



## **Response to Antifluoridation Letter to American Thyroid Association**

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There is a letter being promoted by the New York antifluoridation group, "Fluoride Action Network", addressed to the American Thyroid Association. The letter contains much of the same misinformation, misrepresented science, unsubstantiated claims and personal opinions that have become identifiable with antifluoridation groups.

In an effort to provide accurate information to the public, the following is a detailed, referenced explanation of the fallacies within this letter, beginning with information on the author and signers of the letter.

### **Author and Signers**

1. Author - According to the letter, it was prepared by Karen Spencer. Spencer is an antifluoridation activist in Massachusetts who has no apparent healthcare credentials or qualifications.

Of interest is the fact that Spencer copies two antifluoridation groups, "Fluoride Action Network" and "Moms Against Fluoridation" to her letter.

#### 2. Signers

A. Dr. William Rea - Dr. Rea is a holistic MD whom in 2007 the Texas Medical Board charged with (a) using pseudoscientific test methods, (b) failing to make accurate diagnoses, (c) providing "nonsensical" treatments, (d) failing to properly inform patients that his approach is unproven, (e) practicing in areas for which he has not been trained, and (f) representing himself certified by a board that is not recognized by the American Board of Medical Specialties.

<http://www.casewatch.org/board/med/rea/complaint.shtml>

B. Dr. Richard Shames - Dr. Shames signs as a "Thyroid Physician" but has no apparent credentials as an endocrinologist

C. Nathan Becker, MD - an endocrinologist in San Francisco

D. Heather Gingerich - a medical geologist

E. Eleanor Phillips, DDS - a former member of the ADA who now owns a pastry restaurant and markets "Zellies" made with the questionable food additive xylitol which claims to reduce dental cavities.

"Zellies xylitol mints and xylitol gum are made with 100% xylitol, a naturally occurring substance that tastes like sugar, but has 40% less calories."

<http://www.drellie.com/Zellies.php>

The following information on the xylitol marketed by Phillips is of interest given the attempted use in the letter of the recent Cochrane Report on fluoridation as a reason against fluoridation:

"In March, 2015, Cochrane published a review[28] of the entire body of evidence surrounding xylitol's effects on dental caries. Their conclusion was that, while low-quality evidence suggests that over 2.5 to 3 years of use, a fluoride toothpaste containing xylitol may reduce caries when compared to a fluoride-only toothpaste, the remaining body of evidence is of low to very low quality and is insufficient to determine whether any other xylitol-containing products can prevent caries in infants, older children, or adults."

<https://en.m.wikipedia.org/wiki/Xylitol>

F. Marcus L. Scott - an attorney in Massachusetts

### **Refutation of Claims made in Letter:**

**1. Letter: "We are writing because it is time for the ATA, in keeping with its mission and values, to openly advise the American public of what many physicians have been privately advising patients behind closed doors for decades, that drinking fluoridated water is harmful to thyroid health."**

Facts:

There is no evidence presented to support this claim.

**2. Letter: "We believe it is unconscionable for this professional association to stand by silently while fluoridation advocates in the American Dental Association, American Medical Association and the American Academy of Pediatrics continue to aggressively market fluoridation as a dental panacea by distorting medical facts and denying recent scientific studies regarding endocrine disruption."**

Facts:

There is no evidence presented to support this unsubstantiated allegation about 3 of the most highly respected healthcare organizations in the world.

**3. Letter: "We believe that the political lobbying of fluoridationists who are increasingly attempting to mandate fluoridation at the state level, as they have done successfully in over a dozen states already, including California, Connecticut and Arkansas, will invariably increase the burden on those already ill with thyroid and other endocrine disorders, as well as increase their numbers substantially."**

Facts:

There is no valid, peer-reviewed scientific evidence of any adverse effect of optimally fluoridated water on the thyroid, or the endocrine system.

