

Lead is a highly toxic heavy metal, poisoning some people, especially children and the elderly.

Lead poisoning from water pipes made of lead (the first material used by man to transport water) was claimed to be the cause of the fall of the Roman Empire, from brain damage to their wealthy who could afford the then new concept of water in pipes.

### Symptoms

Anaemia can be an early symptom of lead poisoning followed by headaches, hypertension, insomnia, loss of appetite, colic, constipation, cataracts, deafness, kidney damage, prostate cancer, failing of the immune system, free radicals, obesity, arthralgia (joint pain), muscle pain, poor balance, vertigo, poor coordination, dementia, hallucinations, depression, speech impairment, multiple sclerosis, convulsions, hyperactivity that is associated with Attention Deficit/Hyperactivity Disorder, bulimia, aggressiveness, confusion, poor concentration, impaired learning (especially in children), permanent brain damage, aggressiveness and increased tooth decay.

At very high levels, lead poisoning can cause a seizure, coma and even death.

Excessive exposure to lead may increase the risk of asthma, enlarged prostate, male infertility, and miscarriage.

### Control

Iron deficiency may increase the body's absorption of lead from the normal average of 10% of dietary intake to 24% of dietary intake.

Magnesium may reduce the absorption of lead by competing with lead for absorption, and Magnesium may also facilitate the excretion of lead from the body.

Selenium binds with lead and may facilitate its excretion from the body.

Zinc deficiency may increase the absorption of lead and Zinc may counteract the toxic effects of lead.

### Vitamins

Vitamin A may facilitate the detoxification of lead.

Vitamin B1 may reduce the deposition of lead in almost all tissues of the body.

Vitamin C may facilitate the excretion of lead and may counteract the toxicity of lead.

Vitamin C may reduce blood lead levels in tobacco smokers.

Lead may cause the depletion of vitamin C.

Vitamin E may inhibit some of the toxic effects of lead.

### Vegetables

Acid soils produced poor vegetable growth, and much higher Pb (and other heavy metals) uptake than occurs in most crops grown on less acid soils.

In Nigeria lead in melons caused health problems.

Garlic may facilitate the excretion of lead from the body.

### Possible sources of lead

Lead can be absorbed into the body via the skin.

If iron deficiency exists in a body, the amount of dietary lead absorbed increases by 24%.

Air pollution from vehicle exhaust fumes are the most prevalent source of atmospheric lead.

Tobacco smoke contains lead.

Wine can absorb lead from the seals on wine bottles and the linings of wine casks.

Crayons.

Lead crystal glasses.

Lead paint.

Lead pipes.

Old cooking utensils and crystal glassware sometimes contain lead.

Some cosmetics and some hair colourings contain lead.  
Some brands of toothpaste contain lead.  
Water from some suppliers has contained lead.  
Fluoride may increase the retention of lead in bodies.

### **Neurotransmitters**

When lead is consumed, it travels to the Synapses between Neurons in the Brain and may block the transmission of Neurotransmitters.

### **Minerals**

Lead may interfere with the body's absorption of calcium, iron, magnesium, manganese, molybdenum and zinc.

### **Human lead content and intake**

Lead accumulates in the body at a faster rate than it is excreted.

Lead consumed via beverages is more easily absorbed than that consumed in food.

The average absorption rate of lead from dietary sources is 10%

The average adult human body content of lead is 120 mg.

The average human daily intake of lead is 200 to 400 micrograms per day.

The reference range for whole Blood lead varies between laboratories and countries. High lead countries are more likely to accept higher average levels, because most think that averages are acceptable. The following are representative values:

<0.6 mmol per Litre (adults) (Charing Cross Hospital)

<0.5 mmol per Litre (children) (Charing Cross Hospital)

High blood lead levels are regarded as above 80 micrograms per decilitre, but some evidence suggests that lead levels of 20 micrograms per decilitre may be toxic.

### **From Dr Sears, Florida, USA.**

Pb is one of the most toxic heavy metal. Lead levels in water have been deemed "unsafe" in many parts of Michigan, as well as parts of Ohio, Mississippi, New Jersey and South Carolina and California — to name just a few.

But the bigger problem is that lead has been quietly poisoning you for years — in every state and in almost every country in the world — and the danger isn't just coming from your municipal water supply. At one time, lead was an ingredient in numerous household products, including lead-based paints manufactured before 1978. Although it's been almost 40 years since lead paint was banned in USA and lead is no longer used in fuel for automobiles, the problem in America remains at epidemic levels. Pb is a potential hazard in any home that was built before 1978, where the old lead paint remains hidden behind successive layers of new paint or wallpaper. So if your home is renovated, or even if you've had windows replaced, it often stirs up old lead dust that can be ingested or inhaled.

Children are especially vulnerable because they absorb lead more readily than adults and are more likely to put dusty hands in their mouths. And they often find lead paint chips tempting because of its sugary taste. In fact, ancient Romans had used lead powder to sweeten wine.

Soil can also be a source of lead poisoning.

Sadly, the devastating effects of lead poisoning on young children and grandchildren include irreversible damage to the brain and nervous system, behavioral and learning problems, and hearing loss. Lead also causes damage in adults, and is linked to high blood pressure, kidney and liver damage, and diabetes. Lead builds up gradually in your teeth and bones over time. But it doesn't always make you sick right away. It can take years before the levels get high enough for you to notice something's wrong. The symptoms can include:

- Abdominal pain;
- Constipation;
- Joint pains;
- Muscle pains;
- Declines in mental functioning;

- Pain, numbness or tingling of the extremities;
- Headaches;
- Memory loss;
- Mood disorders.

Studies also show that lead exposure can dramatically increase your risk of developing Alzheimer's in later years. Exposure also increases your risk for cancer, especially of the liver, kidneys, lungs and brain. There's no amount of lead that's "safe" for your body. The problem is that mainstream often doesn't connect the symptoms with lead poisoning.