Bill Osmunson DDS, MPH President
Washington Action for Safe Water
1418 – 112th Ave NE 200
Bellevue, WA 98004
425.466.0100
bill@teachingsmiles.com

June 3, 2012

City of Everett, Washington

cwiersma@ci.everett.wa.us; rramerman@ci.everett.wa.us; dwilliams@ci.everett.wa.us; jmoore@ci.everett.wa.us; AHatloe@ci.everett.wa.us; saffholter@ci.everett.wa.us; PRoberts@ci.everett.wa.us; rgipson@ci.everett.wa.us; DNielsen@ci.everett.wa.us; BStonecipher@ci.everett.wa.us; ggoldbaum@snohd.org

Dear Ron Gipson, City Council President,

Washington Action for Safe Water is a not for profit organization to improve water quality in the state of Washington. Although there are many pollutants in water, the addition of fluoride to public water is the most egregious. The contaminant, substance, unapproved drug is intentionally added and can simply be stopped by obeying laws and science.

It makes no sense to throw a toxic chemical, contaminant, unapproved drug at everyone in an attempt to cover up bad health habits such as poor diet and lack of personal hygiene. If ***Snohomish Health District*** were to focus on diet and personal hygiene, rates of other diseases such as periodontal disease, obesity and diabetes as well as caries/decay would be improved.

Snohomish Health District recommends ingestion of fluoride but fails to provide evidence of an "optimal" enamel and dentin body concentration of fluoride which prevents dental caries. Ask ***Snohomish Health District*** what is the optimal enamel and dentin fluoride concentration (within the tooth) and provide one reference they have actually read.

Snohomish Health District fails to provide an "optimal" blood serum or urine fluoride concentration which will achieve the "optimal" tooth fluoride concentration. Ask ***Snohomish Health District*** what is the "optimal" blood fluoride concentration and have them provide one reference which they have actually read.

Snohomish Health District fails to provide a single measured test, case, data or study on what fluoride blood or urine concentrations are for customers of Everett City fluoridated water. Ask ***Snohomish Health District*** what concentration of fluoride we have in our blood and urine and ask for the data. Do we actually need more?

Snohomish Health District fails to provide data at what concentration of fluoride in the water achieves the unknown "optimal" serum and urine fluoride concentrations which will then result in the unknown optimal tooth fluoride concentrations.

Snohomish Health District claims to have 3,000 references on the benefits and safety of fluoridation. Ask ***Snohomish Health District*** to provide a list of those articles they have actually read or do they simply "trust" others to read the science.

Ask ***Snohomish Health District*** if their DEA license will cover the City of Everett's use of fluoride. Who has legal liability for harm? What legal support will ***Snohomish Health District*** provide to the City of Everett should fluoridation, like lead, be found to cause or contribute to harm?

This is a short summary of issues raised in the response to (The Herald, "Fluoridated Water a safe, low-cost public health tool", April 5) and additional citations can be provided on request.

Snohomish Health District has failed to provide references to support their comments and unequivocal claim of support. Many of the "3,000" references listed by the CDC and ADA do not provide what they think. ***Snohomish Health District*** does not appear to have read their cited research. Have them provide perhaps 5 of their best references which they have read and are willing to support for the claim of benefit and references for safety.

Snohomish Health District has and will mistakenly represent to you that *"community water fluoridation as a safe, effective, low cost, and equitable means to reduce tooth decay."* Neither science nor law support their policy. ***Snohomish Health District*** has not taken the opportunity to be current on either the science or laws relating to fluoridation. Please note: a claim of "safe and effective" for a substance defines the substance as a drug which MUST gain FDA CDER approval. To protect the public and obey the law, the City of Everett as final manufacturer of the drug is required by Congress by the FD&C Act and Washington State Legislature to contact the FDA CDER for approval or exemption. However, the legal requirement for gaining FDA CDER approval or exemption is on the shoulders of the final manufacturer. Be sure to get the evidence in writing with NDA number.

Snohomish Health District should protect the City and be asked to gain FDA CDER approval or exemption from the FDA CDER. It is not within the jurisdiction of the City of Everett to determine the complex controversy of fluoridation's alleged safety or efficacy and pretend they or the District have the competent toxicologists, epidemiologists, pharmacologists, and policies to evaluate the controversial scientific evidence. Until ***Snohomish Health District*** provides FDA approval, the City of Everett must obey the law and stop fluoridation.

PECKHAM[1] (2011) "Water fluoridation continues to be a contentious public health policy. . . . While traditionally the problem of evidence is characterized as one where policy makers either accept or ignore evidence, **a central concern of this article is where poor evidence is promoted by professionals and accepted by policy makers."**

Saul (2011)[2] "Fluoride in toothpaste and mouth rinses also is medication. It may be intended as topical, but the reality is different. No matter how it may be applied in their mouths, **young children are going to swallow it. Indeed, most of the public and the dental profession have already swallowed belief in fluoride: hook, line, and sinker."**

[1] Peckham S, Slaying sacred cows: is it time to pull the plug on water fluoridation? ***Critical Public Health***, 2011; :1-19
[2] Saul A, Dispensing with Fluoride, Fluoride, Oct-Dec 2011, 44(4)188-190.

Spittle[3] (2011) "Thus there is no threshold for F neurotoxicity in drinking water, and **the only assuredly safe level is zero."**

Snohomish Health District unsupported claims will be briefly touched on in this letter and only a few current studies are provided here. Hundreds more are available.

FLUORIDATION IS NOT EQUITABLE

A. **Fluoridation is not equitable for infants on formula.** Mother's milk in most samples contains no detectible fluoride and 0.004 ppm mean concentration. In other words, infant formula made with Everett water is about 170 times more concentrated with fluoride as mother's milk. (NRC 2006 p. 33 National Research Council 2006 report to the EPA that EPA's MCLG Maximum Contaminant Level Goal was not protective.)

B. **Fluoridation is not equitable because dosage is not regulated.** Some people, such as diabetics, athletes, and some kidney patients drink 20 times more water than others. (NRC 2006) Concentration of fluoride in water (parts per million) is not the same as dosage which is based on milligrams per kilogram of body weight. As doctors, Dr. Goldbaum and I prescribe medications to patients based on their body weight, infants receive less, adults receive more which is dosage and not concentration.

C. **Fluoridation is not equitable for those who do not give their consent or for those with chemical sensitivities, exposed to other toxins which maybe synergistic to the effects of fluoride, or have an inadequate intake of calcium, Vit. D or other nutrients.**

D. Fluoridation is not equitable for subpopulations such as fetuses, infants, blacks, girls, boys, kidney disorders, elderly, or those with chemical sensitivities or those in prisons who cannot refuse. Each of those subgroups have different risks from fluoridated water.

