

Rethinking the risks and benefits of fluoridation

By: Sheldon Thomas

References:

1. <http://www.ada.org/4051.aspx>
2. *NEW YORK, June 9 /PRNewswire-US Newswire/ -- The National Kidney Foundation withdrew its support of water fluoridation citing the 2006 National Research Council (NRC) report indicating that kidney patients are more susceptible to fluoride's bone and teeth-damaging effects. The kidney-impaired retain more fluoride and risk skeletal fluorosis (anarthritic-type bone disease), fractures and severe enamel fluorosis, which may increase the risk of dental decay, reports the NRC.*
3. *2006 National Research Council 'Fluoride in Drinking Water: A Review of the EPA's Standards'.*
4. *April 6, 2011 letter from the current President of the International Academy of Oral Medicine and Toxicology to the Director of the Centers for Disease Control and Prevention : "The solid evidence of harm we now have for susceptible, sensitive populations, untainted by politics or money considerations, is why the overwhelming consensus of our membership of hundreds of dental and medical professionals is to withdraw support for fluoridation. We cannot in good conscience continue to support the idea of people ingesting uncontrolled amounts of fluorides in drinking water."*
Matt Young, DDS
President, International Academy of Oral Medicine and Toxicology
5. *Dr. Hardy Limeback BSc., PhD., DDS, Professor Emeritus and Former Head of Preventative Dentistry, Faculty of Dentistry, University of Toronto*
6. *World Health Organization Fluoride in Drinking Water, section 4.1, 'Application of the WHO guideline values to local conditions'*
7. *Canadian Environmental Protection Act: Hydrofluorosilicic Acid is "persistent", "bio-accumulative" and "toxic".*
Environment Canada classifies hydrofluorosilicic acid as a "hazardous substance".
Transport Canada classifies hydrofluorosilicic acid as a "dangerous good".
The USEPA classifies hydrofluorosilicic acid as a "class one hazardous waste"
8. *Petition: No. 221B, Office of the Auditor General of Canada, Petitioner: Carole Clinch / Health Canada response to Q7, Q8, Q9, Q10, Q13, Q19: "Health Canada does not conduct research on the chemistry of fluoride species."*
9. *NSF/ANSI Standard 60-11, Drinking Water Treatment Chemicals-Health Effects*
10. *NSF Fact Sheet on Fluoridation Chemicals, Feb 2008*
11. *NSF/ANSI Standard 60-11, Drinking Water Treatment Chemicals-Health Effects / Disclaimers, pg iii*

12. Crosby, N.T. 1969. Equilibria of fluorosilicate solutions with special reference to the fluoridation of public water supplies. *Journal of Applied Chemistry* 19:100-102.

13. (A) "Masters and Coplan, besides showing that silicofluorides are probably increasing lead in children, have discovered a 1975 Ph.D. thesis in German showing that silicofluorides are far from completely dissociate in water, and these partially dissociated residues are potent acetyl cholinesterase inhibitors. As a result of their work, **EPA was forced to admit to Congressman Calvert that they have absolutely "no information on the effects of silicofluorides on health and behavior."** Further, **EPA officials now admit that they are not sure that hydrofluosilicic acid completely dissociates when added to water supplies** and are planning on studies to determine what does happen. Silicofluorides have been added to drinking water supplies for 50 years without any idea of the possible consequences."
Robert J. Carton, Ph.D. Chief, Environmental Protection Office of Regulatory Compliance & Quality U.S. Army Medical Research & Material Command

(B) The assumption that silicofluorides completely dissociate in water (Urbansky and Schock, 2000) has been questioned (Coplan and Masters, 2001). The possibility that intermediate species (e.g. SiF₅⁻) exist under acidic conditions has been indicated (Urbansky, 2002; Morris, 2004; NRC, 2006, p. 53). Also possible is that SiF residues re-associate within the stomach (intra-gastric pH levels ~2.0; Ciavatta et al., 1988) and during food preparation, producing SiF-related species such as silicon tetrafluoride, a known toxin (Coplan, 2002).

(C) *Chem. Rev.* **2002**, 102, 2837-2854 'Fate of Fluorosilicate Drinking Water Additives', Edward Todd Urbansky.

Above is the USEPA Request For Assistance (RFA) to further investigate the dissociation of silicofluorides, as earlier ordered by the US Congress.

14. <http://www.science-facts.com/quick-facts/amazing-human-facts/>

15. Discussing water fluoridation, Dr. James Sumner, Nobel Prize winner for his work in enzyme chemistry, stated, "We need to go slowly, here. Everybody knows that fluorine and fluorides are very poisonous substances, and we use them in enzyme chemistry to poison enzymes, those vital agents in the body."

16. "We now have ample scientific evidence to substantiate the fact that ingestion of fluoride prevents biosynthesis of hemoglobin leading to anemia in human beings. We have studied this problem in pregnant mothers. The danger of anemia in pregnancy is that it would lead to abnormalities in the development of the embryo/foetus," says Dr Susheela.

Professor (Dr) A.K. Susheela of India, Professor of Anatomy (Histochemistry) and Chief of the Fluoride and Fluorosis Research Laboratories at the All India Institute of Medical Sciences, New Delhi, has spent more than 20 years doing scientific research in the field of Fluoride Toxicity and Fluorosis. She has more than 80 scientific publications in leading Western and Indian Journals.

