



ศูนย์พิษวิทยารามาธิบดี

คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล

อาคารสุโขเพลส ถนนสุขุขทัย กรุงเทพมหานคร 10300 สายด่วน 1367 โทรสาร 0-2201-1084

RAMATHIBODIPOISONCENTER

Faculty of Medicine RamathibodiHospital, Mahidol University

Sukho Place Building, Sukhothai Rd., Bangkok 10300 Hotline 1367

Chelation Therapy Guideline for Lead Poisoning in Adult

Condition, BLL (mcg/dl)	Drug and Dose	Regimen	Monitoring
Encephalopathy	- BAL 450 mg/m ² /day - CaNa ₂ EDTA 1000-1500 mg/m ² /day	-75 mg/m ² IM q 4 hours for 5 days - Continuous IV infusion in 8 hours OD for 5 days <i>(start CaNa₂EDTA 4 hours after BAL)</i>	-Baseline CBC, BUN/Cr, calcium, LFT - Repeat CBC, BUN/Cr, calcium, LFT, BLL on days 3, 5 -24 hours urine lead level OD
Symptomatic and BLL > 100	- BAL 300-450 mg/m ² /day - CaNa ₂ EDTA 1500 mg/m ² /day	-50-75 mg/m ² IM q 4 hours for 5 days - Continuous IV infusion in 8 hours OD for 5 days <i>(start CaNa₂EDTA 4 hours after BAL)</i>	
Mild symptoms or BLL 70-100	- D-penicillamine (250 mg/tab) dosage depends on ZPP level - CaNa ₂ EDTA 1000 mg/m ² /day is used if contraindicated to D-penicillamine or moderated symptoms	- If ZPP > 300 : 1 tab tid for 3 mth - If ZPP 77-300 : 1 tab bid for 3 mth - If ZPP < 77 : 1 tab bid for 2 mth - Continuous IV infusion in 8 hours OD for 5 days	-Baseline CBC, BUN/Cr, calcium, LFT -Repeat CBC, BUN/Cr, calcium, LFT, BLL 3 mth
Asymptomatic and BLL 10-70	Usually not indicated	Removal of worker from job with potential lead exposure	Repeat BLL q 6 mth

Preparation: Dilute CaNa₂EDTA in 250-500 mL NSS or D5W infuse over 8-12 hours



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CALCIUM DISODIUM EDTA

- Common Tradenames

- ◆ EDETATE CALCIUM DISODIUM: 5-mL ampule = 1000 mg/amp

- Indications

- ◆ Lead poisoning

- Contraindications

- ◆ anuria or active renal disease
- ◆ hepatitis

- Adverse Effects

- ◆ **SERIOUS**
 - Fever
 - Hypotension
 - Immune hypersensitivity reaction, Histamine-like
 - Nephrotoxicity
 - Thrombophlebitis

- Dosage, Adult

- ◆ **Lead poisoning (5-day course)**
 - Before start the treatment, Lab monitoring should be done as the following: CBC, Ca, BUN/Cr, LFTs
 - Administer CaEDTA 2000 mg in 200 mL 5% dextrose or NSS IV drip in 2 h X 5 days
 - provide adequate fluids to maintain urine because CaEDTA enhances urinary lead excretion
 - collect 24-h urine lead output
- Obtain 2 or more days post-treatment blood lead level