

# India is on the verge of becoming the “world capital of lead poisoning”

India, April 2012: We need awareness programmes, **monitoring of blood lead levels**, preventing usage of lead-based products and enacting legislation to control pollution due to lead. The most important step is to prevent use of painted idols in water bodies.

Lead has no beneficial effects and children and women are most vulnerable. The World Health Organisation (WHO) estimates that 1.2 crore people are overexposed to lead and 99% of the most serious cases are in the developing world.

- Dr Venkatesh Thuppil, director,  
National Referral Centre for Lead  
Poisoning (NRCLP), India.



# Lead Test

## WHAT IS LEAD?

- Lead is a naturally occurring toxic element (metal) that can cause devastating harm to the human body. Lead is a potent neurotoxin and affects almost every system of the body, especially the developing brain and nervous system of unborn babies and children 6 years of age and under
- Centers for Disease Control and Prevention (CDC) studies have shown that blood lead levels as low as 5 $\mu$ g/dL may result in adverse pregnancy outcomes, including spontaneous abortion, premature birth, stillbirth, birth defects, and decreased intellect and/or behavior problems in the child

***Blood lead levels are measured in micrograms per deciliter ( $\mu$ g/dL)***

# Lead Test

- Lead has maximum effect during growth and development of children as there is no placental and blood brain barrier
- With its deleterious effects on all organs in the human body, lead poisoning is widely recognized as a major public health problem all over the world
- Children and women are found most vulnerable to lead poisoning especially in developing countries.
- Unlike other health hazards, lead poisoning is hundred per cent preventable in certain age group when appropriate legislation is in place

***The estimate by the World Health Organization has indicated that over 120 million people are overexposed to lead all over the world and 99 percent of the most serious cases are in the developing world.***

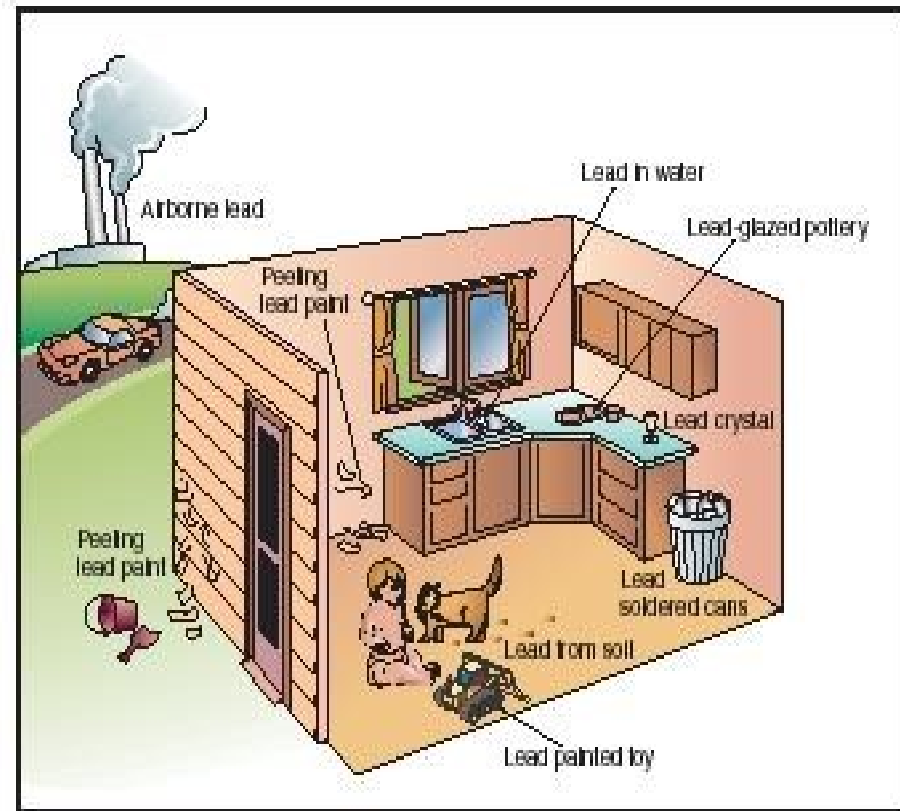
# Lead Test

## Sources of Lead Poisoning in India :

- Contaminated air, water, soil, food, consumer products
- Tinned eating utensils
- Remaining lead based paint in older housing stock
- Ayurvedic Medicines
- Workplace Exposure

## Routes of Exposure :

- Primary Route : Oral
- Secondary Route : Inhalation (fastest)  
Dermal (rare)



# Lead Test

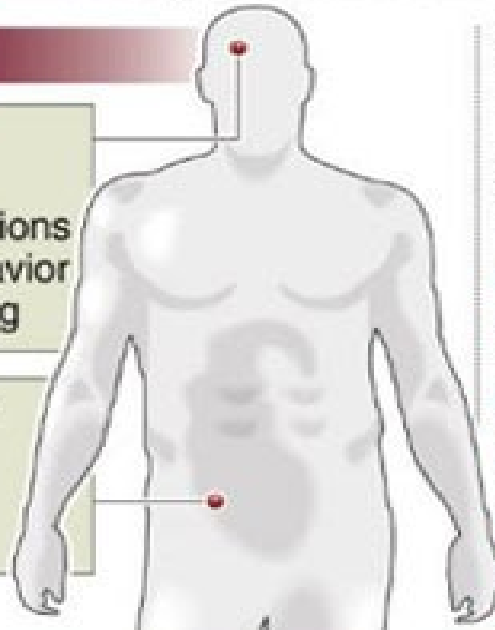
## Lead poisoning

Lead buildup in the body causes serious health problems

### Symptoms

- Headaches
- Irritability
- Reduced sensations
- Aggressive behavior
- Difficulty sleeping

- Abdominal pain
- Poor appetite
- Constipation
- Anemia



### Additional complications for children:

Lead is more harmful to children as it can affect developing nerves and brains

- ▶ Loss of developmental skills
- ▶ Behavior, attention problems
- ▶ Hearing loss
- ▶ Kidney damage
- ▶ Reduced IQ
- ▶ Slowed body growth

# Lead Test

## Who should be tested and when ?

### **Children :**

- All children below 6 years should have a blood lead tests at least annually
- Children with learning difficulties, autism, attention deficit disorder (ADD), attention deficit hyperactive disorder (ADHD) or aggressive behavior

### **Women :**

- Couples planning to conceive should aim to have a blood lead level below 5  $\mu\text{g}/\text{dL}$
- Mother's blood lead level (BLL) should be kept below 5 $\mu\text{g}/\text{dL}$  from the time of conception through pregnancy

# Lead Test

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## TEST DETAILS

Technology

Atomic absorption

Turnaround Time

5 days

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