

## Fluoride, Teeth, and the Atomic Bomb

by Christopher Bryson & Joel Griffiths ([about the authors](#))

[http://www.fannz.org.nz/bryson\\_griffiths\\_1.php](http://www.fannz.org.nz/bryson_griffiths_1.php)

Some fifty years after the United States began adding fluoride to public water supplies to reduce cavities in children's teeth, declassified government documents are shedding new light on the roots of that still-controversial public health measure, revealing a surprising connection between fluoride and the dawning of the nuclear age.

Today, two thirds of U.S. public drinking water is fluoridated. Many municipalities still resist the practice, disbelieving the government's assurances of safety.

Since the days of World War II, when this nation prevailed by building the world's first atomic bomb, U.S. public health leaders have maintained that low doses of fluoride are safe for people, and good for children's teeth.

That safety verdict should now be re-examined in the light of hundreds of once-secret WWII documents obtained by Griffiths and Bryson -- including declassified papers of the Manhattan Project, the U.S. military group that built the atomic bomb.

Fluoride was the key chemical in atomic bomb production, according to the documents. Massive quantities of fluoride -- millions of tons -- were essential for the manufacture of bomb-grade uranium and plutonium for nuclear weapons throughout the Cold War. One of the most toxic chemicals known, fluoride rapidly emerged as the leading chemical health hazard of the U.S atomic bomb program -- both for workers and for nearby communities, the documents reveal.

Other revelations include:

- Much of the original proof that fluoride is safe for humans in low doses was generated by A-bomb program scientists, who had been secretly ordered to provide "evidence useful in litigation" against defense contractors for fluoride injury to citizens. The first lawsuits against the U.S. A-bomb program were not over radiation, but over fluoride damage, [the documents show](#).
- Human studies were required. Bomb program researchers played a leading role in the design and implementation of the most extensive U.S. study of the health effects of fluoridating public drinking water -- conducted in Newburgh, New York from 1945 to 1956. Then, in a classified operation code-named "Program F," they secretly gathered and analyzed blood and tissue samples from Newburgh citizens, with the cooperation of State Health Department personnel.
- The original secret version -- obtained by these reporters -- of a 1948 study published by Program F scientists in the Journal of the American Dental Association shows that evidence of adverse health effects from fluoride was censored by the U.S. Atomic Energy Commission (AEC) -- considered the most powerful of Cold War agencies -- for reasons of national security.
- The bomb program's fluoride safety studies were conducted at the University of Rochester, site of one of the most notorious human radiation experiments of the Cold War, in which unsuspecting hospital patients were injected with toxic doses of radioactive plutonium. The fluoride studies were conducted with the same ethical mind-set, in which "national security" was paramount.
- The U.S. government's conflict of interest--and its motive to prove fluoride "safe" -- has not until now been made clear to the general public in the furious debate over water fluoridation since the 1950's, nor to civilian researchers and health professionals, or journalists.

The declassified documents resonate with a growing body of scientific evidence, and a chorus of questions, about the health effects of fluoride in the environment.

Human exposure to fluoride has mushroomed since World War II, due not only to fluoridated water and toothpaste, but to environmental pollution by major industries from aluminum to pesticides: fluoride is a critical industrial chemical.

The impact can be seen, literally, in the smiles of our children. Large numbers of U.S. young people--up to 80 percent in some cities--now have dental fluorosis, the first visible sign of excessive fluoride exposure, according to the U.S. National Research Council. (The signs are whitish flecks or spots, particularly on the front teeth, or dark spots or stripes in more severe cases.)

**Less-known to the public is that fluoride also accumulates in bones --"The teeth are windows to what's**

happening in the bones," explains Paul Connett, Professor of Chemistry at St. Lawrence University (N.Y.). In recent years, pediatric bone specialists have expressed alarm about an increase in stress fractures among U.S. young people. Connett and other scientists are concerned that fluoride -- linked to bone damage by studies since the 1930's -- may be a contributing factor. The declassified documents add urgency: much of the original proof that low-dose fluoride is safe for children's bones came from U.S. bomb program scientists, according to this investigation.

Now, researchers who have reviewed these declassified documents fear that Cold War national security considerations may have prevented objective scientific evaluation of vital public health questions concerning fluoride.

