

**The Fallacies of
Alberta Health Services Position on
Artificial Water Fluoridation
Exposed**

By Fluoride Free Lethbridge

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FluorideFreeLethbridge.com

info@fluoridefreelethbridge.com

Leaked Memo Exposes Incompetence of Alberta Health Services

An anonymous source leaked to Fluoride Free Lethbridge an internal Alberta Health Services memo (in blue), which was distributed to front-line staff of AHS South Zone, instructing them on how to answer questions in defense of fluoridation. The following document is a comprehensive rebuttal (in black) exposing the gross incompetence of AHS on artificial water fluoridation.

How is it possible Alberta Health Services and Health Canada are so fundamentally wrong on such an important issue?

At the expense of their professional careers, many former proponents¹ of fluoridation are now its fiercest opponents. Why? Because they have *thoroughly examined* the evidence and found it preponderantly against artificial water fluoridation.

This is in stark contrast to AHS Medical Officers James Talbot,² Richard Musto,³ Vivien Suttorp,⁴ Ada Bennett,⁵ Gerry Predy,⁶ Luke Shwart,⁷ Digby Horne⁸ and others who lack even a basic understanding of the issue. They continue to publicly disseminate misinformation, giving false assurances to an unsuspecting public that looks to them for authoritative guidance on these matters. (*Clicking on an endnote number will take you to the endnotes at the bottom of this document.*)

Western European nations investigated fluoridation 40 years ago and rejected it. [97% of Western Europe does NOT artificially fluoridate](#) its water, nor do several other prominent nations such as Russia, Japan and China. In the last 3 years alone, 30 Canadian communities have rejected fluoridation.

The question to be asked is, “How is it that Alberta and Canada continue to fluoridate when 95% of the world has chosen not to?”

“I am aware that many object to the severity of my language; but is there not cause for severity? I will be as harsh as truth, and as uncompromising as justice. On this subject, I do not wish to think, or to speak, or write, with moderation. No! No! Tell a man whose house is on fire to give a moderate alarm; tell him to moderately rescue his wife from the hands of the ravisher; tell the mother to gradually extricate her babe from the fire into which it has fallen; — but urge me not to use moderation in a cause like the present. I am in earnest — I will not equivocate — I will not excuse — I will not retreat a single inch — AND I WILL BE HEARD.”

- William Lloyd Garrison (1805 - 1879)

Fluoridation FAQ for AHS Staff

When a public health measure causes confusion or concern, the responsible action is to review research and learn the facts. Alberta Health Services (AHS) is committed to reviewing the evidence about water fluoridation and making appropriate recommendations for public health and safety. It is our duty.

In alignment with Health Canada's recent detailed review of the research endorsing safety and effectiveness, AHS and Alberta Health strongly support water fluoridation as a public health measure. This FAQ adds depth to the *Fluoridation in Alberta* public information page.

AHS and Health Canada are *not* reviewing the facts responsibly or fulfilling their duty as they claim. They cite only **industry-funded** pro-fluoride literature and ignore the hundreds of peer-reviewed, **INDEPENDENT** studies that unequivocally indict water fluoridation as the cause of many grave health problems.⁹

1. Is water fluoridation safe?

Safety is established by toxicological studies and human trials. No study has ever shown fluoridation to be safe,¹⁰ but many have shown harm. Is it any wonder AHS and HC have never provided evidence of safety?

2. Is water fluoridation effective?

Effectiveness is established by double-blind randomized controlled trials. No such studies exist. On the contrary, **numerous studies indicate cavity rates have declined** after water fluoridation was halted.¹¹

Even fluoridation promoters, such as the Centers for Disease Control (CDC) and American Dental Association (ADA) admit fluoride is beneficial in **topical application only**. It makes no sense whatsoever to ingest what is only effective topically.¹²

3. So why did Health Canada's recent review endorse the "safety and effectiveness" of fluoridation?

In the review endorsing fluoridation, of the six panellists, four were dentists, well-known promoters of fluoridation. The other two were involved in compiling a pro-fluoride report at the time of their selection. Health Canada chose not one dissenting voice, though highly qualified candidates existed.¹³

In contrast to Health Canada's self-fulfilling review, the twelve-member panel selected for the National Research Council Report (2006) was composed of scientists actively promoting fluoridation, those opposed to it, and still others who had no stated position. This most comprehensive and balanced review ever done on fluoridation found many serious health effects.¹⁴

4. If water fluoridation is safe and effective, why have health departments in many other countries thoroughly examined and decided against the practice?

In Western Europe, 97% of the population drinks non-fluoridated water. This is [what European health officials have to say about fluoridation](#).¹⁵

To date, [14 Nobel Laureates](#) in medicine and chemistry have unequivocally opposed fluoridation;¹⁶ over [4,600](#) professionals have signed the *Professionals Statement to End Water Fluoridation*;¹⁷ and [1500](#) scientists, lawyers, engineers and other professional employees of the EPA Headquarters Union in Washington, D.C. have opposed fluoridation since 1985.¹⁸

The vast majority of the international community rejects water fluoridation as neither safe nor effective.

Evidence screams for the precautionary principle, "When in doubt, don't."

What type of fluoride is used to fluoridate water?

The most commonly used compound to fluoridate water is fluorosilicic acid, a co-product of the phosphate fertilizer industry. Apatite rock is ground up and treated to produce several products including a gas which is recovered and condensed into a solution called hydrofluosilicic acid or fluorosilicic acid. In concentrated form almost all of the water treatment chemicals used at a water plant, such as chlorine gas and the fluoride compounds, are toxic to humans. Added to the drinking water in very small amounts, the fluoride chemicals break apart virtually 100 percent into their various components (ions) and are very stable, safe and non-toxic.

This statement is incredibly misleading on several points:

1. Fluorosilicic acid (FSA) is not an intentional "co-product"; it is **toxic hazardous waste**, scrubbed from the smokestacks of fertilizer plants by law because it is a **lethal pollutant**. In fact, it's been called "the most damaging environmental pollutant of the Cold War."¹⁹
2. Even though chlorine is toxic, municipal water disinfection is necessary to prevent life-threatening illness and infection. On the other hand, water fluoridation

contributes nothing to public safety. Indeed, science has proven fluoridation detrimental to public health and cannot be remotely justified.

3. Suggesting that diluting toxic substances renders them “non-toxic” or even beneficial is absurd. Dilution of **bio-accumulative toxins**²⁰ such as fluoride only delays the onset of toxicity symptoms. Dilution does not magically render fluoride non-toxic.
4. The fact that FSA breaks apart into ions is **NOT** at all a point of safety assurance as AHS states. Dissociation is precisely the principal reason it causes so much harm.²¹ Furthermore, it is what results in the acidic environment of the stomach that matters. There, fluoride ions largely become a component of hydrofluoric acid, which crosses the stomach lining, entering the bloodstream and circulating throughout the body.

“If the stuff [FSA] gets out into the air, it’s a pollutant; if it gets into the river, it’s a pollutant, if it gets into a lake, it’s a pollutant; but if it goes right straight into your drinking water system, it’s not a pollutant. That’s amazing!”

- Dr. J. William Hirzy, Senior EPA Chemist and VP of the US EPA Headquarters Union

Is fluorosilicic acid contaminated with toxins?