FLUORIDATION IS NOT EFFECTIVE

A. Modern studies find difficulty in measuring the benefits of fluoridation (no difference between fluoridated and non-fluoridated communities) **Studies by: Brunelle, Angelilo, Clark, Ismail, Slade, Kumar and in Australia by Armfield JM. Spencer AJ 2004, a very large study found No difference in dental decay in permanent teeth.**

B. Not taking into account delayed tooth eruption explains early fluoridation studies "over-estimates of the benefits".... Fluoride added to drinking water may have simply delayed caries in the past. Hardy Limeback DMD, PhD

C. "Our **analysis shows no convincing effect of fluoride-intake on caries development.** A Bayesian analysis of multivariate doubly-interval-censored dental data" Fluoridation delays tooth eruption. *ARNOˇST KOMA´ REK∗, EMMANUEL LESAFFRE*, *Biostatistics* (2005), 6, 1, *pp.* 145–155 doi: 10.1093/biostatistics/kxh023

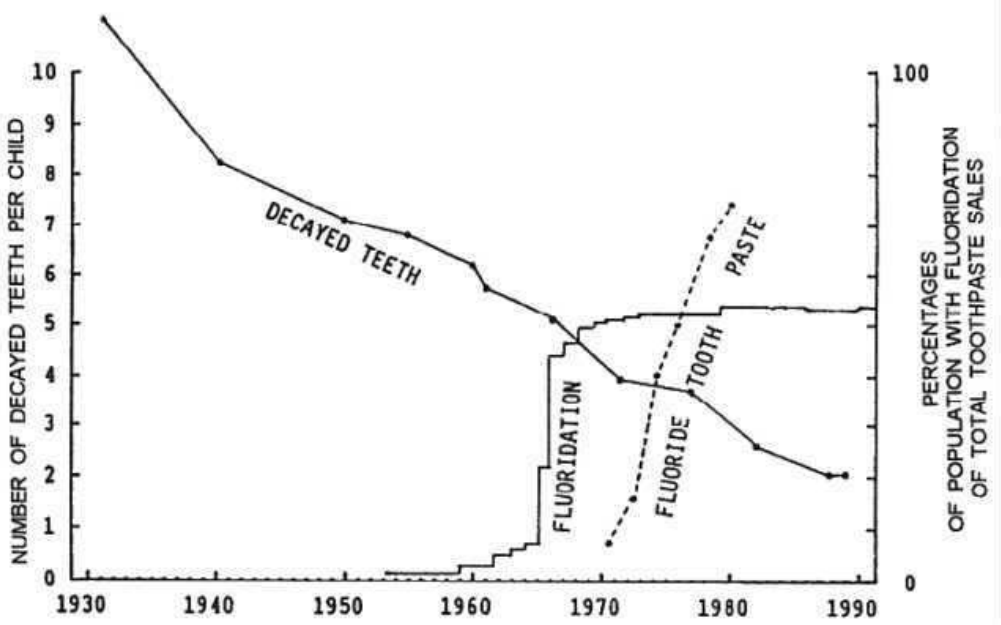
[3] Spittle B, Neurotoxic Effects of Fluoride, Fluoride 2011;44(3)117-124
http://www.fluorideresearch.org/443/files/FJ2011_v44_n3_p117-124_pq.pdf

D. "Fewer fillings had been required in the nonfluoridated part of my district than in the fluoridated part." 1997 John Colquohoun PhD, DDS http://www.slweb.org/colquhoun.html

E. **Fluoridation is not effective. Ask *Snohomish Health District* for one prospective randomized controlled trial on either the safety or efficacy of fluoridation of public water.** Not one high quality study exists and the lack of quality research fuels the controversy of fluoridation. Lack of quality studies is part of the reason the FDA CDER has consistently refused to approve the ingestion of fluoride as effective or safe for everyone. Quality research is possible, and proponents are concerned the research would not confirm the policy so they make quality research sound like an impossible task, but quality studies are not only possible, but imperative.

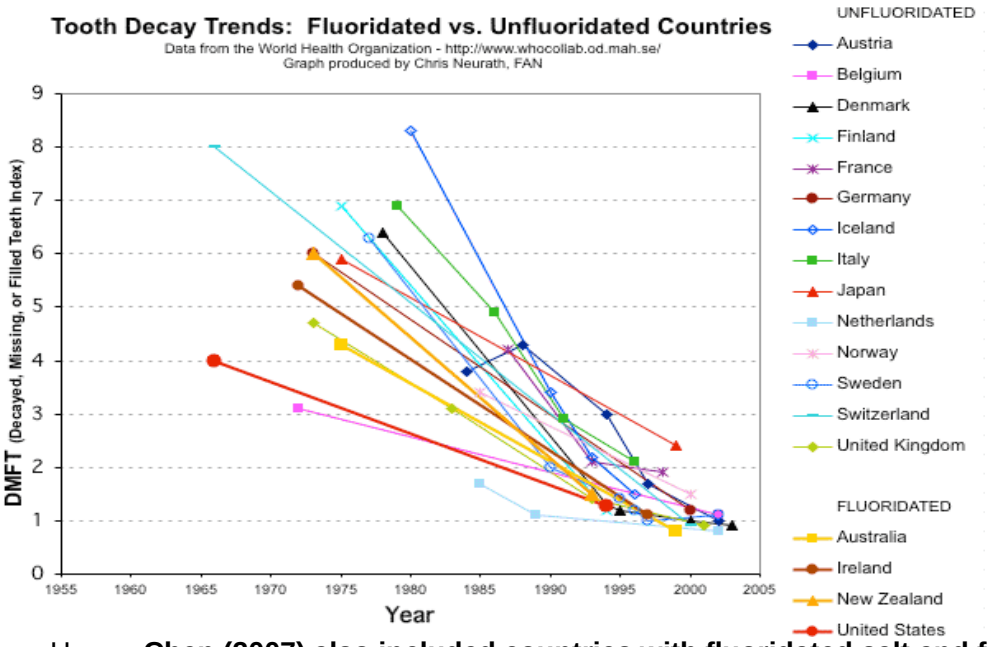
F. **A consistent decline in caries has been happening regardless of fluoridation.**

Note the graph below and ask ***Snohomish Health District*** what caused the decline in decayed teeth prior to fluoridation? Ask them if the reasons for the decrease in caries prior to fluoridation have been controlled for in any published research studies to date. The answers are, "No."

