



Town of Wilmington

Board of Health

121 Glen Road
Wilmington, Massachusetts 01887

Fluoridation

A Discussion on Whether the Board of Health
Should order the Fluoridation of the Municipal Water Supply

By Gregory Erickson, Director of Public Health
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Near the beginning of 1999, the Wilmington Board of Health began to investigate the proposition that the town's water supply should once again be fluoridated. In an effort to learn the latest information about fluoride, I began my own research on the subject. In doing so, I have looked at the background, history, science and research presented to date, and, have encountered many areas which have raised a good deal of concern. In pursuing suitable explanations to these concerns, I have only encountered even more concerns.

As is the case with many public programs, it is common to find disagreement, even after serious investigation and debate on the issues, and even among friends and long standing associates. Such is the case with the issue of fluoridating the water supply for the Town of Wilmington. As Director of Public Health, I have made my own observations and study and I have done so independently with the intent of making a responsible recommendation to the Board of Health and to the public.

Board of Health has divided the fluoridation issue into three main categories:

- (1) Is it safe?
- (2) Is it effective?
- (3) Is it right for the Town of Wilmington?

I have divided my observations into the same categories for the sake of consistency. My concerns are based on government documents, research papers, personal communications, personal interviews, a related seminar, and two Board of Health hearings. I have formulated a recommendation which I feel focuses on the major concerns that should be considered by the Board of Health and the public at large.

The First Issue: Is Fluoridation safe?

I have discussed this one issue with both of the authors of the paper **Applying the NAEP Code of Ethics to the Environmental Protection Agency and the Fluoride in Drinking Water Standard**, by Robert J Carton, Ph.D. and J. William Hirzy, Ph.D. Both are presently scientists, employed by the Environmental Protection Agency (EPA) and they have confirmed to me the authorship and authenticity of their paper which describes in detail the procedure that the EPA used to raise the Maximum Contaminant Level (MCL) of fluoride in drinking water from 1.0 ml/L to 4.0 mg/L and how it was done inappropriately, with a succession of irregularities, and in violation of the EPA's own Code of Ethics. As a result of this, in 1997, the National Federation of Federal Employees Union (local 2050)

which is comprised of the scientists, researchers, and attorneys who work for the EPA has taken the unanimous position to oppose the fluoridation of public water supplies.

This point, taken by itself, causes a great deal of concern to me. I question how the EPA as a governmental agency charged with the responsibility of insuring safe drinking water standards for the nation can recommend the fluoridation of water supplies when its own scientists working there are unanimously opposed to it. These EPA employees have taken other actions to openly oppose the fluoridation of water supplies, such as the writing of several papers on the issue, making videos, and actively lobbying the Governor of California, for example, to not fluoridate the water supplies of that state.

Considering that these are the professionals who comprise the scientific community that sets the standards for toxicity and enforcement of the drinking water standards for the nation, this point alone, without adequate explanation, is sufficient for anyone to reject the notion that fluoridation is safe. On this point, I remain open to any explanation that can be offered up to adequately counter the logical conclusion.

Another concern is that the EPA has reclassified fluorosis from that of a "health effect" to a "cosmetic effect", and has done so without the benefit of hearings or scientific input. This includes all levels of fluorosis, including severe fluorosis. It is the position of the EPA that there is no "health effect" until there is a "loss of tooth function". This means, in layman's terms, that one must loose a tooth or teeth, or loose the function of a tooth or teeth in order for a "health effect" to exist. Up to that point, one can have permanently stained, cracked, pitted and mottled tooth enamel, and a "health effect" is not considered to be present, according to the EPA. This is a completely absurd and unacceptable position. I don't think that any parent would accept this standard for their own child. As a public health administrator, I cannot accept it for the Town of Wilmington.

Point in fact: Fluoride causes fluorosis of the teeth. This is not a debatable issue. In fact, the discovery that fluoride causes less cavities to occur was a result of the correlation found between the occurrence of fluorosis and the occurrence of less cavities, where in Texas, naturally occurring fluoride existed at higher levels. It has been presumed that by adding fluoride to the water supply, it would result in better dental health. However, history has shown that by adjusting the fluoride at a lower level (1.0 mg/L) which causes less fluorosis negates the effect of the fluoride with regard to dental health. Those who support fluoride have said that this is mild fluorosis fox the most part. And this is true, for the most part. What of the lesser part?