Fluorosilicic acid may contain traces of metal compounds and other impurities. However, it cannot be added to water unless it meets the strict quality standards of NSF International, a non-profit, non-governmental agency.

This is a dangerous false assurance.

1. The National Sanitation Foundation (NSF) was forced to admit in a court deposition the necessary toxicological studies required for Standard 60 certification of FSA were **never performed**.²²
2. Due to this lack of toxicological analysis, in April 2013, Utah passed a law requiring suppliers to provide certificates of analysis detailing all contaminants in fluoridation chemicals. This law followed several FSA spills where contaminants were discovered to be significantly in excess of allowable limits for safe drinking water.²³

3. Although it is incredible and outrageous, **no requirement for disclosure of analysis** exists in Canada. Those responsible for fluoridation don't know what is being added to our water, though they are **morally and legally obligated** to know and to provide "safe, clean and reliable drinking water."^{24 25}

Arsenic is a common concern. NSF quality testing has revealed that most fluoride additive samples do *not* have detectable levels of arsenic². For fluoride samples that do test positive for arsenic, the average consumer would ingest approximately 1% of the allowable amount over an entire year. The 2012 November Consumer Reports magazine reviewed supermarket products and found that many common foodstuffs contain much more arsenic than would ever be found in fluoridated water.

Arsenic is a toxic and bio-accumulative carcinogen. Adding it to the water in any amount is totally unacceptable.

1. The American Water Works Association's goal for arsenic levels in drinking water is 0 parts per billion.²⁶
2. **No regular testing is done** on FSA deliveries to Canadian water treatment plants. However, when "NSF Certified" analyses of FSA were taken, they showed arsenic levels to be highly variable - in some instances at harmful levels.²⁷
3. The same *Consumer Reports* article that AHS quotes also states arsenic is a "**potent human carcinogen**" and can "set up children for other health problems in later life."²⁸

How can AHS justify adding arsenic to our water using the excuse that our food is already contaminated with arsenic? **This is absurd logic.**

How much does it cost to fluoridate?

On average, water fluoridation costs Canadian communities between \$0.77 and \$4 per household per year. It is estimated that every \$1 invested in water fluoridation saves \$16 - \$38 in dental treatment costs.

The method of cost analysis used in the Griffin study (above) is manipulative and deceptive, making unjustifiable assumptions.

1. It **excludes** the major costs of water fluoridation while including factors like loss of pay for the time parents spend taking their children to the dentist.²⁹ Isn't this an obvious attempt to skew the data in favour of fluoridation?

2. The study says, "We assumed that the costs of dental fluorosis attributable to water fluoridation are negligible." An unwise and deceptive assumption given that millions of North Americans have some form of dental fluorosis (mottling, staining or pitting of tooth enamel), with rates in fluoridated cities as high as 75%!³⁰

"The cost of repairing teeth damaged by fluorosis is not trivial; moderate to severe effects can require \$15,000 or more in dental fees."

- From the Canadian Association of Physicians for the Environment (CAPE) [Position on the Fluoridation of Drinking Water](#)

3. Fluoridation is anything but cost effective. A mere 1% of municipal water is consumed while the rest is used for showering, flushing toilets and watering lawns. Who in their right mind would dump 99% of a purchased commodity down the drain?

The study referred to by AHS is pure spin. Public water fluoridation is costly in all respects. **Why not just dump 99% of this toxin straight into the river?** Isn't this exactly what is happening?

If I live in a fluoridated area and use fluoride toothpaste, am I getting too much fluoride?

Health Canada recommends fluoride at only 0.7 mg/L¹ or 0.7 ppm (parts per million). This takes into account fluoride from other sources such as toothpaste, food, and mouthrinses. The 0.7 ppm concentration provides optimal dental health benefits with minimal risk of dental fluorosis.

This is a reckless assurance of safety by Health Canada.³¹

1. Health Canada fails to differentiate between concentration and dosage. If two people were to drink different amounts of fluoridated water, they both receive the same concentration, but they receive a different dose and dosage.
2. Health Canada fails to account for vulnerable sub-groups adversely affected by water artificially fluoridated at 0.7 ppm. **Concentration does not equal dosage!**
 - a. **Babies** fed formula mixed with fluoridated water receive 200% of the U.S. EPA's safe dosage.³² [By their own admission, Health Canada deliberately OMITTS data](#) on what they call the "worst case scenario" for infants: "the exclusive consumption of powdered infant formula reconstituted with fluoridated drinking water."³³

The Canadian Paediatric Society recommends [infants under six months should not be exposed to any supplemental fluoride](#).³⁴

- b. **Children** receive a greater dose of fluoride per body weight, incorporate more into their tissues, have lower kidney excretion and their developing brain is much more susceptible to fluoride toxicity.³⁵

A 2-3 year-old child brushing with fluoridated toothpaste can **far exceed the recommended daily intake for fluoride from toothpaste alone.**³⁶

Particularly vulnerable youngsters such as blacks,³⁷ diabetics,³⁸ and nutrient-deficient children³⁹ are more susceptible to fluoride toxicity.

Why doesn't Health Canada understand there are children affected by several of these factors at once, receiving many times its ill-advised recommendation?

c. **Vulnerable Groups**

In her radio interview, Medical Officer for Alberta South Zone, Dr. Ada Bennett, made the [outrageous statement](#) that Lethbridge water would need 10 to 15 times more fluoride in the water before it became an issue. This concentration of fluoride (7 - 13.5 ppm) would cause crippling skeletal fluorosis⁴⁰ in healthy adults, acute fluoride toxicity in the elderly, children, diabetics and those suffering thyroid disorders, and would be **deadly** for people with kidney disease.⁴¹

3. Health Canada **does not account for several additional fluoride sources:** fluoride-leaching Teflon cookware,⁴² anaesthetics,⁴³ pesticides, food fumigants, fluorinated drugs,⁴⁴ mechanically-deboned meat,⁴⁵ chemically-treated furniture and fabrics,⁴⁶ and industrial workplace exposure - all significant sources of fluoride contamination. **Fluoride is ubiquitous.**

If AHS officers are so ignorant on the facts of fluoridation toxicity, **how can they be trusted as the authority** by municipal councils? And how can city councillors be trusted while being complicit with irresponsible authorities?

Evidence screams for the precautionary principle, "When in doubt, don't."

What health concerns did Health Canada review?

Health Canada reviewed the available science, conducted a total diet study to understand exposure to fluoride from food, and consulted with international experts. The review included fluoride absorption, distribution/metabolism, excretion, musculoskeletal effects, fractures, bone mineral density, cancer, mutagenicity/genotoxicity, reproductive/developmental effects, neurotoxicity/neurobehavioural effects, gastrointestinal symptoms, otosclerosis, urolithiasis and parathyroid hormone levels.

Health Canada did *not* responsibly review the “available science.”

Instead, they ignored studies with the evidence proving the systemic harm of FSA. Peer-reviewed scientific journals have [hundreds of studies](#)⁴⁷ showing the link between water fluoridation and many serious health conditions including, but not limited to:

- Arthritis (which is often a misdiagnosis of stage II skeletal fluorosis)⁴⁸
- Cancer (bone,⁴⁹ bladder⁵⁰ and lung⁵¹)
- Dental⁵² and skeletal⁵³ fluorosis
- Diabetes⁵⁴
- Endocrine disruption⁵⁵ (pancreas, thyroid⁵⁶ and pineal gland⁵⁷)
- Increased rates of bone fracture⁵⁸ (especially hip fracture in the elderly)
- Higher levels of lead⁵⁹ and lowered IQ⁶⁰ in children
- Kidney disease⁶¹

If Health Canada has a study proving the safety and efficacy of FSA, **we challenge** them to provide it.

