

WITH KNOWLEDGE, WE CAN END LEAD POISONING

What is lead poisoning?

Lead poisoning is the harm to body systems from lead intoxication. Since lead poisoning can, and often does occur without clinically obvious symptoms, the concentration of lead in children's blood (blood lead level) is used as an indicator of the severity of poisoning.

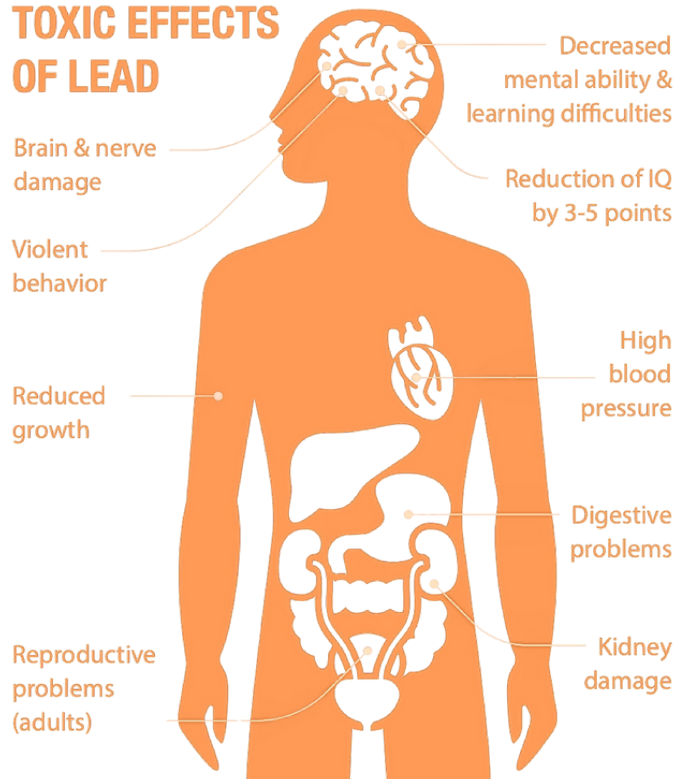
Over the last century, the blood lead level at which lead is known to exert toxicity has declined steadily. Today, the **World Health Organization recognizes that "there is no 'safe' concentration of lead in blood"**

Health effects of lead poisoning

Lead is a potent neurological and cardiovascular toxicant. In addition to death, research shows that exposure to lead causes other serious health issues including:

- Permanent damage affecting a child's brain development and central nervous system. This causes reduced intelligence, attention deficit disorders and lower educational attainment.
- Reduced lifetime earnings.
- Anger management issues and aggressive and violent behaviours in persons exposed early in life.
- Heart and kidney damage in adults.

TOXIC EFFECTS OF LEAD



How does it enter the body?

1. Ingestion: Lead exposure is primarily through hand to mouth activities, ingesting contaminated spices or foods or swallowing lead particles or lead containing dust



2. Inhalation: Lead fumes or fine particles can readily enter the respiratory system and be deposited everywhere from the nose to alveoli (air sacs). Once deposited, the lead can enter the circulatory system and be distributed throughout the body.



3. Dermal Penetration: The elemental (metallic) and inorganic (lead oxide, lead chromate, lead carbonate) forms of lead do not cross the dermal barrier. Meaning touching lead oxide powder or handling a lead ingot will not cause lead molecules to enter the capillary bed of skin. The organic form of lead i.e. TEL (tetraethyl lead) found in gasoline (petrol) will very readily pass through skin and into the capillary bed. Therefore handling liquid petrol containing TEL will very seriously expose individuals. Fortunately, lead in petrol has been essentially eliminated as a source of lead exposure.

Where is Lead (Pb) coming from? Sources?



While the phasing out of leaded petrol resulted in a consistent decline in lead contamination but contaminated soil from industry, most often poorly operated lead-acid battery recycling facilities, is a well-documented and an industry source of lead hotspots.

Pure Earth is conducting home-based assessments (HBAs) and Rapid Market Surveys (RMS) across 25 countries to identify other potential sources of this pervasive lead health threat. The products most commonly contaminated with lead include metallic cookware, local paint, cosmetics, spices and toys.

What can be done to prevent lead exposure and its effects?

Seek medical care: If parents suspect their children or they themselves have been exposed to lead, they should seek medical attention and specifically request blood lead level tests.



A healthy, balanced diet: Iron, calcium and vitamin C can help decrease the absorption of lead if a child is exposed. Healthier children have been shown to suffer less severe consequences from exposure to environmental toxins than counterparts presenting with comorbidities.



Good sanitation and hygiene practices: It can reduce exposure not only to lead but also to other toxins and pathogens. Make sure children wash their hands and faces after playing outside or around areas where there could potentially be lead-based risks. Keeping the house clean and practising wet wiping of toys, furniture, household appliances, dishes, floors and walls, which may become contaminated from soil or dust, also reduces exposure.



Education and Awareness: Learn which products may contain lead and avoid using them. These products vary considerably by location and context; however, products that frequently contain lead include metallic cookware, local paint, cosmetics, spices and toys.

Keep away from contaminated areas: Where risks are known, keep children out of contaminated areas. For example, children should be kept away from areas where paint known to contain lead is chipping or peeling; or away from toxic sites in communities, including backyards and common spaces where informal recycling of materials known to contain lead takes place. For areas and soils previously contaminated and where it is difficult or impossible to prevent children from accessing, covering the bare ground with fresh contamination-free soil can help reduce exposure and prevent children from inhaling or consuming lead dust.

