**Prevention:** extremely important for individuals and collectively



[http://www.ricknevin.com/uploads/The\\_Answer\\_is\\_Lead\\_Poisoning.pdf](http://www.ricknevin.com/uploads/The_Answer_is_Lead_Poisoning.pdf)

# Role of medical, public health, & education professionals

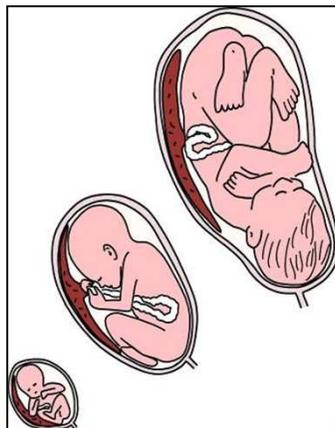
NYS requires testing at ages 1 & 2 AND whenever risk is suspected (use screening questions for pregnant moms and children to age 6)

Public Health intervention

Medical intervention

Educational intervention

Early    
Intervention   



# Prevention!

Safe housing

Safe renovation



# Collaborating to Overcome

Finger Lakes Coalition to Stop Lead Poisoning  
(585) 396-4343



Coalition to Prevent Lead Poisoning  
[www.letsmakeleadhistory.org](http://www.letsmakeleadhistory.org)



New York State Lead Poisoning Prevention Program  
[www.health.ny.gov/environmental/lead/](http://www.health.ny.gov/environmental/lead/)



Centers for Disease Control [www.cdc.gov/nceh/lead/](http://www.cdc.gov/nceh/lead/)



Environmental Protection Agency [www2.epa.gov/lead](http://www2.epa.gov/lead)



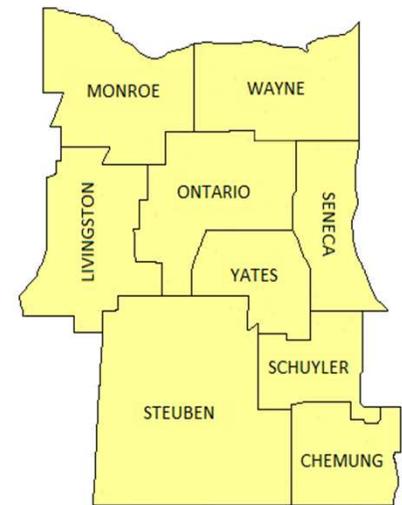


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# Western New York Lead Poisoning Resource Center Rochester Office

Serving nine counties in  
the Finger Lakes region:



**Toll Free Number:** 877-352-5775

**Web:** [Golisano.urmc.edu/lead-poisoning](http://Golisano.urmc.edu/lead-poisoning)

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