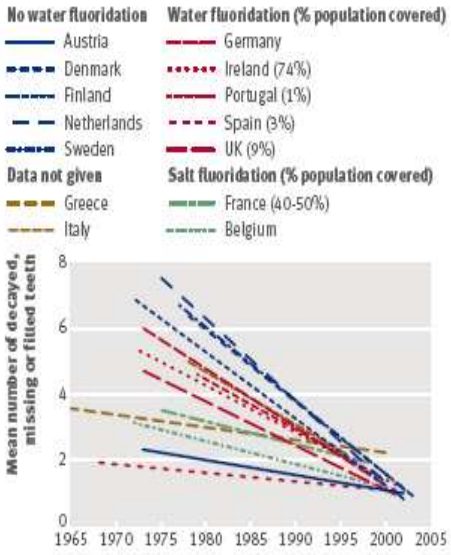


Colquhoun J. *Perspectives in Biology and Medicine* 41, 1, Autumn 1997

G. We also know fluoridation did not reduce dental caries with significance after fluoridation started, by comparing developed countries primarily fluoridating with those primarily not fluoridating. All developed countries have reduced dental caries regardless of fluoridation or fluoride salts. See Graphs below.



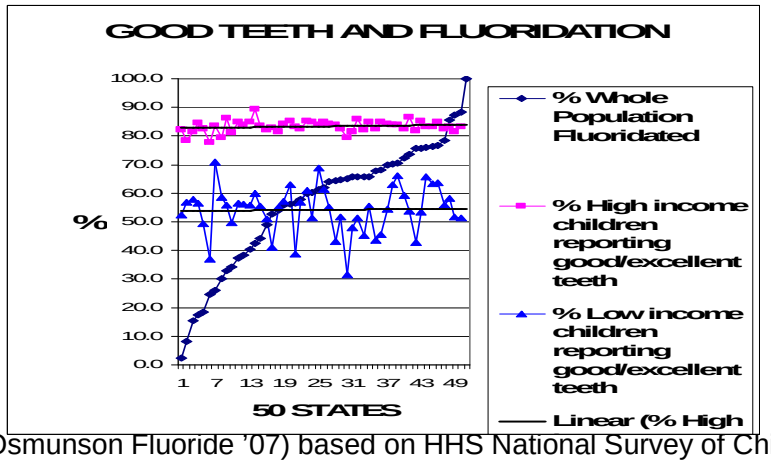
H. **Chen (2007) also included countries with fluoridated salt and found no benefit.** According to the Europeans I have talked to, fluoridated salt is not permitted for commercial food processing, only home use.



Tooth decay in 12 year olds in European Union countries[2]

Chen et al, BMJ 5 October 2007

I. When we rank the 50 US states in the order of the percentage of their whole population fluoridated and the percentage of their whole population reporting very good to excellent teeth we find about 82% of the wealthy and about 55% of the poor have very good to excellent teeth regardless of fluoridation**. Fluoridation has little if any common cause.**

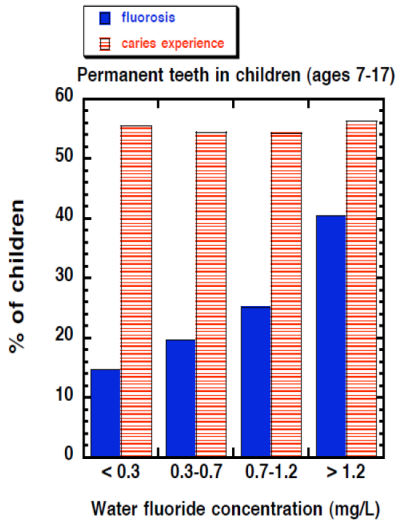


(Osmunson Fluoride '07) based on HHS National Survey of Children's Health and CDC and USGS data .

When counties in Washington State are compared, the same lack of benefit is demonstrated and when Washington and Oregon are compared benefit from fluoridation is not found.

J. Data from Iida, JADA 2009 is graphed below. Clearly dental caries experience is not significantly affected by an increase in fluoride concentration in the water but the undisputed increase in dental fluorosis is clearly measured.

Iida, H., and Kumar, J.V. 2009. The association between enamel fluorosis and dental caries in U.S. schoolchildren. JADA 140:855-862.



K. **The efficacy of a public health intervention must be measured in the community at large and fluoridation does not find a significant decrease in measured benefit to the public at large.** Until quality prospective randomized controlled trials are

provided by proponents of fluoridation, the research is controversial and without confidence. However, the risk of dental fluorosis, a sign of a toxic excess of ingested fluoride, increases with increased fluoride concentration in water.

L. Fluoridation is not cost effective. ***Snohomish Health District*** trusts the CDC and ADA instead of reviewing the published literature on costs. Published literature finding a significant reduction in dental expenses in fluoridated communities are estimates based on assumptions and gee whiz percentages rather than measurements of tooth surfaces. After 60 years of fluoridation we have three published studies measuring costs. Two are not of the public at large, uncontrolled and the authors refuse to have the raw data confirmed. The best study so far is by Maupome, about 20 years, measures half a percent cost savings, enough to pay for equipment repairs but not chemicals. Maupome's data also shows higher dental expenses in the largest fluoridated community for children, Vancouver, WA, compared to children in never fluoridated Portland, OR.

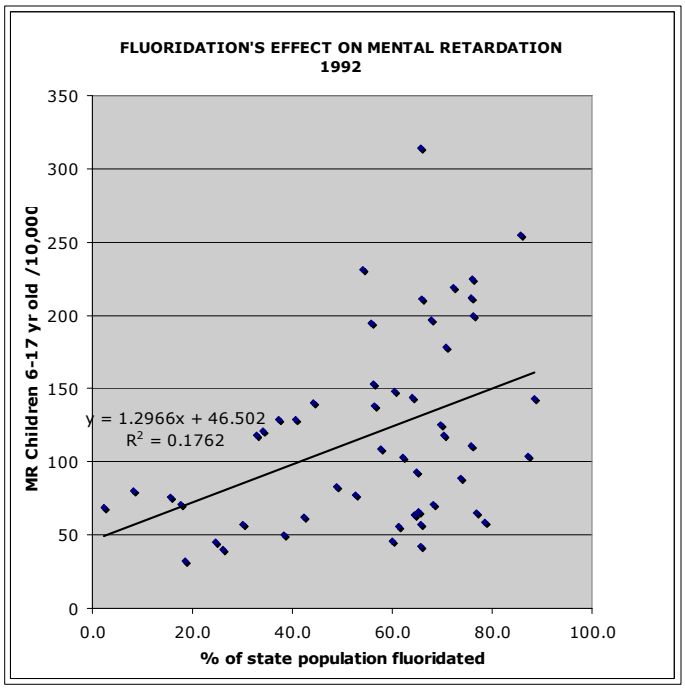
When fluoridation was first promoted, fluoridation was NOT supposed to do ANYTHING except increase the resistance of teeth to dental caries. Fluoridation was NOT supposed to affect bone, and we now know it does. Fluoridation was NOT supposed to affect the thyroid, pineal gland, immune system, brain, IQ, electrolyte balance, proteins, etc....but it does.