**4. Letter: "We know that exposure to fluoride lowers thyroid function, and that even subclinical hypothyroidism during pregnancy and childhood can and does result in lowered IQ, learning disabilities, and other psychomotor deficits, whether or not fluoride is characterized as "neurotoxic." We suggest the ATA go on record with this medical fact sooner rather than later."**

Facts:

A. There is no valid, peer-reviewed scientific evidence that optimal level fluoride lowers thyroid function or in any manner causes or contributes to "lowered IQ, learning disabilities, and other psychomotor deficits".

B. The fact that fluoride, as well as all other substances known to man, are toxic at improper levels is already "on record". There is no valid, peer-reviewed scientific evidence that optimal level fluoride is in any manner toxic, however.

**5. Letter: "We believe that the science published in 2014 and 2015 is sufficient on its own to recast artificial fluoridation as a public harm rather than as a public good. Consistent with science dating back a hundred years, recent science confirms that community water fluoridation is medically inadvisable for thyroid patients and most, if not all, of the population. We are attaching supporting resources to the end of this letter for your convenience."**

Facts:

There is no valid, peer-reviewed scientific evidence published in 2014, 2015, or at any other time to "recast fluoridation as a public harm". There is no valid, peer-reviewed science that "confirms that community water fluoridation is medically inadvisable for thyroid patients and most, if not all, of the population."

The "resources" presented at the end of the letter are nothing more than:

I. Unsubstantiated personal opinions of:

A. Rita-Barnett Rose, an attorney who has no qualifications to render credible opinions on a healthcare issue.

B. Erin Brockovich, a legal clerk who has no qualifications to render credible opinions on a healthcare issue.

II. A "memorandum" of personal opinion from an attorney Nadar R. Hasan, created at the behest of an antifuoridationist activist group, *Concerned Residents of Peel to End Fluoridation*

III. An "Affidavit" from long time, outspoken fluoridation opponent Kathleen Thiessen, whose name appears frequently in affiliation with the New York antifuoridationist group, "Fluoride Action Network". Thiessen was one of three such fluoridation opponents appointed to the 12 member 2006 NRC Committee on Fluoride in Drinking Water, presumably to give representation to fluoridation opponents.

Thiessen signed off on the final recommendation of that 2006 NRC Committee along with the other 11 members.

The 2006 NRC Committee on Fluoride in Drinking Water was charged to evaluate the adequacy of the EPA primary and secondary MCLs for fluoride, 4.0 ppm and 2.0 ppm respectively, to protect against adverse effects. The final recommendation of this Committee was for the primary MCL to be lowered from 4.0 ppm. The sole reasons cited by the Committee for this recommendation were the risk of severe dental fluorosis, bone fracture, and skeletal fluorosis, with chronic ingestion of water with a fluoride content of 4.0 ppm or greater. Nothing else. Had this Committee deemed there to be any other concerns with fluoride at this level, it would have been responsible for stating so and recommending accordingly. It did not.

Additionally, the NRC Committee made no recommendation to lower the secondary MCL of 2.0 ppm. Water is fluoridated at 0.7 ppm, one third the level which the 2006 NRC Committee on Fluoride in Drinking Water made no recommendation to lower.

**6. Letter: "We suggest that the cornerstone for an ATA public stand can be found in the 2015 report out of England that documents a significant increase in diagnosed cases of hypothyroidism in artificially fluoridated communities with a .7 ppm water concentration as compared to communities with .3 ppm naturally occurring fluoride (Peckham 2015)"**

Facts:

Stephen Peckham is a long time antifuoridation activist, former Chair of the British antifuoridationist group, "Hampshire Against Fluoride". As his hypothyroid study has been widely discredited in the peer-reviewed scientific literature, it would be ill-advised to use it as a "cornerstone" for anything:

A. Warren, et al.:

"In summary, this study [Peckham] is an ecologic one that has several significant flaws, making it almost meaningless with regard to assessing any possible association between water fluoridation and hypothyroidism. As such, this study provides no evidence of a causal relationship between water fluoride concentration and hypothyroidism." (1)

