**The Case Against Fluoride: How Hazardous Waste Ended Up in Our Drinking Water and the Bad Science and Powerful Politics That Keep It There**

by Paul Connett, James Beck and H. Spedding Micklem. 2010. Chelsea Green Publ. Vermont. 392 pages. ISBN-10: 1603582878; ISBN-13: 978-1603582872

Is it all over now? Ralph Nader has come out against water fluoridation. The US Centers for Disease Control and Prevention admit that 41% of 12- to 15-year-olds, and 36% of 16- to 19-year-olds, have dental fluorosis (tooth mottling). In January 2011, the US Department of Health and Human Services recommended a reduction of fluoride in drinking water. Has fluoridation finally been foiled?

If so, it's been a long process. Back in 1980, when my children were infants, I noticed that virtually every country in Europe had stopped fluoridation. A few years later, I read an article in *Chemical and Engineering News* that, reviewing the research, showed that persons who have grown up with fluoridated water have, on average, only half of one filling less per lifetime than people who did not drink fluoridated water.[1]

So I am biased, having set my proverbial teeth against fluoridation long ago. My children were raised in a community without water fluoridation, without fluoride mouth rinses, and using fluoride-free toothpaste. My son had a cavity and my daughter had three cavities...total, through all their teen years. That is not proof, but it is certainly a little intriguing.

But talk about intrigue: the real story started in the 1940s and trials began in 1945. The US Public Health service endorsed fluoridation on June 1, 1950 before any trials were completed. Endorsements from the American Dental association, the American Public Health Association, followed before year's end. This "ready, fire, aim" approach was the mother of claims, which I repeatedly heard as a child and as a parent, that water fluoridation would reduce dental caries by 90%. I have seen no evidence to support this claim, or even that it reduced cavities by a reasonable fraction of that figure. Indeed, some regions of the United States with nearly universal water fluoridation have the most decayed, missing and filled teeth in the nation.

The whole sordid affair is detailed, with energy and rigorous scholarship, in *The Case Against Fluoride*. The authors offer considerably more than many readers ever wanted to know about the subject. That is a compliment. This is certainly information all should know, and almost certainly do not. Sections in the book include a history of fluoridation; evidence of ineffectiveness; evidence of harm; safety issues; ethical arguments; and, perhaps most scathing, an inside look at fluoridation promotion techniques. It is a partisan presentation. It is also heavily, even relentlessly, substantiated, with 80 pages of references. Ignoring such an array of literature is the only way to dismiss it.

The orthomolecular community is divided on this issue. Water fluoridation might be considered orthomolecular, the practice being a medical use of a substance normally found in the human body. Linus Pauling is said to have supported water fluoridation. On the other hand, fluoridation might be considered toximolecular, since even moderate overconsumption of fluoride not only causes dental fluorosis (mottling) but has also been shown to be associated with an increase incidence of osteosarcoma and other diseases.[2,3] Significantly, "too much" is a small increase, sometimes a matter of only a fraction of a milligram per liter in excess of water concentrations generally recognized as safe. All fluoride supplements, including fluoridated vitamins, require a prescription.

In 1990, Abram Hoffer commented on John Yiamouyiannis' analysis[4] of US Public Health Service data. "(F)luoridation had no significant effect on children's teeth," Dr. Hoffer wrote, adding that "studies showing fluoride is carcinogenic (toxic) and non-therapeutic when added to water provides

support to the 'unscientific' views of fluoride opponents."[5]

Fluoridation is alive and presumed well in the majority of American's faucets. Is the fluoridation debate over? Those in favour of fluoridation typically say yes, and for some time now. The authors disagree. Declaring a victory by ignoring research is politics, not science.

There is not a great deal of published academic debate on the topic. Yiamouyiannis' paper, mentioned above, appeared in the journal *Fluoride.* Medline steadfastly refuses to index *Fluoride*, even though it is peer reviewed, balanced in coverage of the topic, and has been continuously published for 44 years. *Journal of Orthomolecular Medicine* readers will not find this all that surprising. The entire *Fluoride* archive is online for free access at *www.fluorideresearch.org.*

"Balance" is a word that has never been welcome in the fluoride debate. Citizens and scientists critical of fluoridation have been and still are dismissed as cranks. It is curious that so many anti-anti-fluoride articles cite the movie *Dr. Strangelove* to bolster their arguments for fluoridation. The movie was a work of fiction. *The Case Against Fluoride* offers much evidence that to assert that fluoridation of water is safe and effective is a fiction as well.

- Andrew W. Saul
141 Main Street
Brockport, NY 14420
www.doctoryourself.com

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