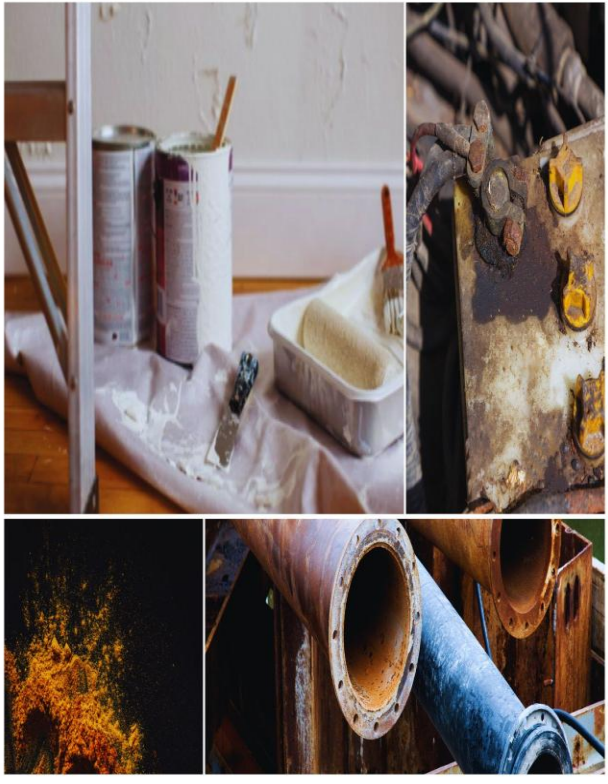


Why Do We Need Urgent Action Against Lead Toxicity

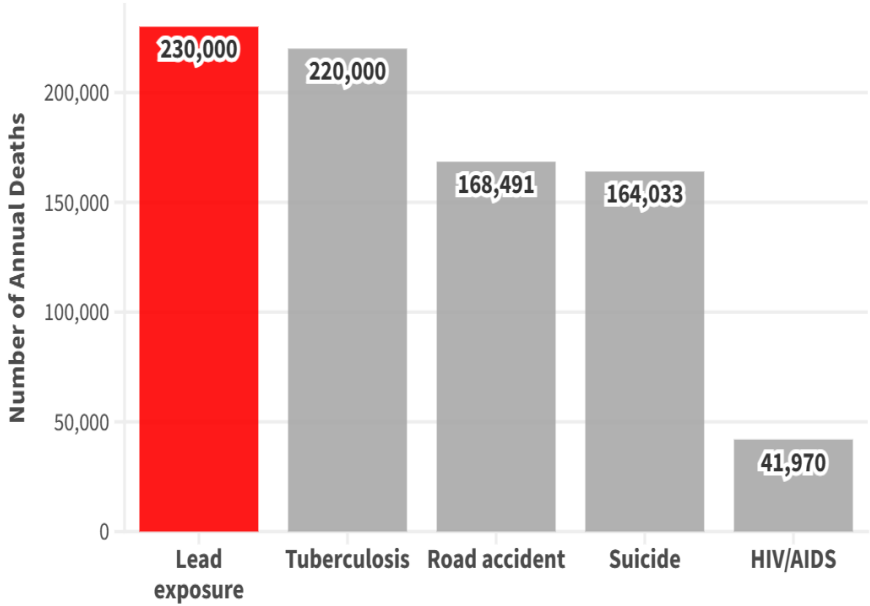
Lead exposure is an urgent issue of **heavy metal toxicity**, particularly focusing on **lead exposure**. It discusses its alarming prevalence, severe health impacts, and the necessity for **joint efforts** to protect **public health**, especially among vulnerable groups like **children**.

Urgent Statistics on Lead Exposure in Children

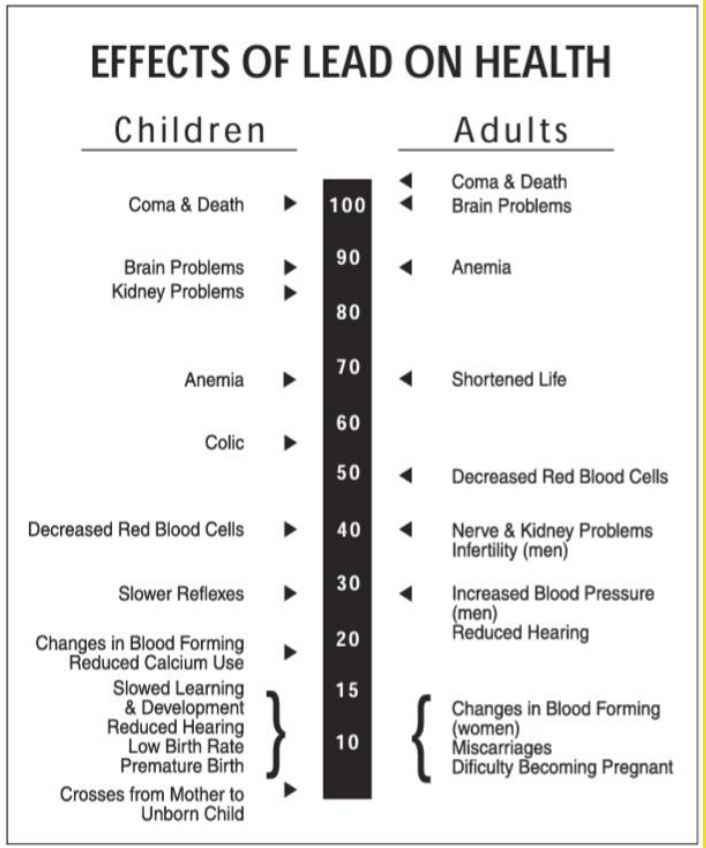
Addressing the global crisis of lead exposure affecting millions of children