What are the adverse effects from fluoride?

Like many things, fluoride can be toxic in very high concentrations. At the level recommended for optimal dental health (0.7 ppm) the reviews find no adverse health effects from fluoride¹. However, children in areas with high natural levels of fluoride in the water (>1.5 ppm) have an elevated risk for developing dental fluorosis (occurs only before teeth erupt). Most dental fluorosis is very mild-to-moderate whitish patches on enamel, considered a cosmetic concern and is often not noticed by the individual. Severe dental fluorosis is very rare in Canada⁷. Ingesting extremely high fluoride concentrations over extended periods of time, (i.e. > 10ppm for 10 years) increases risk for skeletal fluorosis, a disease rarely if ever seen in Canada.

This is a **gross misrepresentation** of the toxic impact of FSA.

1. Fluoride is toxic even at *current* concentrations because it **accumulates in the body**. This is why it is officially classified by Environment Canada as “persistent,” “bio-accumulative” and “toxic.”⁶²
2. Severe dental fluorosis may be rare, but mild and moderate fluorosis is tragically common, particularly in fluoridated communities.⁶³
3. Dental fluorosis is not merely a “cosmetic concern,” but a [whole body health issue](#).⁶⁴ The Canadian Association of Physicians for the Environment says: “[Dental] fluorosis is simply a visible representation of an effect on the entire bony skeleton.”⁶⁵

In other words, if fluorosis is evident on the teeth, then the structure of the entire skeleton has already been compromised.

4. The threshold for crippling skeletal fluorosis is much lower than the 10 ppm cited by AHS. It has been observed at water levels of [1.35 -1.5 ppm](#).⁶⁶

Evidence screams for the precautionary principle, "When in doubt, don't."

Does water fluoridation increase the risk of hip fractures and osteoporosis in the elderly?

The research does not support a link between water fluoridation and hip fractures or osteoporosis. In fact, exposure to fluoride at concentrations between 1-1.5 mg/L have shown to have a positive effect on bone density and in some cases, high doses of fluoride have been used in the treatment of osteoporosis.

Where's the research? This is more false and misleading information.

1. Several studies on hip fracture and fluoride exposure **clearly** show a dose-related increase in fracture rates.⁶⁷
2. Fluoride used in treatment of osteoporosis **increases fractures** of all kinds.⁶⁸
3. Fluoride does not have a "positive effect on bone density." While fluoride exposure does increase bone density, this denser bone is proven to be **weaker, more brittle, and structurally inferior** to normal bone.⁶⁹

Is water fluoridation the same as administering medication without consent?

No. In its analysis of the Charter of Rights and Freedoms Section 7 (re: *security of the person*), Canada's Supreme Court ruled (2004) that adding fluoride, which is a naturally occurring substance in water, is different from adding a drug or medication that does not naturally occur in water. Fluoride is considered a beneficial nutrient for optimal growth and development of dental health, not a medication.

This is blatantly deceptive bait-and-switch.

1. Fluorosilicic acid and calcium fluoride (the natural form of fluoride found in source water) are completely different compounds: FSA is **25 times more toxic** than naturally occurring calcium fluoride.⁷⁰ While FSA is classified as "extremely toxic," calcium fluoride is "almost insoluble" and "moderately toxic."⁷¹
2. Studies alluded to by AHS defending the safety of fluoridation are based on sodium or calcium fluoride. These compounds are **significantly less toxic than FSA**. No studies show sodium or calcium fluoride to be safe or effective, much less FSA.

3. The deliberately deceptive claim that fluoride is a nutrient has **no scientific basis**. It is not required for any biological function, including the formation of tooth enamel.^{72 73}
4. Any substance used to treat a disease is a **medication**.⁷⁴ FSA is used as a medication in that it is purported to prevent cavities.

Water fluoridation is medication without prescription, without control over dosage and without informed consent.

What about freedom of choice?

Adequate and appropriate oral health care remains inaccessible for many children and families – they have little personal choice when it comes to their dental health. Both adding fluoride, and not adding it, might disadvantage some groups of people – either by limiting personal choice or by preventing individuals from receiving health benefits. The most appropriate way of deciding whether fluoride should be added to water supplies is to rely on democratic decision-making procedures (e.g. elected officials, plebiscites). These should be implemented at the local and regional, rather than national level, because the need for, and perception of, water fluoridation varies in different areas.

The preceding paragraph is utterly contradictory to the point of being bizarre. Every sentence is ridiculous.

1. Water fluoridation tramples on the rights of those who **DON'T** want to be fluoridated, and denies the freedom to choose the source and dosage for those who **DO** want fluoride. Fluoridation is **unnecessary, undemocratic, unethical, even immoral**.
2. **Decision by plebiscite is a manipulative strategy**. It is audacious for AHS to suggest this decision should be made democratically while applying heavy pressure to city councils to maintain water fluoridation:
 - During Calgary's battle to end fluoridation, **AHS spent \$250,000** of taxpayer money on one color ad campaign alone, aiming to influence this "democratic decision-making" process. How can private citizens compete with their tax-funded "caregivers" and why should they be forced to do so?
 - When water fluoridation was brought before Lethbridge City Council for a vote in 2011, Health Canada's Chief Dental Officer, Dr. Peter Cooney, was flown in from Ottawa to champion fluoridation. His appearance **unfairly influenced** the council's vote. And this **heavy-handed interference** is called "democracy"?

- In the October 2013 Lethbridge municipal elections, Dr. James Talbot, Alberta's Chief Medical Officer of Health, sent a letter to each of the council candidates "strongly urging" them to support water fluoridation.

Are these actions "democratic decision-making," respecting the common citizen? Or is it political tyranny?

Universally-administered medication is NEVER appropriate. No municipal government or percentage of voters has the right to force-medicate even one person.

Oral health is central to an individual's overall health. By improving the oral health of community residents, fluoridation improves the overall health of the community.

Oral health IS critical to overall health; however, artificial water fluoridation has NEVER been scientifically proven to have any benefit.

In fact, many communities suffering from oral health crises have been fluoridated for decades.⁷⁵ The real problem stems from lack of oral hygiene and poor diet, both of which make people more vulnerable to cavities.⁷⁶

While AHS blindly promotes fluoridation's *alleged* dental benefits, it irresponsibly ignores the serious, adverse whole-body effects. If AHS was concerned about the "overall health of the community," it would promptly condemn water fluoridation, as have [30 other Canadian communities](#)⁷⁷ and [134 worldwide](#)⁷⁸ since 2010.

When 95% of the world has chosen not to fluoridate water, why do Health Canada and Alberta Health Services insist on poisoning us? Are they *really* interested in our health?