B. In an article in Prof David Coggon states:

"Essentially the researchers have shown that after limited adjustment for demographic differences, there are somewhat higher rates of hypothyroidism (which can result from a number of different diseases) in four areas of England that have higher concentrations of fluoride in drinking water. It is quite possible that the observed association is a consequence of other ways in which the areas with higher fluoride differ from the rest of the country. There are substantially more rigorous epidemiological methods by which the research team could have tested their idea" (2)

D. Newton, Morris, et al.:

"The biggest problem with this paper, however, is in the interpretation which puts far too much weight on such weak evidence. The approach used is notoriously unreliable as a way of identifying independent associations and the lack of a clearly established prior hypothesis make it very unconvincing as evidence of a causal relationship. Given the other problems we have identified, this loose interpretation is a very serious concern. Such speculation is likely to result in unfounded public anxiety about a public health intervention which currently protects the health of children's teeth in many parts of the world." (3)

E. In a commentary in J Epidemiol Community Health DJ Grimes states:

"A major weakness of this study is the fact that other potential confounding factors have not been taken into account; this makes the conclusions regarding the community health utility of water fluoridation problematic. The strong conclusion of the paper by Peckham et al is not supported by the published literature. What is without question is that fluoride has had a remarkable and positive effect on our dental health, and the evidence base for this is overwhelming. The WHO recommends up to 1.5 mg/L for optimum dental health on the basis of decades of epidemiological study, which has consistently shown water fluoridation to be safe and cost-effective. The conclusions of the study by Peckham et al are simply not convincing, and should perhaps be taken with a large pinch of (fluoridated) salt." (4)

F. From Peel Public Health:

"The quality of the evidence is moderate with important methodological limitations, and should be interpreted with caution.

- There is a high risk of conflict of interest as the principal investigator is a long-time anti-fluoridation activist.

. The authors' assessment of the evidence--base is unbalanced and misinterpreted, contains inaccuracies and lacks citation of key studies.

- The results of this study do not support the consistent findings of three scientific reviews, which report insufficient evidence of an association between exposure to fluoride in drinking water and adverse thyroid effects." (5)

**7. Letter: "Our medical community has known since the early 20th century that fluoride lowers thyroid function, and even prescribed fluoride tablets and baths as an effective treatment for hyperthyroidism. We also labeled a malaise seen in the 1950s during the early years of community fluoridation as "fluoride fatigue." That term was subsequently replaced with the diagnosis of fibromyalgia or ME/CFS, conditions with no known etiology often accompanied by thyroid disorders as well as autoimmune and inflammatory diseases that are also linked to fluoride poisoning. (Galetti 1958; Laylander 1999a, 1999b; PFPC 1996; Waldbott 1978, 1998)"**

Facts:

This is of no relevance to fluoride at the optimal level at which water is fluoridated.

**8. Letter: "The 2006 National Research Council (NRC) panelists who evaluated EPA fluoride contaminant levels (MCL/MCLG) in drinking water reviewed dozens of endocrine studies. They found the evidence of adverse thyroid impact to be among the most compelling (NRC, Chapter 8 and Appendix E)."**

Facts:

Once again.....The 2006 NRC Committee on Fluoride in Drinking Water was charged to evaluate the adequacy of the EPA primary and secondary MCLs for fluoride, 4.0 ppm and 2.0 ppm respectively, to protect against adverse effects. The final recommendation of this Committee was for the primary MCL to be lowered from 4.0 ppm. The sole reasons cited by the Committee for this recommendation were the risk of severe dental fluorosis, bone fracture, and skeletal fluorosis, with chronic ingestion of water with a fluoride content of 4.0 ppm or greater. Nothing else. Had this Committee deemed there to be any other concerns with fluoride at this level, it would have been responsible for stating so and recommending accordingly. It did not.

