

Do silicofluorides boost risk of toxic lead levels?

Ongoing research by Roger Masters and colleagues indicates that lead, a heavy metal linked to aberrant behavior and criminality (see story on this page) has an accomplice in its dirty work: the silicofluorides (SiFs) commonly used to fluoridate water supplies.

In 1998 (see related article, [Crime Times, 1998, Vol. 4, No. 4, Page 1](#)), Masters and Myron Coplan analyzed data from more than 200 Massachusetts communities and found that children's average lead uptake correlated only weakly with lead levels in the communities' water supplies, but that children in communities using SiFs had higher average lead levels than those in communities that used sodium fluoride or did not fluoridate their water. Moreover, the percentage of children with dangerously high lead levels was markedly higher in the communities using SiFs. The researchers' next study, based on data from the Third National Health and Nutrition Evaluation Survey (NHANES III), found a similar correlation between SiFs and lead levels.

In new research, Masters and colleagues analyzed data on more than 150,000 venous blood lead level samples taken from young children in 105 communities in New York, comparing lead levels in communities with and without SiF-treated water. Data were broken down by age and race, and the researchers controlled for seven variables that influence blood lead levels (housing age, poverty, unemployment, population density and total population, per capita income, and education level of parents).

Masters et al. report, "For every age/race group, there was a consistently significant association of SiF treated community water and elevated blood lead." Children at greatest risk for elevated lead levels were those exposed to SiF-treated water and another risk factor, such as old housing.

Masters et al. note that the initial studies which determined that fluoridation was safe were based on sodium fluoride, and that SiFs have never been subjected to similar testing. "Over 140 million Americans drink water treated with silicofluorides," the researchers say, "even though their effects on brain chemistry, health, and behavior have never been adequately studied." In addition to SiFs' apparent role in increasing lead uptake, the researchers say, European research suggests that the chemicals act as acetylcholinesterase inhibitors and thus may markedly affect neurotransmitter regulation.

"If further research confirms our findings," Masters and colleagues say, "this may well be the worst environmental poison since leaded gasoline."

"Association of silicofluoride treated water with elevated blood lead," R. D. Masters, M. J. Coplan, B. T. Hone, and J. E. Dykes, *NeuroToxicology*, Vol. 21, No. 6, December 2000, pp. 1091-1100; and "Dartmouth researcher warns of chemicals added to drinking water," Dartmouth press release, March 15, 2001. Address: Roger Masters, Dept. of Government, Dartmouth College, 6108 Silsby Hall, Hinman Box 6108, Hanover, NH 03755, roger.d.masters@dartmouth.edu.