The **Executive Summary, Review of Fluoride Benefits and Risks** by the U: S. Public Health Service, Department of Health and Human Services, February 1991, states that:

"Moderate and severe forms of dental fluorosis, considered by some investigators as presenting a cosmetic problem, do not appear to produce adverse dental health effects, such as the loss of tooth function, and represents less than six percent of the cases of fluorosis nationally."

So according to the Public Health Service, it's acceptable that 6% of the 300 children born to residents of the Town of Wilmington in 1999 (actual statistic) should be expected to have moderate to severe [not mild] dental fluorosis. That's 18 children in a "one year" age group. If the Town of Wilmington continues to have 300 children added to the rolls in each coming year, the school system should be expected to have [18 x 12] = 216 children in the school system with moderate to severe fluorosis. Of those, how many will have severe fluorosis? One? Two? This is a totally unacceptable tradeoff. This is

taken from a governmental document which purports to support fluoridation. [Note: total fluorosis (mild, moderate and severe) is expected to be 22% of our 300, or 66 of our children per year]

Point in fact: Fluoride also causes crippling skeletal fluorosis. This is not debatable. Just as the EPA ignores fluorosis as a "health effect", the EPA ignores all of the precursor signs of crippling skeletal fluorosis as a "health effect" (such as arthritic pain, rigidity of the spine, and the mal shaping of bones) and recognizes skeletal fluorosis as a "health effect" only at the onset of actual crippling. This means that a person can be experiencing the preliminary signs of crippling skeletal fluorosis, including real arthritic pain and malformation of the skeleton, but the EPA says it's not a "health effect" because you're not crippled yet? How ever absurd this seems to the reader, this is the rational that the EPA has used to raise the MCL from 1.0 mg/L to 4.0 mg/L, allowing the so called "optimum" level of 1.0 mg/L to neatly fit into it's standards.

Why? It would seem that there must be some reason that would cause the U.S. EPA to go against its own scientists and encourage states and municipalities to fluoridate their water supplies in the face of the information given above.

For your consideration, a letter from the EPA, signed by Rebecca Hanmer, Deputy Assistant Administrator for Water, which states:

"Water treatment chemicals, including fluosilicic acid have been evaluated for their potential for contributing to the contamination of drinking water. The Water Treatment Chemicals Codex, published by the National Academy of Sciences, prescribes the purity requirements for fluosilicic acid and other fluoridation chemicals.

In regard to the use of fluosilicic acid as a source of fluoride for fluoridation, this Agency regards such use as an ideal environmental solution to along-standing problem. By recovering by-product fluosilicic acid from fertilizer manufacturing, water and air pollution are minimized, and water utilities have a low-cost source of fluoride available to them."

As the letter states, one motivation for the EPA allowing the disposal of "fluosilicic acid and other fluoridation chemicals" into our water supplies is because it is "an ideal environmental solution to a long-standing problem". Note that "other fluoridation chemicals" would include sodium fluoride which is recommended by the Massachusetts Department of Public Health for the Town of Wilmington. Sodium fluoride is a hazardous waste. produced by the aluminum industry, and hydrofluorosilic acid is a hazardous waste produced by the fertilizer industry.

Sodium fluoride is a very toxic and very reactive chemical. It's toxicity is very well documented. As a by product of industry, it is a hazardous waste, which if properly disposed of would need to be taken to a class 1 landfill at the cost of approximately \$7000 per truckload. How convenient for industry, that the EPA was so willing to make these adjustments to the MCL to facilitate the disposal of their hazardous wastes into the drinking water supplies.

It is true that nearly all of the water in any municipal water system never gets consumed. Most goes down the drains of America, washes the cars, waters the lawns, laundry, and so on. What little percentage is consumed, goes through the body and only 50% of the fluoride is absorbed. So what's the problem. The fluoride that is absorbed goes to the teeth and bones. It can cause fluorosis of the teeth and crippling skeletal fluorosis as described above. There are many other mechanisms that have only recently come to light which also go to the issue of whether fluoride is safe.

The very well known research by Dr. Phyllis Mullinex has shown that fluoride causes Central Nervous System disorder in rats. The levels at which the rats were exposed were appropriate for the comparative study of fluoride's effect in humans. Dr. Mullinex was dismissed from her position as chairman of the toxicology department at Forsythe immediately after publishing her work. A subsequent law suit ended in a settlement with sealed results. Forsythe was endowed with a grant from Colgate.