Additionally, the NRC Committee made no recommendation to lower the secondary MCL of 2.0 ppm. Water is fluoridated at 0.7 ppm. one third the level which the 2006 NRC Committee on Fluoride in Drinking Water made no recommendation to lower. (6)

**9. Letter: "NRC panelist Dr. Kathleen Thiessen, who authored much of the endocrine disruption section of NRC report, filed a comment with the US EPA in 2011 and submitted an affidavit in 2014 for a pending lawsuit in Ontario, Canada that details the risk posed by artificial community water fluoridation to susceptible populations such as diabetics, cancer patients and those with low iodine levels."**

Facts:

Kathleen Thiessen signed off on the final recommendation of the 2006 NRC Committee on Fluoride in Drinking Water along with the other 11 members of that panel. Had this committee had concerns with thyroid at the fluoride level of 4.0 ppm or lower in drinking water it would have been responsible for so stating and recommending accordingly. It did not. Water is fluoridated at 0.7

Thiessen's confirmation bias against water fluoridation was clearly demonstrated in her endorsement of a 2013 study by William Hirzy, the current paid lobbyist for the New York anti-fluoridationist faction, "Fluoride Action Network". Hirzy used data from his study to petition the EPA to recommend cessation of use of HFA as a fluoridating substance. When EPA reviewers looked at Hirzy's data, however, they quickly determined that Hirzy had made a 70-fold error in his calculations. When correcting for these errors, the reviewers found Hirzy's data to demonstrate the exact opposite of what he had concluded. Upon learning of his error and rejection of his petition, Hirzy stated that he was "embarrassed", as well he should have been.

Prior to the EPA review of Hirzy's data, Thiessen had been asked to comment on his study. Her response?

"I think this is a reasonable study, and that they haven't inflated anything," said Kathleen Thiessen, a senior scientist at SENES Oak Ridge Inc., a health and environmental risk assessment company." (7) (8)

**10. Letter: "Some studies, as well as clinical reports, demonstrate that the 41% of children with dental fluorosis have more non-traumatic bone fractures than children without dental fluorosis correlated with the severity of their visible dental fluorosis. (Schlesinger 1956, Thiessen 2011, Beltran 2010, Alarcón-Herrera 2001)"**

Facts:

There is no study which demonstrate any of that which is claimed here. This claim is a misrepresentation of a 2010 CDC study by Beltran-Aguilar in which 41% of adolescents they examined were found to have signs of dental fluorosis. This 41% was composed of 37.1% with mild to very mild dental fluorosis, both of which are barely detectable, benign effects requiring no treatment, and which have no effect on cosmetics, form, function, or health of teeth...with the other 3.8% being those with moderate dental fluorosis, attributable to improper ingestion of toothpaste and/or exposure to abnormally high levels of environmental or well-water fluoride during the teeth forming years of 0-8. (9)

There is no valid, peer-reviewed scientific study which demonstrates that children with mild dental fluorosis have "more non-traumatic bone fractures" than anyone else.

**11. Letter: "Most disconcerting, the 2006 study by Bassin et al. published in Cancer Causes & Control identified an age-specific increased risk of osteosarcoma in boys drinking artificially fluoridated water in the US."**

Facts:

Bassin's doctoral thesis used a subset preliminary data from a large study by Douglass, et al, which concluded there to be no association of osteosarcoma with optimally fluoridated water. Bassin's findings have not been replicated, and were refuted by Chester Douglass, lead researcher for the larger study. In citing Bassin, fluoridation opponents ignore the volume of peer-reviewed science which clearly demonstrates there to be no association of osteosarcoma with optimally fluoridated water. (10) (11) (12) (13) (14) (15)

**12. Letter: "In addition to being an endocrine disruptor, fluoride is a poison, an adjuvant and an inflammatory drug with an affinity for bone. What is surprising is that none of our professional organizations have clamored for follow-up on these alarming anomalies that suggest fluoride contributes to pediatric cancer, or called for a fluoridation moratorium as evidence of harm continues to mount."**

Facts:

There is no valid, peer-reviewed scientific evidence that optimal level fluoride disrupts the endocrine system or of any association of optimal level fluoride with pediatric cancer.

**13. Letter: The one other attempt to seriously investigate the connection between cancer and fluoride resulted in allegations of data tampering, harassment, and intimidation.**

Facts:

Unsubstantiated claims of conspiracy and corruption are of no relevance to community water fluoridation.

