

Lead Toxicity

Lead

Information for Community Members

CS109909-1



Web Cast Objectives

- What is lead?
- Where is lead found?
- How are people exposed to lead?
- What are the health risks of lead?
- How can you prevent exposure to lead?
- What to do if you have been exposed to lead?
- How to get more information?

What is lead?

- Lead is a soft gray metal element that occurs naturally in the earth.
- For many years, lead was added to
 - paint,
 - gasoline,
 - ongoing or historic mining, and
 - commercial or industrial operations.



What products may cause lead exposure?

Past product exposures

- Leaded gasoline

Present product exposures

- Imported canned food,
- Imported jewelry, and
- Some products used in home remedies.

What are the sources of lead in the environment?

- Homes that have cracked and peeling old lead paint on their walls.
- Home renovations that disturb old lead paint can spread invisible lead dust.
- Lead from old lead paint may contaminate household dust and nearby soil.



What are the sources of lead in the environment? (continued)

- **Soil may still have high lead levels resulting from pre-1976 gasoline.**
- **Lead enters the dust or air in businesses that involve lead.**
- **Lead mines or smelters may contaminate nearby soil or water.**

How are people exposed to lead?

- Ingestion of foods, water, alcohol may be significant for certain populations.
- Ingestion primary way general population, especially children, are exposed to lead.
- Inhalation of lead dust contributes to a build up in the body.



How are people exposed to lead? (continued)

- Inhalation may be the major route for workers in lead-related occupations.
- Ingestion of certain home remedies.
- Ingestion of lead paint or inhalation of lead dust or fumes is a major source for children in the United States.



What happens when lead enters the body?

- Lead is stored for long periods in mineralizing tissue such as teeth and bones.
- Lead is can be released again into the bloodstream from these sources during times of bodily stress, such as
 - ~ pregnancy
 - ~ breastfeeding
 - ~ calcium deficiency
 - ~ osteoporosis (thinning of the bones)

Lead in home environments

- Most lead exposure in the U.S. today occurs in older homes with deteriorated leaded paint.
- Children are at greatest risk of lead poisoning from their homes.
- Most children are exposed to lead in dust (not by eating paint chips).