17. (1) "The most recent World Health Organization data, show that the decline in dental decay in recent decades has been comparable in 16 non-fluoridated countries and 8 fluoridated countries. The WHO data do not support fluoridation as being a reason for the decline in dental decay in 12 year olds that has been occurring in recent decades." SOURCE: Neurath C. (2005). Tooth decay trends for 12 year olds in non-fluoridated and fluoridated countries. *Fluoride* 38:324-325.

(2) "During the past 40 years dental caries has been declining in the US, as well as in most other developed nations of the world... The decline in dental caries has occurred both in fluoridated and in non-fluoridated communities, lending further credence to the notion that modes other than water fluoridation, especially dentrifices, have made a major contribution."

SOURCE: Leverett DH. (1991). Appropriate uses of systemic fluoride: considerations for the '90s. *Journal of Public Health Dentistry* 51: 42-7.

(3) "The current reported decline in caries tooth decay in the US and other Western industrialized countries has been observed in both fluoridated and non-fluoridated communities, with percentage reductions in each community apparently about the same."

SOURCE: Heifetz SB, et al. (1988). Prevalence of dental caries and dental fluorosis in areas with optimal and above-optimal water-fluoride concentrations: a 5-year follow-up survey. *Journal of the American Dental Association* 116: 490-5.

(4) "During the period 1979-81, especially in western Europe where there is little fluoridation, a number of dental examinations were made and compared with surveys carried out a decade or so before. It soon became clear that large reductions in caries had been occurring in un-fluoridated areas. The magnitudes of these reductions are generally comparable with those observed in fluoridated areas over similar periods of time."

SOURCE: Diesendorf, D. (1986). The Mystery of Declining Tooth Decay. *Nature* 322: 125-129.

(5) "Even the most cursory review of the dental literature since 1978 reveals a wealth of data documenting a secular, or long term, generalized decline in dental caries throughout the Western, industrialized world. Reports indicate that this decline has occurred in both fluoridated and fluoride-deficient areas, and in the presence and absence of organized preventive programs."

SOURCE: Bohannon HM, et al. (1985). Effect of secular decline on the evaluation of preventive dentistry demonstrations. *Journal of Public Health Dentistry* 45: 83-89.

18. The report documents myriad potential hazards from fluoride exposure, including damage to the bones, brain, and various glands of the endocrine system. (See excerpts of NRC's findings at: <http://www.fluoridealert.org/health/epa/nrc/excerpts.html> .) According to Dr. Bob Carton, a former risk-assessment scientist at EPA, this report "should be the centerpiece of every discussion on fluoridation. It changes everything."

19. Health Canada: Findings and Recommendations of the Fluoride Expert Panel (January 2007) Expert Panel Members:

- Steven M. Levy, Iowa College of Dentistry
- Christopher Clark, University of British Columbia
- Robert Tardif, Université de Montreal
- Michael Levy, Institut National de Santé Publique du Québec
- Jayanth Kumar, New York State Department of Health
- Albert Nantel, Institut National de Santé Publique du Québec

20. HEALTH CANADA

"Guidelines For Canadian Drinking Water Quality Fluoride Supporting Documentation" (the Canadian federal-provincial subcommittee which just recently recommended lowering water fluoride levels to 0.8 ppm from 1.0 ppm):

"Although Health Canada classified fluoride as an essential element in the past, it now recommends that fluoride requirements can 'only be based on the beneficial effect on dental caries' and notes that

'attempts to demonstrate its essentiality for growth and reproduction in experimental animals have not been successful.'

21. *"At the heart of the matter is whether fluorine, as fluoride (F^-), should be ranked with Ca, Mg, P, and vitamin D as an essential nutrient. In fact, there is no known essential biochemical role for fluoride in any animal, including humans. The formation of sound, decay-resistant and caries-free teeth as well as strong, sturdy bones, whether in animal or human populations, does not require fluoride, or at least not in more than minuscule, trace amounts."* ALBERT W. BURGSTHALER, Ph.D. (Organic Chemistry and Environmental Fluoride), Professor of Chemistry, The University of Kansas*, Department of Chemistry, 4035 Malott Hall, Lawrence, Kansas 66045.

22. *USEPA Integrated Risk Information System (IRIS), Lead and Compounds (inorganic) (CASRN 7439-92-1), 11.A.: Evidence for Human Carcinogenicity .. Classification B: 'probable human carcinogen'*

23. *USEPA Integrated Risk Information System (IRIS), Arsenic (inorganic)(CASRN 7440-38-2) 11.A.: Evidence of Human Carcinogenicity ..Classification A: human carcinogen*

24. *Health Canada 2006 report 'Arsenic in Drinking Water': "Because arsenic can cause cancer, every effort should be made to keep levels in drinking water as low as possible."*

25. *April 24, 2000 / letter written by NSF's Stan Hazen, General Manager Drinking Water Additives Certification Program, to Mr. Juan Menedez, the State of Florida, Department of Public Health, Tallahassee, Florida*

26. *National Resources Defence Council, Feb. 2000, 'Arsenic and old Laws'*