**14. Letter: "The ATA would not be the first medical association to break ranks with the ADA's, AAP's and AMA's unequivocal support of fluoridation as a safe practice implemented for the public good. The National Kidney Foundation (NKF) removed their name from the list of fluoridation endorsers in 2008."**

Facts:

The NKF did indeed remove its name from the list of those supporting water fluoridation. This action was taken as a result of a 2007 letter from an attorney threatening protracted, expensive legal action against the NKF, members of its then current and past Boards of Directors both collectively and personally, and the staff of the NKF. In order to spare the organization, BODs, and staff, the exorbitant legal costs and time taken away from its important charitable work, the NKF agreed to remove its name from the list. (16)

Of note is the fact that neither the NKF, nor any other respected organization in the world, opposes water fluoridation.

**15. Letter: "As you know, inadequate kidney function results in a higher percentage of ingested fluoride being sequestered in the body where it can build up in soft tissues as well as bone, even causing calcification (Martin 2014, Waldbott 1978). The NKF took a neutral stand on the topic of fluoridation rather than opposing fluoridation, while officially recommending that those with Stage 4 kidney disease be advised to avoid fluoridated water and foods. It hasn't been made clear whose responsibility it is to do the advising."**

Facts:



A. There is no valid, peer-reviewed scientific evidence of any adverse effect resultant of optimal level fluoride "build up in soft tissues as well as bone, even causing calcification."

B. George Waldbott was the founder of the antifuoridationist group, the "International Academy For Fluoride Research". The journal, "Fluoride", of this group, is so highly biased toward poor quality antifuoridationist literature it is not even listed on PubMed. A review of Waldbott's book may be found:

<http://books.google.com/books?id=z5rX0Q0WAL4C&pg=PA1108&dq=%22Fluoridation:+The+Great+Dilemma%22&cd=8#v=onepage&q=%22Fluoridation%3A%20The%20Great%20Dilemma%22&f=false>

C. That severely medically compromised individuals such as those with stage 4 kidney disease must carefully monitor their intake of all substances in strict accordance with directives from their healthcare providers is not a credible reason to oppose a very valuable public health initiative such as water fluoridation.

**16. Letter: "The NKF also advised that it would be 'prudent' for children, those with renal impairment, and those with prolonged health conditions to 'monitor' their fluoride intake, while acknowledging that they knew no way to do so since once fluoride is in the water it becomes ubiquitous in our diets and individual dosage is dependent on a myriad of factors."**

Facts:

That it is prudent for medically compromised individuals of all ages to carefully monitor their intake of substances in strict accordance with directives from their healthcare providers, is not a credible reason to deprive entire populations of the benefits of such a valuable public health initiative as water fluoridation. Any perceived "risk" to medically compromised children from water fluoridation is far outweighed by the very real, life-threatening danger posed to them by untreated dental decay which can be, and is, prevented by water fluoridation.

**17. Letter: "The NKF also implied that those who drink a lot of water should be concerned about their fluoride intake and its impact on their health. We can only assume that this weak stand was made in an effort to avoid angering the dental lobby who loudly insisted, then as now, that fluoridation prevents cavities and is perfectly safe for the general population. We suggest that the science since 2008 makes it easier for the ATA to take a stronger stand with firm footing in 2016"**

Facts:

A. Even "those who drink a lot of water" are at no risk of adverse effects from optimally fluoridated water. Simply put, water is fluoridated at 0.7 mg/liter (ppm=mg/liter). Thus, for every liter of fluoridated water consumed, the "dose" of fluoride intake is 0.7 mg. The average daily water consumption by an adult is 2-3 liters per day. The US CDC estimates that of the total daily intake, or "dose", of fluoride from all sources including dental products, 75% is from the water.

The US Institute of Medicine has established that the daily upper limit for fluoride intake from all sources, for adults, before adverse effects will occur, short or long term, is 10 mg. as can be noted from a simple math equation, before the daily upper limit of fluoride intake could be attained in association with optimally fluoridated water, water toxicity would be the concern, not fluoride.