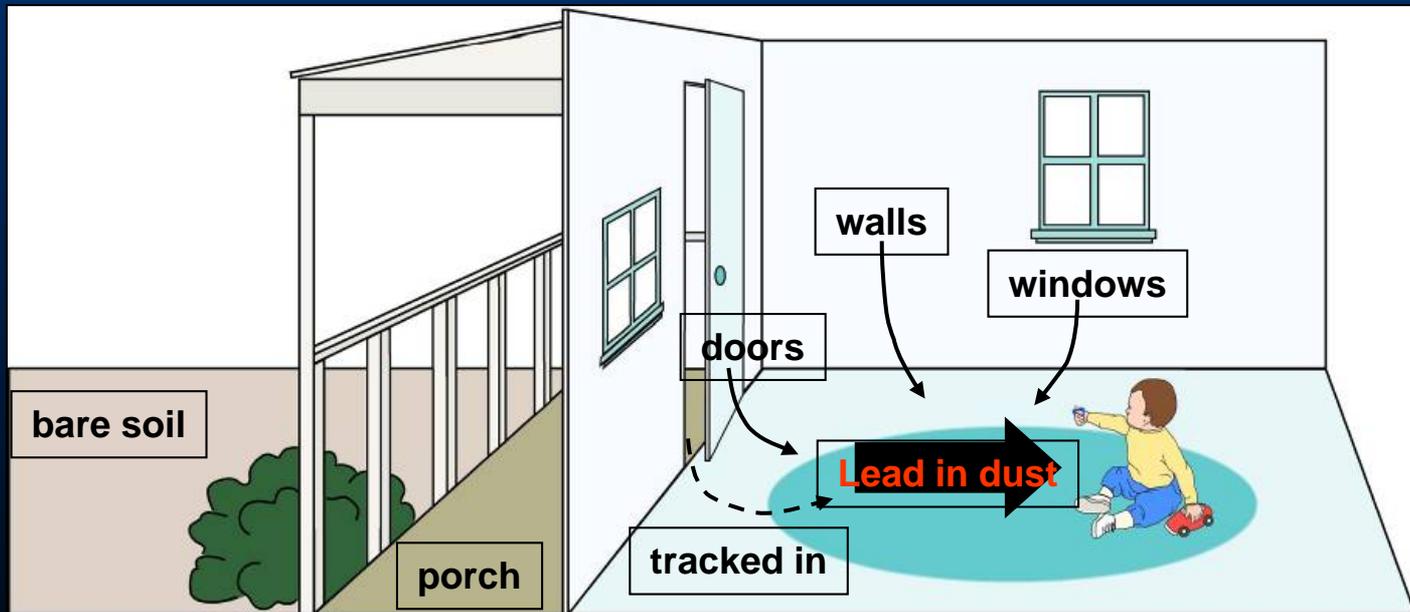


Lead in home environments (continued)



Lead in home dust

- The more lead in the dust in a home, the higher the levels of lead in children.
- There is no safe threshold for lead.



Lead in work environments

Jobs that may involve lead include:

- Construction,
- Automobile repair,
- Lead mining,
- Plumbing,
- Printing,
- Military and police work involving fire arms, and
- Home renovations.



Lead in hobby activities

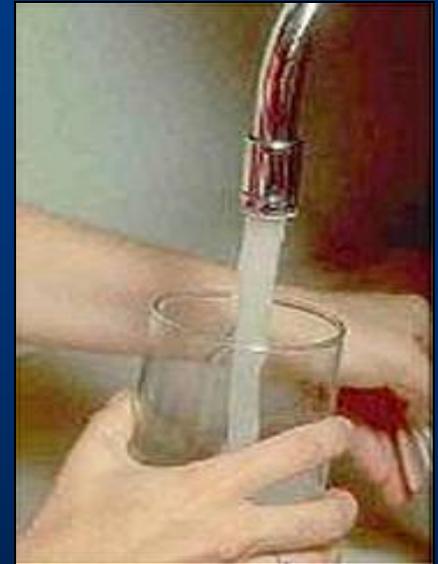
Hobbies that may involve lead include:

- 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.



Lead in drinking water

- 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.



Lead in commercial products

- Lead is still used in products such as:
 - Bridge paint
 - Computers
 - Solder
 - Pewter
 - Costume jewelry



Lead in contaminated products

- Lead can contaminate food, such as root vegetables, or beverages through
 - Production
 - Packaging
 - Storage



Lead in contaminated products (continued)

- Imported ceramic tableware used for storage or serving food or beverages may cause exposure.
- Imported lead-glazed pottery is a potential source often overlooked.



Lead in ethnic products

- Mexican treatments: Azarcon and greta (also known as liga, Maria Luisa, alarcon, coral, and rueda).
- Asian treatments: chuifong, tokuwan, ghasard, bali goli, and kandu.
- Middle eastern treatments or cosmetics: alkoohl, saott, cebagin.



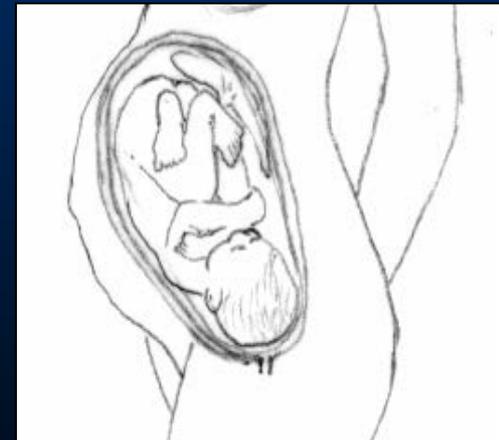
Summary of lead in the environment

- Lead is found throughout our environment.
- Lead levels vary from place to place, depending on historic use.
- May be elevated in soil near roadways (from pre-1976 gasoline).
- Communities near lead mining or smelting facilities may have high lead in soil, water, or air.
- Smaller businesses and industries that involve lead may contaminate local area.