SOURCES

¹ **Dr. John Colquhoun**, Former Principal Dental Officer, Auckland, New Zealand - Colquhoun J. (1997). Why I changed my mind about fluoridation. *Perspectives in Biology & Medicine* 41(1): 29-44. <http://fluoridealert.org/articles/colquhoun/>, <http://fluoridealert.org/fan-tv/colquhoun/>

Dr. Hardy Limeback, BSc, PhD, DDS | Former President, Canadian Association for Dental Research - Limeback, H. (2000). Why I am now officially opposed to adding fluoride to drinking water <http://fluoridealert.org/articles/limeback/>

Dr. William Marcus, Former Senior Science Advisor in US EPA's Office of Drinking Water - <http://fluoridealert.org/content/marcus-interview/>

Dr. Phyllis Mullinex, Former Toxicologist at Forsythe Dental Center - Mullinex, P. <http://fluoridealert.org/content/mullinex-interview/> , Christopher Bryson, *The Fluoride Deception*, New York: (Seven Stories Press, 2004) xxiv.

Dr. J. William Hirzy, Senior EPA Chemist and VP of the US EPA Headquarters Union - <http://fluoridealert.org/fan-tv/hirzy/>

Dr. Paul Connett, PhD. Chemistry - The Absurdities of Water Fluoridation <http://fluoridealert.org/articles/absurdity/>

Dr. James Beck, MD, PhD. Biophysics - Connett P, Beck J, Micklem, HS. *The Case Against Fluoride*, White River Junction, VT: (Chelsea Green Publishing, 2010): 357.

² On October 2, 2013, **Dr. James Talbot**, Alberta's Chief Medical Officer of Health wrote a letter to all the candidates of the municipal election in Lethbridge in which he "strongly urge(d) the mayoral and council candidates to support water fluoridation." The letter, which can only be described as political interference, was full of misinformation and falsehoods that have been rebutted point by point at the following link: http://www.fluoridefreelethbridge.com/news/press_release.html#October11_2013.

³ In a June 2013 radio interview with Jim Brown of the CBC's 180, **Dr. Richard Musto**, Lead Medical Officer of Health for Calgary, stated that Europe was largely fluoridated. This is contrary to easily accessed information showing that 97% of Western Europe drinks *unfluoridated* water. He made several more erroneous and ill-informed statements, which have been rebutted at the following link: http://www.fluoridefreelethbridge.com/news/180_Rebuttal.pdf

⁴ In her March 5, 2013 guest column in the Lethbridge Herald, **Dr. Vivien Suttorp**, Lead Medical Officer of Health South Zone, made several ignorant or deliberately misleading statements: 1) comparing the highly toxic hydrofluorosilicic acid used to fluoridate Lethbridge water to naturally occurring calcium fluoride, 2) claiming that for every dollar spent on fluoridation, \$38 in dental costs are saved, 3) claiming that Health Canada, the World Health Organization and the CDC "monitor all scientific evidence." Nothing could be further from the truth as we have proven in this rebuttal.

⁵ On February 12, 2013, **Dr. Ada Bennett**, Medical Officer of Health South Zone, was interviewed by Lethbridge radio station Country 95. Amongst other falsehoods, she claimed that "Lethbridge water would **need another 10 to 15-times more fluoride** in it before it would start to become an issue." This and her other dangerous false assurances are addressed in the following document: http://www.fluoridefreelethbridge.com/news/Rebuttal_to_Dr_Ada_Bennett.pdf

⁶ In 2010, Dr. James Beck asked **Dr. Gerry Predy**, Senior Medical Officer of Health, to stop the promotion of "nursery water" occurred in Alberta hospitals. A private company selling this fluoridated water for infants was giving advertising to mothers leaving hospital after giving birth. Dr. Predy said he would stop it. Dr. Beck hoped that meant in all hospitals, not just the one he was complaining about. Dr. Predy then added that there is no evidence of harm from fluoride in water.

An exchange of messages ensued between Dr. Predy and Dr. Beck. Dr. Predy continued to deny risk from fluoridation and failed to respond to questions on the basis of his statements claiming benefits and safety of fluoridation. In the end Dr. Beck sent him two hundred citations of papers on just one risk - a risk more important than that of dental fluorosis - to the development of the nervous system. Dr. Predy had no response.

⁷ On more than one occasion, **Dr. Luke Shwart** has stated before town and city councils that the York Review (2000) concluded fluoridation of public water supplies is safe for human consumption and effective in preventing cavities. Dr. James Beck informed Dr. Shwart after the first such incident that his statement was not true: the York review panel stated in their report that evidence was not sufficient to conclude fluoridation was safe or effective. Dr. Beck sent Dr. Shwart a published statement by the

supervisor of the York Review, Professor Trevor Sheldon, where he asked fluoridation promoters to stop misrepresenting the report. Yet Dr. Shwart continued to give this misinformation.

⁸ **Dr. Digby Horne**, Medical Officer of Health Central Zone, represented Alberta Health Services in two public meetings on the same day in Red Deer. The first was at midday, open to the public. The second was in the evening with all members of city council present.

In comments on the paper *Developmental Fluoride Neurotoxicity: A Systematic Review and Meta-Analysis* from the Harvard School of Public Health, Dr. Horne stated that the result showed, in the aggregate, a difference of -0.45 IQ points between the high exposure group and the low-exposure group. It is possible Dr. Horne was relying on a brief news item on the website of the Harvard School of Public Health in which such a statement was made erroneously. The error was corrected in an "update" on the website. Dr. Horne did not mention this correction.

If this were all there was to the story, then perhaps Dr. Horne was only guilty of irresponsibly reading and improperly evaluating the full paper, which was easily obtainable. Or possibly he didn't know the difference between an IQ point and a fraction of the standard error. That -0.45 is the difference in the means of high and low exposed groups expressed as fraction of the standard error. **It corresponds to a difference of -6.9 IQ points.**

If a population has an IQ distribution approximating a normal curve, then such a change would be accompanied by far more than a doubling of the number of persons with IQs less than 70 (below which psychologists consider a person mentally retarded) and by far more than a 50% reduction in the number of persons with IQs over 130 (above which psychologists consider a person a genius).

Dr. Robert Dickson, who was present at this presentation, informed Dr. Horne of his misinforming the council and public in attendance and suggested he correct it. Dr. Horne said that he would consider doing so, but he did not. What was possibly a mistake, ignorance or a failure to properly evaluate the scientific result became a lie.

⁹ <http://fluoridealert.org/researchers/fan-bibliography/>

¹⁰ "No randomised controlled trials of the effects of water fluoridation were found. . . . None of the included studies were of evidence level A. The reason for this among the studies evaluating dental caries was that none addressed three or more confounding factors."

