



**Texas Department of State
Health Services —
Childhood Lead Poisoning
Prevention Program**

Lead is an element found throughout our environment and is highly toxic.

- High blood levels can cause abdominal pain, vomiting, constipation, change in appetite and irritability.
- Lead can damage the kidneys, stunt growth and affect balance. Long term exposure can cause learning difficulties, behavior disorders, and lowered IQ.



Lead Poisoning in Children

- Young children absorb 50% of a lead ingestion while adults absorb only 10%.
- Lead poisoning is especially dangerous during the critical development of infants and children under age 7.
- Children <24 months old affected more than other age groups.



How are children exposed to lead?

- Maternal fetal transfer
- Breastfeeding
- Exposure in the home and environment

The primary source of lead exposure for children continues to be lead-based paint.

Lead in Paint

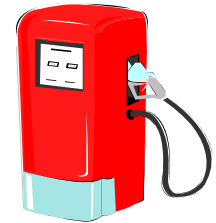
- Lead was banned as a paint additive in 1978
- Still found in older homes
- As old lead paint chips, flakes, or turns to dust, it contaminates surfaces in the home and exposed soil areas outdoors.



Typical sources of lead around the home



- Imported glazed pottery used for cooking, storing, or serving food
- Certain imported candies – shipped in small lead glazed containers
- Vinyl mini-blinds - sunlight leads to paint deterioration and lead dust
- Soil contaminated from years of auto emissions (lead gasoline banned in 1978)
- *Pencil “lead” is made of graphite ~ not lead!*

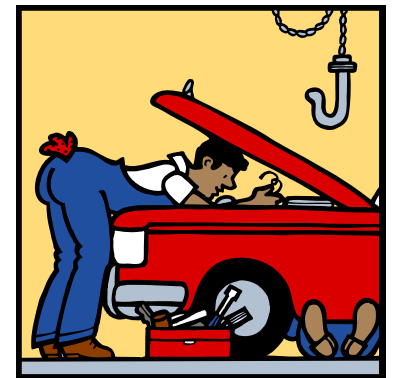


Dangerous Home Remedies

- **Greta** (yellow powder), **Azarcon** (bright orange powder) given for intestinal illness “empacho”
- **Pay-loo-ah** – red powder given for rash or fever in the Hmong community
- **Kohl** - a powder used both as a cosmetic eye makeup and applied to skin infections and the naval of a newborn child in the Arab American community
- Asian Indian community:
 - **Ghasard** - brown powder given as an aid to digestion
 - **Kandu** - red powder used to treat stomachache
 - **Bala Goli** - a round, flat, black bean dissolved and used for stomachaches

Additional Sources of Lead

- Hobbies such as stained glass or furniture refinishing
- Activities such as bullet making, auto repair, and use of fishing weights
- Residue from clothing of parent who is exposed at workplace such as a transmission repair shop





Recalls for Lead Products

- Reebok charm – 3/23/06 (death of 4 yr old)
- Recalls October 4, 2007
 - Boy Scout badges
 - Sports aluminum water bottles
 - Key chains sold at Dollar General
 - Wooden alphabet blocks sold by KB Toys
 - Eveready toy flashlights
 - Children’s room decorating kits – Toys R’ Us



What Next?!

- Lead tests raise **red** flag for LIPSTICKS!
- Campaign for Safe Cosmetics found that more than half of 33 brand-name lipsticks tested contained lead.
- The lead levels in one-third of the lipstick samples exceeded 0.1 parts per million, which is the federal lead limit for candy.
- Use of lead-tainted lipstick by pregnant women could lead to lead exposure for the fetus.

Prevent Lead Poisoning!



- Wash their hands!
- Keep toddlers from chewing on painted surfaces or playing in the dirt outdoors
- Keep pets out of contaminated soil areas
- Family members should remove shoes and work clothes before entering the home

Drink Milk!

Lead can be stored in the bones for a long time. When the body uses lots of calcium (during pregnancy and childhood growth spurts), lead stored in the bone may be released into the blood.



Nutrition and Lead

- Lead intoxication can cause anemia
- Vitamin C helps the body to absorb iron.
- Regular meals and frequent snacks are important; an exposed child absorbs more lead on an empty stomach.





Blood Lead Screening

- Blood lead screening test (capillary draw) at **12 months** and **24 months** of age.
- Component of the THSteps exam
- Screening at other ages if determined high risk by parent questionnaire

Elevated Blood Lead Level: $\geq 10 \mu\text{g/dL}$

How much is 10 Micrograms per Deciliter?

1. Measure out a deciliter of water (.42 of a cup) to represent blood.
2. To represent lead, use a packet of artificial sweetener – 1 gram.
3. Empty out the packet onto a flat surface and divide into one million piles of one microgram each.
4. Add ten piles (10 micrograms) into that deciliter of water.

***That's how LITTLE lead in a child's blood can possibly cause permanent developmental and neurological damage.*

Follow-Up Testing

A follow-up blood test should be done:

Level

Within

10-14

3 months

15-24

1-3 months

25-44

2 wks – 1 month

45+

asap!

Environmental Investigations

- Provider can request an environmental investigation for a child with a confirmed venous level of over 20
- or*
- Venous levels of 15-19 on each of two tests at least 3 months apart

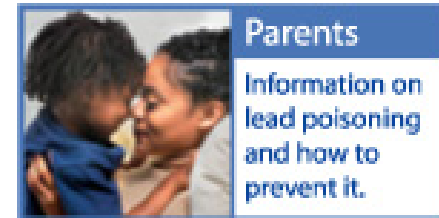
Treatment for Lead Poisoning

- Level of <44 - remove the child from the source and start diet high in calcium and iron.
- Level >45 – chelating agent (DMSA) is an oral medication that binds to lead and mercury so that it can be excreted in the urine.
- Level >69 – chelating agent (EDTA) given as a continuous infusion for 3-5 days. Considered emergency medical treatment

Texas Childhood Lead Poisoning Prevention Program

Lead Poisoning is Entirely Preventable...

The key is to find and eliminate the sources of the exposure.



Texas Department of State Health Services - Childhood Lead Poisoning Prevention Program

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