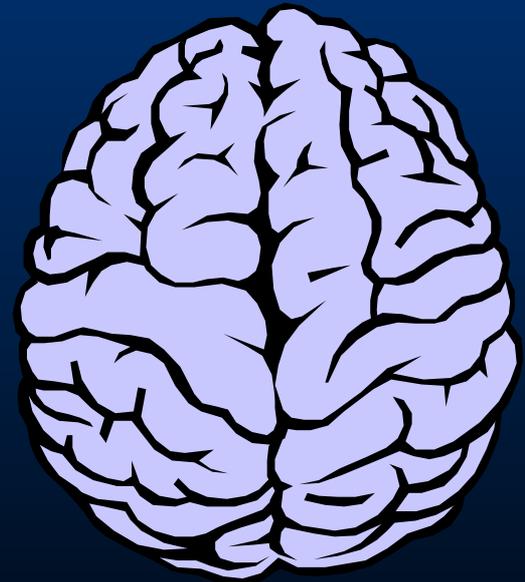
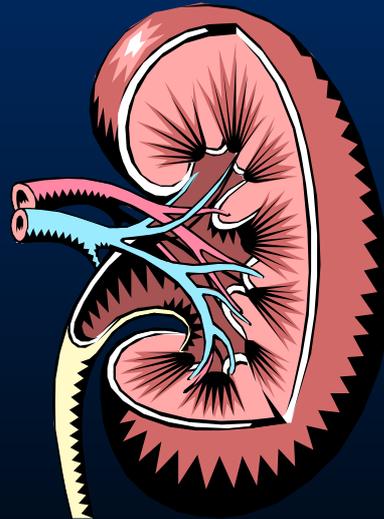
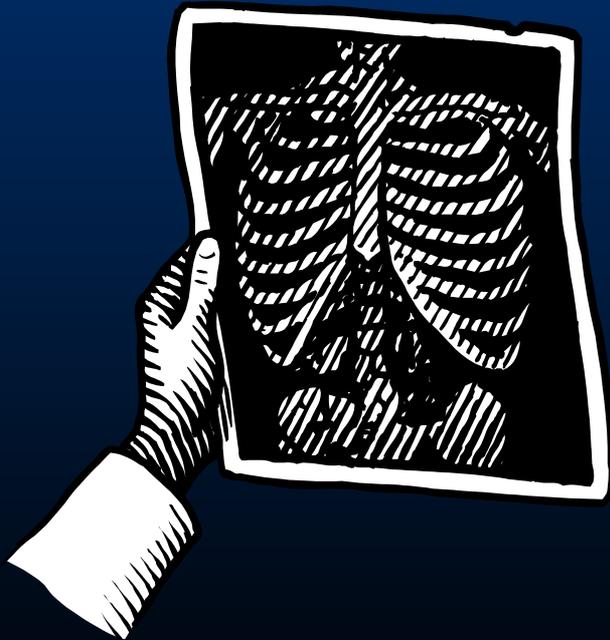
Who is most at risk of lead exposure?

- Children living in older housing
- Pregnant women and developing fetus
- Certain occupations



What parts of the body does lead affect?

- The brain is very sensitive to lead.
- Exposure to high levels of lead can permanently affect the brain, bones, kidneys, and the heart.



What levels of lead cause health effects?

- Lead can cause harm even at very low levels, especially in young children.
- There is no safe threshold for lead.
- At very high levels, lead can cause brain damage, coma or even death.
- Adults experience similar effects, but generally at higher levels of exposure.



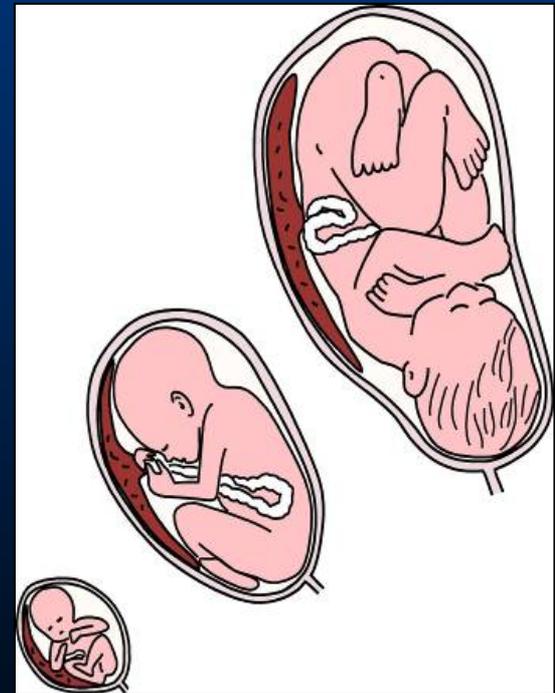
What are the effects of lead exposure on young children?