The York Review: Fluoridation of Drinking Water: a Systematic Review of its Efficacy and Safety, 2000
<http://www.york.ac.uk/inst/crd/fluores.htm>

¹¹ Caries trends 1992-1998 in two low-fluoride Finnish towns formerly with and without fluoridation," Caries Research, Nov-Dec 2000
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11093019&dopt=Abstract

Caries prevalence after cessation of water fluoridation in La Salud, Cuba," Caries Research Jan-Feb. 2000
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10601780&dopt=Abstract

Decline of caries prevalence after the cessation of water fluoridation in the former East Germany," Community Dentistry and Oral Epidemiology, October 2000
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11014515&dopt=Abstract

The effects of a break in water fluoridation on the development of dental caries and fluorosis," Journal of Dental Research, Feb. 2000

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10728978&dopt=Abstract

Patterns of dental caries following the cessation of water fluoridation," Community Dentistry and Oral Epidemiology, February 2001

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11153562&dopt=Abstract

Caries experience of 15-year-old children in The Netherlands after discontinuation of water fluoridation," Caries Research, 1993

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8519058&dopt=Abstract

¹² "The concentration of fluoride in ductal saliva, as it is secreted from salivary glands, is low --- approximately 0.016 parts per million (ppm) in areas where drinking water is fluoridated and 0.006 ppm in nonfluoridated areas (27). **This concentration of fluoride is not likely to affect cariogenic activity.**" <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5014a1.htm>

Note: This concentration is over **90,000 times lower than fluoridated toothpaste** at 1,500 ppm.

¹³ Connett P, Beck J, Micklem, HS. *The Case Against Fluoride*, White River Junction, VT: (Chelsea Green Publishing, 2010) 242 - 243.

¹⁴ National Research Council. (2006). Fluoride in Drinking Water: A Scientific Review of EPA's Standards. National Academies Press, Washington D.C., p. 2,3,170-1

<http://www.nap.edu/openbook.php?isbn=030910128X&page=170>

<http://www.nap.edu/openbook.php?isbn=030910128X&page=171>

<http://www.nap.edu/openbook.php?isbn=030910128X&page=3>

http://www.nap.edu/openbook.php?record_id=11571&page=2

¹⁵ <http://fluoridealert.org/content/europe-statements/>

¹⁶ <http://www.nofluoride.com/presentations/Nobel%20Prize%20Winners.pdf>

¹⁷ <http://fluoridealert.org/researchers/professionals-statement/>

¹⁸ <http://www.nteu280.org/Issues/Fluoride/NTEU280-Fluoride.htm>

¹⁹ Christopher Bryson, *The Fluoride Deception*, New York: (Seven Stories Press, 2004) xxiv.

²⁰ Sauerheber R. (2013) Physiologic Conditions Affect Toxicity of Ingested Industrial Fluoride. Journal of Environmental and Public Health <http://dx.doi.org/10.1155/2013/439490>

²¹ "Most of the long-term health effects resulting from exposure to various forms of inorganic fluorides may be attributed to the actions **of the fluoride ion per se.**" http://www.hc-sc.gc.ca/ewh-semt/pubs/contaminants/psl1-lsp1/fluorides_inorg_fluorures/index-eng.php Under 1.0 Introduction

²² The deposition of Stan Hazan was taken in a San Diego County Superior Court case titled *Macy v. City of Escondido*, case no. GIN015280, on March 9, 2004. The lawsuit sought to have the addition of hexafluorosilicic acid (HFSA) to the water declared unconstitutional under California law.

²³ <http://le.utah.gov/~2013/bills/hbillenr/hb0072.pdf> Safe Drinking Water Disclosure Act, 2013 General Session, State of Utah, H.B. 72, Section 1, Subsection 9.

²⁴ <http://environment.gov.ab.ca/info/library/8553.pdf>

²⁵ <http://www.hc-sc.gc.ca/ewh-semt/water-eau/drink-potab/index-eng.php>

²⁶ <http://water.epa.gov/lawsregs/rulesregs/sdwa/arsenic/>

²⁷ Letter from Stan Hazan, general manager, National Sanitation Foundation international's Drinking Water Additives Certification Program, to Ken Calvert, chairman, Subcommittee on Energy and the Environment, Committee on Science, U.S. House of Representatives, July 7, 2000, http://www.keepers-of-the-well.org/gov_resp_pdfs/NSF_response.pdf See Table 1.

²⁸ <http://www.consumerreports.org/cro/magazine/2012/11/arsenic-in-your-food/index.htm>

²⁹ Griffin SO, Jones K, Tomar SL. An economic evaluation of community water fluoridation. *J Public Health Dent* 2001; 61(2):78-86

³⁰ "Current studies support the view that dental fluorosis has increased in both fluoridated and non-fluoridated communities. **North American studies suggest rates of 20 to 75%** in the former and 12 to 45% in the latter."

Locker, D. (1999). Benefits and Risks of Water Fluoridation. An Update of the 1996 Federal-Provincial Sub-committee Report. Prepared for Ontario Ministry of Health and Long Term Care.

"The **prevalence of fluorosis** in permanent teeth in areas with fluoridated water has increased from about 10-15% in the 1940s to **as high as 70% in recent studies**..."

Marshall TA, et al. (2004). Associations between Intakes of Fluoride from Beverages during Infancy and Dental Fluorosis of Primary Teeth. *Journal of the American College of Nutrition* 23:108-16.

³¹ "Estimation of the amount of fluoride ingested from all environmental and dietary sources is important so that rational and scientifically sound decisions can be made when guidelines for the use of fluorides are reviewed periodically and modified." Pang D. (1992). Fluoride Intake from Beverage Consumption in Sample of North Carolina Children. *Journal of Dental Research*; 71: 1382-1388.

³² The EPA RfD (reference dose) is 0.08 mg/kg/day. An infant weighing 5 kg, receiving 1 L of formula mixed with Lethbridge tap water at a concentration of 0.7 – 0.9 mg/L would receive 0.14 – 0.18 mg/kg/day). Connett P, Beck J, Micklem, HS. *The Case Against Fluoride*, White River Junction, VT: (Chelsea Green Publishing, 2010) 9-10.

³³ http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/2011-fluoride-fluorure/index-eng.php#fn_t1bd (See

³⁴ Canadian Paediatric Society Position Statement on the Use of Fluoride in Infants and Children: www.cps.ca/documents/position/fluoride-use

³⁵ <http://fluoridealert.org/fan-tv/dr-whyte/>

³⁶ Levy SM, Guha-Chowdhury N. (1999). Total fluoride intake and implications for dietary fluoride supplementation. *Journal of Public Health Dentistry* 59: 211-23.

³⁷ Martinez-Mier EA, Soto-Rojas AE. (2010). Differences in exposure and biological markers of fluoride among White and African American children. *Journal of Public Health Dentistry* 70:234-40.

Beltran-Aguilar ED et al. (2005). Surveillance for dental caries, dental sealants, tooth retention, edentulism, and enamel fluorosis — United States, 1988–1994 and 1999–2002. *MMWR Surveillance Summaries* 54(3): 1-44.

Kumar JV, Swango PA. (1999). Fluoride exposure and dental fluorosis in Newburgh and Kingston, New York: policy implications. *Community Dentistry & Oral Epidemiology* 27:171-80.

Kumar JV, Swango PA. 2000. Low birth weight and dental fluorosis: is there an association? *Journal of Public Health Dentistry* 60(3):167-71.

Williams JE, Zwemer JD. (1990). Community water fluoride levels, preschool dietary patterns, and the occurrence of fluoride enamel opacities. *Journal of Public Health Dentistry* 50:276-81.

Butler WJ, et al. (1985). Prevalence of dental mottling in school-aged lifetime residents of 16 Texas communities. *American Journal of Public Health* 75:1408-1412.

National Research Council. (1993). Health effects of ingested fluoride. National Academy Press, Washington DC. p. 44.

³⁸ Seow WK, Thomsett MJ. (1994). Dental fluorosis as a complication of hereditary diabetes insipidus: studies of six affected patients. *Pediatr Dent*. 16(2):128-32.