Worldwide	India	Economic Loss/Year
800million	**275-294 million**	**$236–259 billion**
Children globally are exposed to lead, revealing a critical health crisis.	Children with Elevated Blood Lead Levels (BLL >5 μg/dL)	About 5–9% of GDP

Lead poisoning could be killing more people in India



Source: NACO and ICMR, 2021 for HIV AIDS, MORTH for Road Accidents, 2022; National Crime Records Bureau for Suicides, 2021; and MOHFW for Tuberculosis, 2023. The IHME and World Bank estimates for lead exposure are for 2022.



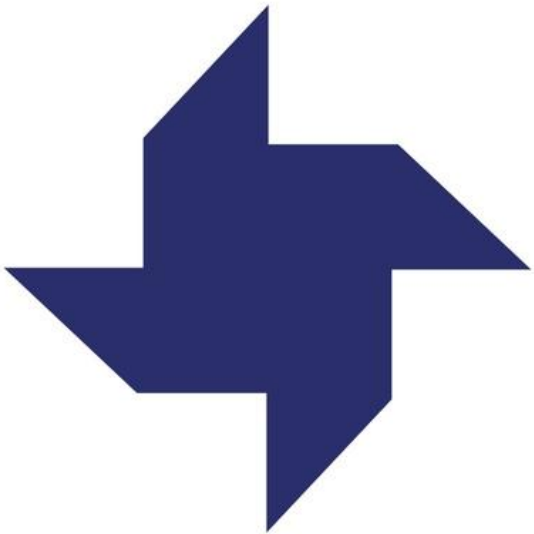
Understanding He Dire Impacts On Health And Development

Cognitive Impacts

Each **10 µg/dL** increase in blood lead levels results in a drop of a child's **IQ** by about **6 points**, affecting their overall cognitive development.

Renal Diseases

Chronic exposure to lead can severely damage the **kidneys**, escalating the risk of chronic kidney disease and other renal complications.



Maternal-Fetal Transfer

Lead can cross the **placenta**, posing risks to fetal development and potentially leading to lifelong health issues for the child.

Cardiovascular Risks

Increased lead exposure correlates with a higher risk of **hypertension** and **heart attacks**, both significant contributors to cardiovascular diseases.

Understanding Lead Poisoning and Its Consequences for Children

Half of Indian children affected

50%

A staggering **1 in 2 children** in India have unsafe levels of lead in their blood, indicating a serious public health crisis.

Critical lead level increase

10 µg/dL

Each **10 microgram/dL** rise in blood lead levels correlates with a **3-5 point drop** in a child's IQ, emphasizing the urgent need for intervention.

Significant IQ loss

6 points

The **6 point decrease** in IQ for every increase in lead level represents a considerable impact on cognitive development and future potential.

Children at risk

275million

It is estimated that millions of children in India are at risk of lead exposure, necessitating immediate action and awareness.

Need for action

urgent

The urgent need for public health policies to address lead exposure is critical to safeguarding the health and future of children.

Awareness gap

90%

Approximately 9**0%** of the population and healthcare professionals remains unaware of the dangers of lead exposure, highlighting a crucial gap in education and outreach.

