

## **Treatment of Mercury and Lead Poisonings with Dimercaptosuccinic Acid (DMSA) and Sodium Dimercaptopropanesulfonate (DMPS)**

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*Analyst 1995 Mar; Vol 120, page 853ff*

Presented at the fifth Nordic Symposium on Trace Elements in Human Health and Disease, Loen, Norway, June 19-20, 1994.

**SUMMARY:** The organic mercury species with greatest toxicity are methylmercury compounds, which have a high affinity for the brain and nervous system. DMSA is shown to cross the blood brain barrier and remove mercury from that organ. DMPS is much less effective. DMPS is also 3 times more toxic than DMSA, based on LD-50. Animal studies show DMSA to be almost 3 times more effective than DMPS in removing brain mercury, as tabulated below. DMSA has the added advantage that it is taken by mouth in capsule form. DMPS is usually given by injection.

### **STUDY OF MERCURY TOXIC MICE:**

**Brain mercury before treatment averaged  
2.3 nmol/g**

**Brain mercury after DMPS treatment = 1.6  
nmol.g**

**Brain mercury after DMSA treatment = 0.6  
nmol/g**

**Author's conclusion: "DMSA may now be considered as the treatment of first choice in cases of acute or subacute lead poisoning and in methylmercury poisoning. . . All experimental and clinical experiences show a low toxicity for this drug."**