The range of safety between the miniscule few parts per million fluoride that are added to existing fluoride levels in your water, is so wide that "dose" is not an issue. (17)

B. Unsubstantiated personal opinions and assumptions as to the reasons for positions taken by the National Kidney Foundation, are irrelevant and meaningless

**18. Letter: "In 2015, a US study found that even after adjusting for confounding factors such as socioeconomic status, fluoridated regions have between 67,000 and 131,000 more diagnosed cases of hyperactivity among school children than non fluoridated regions (Malin et al.)"**

Facts:

The Malin ADHD study has been widely discredited in the peer-reviewed scientific literature for its poor methodology, inadequate control for confounders, and reaching conclusions not supported by the peer-reviewed science.

The inadequate control for confounders by Malin is clearly demonstrated by the Huber et al., 2015 study which used the same data as did Malin, yet concluded that the reported cases of ADHD correlated with elevation at which the children resided, not water fluoridation. (18)

**19. Letter: "Several other 2015 studies, although not as specific to thyroid function, should also be of interest to the ATA. One found that even the low concentration of fluoride in 'optimally' fluoridated drinking water causes inflammation of the immune system."**

Facts:

There is no valid evidence of support provided for the unsubstantiated claims in this paragraph. There is simply footnoted "(Resources)" presumably referring to the personal opinions listed at the end of the letter under the title "Resources".

**20. Letter: "Also in 2015, the Cochrane Review panel agreed with the 2000 York Review panel that the dental proclamations regarding fluoridation were overstated. Both international reviews of fluoridation literature found the low quality studies to be of high risk of bias with limited evidence of reduction in childhood cavities amounting to a lifetime benefit of perhaps one or two fewer cavities. The expert panels could not confirm that fluoridation reduced socioeconomic inequities among children or provided any benefit to adults in their reviews of the evidence. Moreover, both reviews confirmed that 12% of the general population living in artificially fluoridated communities would consider their fluoridation caused dental fluorosis 'aesthetically displeasing.' Finally, both reviews found there was neither any serious attempt to prove whole health safety nor evidence of safety. (Iheozor-Ejiofor et al. 2015, McDonagh et al. 2000)"**

## Facts:

This is the same type of egregious misrepresentation of the Cochrane Review that fluoridation opponents have been attempting since the Review was first released.

A. The Cochrane Review was an update of the 2000 York Review. As such, Cochrane set narrow parameters for fluoridation studies it would review, consistent with the parameters originally set by York. It then culled the scientific literature and found 155 studies, out of 4,600 fluoride studies considered, which fit within its parameters. This immediately excluded well over 4,000 quality, peer-reviewed fluoridation studies. Within the 155 studies Cochrane chose to review, it deemed the majority to fall within the parameters it had established for them to be considered at high risk of bias. It did not state that the studies were biased, nor overstated." (19)

B. From the Cochrane Review: "The results from the caries severity data indicate that the initiation of water fluoridation results in reductions in dmft of 1.81 (95% CI 1.31 to 2.31; 9 studies at high risk of bias, 44,268 participants) and in DMFT of 1.16 (95% CI 0.72 to 1.61; 10 studies at high risk of bias, 78,764 participants). This translates to a 35% reduction in dmft and a 26% reduction in DMFT compared to the median control group mean values. There were also increases in the percentage of caries free children of 15% (95% CI 11% to 19%; 10 studies, 39,966 participants) in deciduous dentition and 14% (95% CI 5% to 23%; 8 studies, 53,538 participants) in permanent dentition."

"The majority of studies (71%) were conducted prior to 1975 and the widespread introduction of the use of fluoride toothpaste."