FLUORIDE'S EFFECT TO THE BRAIN.

A. About a hundred human and animal studies have reported brain and IQ harm from fluoride. These are a few recent studies. Keep in mind that in the USA, about half the total fluoride exposure is from water. In some countries without fluoride toothpaste, fluoride medications, dental products and pesticides the total fluoride exposure is more accurately considered from water unless the community has other high fluoride sources. A reasonable method of measuring fluoride exposure is fasting fluoride serum concentrations.

B. ***Snohomish Health District*** accepts foreign studies which support fluoridation and rejects studies done outside the USA if the conclusion does not support their bias. However, ***Snohomish Health District*** fails to provide a single USA study finding safety to the brain. Because there are no studies which have not found harm to the brain, ***Snohomish Health District*** attacks the studies peer reviewed and published in western scientific journals.
The lack of evidence does not prove safety. Attacking the messenger does not refute the message. And the China CDC studies are in stark contrast to the USA CDC propaganda. Each study should be reviewed on the basis of quality rather than racial bias.

C. When the US states are ranked in order of the whole population fluoridated and mental retardation, the following graph finds triple the prevalence of mental retardation with increased fluoridation.



For decades, science has reported neurological damage from fluoride, which is probably one reason the FDA CDER has to date refused to approve the ingestion of fluoride and warns "do not swallow."

Xiang (2011)[4] "However, the mean IQ was significantly higher and there were fewer children with an IQ less than 80 in the two quartiles with a serum fluoride level of less than 0.05 mg F/ L. Analysis of the overall relationship between IQ scores and serum F levels indicates **there may be no serum F level below which adverse effects on IQ might not be present."**

Tang (2008) "This paper presents a systematic literature review conducted to investigate whether fluoride exposure has increased the risk of low intelligence quotient (IQ) scores in China over the past 20 years. . . . **Children who live in a fluorosis area have five times higher odds of developing low IQ than those who live in a nonfluorosis area or a slight fluorosis area."**

Shivaprakash (2011) **compared children with and without dental fluorosis and reported a decrease of about 10 IQ points** (7 IQ points for boys and 14 IQ points for girls). (CDC reports 2 out of 5 children in the USA have dental fluorosis and another 1 out of 5 may have dental fluorosis.)

Poureslami[5] (2011) "**the mean IQ scores of the children in low F Baft was 97.80±15.95, and in high F Koohbanan it was significantly lower at 91.37±15.63 (p = 0.028)."**

[4] Xiang Q et al, ANALYSIS OF CHILDREN'S SERUM FLUORIDE LEVELS IN RELATION TO INTELLIGENCE SCORES IN A HIGH AND LOW FLUORIDE WATER VILLAGE IN CHINA, October-December 2011, Fluoride 44(4)191–194 http://www.fluorideresearch.org/444/files/FJ2011_v44_n4_p191-194_pq.pdf

[5] Shivaprakash PK, Ohri K, Noorani H. Dental Fluorosis vs. IQ of Children of Bagalkot District, India, Fluoride 2011;44(4)260-261, http://www.fluorideresearch.org/444/files/FJ2011_v44_n4_p260-261_pq.pdf

Li (2004) **"The results showed that the urinary fluoride levels of mothers from the high fluoride group were higher than those of the control group. There were significant differences in the neonatal behavioral neurological assessment score and neonatal behavioral score between the subjects in endemic areas and the control group."**

Yu (1996) **"The results suggest that the accumulation of fluoride in the brain tissue can disrupt the synthesis of certain neurotransmitters and receptors in nerve cells, leading to neural dysplasia or other damage."**

Eswar[6] (2011) "**The trend was toward lower IQ with high F water,** even though these preliminary findings indicated that the F level in the drinking water was not significantly associated with IQ scores of 12–14 year old children in the high and low F villages. . . .

> The bore wells in the two villages were at least 12 years old according to the information supplied by the governing body of each village."

The Eswar study is the first human study to not find statistical significance of lower IQ or brain damage. This study's cohort parents, cohorts as fetuses and perhaps some 13-14 year olds may not have had fluoridated water if some or all bore wells were only 12 years old. Perhaps the most significant effect on the brain is the effect on genetics,[7] sperm and eggs, fetuses and the first years of life. Spittle (2011) Leite (2011)[8] Sawan (2010)[9] Ersoy (2011)[10] point out magnesium, calcium, sodium, lead, copper (etc.) may play a significant confounding roll. Basha[11] (2012) reported exercise and temperature reduced the deleterious effects of fluoride.
The Eswar study combined with animal studies such as the following two Basha (2011) studies reporting multigenerational cumulative damage should raise our concern and protection is a critical national emergency for pre conception, pre and post natal adverse effects of fluoride.

Basha[12] (2011) "Multigenerational evaluation was made in rats on exposure to high fluoride (100 and 200 ppm) to assess neurotoxic potential of fluoride in discrete areas of the brain . . . . **Results of this study can be taken as an index of neurotoxicity in rats exposed to water fluoridation over several generations."**

Basha[13] (2011) **Hence, presence of generational or cumulative effects of fluoride on the development of the offspring when it is ingested continuously through multiple generations is evident from the present study."**

Inkielewicz-Stepniak (2012) [14] **"Fluoride intoxication and dexamethasone treatment produce deleterious effects in bone and brain**. . . . . These data indicate that co-

