

## FLUORIDE: DRINKING OURSELVES TO DEATH?

by Barry A Groves<sup>a</sup>

Reviewed by Albert W Burgstahler<sup>b</sup>

As might be expected from the title, the author makes no secret of his concern about the health risks of water fluoridation. Writing primarily for the general reader, he nevertheless has assembled an impressive array of referenced information of interest to anyone engaged in research concerning important biomedical and environmental aspects of fluoride and fluoridation. In a very orderly way, he marshals clear evidence that the substantial decreases in dental caries seen in many developed countries during the last 50 years have occurred to about the same extent without fluoridation as in locations with fluoridation. Likewise, he records telling examples, contrary to prevailing expectations, of tooth decay rates continuing to decline in places that have discontinued fluoridation.

And what about the author? Now residing in Oxfordshire, England, after 27 years as an electronic engineer in the Royal Air Force, Barry Groves has been looking into the connection between modern diets and modern diseases, a subject about which he has written two valuable books. In the present book he has turned his attention to the seemingly never-ending discussion of the pros and cons of water fluoridation. His central theme is the disturbing contradiction of classifying industrial silicofluoride by-products as too hazardous to release into the air, rivers, or lakes but calling them safe and beneficial when they are metered into municipal drinking water, where their intake is unregulated and often excessively high and toxic. Another concern is the fact that most dentists and other health professionals are generally taught that the recommended uses of fluoride are safe and effective, even though their own journals often report otherwise.

Adding to its utility, the book is organized according to questions posed and answered by the British Fluoridation Society for dentists and dental hygienists who might be asked about fluoridation by their patients. The suggested and often evasive reply by the BFS to each question is then given in full, followed by a counter response from Groves, which he then expands with pertinent information.

Besides the dental caries aspects mentioned at the beginning of this review, topics raised by the BFS questions that are discussed include:

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- organizational and official endorsements of fluoridation that are contradicted by unrefuted research findings;
- endorsements of fluoridation that have been withdrawn;
- effects of fluoride on the brain and neuromuscular system;
- fluoride-cancer connections;
- risk of infant overdose of fluoride from fluoridation;
- increased disfiguring dental fluorosis from fluoridation and fluoride use;
- hypersensitivity to fluoride;
- effects of fluoride on bone strength;
- acute toxic episodes in fluoridation and fluoride dental treatment;
- position against fluoridation by scientists at the US Environmental Protection Agency;
- diminishing public and international support for fluoridation;
- ethical and legal challenges to fluoridation, especially in the Human Rights Act of the European Union;
- pivotal events in the history of fluoridation;
- the source and toxic composition of fluoridation chemicals;
- the dispute over the essentiality of fluoride in human nutrition;
- the origins and outcome of the recent National Health Centre, University of York, review of water fluoridation.

With such a wide array of topics, readers will find much useful information and fresh insight in the author's treatment of these and related items.

Some errors that need to be corrected in future printings or in a new edition are:

- ◆ The formula of calcium fluoride is given incorrectly on p. 33, although it is correct on p. 195.
- ◆ The report from Sri Lanka cited on p. 67 indicating high-level leaching of Al from aluminum cookware by fluoridated water was shown to be in error and was subsequently withdrawn (*Nature* 1987;327:107-8; 329:398).
- ◆ Also on p. 67, I. (Isabel) Jansen was an acclaimed RN (Registered Nurse), not a doctor.
- ◆ Again on p. 67, the chemical name of the polymer PTFE is polytetrafluoroethylene, not polytetrafluoroethane.
- ◆ The calculation on p. 97 concerning the amount of fluoride in a typical tea bag weighing 2 g that contains tea with 69 ppm soluble fluoride is

incorrect: it should be 69 mg/kg times 0.002 kg or 0.14 mg of fluoride, not 17.25 mg.

- ◆ On p. 155 the year of Dr John Colquhoun's retirement as the Principal Dental Officer of Auckland, NZ, is incorrectly given as 1990 instead of 1984.
- ◆ On p. 193 the chemical name of sarin is isopropoxy (not isopropyl) methylphosphoryl fluoride.
- ◆ On pp. 85 and 317 Dr Albert Schatz is incorrectly assigned a Nobel Prize, which he indeed merited to share for his discovery in 1943 of the anti-tuberculosis antibiotic streptomycin. Dr Selman A Waksman (1888-1973), who was Schatz's graduate research advisor at Rutgers, was the sole awardee of the 1952 Nobel Prize in Physiology or Medicine, in large part for that important discovery.
- ◆ Also on p. 317 the name and credentials of Douw G. Steyn, DVM, are listed incorrectly.
- ◆ Rebecca Hanmer's name is misspelled on p. 204 but is spelled correctly in the reference on p. 209.
- ◆ Likewise, Dr George Waldbott's name is misspelled on p. 329 in the index but is given correctly throughout the text.
- ◆ On p. 319 Rudolph Ziegelbecker should be listed as a physicist (without a PhD) and not as a physician.

In his concluding chapter, the author very ably summarizes the case against fluoridation and then comments:

“This relentless promotion of fluoride as a ‘dental benefit’, and refusal to listen to any who say otherwise, is responsible for the huge neglect in proper assessment of its toxicity, an issue that has become a major concern of many nations.... As the toxicity of fluoride is undisputed, why are its adverse effects disputed?”

“This myopic mentality also means that the real causes of dental caries are not addressed.”