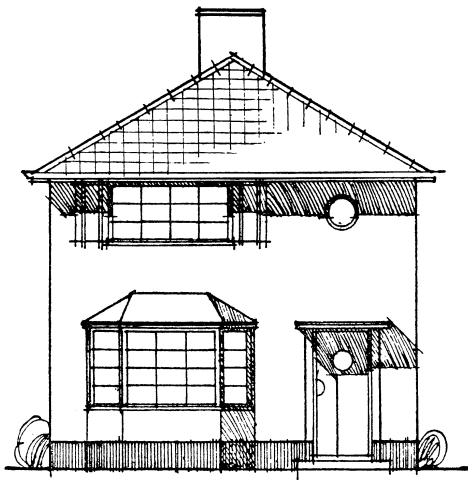


Lead Exposure & the Construction Industry



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What is Lead?



- Heavy metal at room temperature
- Bluish-gray
- Low melting point
- Pliable
- Can combine with other substances to form numerous lead compounds

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What is “lead paint”

- EPA/HUD Definition
1.0 mg/cm² or
5000 ppm 0.5%
- OSHA Definition ~
Any detectable
amount



Common Products That Contained Lead



- Gasoline (phase-out began 1980)
- Smelting
- Lead batteries (25~78% of all lead used in U.S.)
- Paints and coatings
- Solder
- Auto manufacturing
- Printing
- Food, Water

Other Uses of Lead

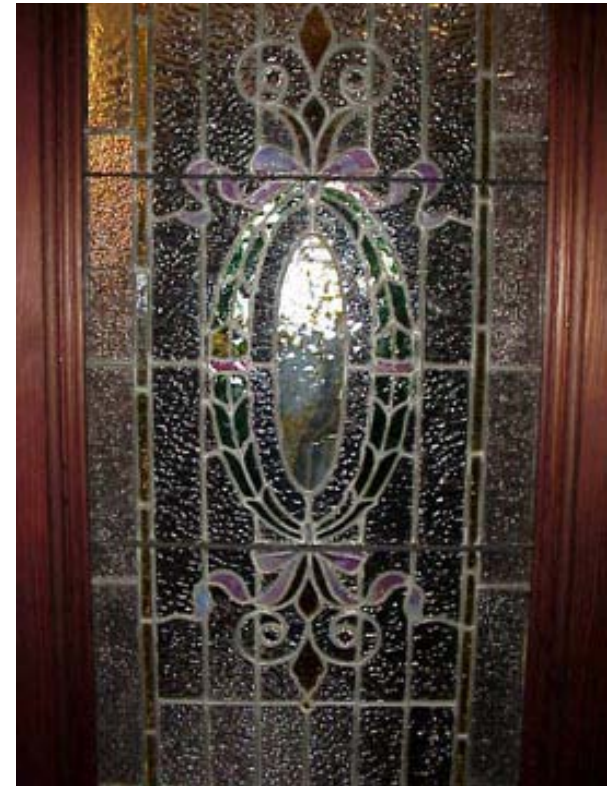
- Stabilizers in plastics – especially electrical wiring
- Leaded crystal tableware
- Pigments in printing
- Cosmetic products
- Craft materials, lead glazing in ceramics
- Candle wicks
- Fishing weights, lead shot used in target shooting
- Home remodeling or painting

Lead in Construction

- Besides lead paint, lead was used in:
- Roofs, cornices, tank linings, and electrical conduits, soft solder for plumbing
- Lead still may be used in bridges, railways, ships, lighthouses and other steel structures

Where Else Could I Find Lead?

- If your home was built before 1978, it may likely contain lead based paint.



Workers at Highest Risk

Construction projects vary in their scope & potential for exposing workers

Typical jobs include:

- Abrasive Blasting
- Welding, Cutting and Burning on Steel Structures

Other Jobs with Potential Exposures

- Lead burning and use of heat guns
- Using Lead-containing mortar
- Power tool use without dust collection system
- Rivet busting
- Manual dry scraping and sanding

Vulnerable Workers

- Demolition Renovation and Remodeling Trades
- Renovators, Remodelers & Painters
- Lead Based Paint Abatement Contractors
- Plumbers
- Sheet Metal Workers
- HVAC Maintenance
- Electrical Workers
- Bridge Repair