---

[6] Eswar P, Intelligence Quotients of 12-14 Year Old School Children in a High and Low Fluoride Village in India, Fluoride 2011;44:168-172 http://www.fluorideresearch.org/443/files/FJ2011_v44_n3_p168-172_pq.pdf
[7] Fluoride and Genetic damage FAN, http://www.fluoridealert.org/f-genetic.htm Accessed 4/14/2012
[8] Leite G. et al, Exposure to lead exacerbates dental fluorosis, Arch Oral Bio, 2011 in Press.
[9] Sawan R. et al, Fluoride increases lead concentrations in whole blood and in calcified tissues from lead-exposed rats, Toxicology 271 (2010) 21-26.
[10] Ersoy I, et al, Serum copper, zinc, and magnesium levels in patients with chronic fluorosis, Biol Trace Elem Res. 2011 Nov;143(2) : 619-24.
[11] Basha PM, Sujitha NS. Combined Influence of Intermittent Exercise and Temperature Stress on the Modulation of Fluoride Toxicity. Biol Trace Elem Res. 2012 Feb 5
[12] Basha PM, Rai P, Begum S. Evaluation of fluoride-induced oxidative stress in rat brain: a multigeneration study. Biol Trace Elem Res. 2011 Sep;142(3):623-37
[13] Basha PM, Rai P, Begum S, Fluoride toxicity and status of serum thyroid hormones, brain histopathology, and learning memory in rats: a multigenerational assessment. Biol Trace Elem Res. 2011 Dec;144(1-3):1083-94

exposure to F and Dex amplifies their respective cytotoxicity in H(2)O(2)- and NO-dependent manner. "
Flora (2012) [15] "**These results thus highlight the role of arsenic- or fluoride-induced oxidative stress, DNA damage and protein interaction as the major determinants of toxicity,** along with the differential toxic effects during arsenic-fluoride interaction during co-exposure."

Mansour[16] (2011) "Results: **NaF administration induced oxidative stress as evidenced by elevated levels of lipid peroxidation (51.3, 65.9 and 67.6%) measured as malondialdehyde and total nitrate/nitrite (61.0, 59.7 and 68.9%) in red blood cells, heart and brain tissues**. . . . Conclusion: Lycopene administration could minimize the toxic effects of fluoride indicating its free-radical scavenging and powerful anti-oxidant activities."

Bhatnagar (2011): [17] "**results indicate that excessive F intake caused morphological changes in NADPH-d/NOS (nitric oxide synthase) positive neurons in the brain,** thus increasing nitric oxide (NO) synthesis, which is implicated in F-induced neuron cell death. A possible mechanism of F neurotoxicity is thereby suggested."

Ding[18] (2011) "Mean value of fluoride in drinking water was 1.31 +/-1.05 mg/L (range 0.24-2.84). Urine fluoride was inversely associated with IQ in the multiple linear regression model when children's age as a covariate variable was taken into account (P<0.0001). . . . **In conclusion, our study suggested that low levels of fluoride exposure in drinking water had negative effects on children's intelligence and dental health and confirmed a dose-response relationship between urine fluoride and IQ scores as well as dental fluorosis."**

Basha[19] (2010) The effect of fluoride exposure during gestation and post gestation periods were studied to check the status of oxidant, antioxidant and macromolecular changes in CNS and ameliorative role of antioxidants. . . . **The findings evidenced fluoride induced dyshomeostasis caused on antioxidants, enzymes, macromolecules and governed the pathophysiological events leading to functional loss in a dose dependent manner.**

Madhusudhan[20] (2010) **"Fluoride is toxic to neuronal development and its excessive intake during pregnancy cause adverse effects on neonatal development. . . . The results implied the vulnerability of developing CNS to fluoride toxicity."**

---

[14] Inkielewicz-Stepniak I, Radomski MW, Wozniak M., Fisetin prevents fluoride- and dexamethasone-induced oxidative damage in osteoblast and hippocampal cells, Food Chem Toxicol. 2012 Mar;50(3-4):583-9.
[15] Flora SJ, Mittal M, Pachauri V, Dwivedi N., A possible mechanism for combined arsenic and fluoride induced cellular and DNA damage in mice, Metallomics. 2012 Jan;4(1):78-90.
[16] Mansour HH, Tawfik SS, Efficacy of lycopene against fluoride toxicity in rats. Pharm Biol. 2011 Dec 1
[17] http://www.fluorideresearch.org/444/files/FJ2011_v44_n4_p195-209_pq.pdf
[18] Ding Y et al, The relationships between low levels of urine fluoride on children's intelligence, dental fluorosis in endemic areas in Hulunbuir, Inner Mongolia, China, J Hazard Mater, 2011 Feb 28;186(2-3).
[19] Basha PM, Madhusudhan N., Pre and post natal exposure of fluoride induced oxidative macromolecular alterations in developing central nervous system of rat and amelioration by antioxidants.Neurochem Res. 2010 Jul;35(7):1017-28.
[20] Madhusudhan N, Basha PM, Rai P, Ahmed F, Prasad GR. Effect of maternal fluoride exposure on developing CNS of rats: protective role of Aloe vera, Curcuma longa and Ocimum sanctum. Indian J Exp Biol. 2010 Aug;48(8):830-6.

Narayanaswamy[21] (2010) "The developing CNS is highly vulnerable to environmental agents, including fluoride. Fluorosis is one such disorder ensued from excessive consumption of fluoride containing water and/or foods that poses a greater threat to the life. . . . On 21st postnatal day (rats), the concentration of fluoride, biometals, and oxidative stress markers were determined in discrete regions of CNS. The levels of fluoride, copper, and iron increased whereas manganese and zinc were decreased considerably. . . . **The results confirm that the fluoride provoked oxidative stress and biometal deformations are synergistic that successively governs the neuronal damage and developing CNS no longer prevents exacerbations of fluoride."**

Niu[22] (2009) **"Fluoride (F) and lead (Pb) are two common environmental pollutants which are linked to the lowered intelligence, especially for children. . . . These findings suggested that alteration of hippocampus glutamate by F and/or Pb may in part reduce learning ability in rats."**

THE FLUORIDE BRAIN CONNECTION: **Ionic regulation of prefrontal microcircuits.**

For perspective, keep in mind the CDC's 0.02 ppm (1 micromolar is 0.019 ppm) "normal serum fluoride." The CDC states: ***"Normal serum fluoride levels are <20 mcg/L but varies substantially on the basis of dietary intake and environmental levels."***[23] The CDC does not appear to be suggesting 0.02 ppm (1.05 micromolar or 20 mcg/L) is safe, but rather 0.02 ppm is the concentration Americans have in their serum, with substantial variations. Artru (1997) reported presurgical plasma fluoride concentrations on 14 patients ranged from 0 to 2.3 uM. Hu[24] (1988 graph below) reported similar cerebral spinal fluid and blood fluoride concentrations 0.010-0.38 ppm (5 to 19 uM).