Klein H. (1975). Dental fluorosis associated with hereditary diabetes insipidus. *Oral Surg Oral Med Oral Pathol*. 40(6):736-41.

Greenberg LW, et al. (1974). Nephrogenic diabetes insipidus with fluorosis. *Pediatrics*. 54(3):320-2.

³⁹ Vasant RA, Narasimhacharya AV. (2013). A multigrain protein enriched diet mitigates fluoride toxicity. *Journal of Food Science Technology* 50(3):528-34.

Massler M, Schour I. (1952). Relation of endemic dental fluorosis to malnutrition. *JADA*. 44: 156-165.

Marier J, Rose D. 1977. Environmental Fluoride. National Research Council of Canada. Associate Committee on Scientific Criteria for Environmental Quality. NRCC No. 16081.

Hong F, et al. (2001). Research on the effects of fluoride on child intellectual development under different environments. *Chinese Primary Health Care* 15(3):56-7. [Republished in *Fluoride* 2008; 41(2):156–60.]

Pandit CG, et al. (1940). Endemic fluorosis in South India. *Indian Journal of Medical Research* 28: 533-558.

Marier J, Rose D. 1977. Environmental Fluoride. National Research Council of Canada. Associate Committee on Scientific Criteria for Environmental Quality. NRCC No. 16081.

⁴⁰ “Endemic fluorosis in rural India occurs because of prolonged ingestion of water with excess fluoride (water F > **1 ppm**) resulting in significant skeletal morbidity.” Tiwari S, et al. (2004). Simultaneous exposure of excess fluoride and calcium deficiency alters VDR, CaR, and calbindin D 9 k mRNA levels in rat duodenal mucosa. *Calcified Tissue International* 75: 313-20

“It was initially claimed that crippling fluorosis required water levels of more than 10 ppm before it occurred. More studies, however, have demonstrated that in many populations, crippling occurs above 3 ppm, and can occur at water levels of **1.35- 1.5 ppm**, given the presence of predisposing factors.”

Littleton J. (1999). Paleopathology of skeletal fluorosis. *American Journal of Physical Anthropology* 109: 465-483.

⁴¹ B. D. Gessner, M. Beller, J. P. Middaugh, and G. M. Whitford, "Acute fluoride poisoning from a public water system," *The New England Journal of Medicine*, vol. 330, no. 2, pp. 95–99, 1994.

Ayoob S, Gupta AK. (2006). Fluoride in Drinking Water: A Review on the Status and Stress Effects. *Critical Reviews in Environmental Science and Technology* 36:433–487

Gary Wieby, "**Fluoride Blamed in 3 Deaths**: Traces found in Blood of U. of C. Dialysis Patients" CHICAGO SUN-TIMES, July 31, 1993. Article online at: <http://fluoridealert.org/articles/chicago-accident/>

Mary Ann Kryzankowicz, "**Fluoride Linked to Death**" EVENING CAPITAL (Annapolis, Maryland), November 29, 1979. Article online at: <http://fluoridealert.org/studies/annapolis/>

⁴² Full CA, Parkins FM. (1975). Effect of cooking vessel composition on fluoride. *Journal of Dental Research* 54: 192.

<http://fluoridealert.org/content/teflon/>

⁴³ Hoemberg M, et al. (2012). Plasma fluoride concentrations during prolonged administration of isoflurane to a pediatric patient requiring renal replacement therapy. *Paediatric Anaesthesia* 22(4):412-3.

Oc B, et al. (2012). The effects of sevoflurane anesthesia and cardiopulmonary bypass on renal function in cyanotic and acyanotic children undergoing cardiac surgery. *Renal Failure* 34(2):135-41.

⁴⁴ **Some organofluoride drugs, such as Cipro, metabolize into the fluoride ion, greatly increasing a person's daily fluoride exposure.**

Pradhan KM, et al. (1995). Safety of ciprofloxacin therapy in children: magnetic resonance images, body fluid levels of fluoride and linear growth. *Acta Paediatrica* 84(5):555-60.

⁴⁵ <http://fluoridealert.org/content/chicken/>

⁴⁶ "According to the [Environmental Working Group](#), PFOA is not only used to manufacture Teflon, but is also a breakdown product of chemicals used to coat food packaging, including fast food like McDonald's, and stain-resistant coatings for couches, carpets, and clothing. PFOA is broadly toxic."

<http://www.fluoridealert.org/wp-content/pesticides/pfoa.pfos.intro.html>

⁴⁷ <http://fluoridealert.org/researchers/fan-bibliography/>

⁴⁸ Bao W, et al. (2003). Report of investigations on adult hand osteoarthritis in Fengjiabao Village, Asuo Village, and Qiancheng Village. *Chinese Journal of Endemiology* 22(6):517-18.

Savas S, et al. (2001). Endemic fluorosis in Turkish patients: relationship with knee osteoarthritis. *Rheumatology International* 21: 30-5.

Czerwinski E, et al. (1988). Bone and joint pathology in fluoride-exposed workers. *Archives of Environmental Health* 43(5):340-3.

Luo R, et al. (2012). Total knee arthroplasty for the treatment of knee osteoarthritis caused by endemic skeletal fluorosis. *Chinese Journal of Tissue Engineering Research*. Available online at: http://en.cnki.com.cn/Article_en/CJFDTOTAL-XDKF201209015.htm

Petrone P, et al. (2011) Enduring Fluoride Health Hazard for the Vesuvius Area Population: The Case of AD 79 Herculaneum. *PLoS ONE* 6(6): e21085.

⁴⁹ Bassin EB. (2001). "Association Between Fluoride in Drinking Water During Growth and Development and the Incidence of Osteosarcoma for Children and Adolescents," DMSc thesis, Harvard School of Dental Medicine, Boston, Massachusetts.

Bassin EB et al. (2006). Age-specific Fluoride Exposure in Drinking Water and Osteosarcoma (United States). *Cancer Causes and Control*. 17 (4): 421–28.

Cohn PD. 1992. An epidemiologic report on drinking water and fluoridation. New Jersey Department of Health, Trenton, NJ. 18. National Toxicology Program.

Takahashi K, et al. (2001). Regression analysis of cancer incidence rates and water fluoride in the U.S.A. based on IACR/IARC (WHO) data (1978-1992). International Agency for Research on Cancer. *Journal of Epidemiology* 11(4):170-9.

Waldbott GL, Burgstahler, AW, McKinney, HL. 1978. Fluoridation: the great dilemma. p. 219-232.

Yiamouyiannis J, Burk D. Fluoridation and Cancer. Age-Dependence of Cancer Mortality Related to Artificial Fluoridation. *Fluoride*, 10: 102-123, 1977.

⁵⁰ "These findings amplify our previous observation of increased bladder cancer rates among cryolite workers... We therefore believe that fluoride should be considered a possible cause of bladder cancer and a contributory cause of primary lung cancer."

Grandjean P, Olsen J. (2004). Extended Follow-up of Cancer Incidence in Fluoride-Exposed Workers. *Journal of the National Cancer Institute* 96: 802-803.

Grandjean P, et al. (1992). Cancer incidence and mortality in workers exposed to fluoride. *Journal of the National Cancer Institute* 84:1903-9.