- Lowered IQ
- Learning disabilities
- Attention deficit and hyperactivity
- Other behavioral issues
- Impaired hearing
- Anemia
- Decreased growth



What are the effects of lead on adults?

- Similar to children, although generally at higher lead levels.
- Long-term exposure may affect thyroid.
- Problems with pregnancy and offspring.
- May also affect reproduction/fertility.



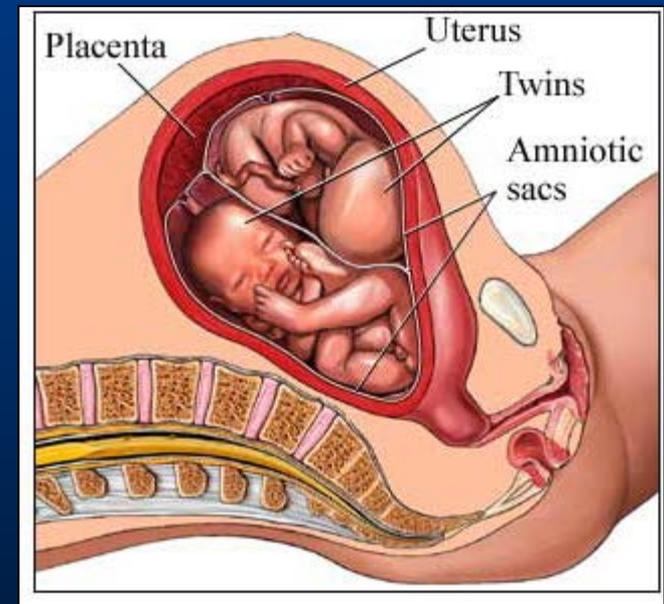
When do symptoms appear?

- Often no visible effects, even at levels that can cause damage.
- Only way to determine high blood lead level is a blood test.
- The more lead you are exposed to over time, the greater your risk of disease.
- Most important thing is to see a doctor.



Are certain groups more sensitive to lead exposure?

- Exposure most harmful to young children and the developing unborn child.
- Lead is passed from the mother to the developing unborn child and may cause brain damage.



Is there a medical test to find out if I was exposed to lead?

- Children should have their blood tested at ages one and two.
- Older children at risk of lead poisoning should also be tested.
- Adults who may be exposed to lead at work should also be tested.



How can I prevent exposure to lead in my home?

- If your home was built before 1978, you should have it tested for lead.
- Make sure all paint is in good condition.
- Wet-clean all surfaces, especially window sills, at least every week.
- Wash children's hands frequently.
- Cover bare soil in the yard.
- Learn about lead-safe work practices when doing work on your home that disturbs paint.



How can I prevent exposure to lead in my workplace?

If you work around lead paint, solder, or other products that contain lead:

- Ask your doctor to test your blood for lead.
- Talk to your workplace health and safety officer.
- Wear protective clothing and use a respirator as appropriate.
- Wash hands carefully and change clothing before going home.



Lead in workplaces

For possible lead exposures at work, you can contact:

- **Your workplace health and safety officer**
- **Occupational Safety and Health Administration (OSHA)**
- **National Institute for Occupational Safety and Health (NIOSH)**

Lead in home environments

For assistance with questions or concerns about lead and your home, please contact:

- Your local health department
- National Lead Information Center
(1-800-424-LEAD)
- Alliance for Healthy Homes:
(202) 543-1147 or www.afhh.org
- Environmental Protection Agency publications on lead: www.epa.gov/lead/pubs

Summary

- Lead is found in older paint, contaminated soil, and contaminated products.
- Leaded dust in older homes comes from normal friction, deterioration, or repair work.
- Lead poisoning can cause brain damage, kidney disease, and hypertension.
- Lead is very dangerous to young children and the developing fetus.

How can I get more information?

- Agency for Toxic Substances and Disease Registry (ATSDR)
 - Referrals to occupational and environmental health clinics.
 - Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances.
 - www.atsdr.cdc.gov; 1-800-CDC-INFO
- Regional poison control center.
- State, county, or local health department.