Fluoride has been shown to be an equivocal cause of cancer in rats. There are several other associated disorders that have been positively linked to fluoridated water supplies. Among them are increased occurrence of hip fracture, Down's Syndrome, earlier onset of menses, delayed eruption of teeth, a reduction in IQ of approximately 10 points, and the occasional person who simply happens to be hypersensitive to fluoride because of some other medical reason resulting in an allergic type reaction, and the occasional death or multiple deaths caused by accidental over fluoridation.

And finally on the question of "safety", many have claimed that the AMA endorses or supports fluoridation. I wish to include a quote from a letter from Dr. Flanagan, Assistant Director of the American Medical Association which states in part: .

"this Association endorses the principle of fluoridation of public water supplies to reduce the incidence of dental caries; it does not become involved in endorsement of the fluoridation of water supplies of specific cities.

The American Medical Association is not prepared to state that "no harm will be done to any person by water fluoridation."

The American Medical Association has not carried out any research work, either long-term or short-term, regarding the possibility of any side effects."

The fact is, I have found no study ever being done, not by any governmental agency, or any professional organization, such as the AMA, the ADA, the FDA, or the EPA, not the USPHS or the CDC. No agency has determined that fluoride is safe.

The Second Issue: Is it Effective?

Higher levels of fluoride have been correlated to fewer caries but when fluoride is reduced to a level at which there is a lower risk of fluorosis, the correlation no longer exists. No credible study has produced factual proof that fluoridation of a water supply at the so called "optimum" level is beneficial to dental health.

Virtually all studies comparing fluoridated and non fluoridated communities, or other fluoridated and non-fluoridated populations in subsets not necessarily limited to communities, have shown that there is no difference between the resultant dental condition. In fact, some studies have shown that the non-fluoridated populations have slightly better dental condition than do the fluoridated communities.

Some early studies which are used to support the claim that fluoridated communities have better results are not dependable. Many of the early studies were manipulated to give the false appearance of effectiveness because industry and a willing government was determined to find a solution to their "long-standing problem". This has been documented by sworn court testimony in subsequent civil proceedings. Additionally, many credible studies have been done which show clearly that at the so called "optimum" level, there is no difference in dental condition.

Finally, there was a very recent paper published in Community Dentistry and Oral Epidemiology by Kumar and Swango, 1999, which demonstrates that the many current sources of fluoride in food products, fruit juices, and other sources today results in excessive fluorosis and concludes with the recommendation of lowering the intake of fluoride, not increasing it.

The Third Issue: Is it Right for the Town of Wilmington?

After reading hundreds of documents, I have found that much of the most condemning information has come from the EPA itself. These are by far the most troubling. No other drug, or medicine has such a wide spread application, and yet has had so little scrutiny as to its safety. To purchase sodium fluoride tablets, one is required to first obtain a prescription. Yet to fluoridate an entire community no prescription is necessary.

Sodium fluoride tablets can be purchased by prescription at a local drug store at a cost of \$6.99 per hundred (1 tablet per day for 100 days which equals \$26/year) and a dentist can prescribe tablets at a regular visit at no additional cost to the parents. If individual parents wish to supply fluoridated water to their children, let them have that freedom of choice. The common complaint is that they forget to give the tablets to their children.

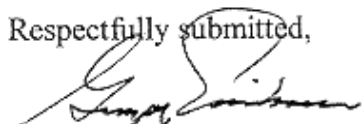
Recommendation:

Fluoride is not a nutrient as many have claimed, only being adjusted to it's "optimum" level. Fluoride is a toxin, like arsenic and lead, occurring naturally in the environment. We have come to discover that many of the elements that we commonly used were dangerous to health. We have removed lead from paint, once a primary ingredient, and from pipes and solder, as we have learned that it caused lead poisoning. We have removed asbestos from our schools and public buildings because of the remote possibility that the smallest exposure could cause asbestosis. We have done this by passing laws prohibiting the use of these elements. We should look at the many countries that have prohibited the use of fluoride in water supplies. We should look at the long list of cities in the U.S. that have changed their position and reversed their previous action to fluoridate, and have rejected its use.

As a society, we have done many things in the name of science and good health, like sulfur drugs and thalidomide, Laetrile and Fen-phen, only to find out that they were wrong and we rejected their use. There is no compelling reason to fluoridate an entire community, adults and children, with a toxic chemical at any dose, in the face of such compelling evidence against it, especially when there are alternatives available.

Therefore my recommendation to the Board of Health and the Town of Wilmington is to not go forward with the fluoridation of the municipal water supply.

Respectfully submitted,



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