

Patient evaluation requires a detailed risk assessment to identify the source of lead, and to ensure the patient is removed from further exposure.

Toxicity / Risk Assessment

- Toxicity results from ingestion or inhalation
- Most cases result from chronic occupational exposure or ingestion of lead-containing "traditional" remedies
- Pregnant women and children are most at risk
- Toxicity is enhanced by iron and calcium deficiency

Sources:

- *Environmental* - lead paint, contaminated drinking water
- *Occupational* - radiator repairs, construction workers, pottery manufacturers, gun firing ranges, lead piping / paint
- *Other* - pottery, soldering, lead sinkers, Ayurvedic remedies, alternative cosmetics, contaminated opium
- If no clear source found consider XR of GI tract

Ingested lead foreign body: see separate guideline

Clinical features:

Acute: - abdominal pain, vomiting, haemolysis, hepatitis, encephalopathy, seizures / coma (pre-terminal signs)

Chronic: - vague symptoms, headache, poor concentration, malaise, abdominal pain, irritability, anaemia and basophilic stippling on blood film, potential for permanent sequelae

Management

- Identifying the source and preventing further exposure prior to chelation is essential
- Acute resuscitation is rarely required

Children and pregnant women

Whole blood [Pb] (umol/L)	Whole blood [Pb] (ug/dL)	Action
< 0.24	< 5	No action
0.24 – 2.4	5 - 50	Remove from source; repeat concentration in a month; chelate if symptomatic
2.4-3.4	50 - 70	Chelation therapy
> 3.4	> 70	Chelation therapy + admit to hospital

Adults

Whole blood [Pb] (umol/L)	Whole blood [Pb] (ug/dL)	Action
< 0.48	< 10	No action
0.48 – 2.4	10 - 50	Remove from source; repeat concentration in a month
2.4 - 3.4	50 - 70	Consider chelation if symptomatic or [Pb] in this range for 3 consecutive months
3.4 – 4.8	70 - 100	Chelation therapy
> 4.8	> 100	Chelation therapy + admit to hospital

Occupational exposure guidelines recommend removal from source if conc. > 20 ug/dL (0.96 umol/L)

Chelation therapy: discuss with a clinical toxicologist

- See separate Succimer / DMSA / DMPS guidelines