Grandjean P, et al. (1985). Mortality and cancer morbidity after occupational fluoride exposure. *American Journal of Epidemiology* 121: 57-64.

"Most of the removal of fluoride that occurs from the body (approximately 50% of daily intake) is done by renal excretion. The **kidney cells are therefore a possible target of fluoride toxicity because they can be exposed to high concentrations of fluoride.**"

Collins TFX, Sprando RL. (2005). Fluoride-toxic and pathologic effects: Review of current literature on some aspects of fluoride toxicity. *Reviews in Food and Nutrition Toxicity*. 105-41.

"Human kidneys... concentrate fluoride as much as 50-fold from plasma to urine. Portions of the renal system may therefore be at higher risk of fluoride toxicity than most soft tissues."

National Research Council. (2006). Fluoride in Drinking Water: A Scientific Review of EPA's Standards. National Academies Press, Washington D.C., p. 236

"Further research on a possible effect of fluoride on bladder cancer risk should be conducted."

National Research Council. (2006). Fluoride in Drinking Water: A Scientific Review of EPA's Standards. National Academies Press, Washington D.C., p. 288.

⁵¹ Grandjean P, Olsen J. (2004). Extended Follow-up of Cancer Incidence in Fluoride-Exposed Workers. *Journal of the National Cancer Institute* 96: 802-803.

⁵² The British Government's York Review estimated that **up to 48% of children in fluoridated areas worldwide have dental fluorosis** in all forms, with 12.5% having fluorosis of aesthetic concern.

McDonagh M, et al. (2000). *A Systematic Review of Public Water Fluoridation*. NHS Center for Reviews and Dissemination, University of York, September 2000.

Beltrán-Aguilar ED et al. (2010). Prevalence and severity of dental fluorosis in the United States, 1999-2004. *NCHS DataBrief* No. 53. U.S. DHHS, CDC, National Center for Health Statistics.

Hong L, Levy SM, et al. (2006b). Timing of fluoride intake in relation to development of fluorosis on maxillary central incisors. *Community Dentistry and Oral Epidemiology* 34:299-309.

Marshall TA, et al. (2004). Associations between Intakes of Fluoride from Beverages during Infancy and Dental Fluorosis of Primary Teeth. *Journal of the American College of Nutrition* 23:108-16.

⁵³ Johnson W, et al. (1979). Fluoridation and bone disease in renal patients. In: E Johansen, DR Taves, TO Olsen, Eds. *Continuing Evaluation of the Use of Fluorides*. AAAS Selected Symposium. Westview Press, Boulder, Colorado. pp. 275-293.

Juncos LI, Donadio JV. (1972). Renal failure and fluorosis. *Journal of the American Medical Association* 222:783-5.

Schiff H. (2008). Fluoridation of drinking water and chronic kidney disease: absence of evidence is not evidence of absence. *Nephrology Dialysis Transplantation* 23:411.

⁵⁴ “any role of fluoride exposure in the development of impaired glucose metabolism or diabetes is potentially significant.”

National Research Council. (2006). *Fluoride in Drinking Water: A Scientific Review of EPA's Standards*. National Academies Press, Washington D.C., p. 217.

Garcia-Montalvo EA, et al. (2009). Fluoride exposure impairs glucose tolerance via decreased insulin expression and oxidative stress. *Toxicology* 263: 75-83.

Rigalli A, et al. (1990). Inhibitory effect of fluoride on the secretion of insulin. *Calcif Tissue Int* 46:333-8.

⁵⁵ “In summary, **evidence of several types indicates that fluoride affects normal endocrine function or response...**”

National Research Council. (2006). *Fluoride in Drinking Water: A Scientific Review of EPA's Standards*. National Academies Press, Washington D.C., p. 266.

⁵⁶ As recently as the 1950s, sodium fluoride was used medicinally to treat hyperthyroidism.

The Merck Index: *An Encyclopedia of Chemicals and Drugs*, 8th Ed., (1968). “Sodium Fluoride,” Merck & Co. Rahway, N.J., p. 959.

Galletti P, Joyet G. (1958). Effect of fluorine on thyroidal iodine metabolism in hyperthyroidism. *Journal of Clinical Endocrinology* 18(10):1102-1110.

Susheela AK, et al. (2005). Excess fluoride ingestion and thyroid hormone derangements in children living in New Delhi, India. *Fluoride* 38:98-108.

⁵⁷ “**fluoride is likely to cause decreased melatonin production and to have other effects on normal pineal function, which in turn could contribute to a variety of effects in humans**” (NRC, 2006, p. 256).

Luke J. (2001). Fluoride deposition in the aged human pineal gland. *Caries Res.* 35(2):125-128.

Luke J. (1997). *The Effect of Fluoride on the Physiology of the Pineal Gland*. Ph.D. Thesis. University of Surrey, Guildford.

Schlesinger ER, et al. (1956). Newburgh-Kingston caries fluorine study. XIII. Pediatric findings after ten years. *J Am Dent Assoc.* 52(3):296-306.

⁵⁸ Cooper C, et al. (1991). Water fluoridation and hip fracture. *Journal of the American Medical Association* 266: 513-514.

Keller C. (1991) Fluorides in drinking water. Unpublished results. In: Gordon SL, Corbin SB. (1992) Summary of Workshop on Drinking Water Fluoride Influence on Hip Fracture on Bone Health. *Osteoporosis International* 2: 109-117.

Danielson C, et al. (1992). Hip fractures and fluoridation in Utah's elderly population. *Journal of the American Medical Association* 268: 746-748.

Jacobsen SJ, et al. (1992). The association between water fluoridation and hip fracture among white women and men aged 65 years and older; a national ecologic study. *Annals of Epidemiology* 2: 617-626.

⁵⁹ Sawan RM, Leite GA, Saraiva MC, Barbosa F Jr, Tanus-Santos JE, Gerlach RF. Fluoride increases lead concentrations in whole blood and in calcified tissues from lead-exposed rats. *Toxicology*. 2010 Apr 30;271(1-2):21-6. doi: 10.1016/j.tox.2010.02.002. Epub 2010 Feb 25.

⁶⁰ <http://ehp.niehs.nih.gov/wp-content/uploads/2012/09/ehp.1104912.pdf>

⁶¹ “[A] fairly substantial body of research indicates that patients with chronic renal insufficiency are at an increased risk of chronic fluoride toxicity. Patients with reduced glomerular filtration rates have a decreased ability to excrete fluoride in the urine. **These patients may develop skeletal fluorosis even at 1 ppm fluoride in the drinking water.**” Schiff H. (2008). Fluoridation of drinking water and chronic kidney disease: **absence of evidence is not evidence of absence**. *Nephrology Dialysis Transplantation* 23:411.

“It seems probable that some people with severe or long-term renal disease, which might not be advanced enough to require hemodialysis, can still experience reduced fluoride excretion to an extent that can lead to fluorosis, or aggravate [skeletal complications](#) associated with kidney disease.” Groth, E. (1973), *Two Issues of Science and Public Policy: Air Pollution Control in the San Francisco Bay Area, and Fluoridation of Community Water Supplies*. Ph.D. Dissertation, Department of Biological Sciences, Stanford University, May 1973.