Understanding Sources of Lead Exposure

Identifying and mitigating lead exposure from various everyday sources

Common Sources

1

Soil Contamination
Industrial Emmissions
Peeling Paint
Old PVC Pipes
Vibant colour Spices
Leaded Batteries
Spices and Food Products

Uncommon Sources

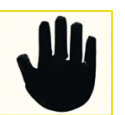
2

Ayurvedic Medicines
Jewelry
Unsafe cookware
Galzed ceramics
Cosmetics
Maruana and opioids
Plastics

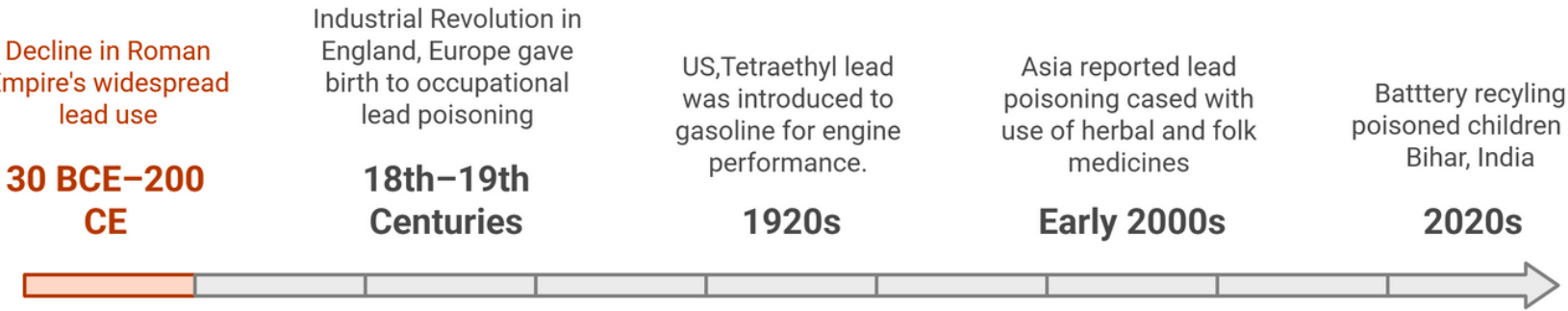
What Happens If We Inhale, Ingest, or Touch Lead

- Lead is absorbed through the **gastrointestinal (GI) tract after ingestion** of contaminated food, water, soil, dust, paint chips and folk medicines. 

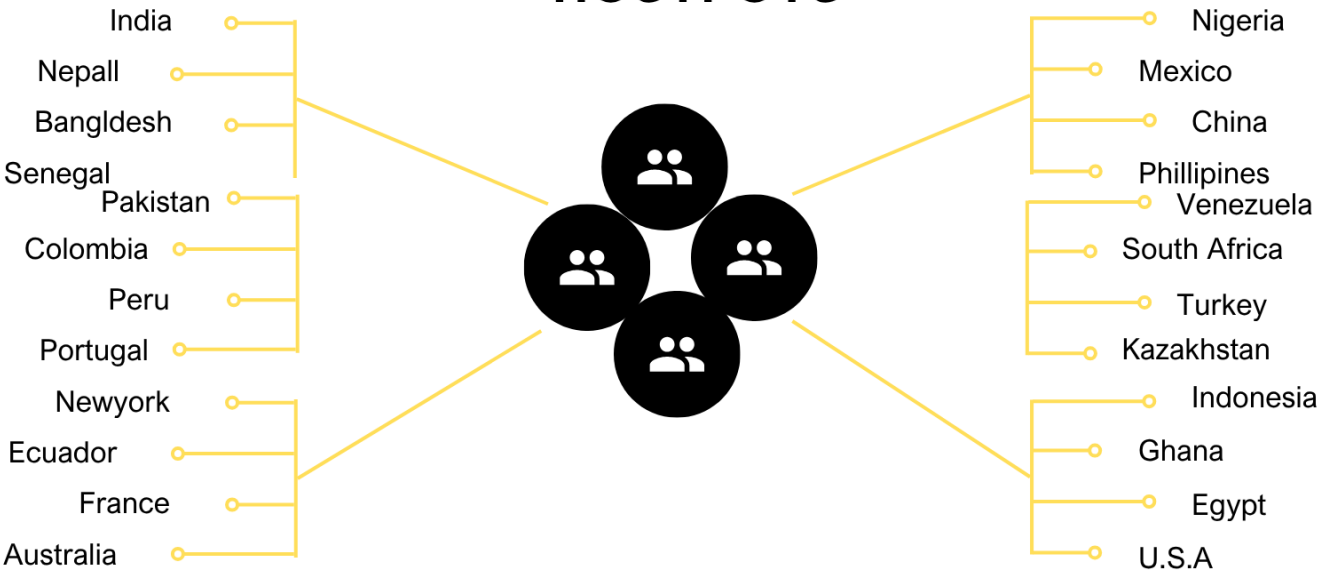
- Lead particles inhaled **through breathing** lead dust and fumes from industrial emissions, renovation, hobbies like glasswork, **deposited in the lungs** are absorbed efficiently into the bloodstream. 

- Dermal/**Skin absorption mostly in workers** through contact with leaded chemicals or cosmetics, it can **increase with sweating** and certain conditions. 

