

For Your Quiver

Draft available for public comment on the ATSDR website (1):

“ The measurement of lead excreted in urine following an injection (intravenous or intramuscular) of the chelating agent, Calcium disodium EDTA (*EDTA provocation*) has been used to detect elevated body burden of lead in adults (2,3,4,5) and children (6,7), and is considered to be a reliable measure of the **potentially toxic fraction of the lead body burden** (8).”

- (1) www.atsdr.cdc.gov/toxprofiles/tp13.html#
- (2) Biagini G et al. Renal morphological and functional modification in chronic lead poisoning. In: Brown SS, ed. Clinical chemistry and chemical toxicology of metals. Elsevier/North-Holland Biomedical Press, (1977);123-126
- (3) Lilis R et al. Nephropathy in chronic lead poisoning. Br J Ind Med (1968);25:196-202
- (4) Wedeen RP et al. Occupational lead nephropathy. Am J Med (1975):59:630-641
- (5) Wedeen RP. Removing lead from bone: Clinical implications of bone lead stores. Neurotoxicol (1992):13:843-852.
- (6) Chisolm J et al. Interrelationships among blood lead concentration, quantitative daily ALA-U and urinary lead output following calcium EDTA. In:Nordberg GF, ed. Proceedings of third meeting of the subcommittee on the toxicology of metals under the Permanent Commission and International Association on Occupational Health, November 1974, Tokyo, Japan.Amsterdam, Netherlands: Elsevier Publishing Co., (1976)416-433.
- (7) Markowitz M et al. Zinc (Zn) and copper (Cu) metabolism in CaNa₂ EDTA-treated children with plumbism. Pediatr Res (1981)15:635
- (8) WHO. Environmental transport, distribution and transformation. Geneva, Switzerland: WorldHealth Organization, (1995)60-65

Inchem Statement

The **excretion of lead provoked** by chelating agents, such as Ca-Na₂-EDTA, is thought to reflect the biologically active portion of the **body burden**. It is probably a more sensitive index of over exposure and excess absorption than the Pb-B level since, **clearly elevated values have been reported in cases of only marginally elevated Pb-B levels.**