Table *CSF, blood and urine fluoride (ppm)*

		No	*Range*	$\bar{X}$	*S*
CSF of Control Group		32	0·14–0·23	0·17	0·03
Fluorosis	CSF	40	0·10–0·36	0·20	0·062
	Blood	39	0·10–0·38	0·20	0·065
	Urine	41	1·20–22	5·87	3·82

Fluoride at "normal" concentrations increases cAMP and increased cAMP is reported to impair working memory. Provided below is current research finding harm to the brain, neurobiology of thought with decreased working memory, thyroid damage, cancer, and increased CVD, from fluoride at very low levels.

Prystupa[25] (2011) "Fluoride (fluorine) is the extreme electron scavenger, the most corrosive of all elements, as well as the most-reactive. Fluoride appears to attack living tissues, via several mechanisms. **Fluoride renders strong evidence that it is a**

[21] Narayanaswamy M, Piler MB. Effect of maternal exposure of fluoride on biometals and oxidative stress parameters in developing CNS of rat. Biol Trace Elem Res. 2010 Jan;133(1):71-82.
[22] Niu R et al, Decreased learning ability and low hippocampus glutamate in offspring rats exposed to fluoride and lead, Environmental Toxicology and Pharmacology 28 (2009) 254-258.
[23] http://www.bt.cdc.gov/agent/sulfurylfluoride/casedef.asp Accessed 2/9/11
[24] Huan HY, Shung WS, Fluoride cerebrospinal fluid in patients with fluorosis. J Neurology, Neurosurgery, and Psychiatry 1988;51:1591-1593.
[25] Prystupa J, Fluorine-A current literature review. An NRC and ATSDR based review of safety standards for exposure to fluorine and fluorides. Toxicology Mechanisms and Methods, 2011;21(2):103-170.

nonbiological chemical, demonstrating no observed beneficial function or role in organic chemistry, beyond use as a pesticide or insecticide. . .
Conclusion: Due to its insatiable appetite for calcium, fluorine and fluorides likely represent a form of chemistry that is incompatible with biological tissues and organ system functions. **Based on an analysis of the affects of fluoride demonstrated consistently in the literature, safe levels have not been determined nor standardized.** Mounting evidence presents conflicting value to its presence in biological settings and applications."

Gutowska[26] (2012) reported a **19% increase in cAMP (cyclic adenosine monophosphate) at 1 uM (less than 0.02 ppm) of fluoride, 71% increase at 3 uM, 174% at 6 uM, and 221% at 10 uM** below the CSF concentrations of some controls in Hu's study, (see graph below), and slightly below the serum fluoride concentration the CDC considers "normal."

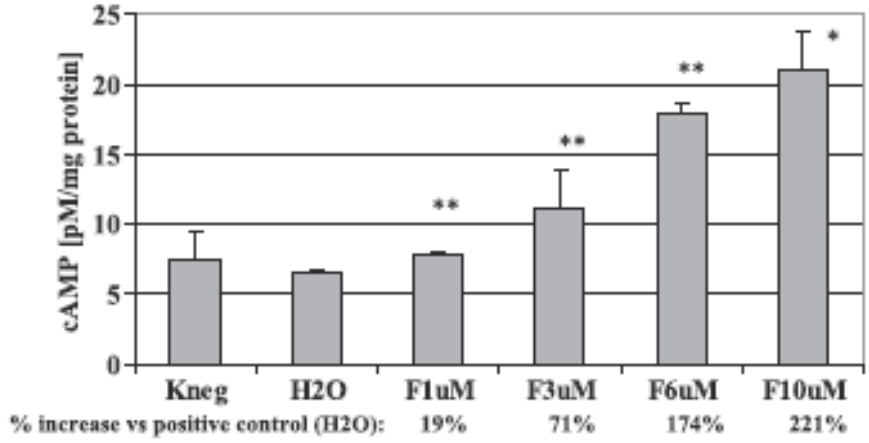


Fig. 3. Effect of fluoride on cAMP concentration in macrophages cultured with $NaF \cdot H_2O$—positive control. Monocytes/macrophages were cultured with NaF for 48 h. Cells were then incubated with 0.1 M HCl for 20 min in room temperature. After incubation cells were harvested by scraping, centrifugated (1000g/10 min) and the concentration of cAMP was measured spectrophotometrically (ELISA) in the supernatant solutions. The results obtained from 6 separate experiments were normalized to protein levels. $^{*}p < 0.02$, $^{**}p < 0.03$—significant difference vs. positive control.

So what? What is wrong with an increase in cAMP?

[26] Gutowska I. et al, Activation of phospholipase A2 by low levels of fluoride in THP1 macrophages via altered Ca2þ and cAMP concentration, Prostaglandins, Leukotrienes and Essential Fatty Acids 86 (2012) 99-105.

Arnsten[27],[28] (2012) "cAMP is considered important for both cancer and higher order thinking. In most brain circuits (e.g. hippocampus) cAMP strengthens synaptic connections. However, **in the PFC (prefrontal cortex) cAMP weakens persistent firing and impairs working memory.** These seemingly opposite effects arise from cAMP actions on ion channels that dynamically alter the strength of PFC network connections . . . Opening these channels (cAMP and KCNQ) by high levels of cAMP signaling, e.g., during stress exposure or with α2A receptor blockade, weakens PFC network connections and reduces persistent firing, while blockade of HCN channels restores firing. **In this way, exposure to a stressor can rapidly take PFC "off-line" to switch control of behavior to more primitive brain circuits that mediate stress reflexes, such as freezing or fight or flight habitual responses**. This mechanism has survival value when faced with danger but may be counterproductive when stressors require thoughtful PFC responses, e.g., during public speaking or when needing to make a complex decision."

In effect, fluoride is a chemical stressor which inhibits prefrontal cognitive function, consistent with research finding lower IQ and increased mental retardation.