The Historical Journey of Lead Poisoning



GLOBAL LEAD EXPOSURE HOSTPOTS



Major Sources of Lead Exposure in India (2025)

Source	Share/Scope	Lead Level	Most Affected	Relative Impact
Informal Lead-Acid Battery Recycling	80-90% informal	47-190 µg/dL	Workers, families	**Largest acute**
Adulteration in Turmeric & Spices	Up to 75% samples	30-5,773 ppm	Low-income, cons.	**Chronic, national**
Lead-Based Household Paints	~90% paints w/ Pb	Up to 250k ppm	Families, children	**Major, persistent**
Other: Cookware, Cosmetics, Water, etc	Hotspots, wide risk	Mod.-high, local	Preg., infants, poor	**Moderate, unstd.**

Scope of Crisis

India faces a devastating epidemic with over **275 million** lead-poisoned children, highlighting a severe public health crisis affecting vulnerable populations across the nation.

Prevalence of Lead

23 states exceed the danger threshold, illustrating the widespread nature of lead exposure among children.

Vulnerable Populations

People living nearby industry sites like battery recycling and rural areas suffer the most from the impacts of lead exposure.

Basic Support

Marginalized communities face the harshest suffering from lead exposure. Access to essential health information and resources is poor

Urgent Cases of Lead Exposure in Children

Highlighting critical real-life instances of lead poisoning and its effects

A Chicago family

Chicago Toddler Incident

A 21-month-old had a blood lead level of **76 µg/dL** from **peeling lead paint**.

Flint Water Crisis

Two Young Lives Affected

Two boys exposed to **lead paint** suffer from **lasting learning and health issues**.

A story from Bangladesh)

Battery Recycling Hazards

A child in **Bangladesh** faced **neurodevelopmental delays** due to **battery workshop** exposure.

How Much Lead Does the Body Absorb?

Children absorb lead more effectively than adults.

3-5 times

- This means children are at a greater risk of lead poisoning.

Majority of lead stored in bones.

75-90%

- Lead accumulation in bones can affect long-term health.

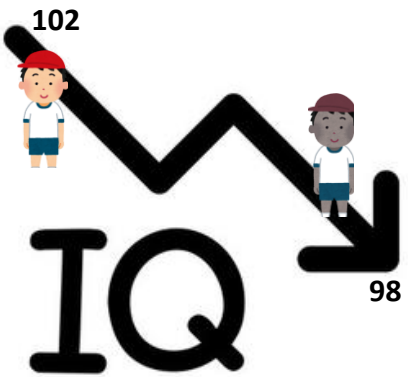
Only 50% lead can be eliminated from the body.

35-50 Years

What Makes Lead Exposure so URGENT?

50% of 800 million children in India have unsafe levels of lead in their blood.

Each 10 microgram/dL increase in blood lead levels, **drops a child IQ by about 4-5 points.**



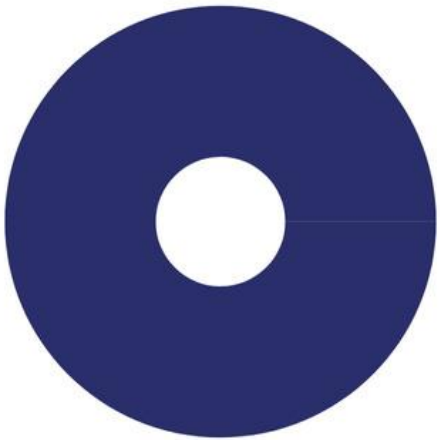
It means a child with an average IQ **suddenly start struggling learning in school, needing extra help, and facing reduction in intelligence test scores** due to low average IQ.

Urgent Need to Address Lead Exposure Worldwide

Exploring the alarming global lead exposure issues affecting vulnerable populations

Unsafe Cookware

In Tamil Nadu, a staggering **39%** of children under **6** were found to have **unsafe blood lead levels**, raising serious health concerns about the cookware used by families.



Toxic Turmeric

In Patna, India, certain spices contained **lead levels** that were **200×** above safe limits, indicating a severe risk in everyday food items that could affect health.

Climate Impact

Urban heat contributes to an increase in lead exposure by **17%** a as heat can release lead from pipes, soil, and dust from degraded paint.

Plastic Dishware

Bright plastic tableware commonly used in **Africa** and **South Asia** can leach **lead**, especially when in contact with hot foods, posing risks to consumers.

Sources: Toxic Turmeric in India, . Bihar, the worst-hit state, Dr Ashish Mittal, Tamil Nadu Aluminium/brass cookware

Get involved today and help create safer, lead-free environments

Join the fight against **lead exposure** by advocating for **safer environments**, supporting affected families, and participating in community initiatives aimed at reducing **lead levels** in your area. Your involvement is crucial in creating a healthier future for our children.