Submitted to the Selectboard for Consideration
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By Robert Thiefels

The source of the findings cited below comes mainly from a summary of *Professional Perspectives on Water Fluoridation.* This is a DVD that features three panelists from the National Research Council's landmark report on fluoride, the 2000 Nobel Prize Winner in Medicine/Physiology, and other leading professionals, including dentists. I found it interesting to learn how over 2000 high-caliber scientific, medical, and environmental professionals are calling for an end to fluoridation worldwide.

Summary of Key Points from the Report

- The USA, a country that has not outlawed fluoride, is in fact in the minority among countries that have outlawed or never used fluoride in their public water supply. These countries include Austria, Sweden, Norway, Denmark, Iceland, Belgium, France, Germany, Italy Greece, Portugal, and the Netherlands. Israel recently stopped fluoridating its water supply, and in Ireland the debate is heating up as some municipalities are voting to discontinue fluoridation.

- The World Health Organization's database, shows that tooth decay is actually decreasing in non-fluoridated countries and that the populations of these countries have equal, if not better, tooth quality than countries that use fluoridation.

So why then do we hold so fast to fluoridation of our public water supply? I struggle with this. One reason that was cited in the summary I mentioned above has to do with the Dental Lobby itself which has captured the debate for the last 50 years. *Dentists focus on the teeth and on diseases of the mouth, as they should; but this research is showing that organs and systems in the rest of the body are greatly affected by fluoride.* What we have here is a toxicity concern that is not being addressed by the American Dental Association. However, the ADA's warning about not adding fluoride-treated water to baby formula or its warning that infants should not be drinking fluoridated water speaks volumes.

It is interesting to note as well that researchers have found that fluoride in mother's milk is roughly 250 times lower than the amount we are adding to our drinking water. It appears that nature has devised a system to keep fluoride out of an infant's body, and we circumvent that by adding it to our water. The fact is that fluoride is being shown to be an extremely active chemical when it gets into our body. It can interfere with the pineal gland and the thyroid gland, both of which are involved in brain development. And the blood/brain barrier in infants is not fully developed. This may be one reason why, as one panelist stated, Chinese studies are finding lower IQs in children exposed to fluoridation.

Experts are also going as far as to say that fluoride can be considered a medication because in the 1930's and 40's in Europe fluoride was used to treat hyperthyroidism. In this respect fluoride

was being used as a medicine to treat a specific condition. Here is a question that I have. *Fluoride is a component in pesticides, therefore we are ingesting it on our food. It is added to our water. Thus we are drinking it. It shows up in soda and canned soup, and children often swallow fluoridated toothpaste. The point is that there is no way to monitor fluoride intake and who might be getting too much.* We know that *hypo*thyroidism results in depression and sluggishness. We know that fluoride was used to treat *hyper*thyroidism. Could there be a link between hypothyroidism and fluoride intake? If there is even a question about such a link, should we be adding it to our water?

The Fluoridation Question: Part Two

At the Selectboard meeting in which the fluoridation question was last raised, there were several dentists and health officials present. They argued for fluoridation of our public water supply. And one of the arguments they used was that without fluoridation the poor, who might not be able to afford dental care, would at least be able to have some semblance of dental hygiene. But this argument does not hold weight in light of the findings of the World Health Organization regarding the declining incidence of tooth decay even in countries that do not permit fluoridation. This decline no doubt is the result of education, dental care, and topical application of fluoride in fluoride toothpaste and in dentist's offices.

The key word here is "topical application" as opposed to systemic ingestion of sodium fluoride through drinking water. (Note: fluoridation is not used to treat water. It's being used to treat humans, to treat teeth.) It is meant to do change. This is what medicine and drugs are meant to do.

Now, if fluoride could be considered as a medicine or drug, then it would fall under strict pharmacological and medical procedures as well as medical ethics. After all, there is no drug on the market where one size fits all or that could be considered beneficial to everyone without exception; yet fluoride is dispensed in our water as if one size fits all. However, in the pharmacy as in the doctor's office, what is sought is the right dose, for the right person at the right time.

We don't put things in our water to treat high blood pressure, why should we be putting fluoride in our water to treat tooth decay, especially when, according to the World Health Organization's findings, the incidence of tooth decay has not been shown to vary with or without the use of systemic fluoride. Again the emphasis is on systemic ingestion of fluoride as opposed to topical application. If this is the case, than it could likewise be argued that the poor are held captive to using a drug that can do harm to the body, especially an infant's brain, simply because they cannot afford to buy non-fluoridated water.

In 2005 the Center for Disease Control stated that 32% of children in the US have dental fluorosis—damage to the teeth from too much fluoride exposure during development of the teeth. A sign of dental fluorosis is the appearance of white or brown spots on the teeth, and even the surface layer flaking off. I have also learned that the teeth are like a window into the bones, and that there may be a link between fluoride exposure and increased bone fracture risk, between fluoride and arthritis, and that the symptoms of skeletal fluorosis are identical to arthritis. I am not a doctor, nor am I a researcher trying to understand links between fluoride exposure and

some serious mental and physical conditions; but it is noteworthy that the Center for Disease Control states that 1 in 3 Americans have some form of arthritis. An area still to be fully researched has to do with the possible links between bone and joint pain and skeletal fluorosis. If there is even the remote possibility that there are links, and the evidence is mounting that there are, then why are we continuing to fluoridate our water supply?

The report cited in Part One likens the current state of research into the effects of systemic fluoride exposure to that of research regarding lead in the early 1970's. Scientists back then knew that high levels of exposure to lead could cause brain damage, but they thought that subclinical levels of exposure were OK. Now that tests have gotten more sensitive, they are finding that the latter is not so. In the case of fluoride exposure, even though the evidence is mounting that fluoride exposure is detrimental to infant brain development, we need more sophisticated testing to conclusively prove this link and to extend that link to adult brain function as well. And even though there is mounting evidence as well that fluoride exposure can lead to other serious medical conditions, more research is needed. *But again the question arises, given the mounting evidence that fluoride exposure can lead to serious mental and physical conditions, why are we content to fluoridate our water?*

For Consideration

As of 2009 over 2000 dental, medical, scientific, and environmental professionals have called for an end to fluoridation of our public water supplies. There is, of course, *more to say and more to know.* The "more" appears at this time to be correcting and challenging our current knowledge about sodium fluoride administer in a systemic way through public drinking water. The question then becomes: In light of this "more" and the questions being raised because of ongoing research, can we at this time continue the practice of water fluoridation? (I am referring to the many possible health effects relating to systemic exposure to fluoride, particularly in the very young who may be very vulnerable to such exposure, but also, cumulative over time, for all of us.)

Furthermore, there are many other means, also approved by the Department of Public Health and the ADA, that can effectively be used to protect teeth from decay. These methods mainly consist of the topical application of fluoride in toothpaste and in dentist's offices. Such methods at least give people a choice about fluoride use.

Finally, given the importance of this issue, I am concerned that we were only very recently notified of its re-consideration by the Selectboard for this coming Monday, December 7th. In light of this I would ask that this meeting be mainly for the process of hearing arguments and that the issue not be given over for a vote at this time. There is much to be done in terms of public education and debate, especially among those of us using town water. Perhaps, the selectboard could formulate a survey to hear the concerns, pro and con, of those on town water. And in the future the issue might be put to a vote either by all Hinesburg residents or by those on town water.