Waldbott GL, et al. (1978). *Fluoridation: The Great Dilemma*. Coronado Press, Inc., Lawrence, Kansas. pp. 155-156.

⁶² Environment Canada Toxic Substances List - Schedule 1 (Scroll down to, and click on, item #40.) www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=0DA2924D-1&wsdoc=4ABEFFC8-5BEC-B57A-F4BF-11069545E434

⁶³ “Current studies support the view that dental fluorosis has increased in both fluoridated and non-fluoridated communities. North American studies suggest rates of 20 to 75% in the former and 12 to 45% in the latter.”

Locker, D. (1999). *Benefits and Risks of Water Fluoridation. An Update of the 1996 Federal-Provincial Sub-committee Report*. Prepared for Ontario Ministry of Health and Long Term Care.

“The **prevalence of fluorosis** in permanent teeth in areas with fluoridated water has increased from about 10-15% in the 1940s to **as high as 70% in recent studies...**”

Marshall TA, et al. (2004). Associations between Intakes of Fluoride from Beverages during Infancy and Dental Fluorosis of Primary Teeth. *Journal of the American College of Nutrition* 23:108-16.

“The **prevalence of fluorosis at a water fluoride level of 1.0 ppm was estimated to be 48%** and for fluorosis of aesthetic concern it was predicted to be 12.5%.”

McDonagh, M. et al. (2000). A Systematic Review of Public Water Fluoridation. NHS Center for Reviews and Dissemination, University of York.

⁶⁴ “Though **dental mottling and pigmentation is one of the earliest signs of chronic fluoride intoxication**, its absence does not exclude the affection of the skeletal system.” Teotia M, Teotia SPS, Kunwar KB. Endemic skeletal fluorosis. *Archives of Disease in Childhood*. 1971 October; 46(249): 686–691. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1647839/>

⁶⁵ [http://www.cape.ca/res_cardfile.shtml?cmd\[227\]=i-227-e29cb89dc0610f57e31e5f550b936ed4&cmd\[252\]=i-252-e29cb89dc0610f57e31e5f550b936ed4](http://www.cape.ca/res_cardfile.shtml?cmd[227]=i-227-e29cb89dc0610f57e31e5f550b936ed4&cmd[252]=i-252-e29cb89dc0610f57e31e5f550b936ed4)

⁶⁶ “It was initially claimed that crippling fluorosis required water levels of more than 10 ppm before it occurred. More studies, however, have demonstrated that in many populations, crippling occurs above 3 ppm, and can occur at water levels of [1.35 -1.5 ppm](#), given the presence of predisposing factors.”

Littleton J. (1999). Paleopathology of skeletal fluorosis. *American Journal of Physical Anthropology*. http://www.clas.ufl.edu/users/krigbaum/4468/Littleton_AJPA_1999_fluorosis.pdf

Wang L, Huang J. (1995). Outline of control practice of endemic fluorosis in China. *Soc Sci Med* 41:1191–1195

⁶⁷ Sogaard CH, et al. (1994). Marked decrease in trabecular bone quality after five years of sodium fluoride therapy—assessed by biomechanical testing of iliac crest bone biopsies in osteoporotic patients. *Bone* 15: 393-99.

Hedlund LR, Gallagher JC. (1989). Increased incidence of hip fracture in osteoporotic women treated with sodium fluoride. *Journal of Bone and Mineral Research* 2:223-5.

Gerster JC, et al. (1983). Bilateral fractures of femoral neck in patients with moderate renal failure receiving fluoride for spinal osteoporosis. *British Medical Journal (Clin Res Ed)*. 287(6394):723-5.

Inkovaara J, et al. (1975). Phophylactic fluoride treatment and aged bones. *British Medical Journal* 3: 73-74.

Bayley TA, et al. (1990). Fluoride-induced fractures: relation to osteogenic effect. *Journal of Bone and Mineral Research* 5(Suppl 1):S217-22.

⁶⁸ “**The peripheral fracture rate during treatment was three times that in untreated osteoporosis.**” Schnitzler CM, et al. (1990). Bone fragility of the peripheral skeleton during fluoride therapy for osteoporosis. *Clinical Orthopedics* (261):268-75.

“Fluoride treatment was “associated with **a significant three-fold increase in the incidence of nonvertebral fractures**, both incomplete and complete...This increased rate of fracturing suggests that bone formed during fluoride therapy has increased fragility.”

Riggs BL, et al. (1990). Effect of Fluoride treatment on the Fracture Rates in Postmenopausal Women with Osteoporosis. *New England Journal of Medicine* 322:802-809.

Gutteridge DH, et al. (2002). A randomized trial of sodium fluoride (60 mg) +/- estrogen in postmenopausal osteoporotic vertebral fractures: increased vertebral fractures and peripheral bone loss with sodium fluoride; concurrent estrogen prevents peripheral loss, but not vertebral fractures. *Osteoporosis International* 13:158-70.

Haguenauer D, et al. (2000). Fluoride for the treatment of postmenopausal osteoporotic fractures: a meta-analysis. *Osteoporosis International* 11:727-38.

⁶⁹ D. Chachra, H. Limeback, T.L. Willett, and M.D. Grynopas (2010). The Long-term Effects of Water Fluoridation on the Human Skeleton. *J Dent Res* 89(11):1219-1223.

⁷⁰ Simonin, P and Pierron A. Toxicite brute des derives fluores. C.R. Seances Soc. Biol. Fil., 124:133-134, 1937.

⁷¹ Roholm, K. Fluorine Intoxication: A Clinical Hygienic Study. 1937, p.264.

⁷² Letters to and from Dr. Bruce Alberts, National Academy of Science published in *Fluoride* 1998; 31,(3): 153-157 and *Fluoride* 1999;32(3):187-198.

<http://www.fluoridation.com/fraud.htm#NASIOM,%20November%2020,%201998%20letter>

⁷³ Although Health Canada has classified fluoride as an essential element in the past, it now recommends that fluoride requirements should "only be based on the beneficial effect on dental caries" and notes that **"attempts to demonstrate its essentiality for growth and reproduction in experimental animals have not been successful."** Similarly, the U.S. National Research Council considers fluoride to be a "beneficial element for humans." <http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/fluoride-fluorure/index-eng.php#a51>

⁷⁴ "A therapeutic agent: any substance, other than food, used in the prevention, diagnosis, alleviation, treatment, or cure of disease in man and animal." Stedman's Medical Dictionary, 24th Edition

⁷⁵ Hawaii and California, the **least fluoridated US states** (13.0% and 15.7%, respectively) have **residents who are the least likely to be toothless**, according to the Morbidity and Mortality Weekly Report. Yet Kentucky and West Virginia, 100% and 82.1% fluoridated, have the most toothless residents.

http://www.cdc.gov/aging/pdf/State_of_Aging_and_Health_in_America_2004.pdf.p.26

⁷⁶ Burt, et al. Dietary Patterns Related to Caries in a Low-Income Adult Population, *Caries Research* 2006;40:473-480 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1626651/>

⁷⁷ <http://cof-cof.ca/2013/01/canadas-growing-list-of-communities-rejecting-fluoridation-of-their-drinking-water/>

⁷⁸ Worldwide, over 130 communities, representing nearly 6,000,000 people, have rejected artificial water fluoridation since 2010: http://fluoridealert.org/content/communities_2010/