How Lead Enters the Body

- Ingestion
 - children are more likely to ingest lead
 - normal hand-to-mouth activity
- Inhalation
 - adults are more likely to inhale lead
 - usually occupational exposures

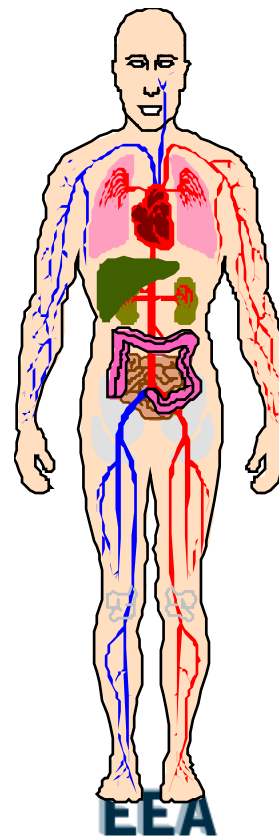
Note: Importance of take home lead, especially from construction activities

What Happens to Lead in the Body?

- Lead which is inhaled or ingested gets into the bloodstream.
- Can be circulated throughout your body.
- Some is excreted while some remains in organs and body tissues.
- If exposure continues, the amount stored in your body will increase if you are absorbing more lead than your body is excreting, which then can become toxic

Body Systems Effected

*Almost all systems
within in the body may be
affected by lead exposure!*



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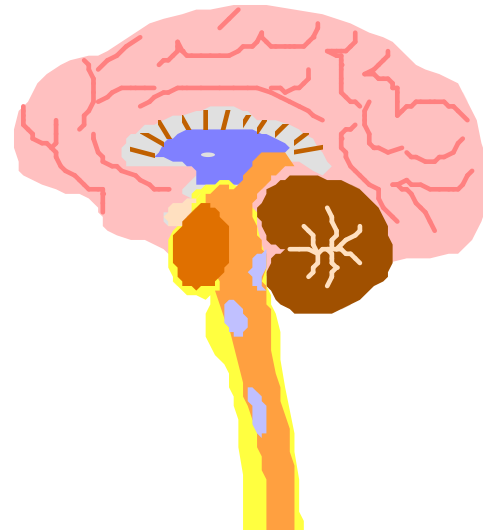
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What Happens to Lead in the Body?

During prolonged chronic exposure, many body systems can be affected by lead, including:

- central nervous system
- cardiovascular system
- hematological system
- reproductive systems
- kidneys



Children Are More At Risk

- Children are more susceptible to effects of lead
- High levels of lead in the blood may cause
 - Permanent CNS damage
 - Encephalopathy
- Low levels of lead in the blood may cause
 - Hyperactivity
 - Delayed development
 - Behavioral problems
- May not exhibit any obvious symptoms!



Symptoms—Acute

- Colicky abdominal pain
- Constipation
- Irritability
- Weakness
- Headaches
- Excessive tiredness
- Loss of appetite
- Muscle pain
- Nausea & Vomiting
- Tremors
- Drowsiness
- Restlessness & Hyperactivity
- Metallic taste in mouth

Affects of Acute Exposure

- Short term (acute) overexposure, as short as days, can lead to encephalopathy, which can lead to seizures, coma, possibly death from cardio-respiratory arrest

Affects of Chronic Exposure

- Impaired blood formation
- Central nervous system
- Peripheral nervous system
- High blood pressure
- Muscle/joint pain
- Reproductive system
- Damage to developing fetus



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Symptoms Of Lead Poisoning

- Symptoms are not always obvious and may be easily misinterpreted by medical personnel, thus delaying effective treatment and increasing the likelihood of permanent physical and mental damage.
- Only sure way to determine lead poisoning is to take a blood lead level (BLL) test.

Why are Dust and Debris a Problem?

- Renovation activities that disturb lead-containing materials create dust and debris
- Lead-contaminated dust is poisonous
- Very small amounts of lead-contaminated dust can poison children and adults
 - Children swallow dust during ordinary play activities.
 - Adults swallow or breathe dust during work activities.
- Workers can bring lead-contaminated dust home and poison their families

A Little Dust Goes a Long Way

- You can't see it.
- It's hard to sweep up.
- And, it travels.

**One gram of lead dust can
contaminate a large area!**

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