"Information was buried," concludes [Dr. Phyllis Mullenix](#), former head of toxicology at Forsyth Dental Center in Boston, and now a critic of fluoridation. Animal studies Mullenix and co-workers conducted at Forsyth in the early 1990's indicated that fluoride was a powerful central nervous system (CNS) toxin, and might adversely affect human brain functioning, even at low doses. (New epidemiological evidence from China adds support, showing a correlation between low-dose fluoride exposure and diminished I.Q. in children.) Mullenix's results were published in 1995, in a reputable peer-reviewed scientific journal.

During her investigation, Mullenix was astonished to discover there had been virtually no previous U.S. studies of fluoride's effects on the human brain. Then, her application for a grant to continue her CNS research was turned down by the U.S. National Institutes of Health (NIH), where an NIH panel, she says, flatly told her that "fluoride does not have central nervous system effects."

Declassified documents of the U.S. atomic-bomb program indicate otherwise. An April 29, 1944 Manhattan Project [memo](#) reports: "Clinical evidence suggests that uranium hexafluoride may have a rather marked central nervous system effect... It seems most likely that the F [code for fluoride] component rather than the T [code for uranium] is the causative factor."

The memo -- stamped "secret" -- is addressed to the head of the Manhattan Project's Medical Section, Colonel Stafford Warren. Colonel Warren is asked to approve a program of animal research on CNS effects: "Since work with these compounds is essential, it will be necessary to know in advance what mental effects may occur after exposure... This is important not only to protect a given individual, but also to prevent a confused workman from injuring others by improperly performing his duties."

On the same day, Colonel Warren approved the CNS research program. This was in 1944, at the height of the Second World War and the nation's race to build the world's first atomic bomb. For research on fluoride's CNS effects to be approved at such a momentous time, the supporting evidence set forth in the proposal forwarded along with the memo must have been persuasive.

The proposal, however, is missing from the files of the U.S. National Archives. "If you find the memos, but the document they refer to is missing, it's probably still classified," said Charles Reeves, chief librarian at the Atlanta branch of the U.S. National Archives and Records Administration, where the memos were found. Similarly, no results of the Manhattan Project's fluoride CNS research could be found in the files.

After reviewing the memos, Mullenix declared herself "flabbergasted." She went on, "How could I be told by NIH that fluoride has no central nervous system effects when these documents were sitting there all the time?" She reasons that the Manhattan Project did do fluoride CNS studies -- "that kind of warning, that fluoride workers might be a danger to the bomb program by improperly performing their duties -- I can't imagine that would be ignored" -- but that the results were buried because they might create a difficult legal and public relations problem for the government.

The author of the 1944 CNS research proposal was Dr. Harold C. Hodge, at the time chief of fluoride toxicology studies for the University of Rochester division of the Manhattan Project. Nearly fifty years later at the Forsyth Dental Center in Boston, Dr. Mullenix was introduced to a gently ambling elderly man brought in to serve as a consultant on her CNS research -- Harold C. Hodge. By then Hodge had achieved status emeritus as a world authority on fluoride safety. "But even though he was supposed to be helping me," says Mullenix, "he never once mentioned the CNS work he had done for the Manhattan Project."

The "black hole" in fluoride CNS research since the days of the Manhattan Project is unacceptable to Mullenix, who refuses to abandon the issue. "There is so much fluoride exposure now, and we simply do not know what it is doing," she says. "You can't just walk away from this."

Dr. Antonio Noronha, an NIH scientific review advisor familiar with Dr. Mullenix's grant request, says her proposal was rejected by a scientific peer-review group. He terms her claim of institutional bias against fluoride CNS research "farfetched." He adds, "We strive very hard at NIH to make sure politics does not enter the picture."

**Next page:** [Fluoride and National Security](#)

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**About the authors:**

Joel Griffiths is a medical writer in New York City, author of a book on radiation hazards and numerous articles for medical and popular publications. Christopher Bryson holds a Masters degree from the Columbia University Graduate School of Journalism, and has worked for the British Broadcasting Corporation, The Manchester Guardian, The Christian Science Monitor and Public Television.

In 2004, Christopher Bryson published "[The Fluoride Deception](#)," a riveting and richly documented account of the true history of water fluoridation, the culmination of ten years of research. He discusses his surprising findings in [this in-depth interview](#).