

LEAD POISONING

A. Occurrence

I. Lead Trades

- (1) Mining, smelting, refining
- (2) Handling and melting metallic lead.

Lead burning, soldering, making type

(Lead oxide dusts)

- (3) Dust and finely divided particles

White lead - manufacture - paint mixing

Red lead - manufacture - storage batteries

Painting - spray painting

Paint finishing - rubbing, sanding etc.

Enameling

Pottery and glazing

Insecticide manufacture and handling

Rubber manufacture

II. General Population

- (1) Water supply - lead pipes - hard water rich in CO₂
- (2) Other beverages - beer, home brew, whiskey
- (3) Contaminated foods

Important - - - (4) Children - pica

E. Recognition

I. Occurrence of significant exposure.

(1) History

- (a) Necessity for detailed and accurate description of exposure.
- (b) Personal investigation frequently required.
- (c) History of pica in children

(2) Analytical evidences of exposure.

- (a) Significance of lead in faeces
- (b) Significance of lead in urine
- (c) Significance of lead in tissues
 - Post mortem diagnosis
- (d) Significance of lead in environment
 - Lead in air
 - Lead in materials handled
 - Lead on painted objects
 - Lead in water

(3) Other evidences of exposure (absorption)

- (a) X-ray evidence in children.
- (b) Lead line on gums
- (c) Changes in blood

II. Presence of characteristic Signs and Symptoms

(1) Circulatory disturbances

Pallor

Alternating vascular tone with generally low blood pressure and fleeting vascular crises

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Anemia

Haemorrhages - as retinal

- (2) Digestive disturbance
Loss of appetite
Loss of weight
Diarrhea (onset)
Constipation
Colic

- (3) Nervous and neuromuscular disturbances

Neuritis

- Muscle weakness and atrophy
Paralysis fleeting or permanent
Musculo-spiral palsy
Sensory abnormalities - often atrophy arthralgia

Central

- Tremor and increased myotactic irritability
Headache
Insomnia
Encephalopathy - especially common in children
Somnolence
Mania