"There is insufficient information to determine whether initiation of a water fluoridation programme results in a change in disparities in caries across socioeconomic status (SES) levels. There is insufficient information to determine the effect of stopping water fluoridation programmes on caries levels. No studies that aimed to determine the effectiveness of water fluoridation for preventing caries in adults met the review's inclusion criteria." (19)

C. Cochrane did not state that "artificially fluoridated communities *would* consider their fluoridation caused dental fluorosis 'aesthetically displeasing.'" It stated that 12% of the general population had dental fluorosis that *could* cause concern. There is a decided difference in the actual statement of Cochrane, and that attributed to Cochrane in the letter. [italic emphasis mine]

"The researchers calculated that, in areas with a fluoride level of 0.7 ppm in the water, approximately 12% of the people evaluated had fluorosis that could cause concern about their appearance." (19)

Aesthetics of dental fluorosis are purely subjective. The barely detectable mild to very mild level which may be attributable to optimally fluoridated water is generally viewed as positive, if the individuals are even aware of it at all. As peer-reviewed science has demonstrated mildly fluorosed teeth to be more decay resistance, many consider this effect to not even be undesirable, much less adverse. The effects of untreated dental decay, on the other hand, do

cause significant undesirable aesthetics along with the lifetime devastating adverse health effects associated with any untreated infection.

Onoriobe, Rozier, et al. found:

"Using a population- and person-centered perspective, we conclude that dental caries in school-aged children in North Carolina is a much bigger public health concern than enamel fluorosis. The prevalence of fluorosis is less than caries, and it had no impact on the OHRQoL [oral health-related quality of life] of children or their families. Dental caries had a negative impact on OHRQoL for the majority of students and their families." (20)

**21. Letter: "Moreover, corrosive fluoridation chemicals increase blood lead levels. (Coplan 2007, Maas 2007, Masters 2000)"**

Facts:

The theory of increased lead uptake attributable to fluoridation substances was refuted by Urbansky/Schock in 2000:

"Overall we conclude that no credible evidence exists to show that water fluoridation has any quantifiable effects on the solubility, bioavailability, bioaccumulation or reactivity of lead (0) or lead (II) compounds. The governing factors are the concentrations of a number of other species such as (bi)carbonate, hydroxide, or chloride, whose effects far exceed those of fluoride or fluorosilicates under drinking water conditions. " (21)

----and by Macek in 2006:

"Our analysis does not offer support for the hypothesis that silicofluorides in community water systems increase PbB concentrations in children. On the other hand, given the limitations of our data, our analyses cannot refute a possible link between water fluoridation method and lead uptake in children, particularly among those who live in older dwellings. Although other ecologic studies might allow another opportunity to test the relation between water fluoridation method and PbB concentrations in U.S. children, such analyses are likely to have similar limitations. Ultimately, the hypothesis that one or more fluoride compounds is associated with enhanced lead leaching or increased lead absorption is best addressed via systematic study of lead concentrations in drinking water, experimental chemical investigations, and studies of animal toxicology. Efforts to decrease exposure to lead among children by targeting prevention efforts at high-risk communities and/or populations as well as efforts to prevent dental caries via the use of fluoridated drinking water should continue unless a causal impact of certain fluoridation methods on PbB concentration is demonstrated by additional research." (22)

**22. Letter: "We know that fluoridation is mass medication without medical consent, and consequently an immoral act. We owe it to our patients, to the general public, and to ATA membership to exemplify medical integrity and scientific courage. The American Thyroid Association should be the spokesmen on thyroid health, not dentists or marketeers funded by the fluoride industry."**

## Facts:

A. There is no medication involved in water fluoridation. There are simply fluoride ions, identical to those which have always existed in water. No court of last resort has ever upheld the "forced medication" argument in spite of repeated attempts by fluoridation opponents through the decades.

B. The only "immoral act" in regard to fluoridation is by those who seek to deprive entire populations the dental decay prevention benefits of water fluoridation, based on false statements, unsubstantiated claims, misrepresented science, and misinformation.

C. Those who advocate for fluoridation, constantly correcting the misinformation disseminated by fluoridation opponents and their organizations, are not "marketeers of the fluoride industry" whatever that may mean. They are simply healthcare experts, healthcare providers, dedicated public health personnel, and concerned citizens who understand the overwhelming problem of untreated dental decay in this country and most others, who understand the science of fluoridation, and who have stepped up to counter the constant flow of misinformation put forth by fluoridation opponents.

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