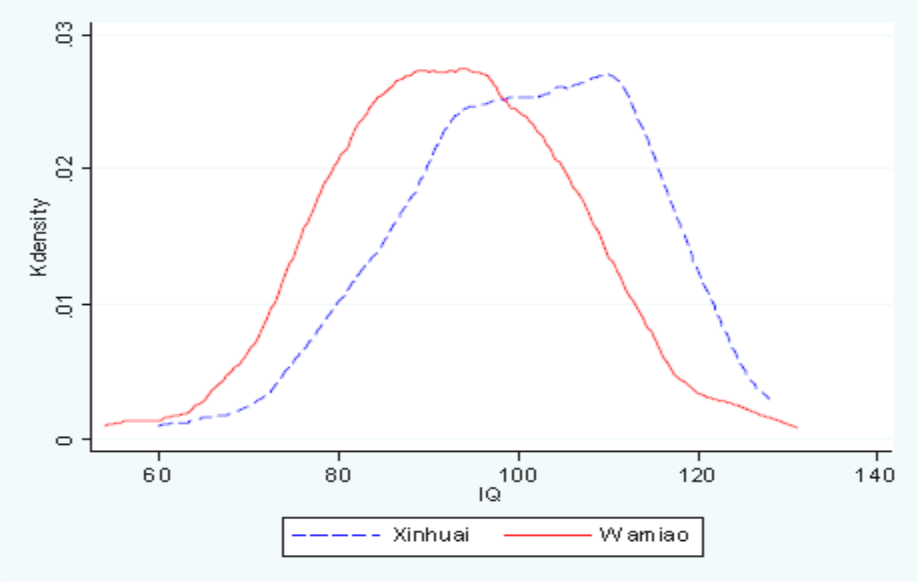


Figure 2 Kdensity distribution of children's IQ in Wamiao and Xinhuai village

The above graph compares 0.04 ppm fluoride serum with 0.08 ppm fluoride serum and IQ. (Ziang data).

[27] www.sciencedaily.com/releases/2007/04/070420143324.htm

[28] Arnsten AFT, Jin LE, Guanfacine for the Treatment of Cognitive Disorders: A Century of Discoveries at Yale, Yale J Biol Med v.85(1); Mar 2012. For this statement, Arnsten references Vijhayraghavan S, et al, Inverted-U dopamine D1 receptor actions on prefrontal neurons engaged in working memory. Nat Nurosci. 2007; 10:376-384. and references Wang M et al. Alpha2A-adrenocptor stimulation strengthens working memory networks by inhibiting cAMP-HCN channel signaling in prefrontal cortex. Cll. 2007;129:397-410. and references. And references Taylor JR, Birnbaum SG, Ubriani R, Arnsten AFT. Activation of cAMP-dependent protein kinase A in prefrontal cortex impairs working memory performance. *J Neurosci.* 1999;19(18):RC23. Runyan JD, Dash PK. Distinct prefrontal molecular mechanisms for information storage lasting seconds versus minutes. *Learn Mem.* 2005;12:232–238. Arnsten AFT, Ramos B, Birnbaum SB, Taylor JR. Protein kinase A as a therapeutic target for memory disorders: Rationale and challenges. *Trends Mol Med.* 2005;11:121–128.

Why is a decrease in IQ of concern? Which are more important, "TEETH or BRAINS?

The following chart by Hernstein and Murry shows significant decreases in several economic and social correlates when IQ decreases.

IQ	**<75**	**75-90**	**90-110**	**110-125**	**>125**
US population distribution	**5**	**20**	**50**	**20**	**5**
Married by age 30	**72**	**81**	**81**	**72**	**67**
Out of labor force more than 1 month out of year (men)	**22**	**19**	**15**	**14**	**10**
Unemployed more than 1 month out of year (men)	**12**	**10**	**7**	**7**	**2**
Divorced in 5 years	**21**	**22**	**23**	**15**	**9**
% of children w/ IQ in bottom decile (mothers)	**39**	**17**	**6**	**7**	**-**
Had an illegitimate baby (mothers)	**32**	**17**	**8**	**4**	**2**
Lives in poverty	**30**	**16**	**6**	**3**	**2**
Ever incarcerated (men)	**7**	**7**	**3**	**1**	**0**
Chronic welfare recipient (mothers)	**31**	**17**	**8**	**2**	**0**
High school dropout	**55**	**35**	**6**	**0.4**	**0**

Values are the percentage of each IQ sub-population, among non-Hispanic whites only, fitting each descriptor. Herrnstein & Murray (1994) pp. 171, 158, 163, 174, 230, 180, 132, 194, 247-248, 194, 146 respectively.

Other mechanisms for fluoride damage such as genetics and developmental damage are discussed in our first comment to HHS of 4/11.

FLUORIDE AND THYROID GLAND

1. Chiba (2012)[29] "**The chronic treatment with F promoted: (1) decrease in pp185 (IRS-1/IRS-2) tyrosine phosphorylation status in the WAT; (2) increase in IRS-1 serine phosphorylation status in the WAT; (3) increase in plasma concentrations of TNF-a and resistin; and (4) decrease in insulin sensitivity."**

2. Hosur[30] (2012**) "Our observations suggest that thyroid hormone levels were not altered in subjects with dental fluorosis."** Note: dental fluorosis is an historical consideration of fluoride exposure and occurs during enamel formation prior to the eruption of the tooth. Measuring thyroid hormone serum levels years

[29] Chiba F, et al, NaF treatment increases TNF-a and resistin concentrations and reduces insulin signal in rats.
[30] Hosur MB et al, Study of thyroid hormones free triiodothyronine (FT3), free thyroxine (FT4) and the thyroid stimulating hormone (TSH) in subjects with dental fluorosis, Eur J Dent 2012 Apr;6(2):184-190.

after excess fluoride exposure is a valid study only in so far as the researcher is evaluating long term effect. Hosur's study with 65 subjects and 10 controls is too small to evaluate long term effects due to numerous confounding factors.

2. Eliud (2009) **"Exposure to high levels of F− in drinking water may decrease insulin mRNA and its secretion from _-cells, and might therefore affect the OGTT."**[31]

3. Menoyo[32] (2005) **"Sodium fluoride (CSA 7681-49-4) 5-20 umol/L in the extracellular space inhibited insulin secretion by isolated Langerhans Islets stimulated with glucose. Insulin secretion followed a negative exponential function. This phenomenon is rapidly reversible."**

4. Rigalli[33] (1995) The results of these (rat) experiments indicate that glucose homeostasis is affected when plasma diffusible fluoride exceeds 5 micromo/l."

NOTE: Fluoride is not absorbed as effectively in rats as humans, resulting in a 7 to 10 fold lower fluoride serum concentration. For rats, water with 30 ppm results in fluoride serum concentrations of 0.076-0.143 ppm well within the high range of fluoride found in some human controls and subjects.

