DETOXIFICATION OF LEAD POISONING

How lead enters the body

- ingestion of lead-contaminated water, soil, paint chips, or dust;
- inhalation of lead-containing particles of soil or dust in air; and
- ingestion of foods that contain lead from soil or water.

How does lead cause harm?

When lead is consumed, your stomach acid breaks it down and passes it to your bloodstream. When inhaled, fine lead particles are absorbed by your lungs and passed to your bloodstream. Both types of exposure put you in danger of lead poisoning - a serious medical condition that can be fatal.

Lead mimics calcium in your body, which is why it impacts your brain and nervous tissue and can be stored in your bones. It can even be passed from a mother to her child through breast milk. By mimicking calcium, lead can replace essential vitamins or nutrients in your cells and take their place inside your enzymes.[1]

Allergies, arthritis, Alzheimer's, and many other inflammatory and degenerative diseases can be traced back to toxin and pathogen build up in our nervous, cardiovascular and gastrointestinal (GI) systems.

Possible symptoms of lead toxicity

Infant symptoms include:

- premature birth
- low birth weight
- delayed growth

Symptoms in children include:

- developmental delay
- learning difficulties
- irritability
- low appetite
- weight loss
- fatigue
- abdominal pain
- vomiting
- hearing loss
- seizures
- eating things that aren't food - not to be confused with normal childhood behaviors like putting objects in their mouths that shouldn't be put there

Short-term (acute) symptoms in adults include:’

- high blood pressure
- joint and muscle pain
- memory or concentration difficulty

- headaches
- abdominal pain
- nausea and vomiting

The long-term effects can be even more dramatic, as they relate to your mental development, sexual health, and mood. Long-term effects include:

- mood disorders like depression, anxiety, mood swings, or hallucinations
- reduced sperm count and abnormal sperm
- miscarriage, stillbirth, or premature birth

While rare, exposure to extreme levels of lead toxicity can be fatal. Symptoms of **severe lead exposure include:**

- severe abdominal pain, vomiting, and cramping
- muscle weakness
- inability to walk
- slurred speech
- encephalopathy: manifests as confusion, coma, and seizures

The most commonly reported sources of lead are:

- soil: when contaminated with paint dust or fumes from leaded gasoline (even many years ago), soil can retain its lead content for a long time
- household dust: can contain lead from old paint or contaminated soil brought indoors
- pottery: some glazes on ceramics, china, or porcelain can contain lead that can enter food served or stored in it
- drinking water: typically occurring in old buildings, pipes made of lead may

contaminate the water supply and cause lead toxicity

- toys: lead dust is sometimes found on toys, especially those manufactured in China
- electronics: many computer-related products, such as wires, monitors, and cables, may be contaminated with lead dust
- jewelry: may contain lead dust or lead paint
- herbal or folk remedies: treatments using greta or azarcon from traditional Hispanic medicines, as well as some medicines from India, China, and other Asian countries, can contain lead traces
- Mexican candy: tamarind from Mexico sometimes contains lead
- lead ammunition: bullets, slugs, and shotgun shells all contain lead and lead dust
- occupation: house painters, renovators, pipefitters, miners, battery manufacturers, and auto repair specialists or manufacturers can be exposed to lead and bring the dust into their homes

Nutritional therapy treatment

Adding certain healthy foods or supplements to your diet can help you avoid lead toxicity, or it can help you reduce your exposure to small amounts occurring regularly:

- calcium, iron, and zinc: can block lead absorption
- selenium: blocks the effects of lead when administered before exposure and reduces mercury toxicity; increases excretion of stored mercury

Modified citrus pectin (MCP).

MCP mobilizes metals from body stores and increases urinary excretion of arsenic, mercury, and cadmium while decreasing lead levels in the blood.

Vitamin C

Vitamin C is a free-radical scavenger that can protect against oxidative damage caused by lead. It may also prevent absorption of lead by inhibiting its cellular uptake and decreasing its cellular toxicity.

Vitamin E

Through its antioxidant action, vitamin E mitigates some of the toxic oxidative damage caused by lead, which are strong inducers of oxidative stress in tissues.

Garlic

Garlic contains many active sulfur compounds derived from cysteine with potential metal-chelating properties. These garlic constituents may also protect from metal-catalyzed oxidative cell damage.

Probiotics

Among their myriad functions, certain strains of probiotic bacteria may minimize toxin exposure by trapping and metabolizing xenobiotics or heavy metals. The probiotic bacterial strains Lactobacillus rhamnosus, Lactobacillus plantarum, and Bifidobacterium breve were all shown to bind both cadmium and lead.

Glycine

Glycine is a conditionally essential amino acid found in plant and animal proteins. Chemically, glycine is the simplest of all amino acids. It combines with many toxic substances and converts them to less harmful forms, which are then excreted from the body.

Alpha-Lipoic Acid and Glutathione

Sulfur-containing compounds can compete aggressively with heavy metals during the race into our cells. The sulfur antioxidant alpha-lipoic acid (ALA) has been known to chelate cadmium, lead, zinc, cobalt, nickel, iron, and copper.

N-Acetyl Cysteine

NAC provides a source of sulfur for glutathione production and can reduce oxidative stress due to heavy metal toxicity. As a sulfur-containing amino acid, it is capable of binding and sequestering divalent copper (II), trivalent iron (III), lead, mercury, and cadmium ions.

Gastrointestinal decontamination

Bowel irrigation (introduction of water into the bowel to wash out its contents) may be useful for macroscopic particles of some metals like lead that can easily transit through the intestines.

Activated charcoal may bind some ingested metals like arsenic and thallium, but not others like iron and mercury. Very large particles may even require surgical removal.

Eat the following foods to protect your body from the harmful effects of lead

Low fat foods:

Foods high in iron: *lean beef, fish, chicken, iron fortified cereals, beans and peas, eggs, dark green vegetables dried fruits (raisins, prunes)*

Foods high in calcium: *milk, yogurt, cheese, green leafy vegetables (spinach, kale, collard greens)*

Foods high in vitamin C: *oranges, grapefruits, tomatoes, green peppers*