Infants are most at risk. "Infants aged 37-410 days exposed to 0.25 mg fluoride supplement [about one glass of fluoridated water], the mean retention ([assumed] bone uptake) of fluoride ranged from 68.1 to 83.4% (Ekstrand et al. 1994a, 1994 b). In contrast, retention in adults receiving a fluoride supplement was 55.3% (Ekstrand et al. 1979)."[34]
"Human and animal studies have shown that fluoride is readily transferred across the placenta." [35]

KIDNEYS: Chandrajith[36] (2011) **"Fluoride as shown in this study causes renal tubular damage.** However it does not act alone and in certain instances it is even cytoprotective. The fine dividing line between cytotoxicity and cytoprotectivity of fluoride appears to be the effect of Ca2+ and Na+ of the ingested water on the F− metabolism."

HEART: Gutowska[37] (2012) "It is well known that fluoride can increase the inflammatory reactions. . . .The results of our study suggest that fluoride may change the activity of phospholipases in macrophage cells. . . . Secretory phospholipases are associated with the development of the atherosclerotic process. . . NaF at a concentration of 3uM increased [Ca2þ]i value by about 10% (p¼0.032), at 6 mM by 29% (p¼0.012) and NaF

[31] Eliud A. García-Montalvo, Hugo Reyes-Pérez, Luz M. Del Razo, "Fluoride exposure impairs glucose tolerance via decreased insulin expression and oxidative stress" Toxicology March 2009
[32] Menoyo I. et al, Effect of Fluoride on the Secretion of Insulin in the Rat, Antidiabetics, Artznlm-Forsch./Drug Res. 55.No.8, 455-460 (2005) Aulendorf (Germany).
[33] Rigalli A et al, Comparative Study of the Effect of Sodium Fluoride and Sodium Monofluorophosphate on Glucose Homeostasis in the Rat, Arzneim-Forsch/Drug Res. 45 (I) Nr. 3 (1995)
[34] FLUORIDES, HYDROGEN FLUORIDE, AND FLUORINE, Chapter 3 HEALTH EFFECTS p 143. www. Atsdr.cdc.gov/toxprofiles/tp11-c3.pdf
[35] FLUORIDES, HYDROGEN FLUORIDE, AND FLUORINE, Chapter 3 HEALTH EFFECTS p 143. www. Atsdr.cdc.gov/toxprofiles/tp11-c3.pdf
[36] Chandrajith et al, Dose-dependent Na and Ca in fluoride-rich drinking water – Another major cause of chronic renal failure in tropical arid regions, Science of the Total Environment 409 (2011) 671-675
[37] Gutowska I. et al, Activation of phospholipase A2 by low levels of fluoride in THP1 macrophages via altered Ca2þ and cAMP concentration, Prostaglandins, Leukotrienes and Essential Fatty Acids 86 (2012) 99-105.

at 10 mM by about 20% (p¼0.012). . . . Although the results obtained in this study were not as spectacular as in other reports which used mM concentrations of NaF [33,36,42,50,61], they indicated that even in small con- centrations fluorides may cause changes in the activity of enzymes taking part in the development of atherosclerosis."

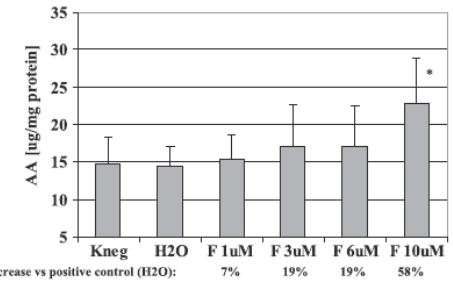


Fig. 2. Effect of fluoride on intracellular AA concentration in macrophages cultured with NaF·H_2O—positive control. Monocytes/macrophages were cultured with NaF for 48 h and then with ionophor A23187 for 1 h. After incubation cells were harvested by scraping, and AA was isolated using Folch mixture and TLC method and measured using the GC method. The results obtained from 6 separate experiments were normalized to protein levels. *$p < 0.03$—significant difference vs. positive control.

CANCER:

1. Some studies suggest a deregulation of cAMP pathways and an aberrant activation of cAMP-controlled genes is linked to the growth of some cancers. See Cancer Research by Abramovitch R, A Pivotal Role of Cyclic AMP-Responsive Element Binding Protein Tumor Progression, Cancer Research, 2004. http://cancerres.aacrjournals.org/content/64/4/1338.full

2. See also for melanomas, http://cancerres.aacrjournals.org/content/66/19/9483.abstract

3. See also for ovarian cancer, Simpson (1996) "In malignant tumors there was a significant positive correlation btween the percentage of the RI protein and total cyclic AMP-binding proteins. (P = 0.01). These data indicate that high tumor lvels of cyclic AMP-binding proteins are associated with serous histology, poor differentiation, and poor patient survival." http://cancerres.aacrjournals.org/content/2/1/201.abstract and full article http://clincancerres.aacrjournals.org/contnt/2/1/201.full.pdf+html

4. Levy M. (2011) "Conclusion: Our ecological analysis suggests that the water fluoridation status in the continental U.S. has no influence on osteosarcoma incidence rates during childhood and adolescence." However, Levy cherry picked the data by removing the two least fluoridated states and highly fluoridated Washington DC (not in the data pool.) Levy's elimination of Hawaii based on environmental, geological and hereditary factors is without merit and the data should have been included for comparison. The elimination of Utah because Utah increased fluoridation at the end of the study is again without merit.

LACK OF BENEFIT:

Tellez[38] (2012) "The prevalence of dental fluorosis reached 100% in this sample. . . . The prevalence of caries experience (DF-S2) was 54%. . . . When initial caries lesions were included (ICDAS-scores 1-3) the mean DF-S1,2 increased to 10 (sd 5.1). The association between fluorosis and dental caries was not statistically significant (p>0.05). **Children not only detected the presence of something abnormal in their teeth but also reported feeling embarrassed, and worried due to their dental appearance. Almost 60% of the children avoided smiling because of their teeth's appearance."**

Why have good people in public health made such a huge mistake promoting fluoridation? In part, a concept of "compartmentalization of tasks." Several public health agencies have certain tasks to fulfill and the results of the individual tasks are not under one authority. EPA has one compartment, FDA another compartment, CDC another compartment, dentists another compartment, public health practitioners, toxicologists, pharmacologists, epidemiologists, university professors, HHS human subject research protection, the courts and politicians are just a few other compartments. As long as each agency can pass the buck to someone else, no one is held accountable, there is no "doctor" or "legal intermediary" and the myth of fluoridation's safety and efficacy continues. The public is harmed in part because public health propaganda artists and CDC/ADA cherry picking dentists still claim fluoridation is safe and effective . . . and it is neither. By cherry picking committee members, the desired outcomes will be confirmed.
Weaknesses in the studies should be noted and lack of quality studies on safety should also be considered. There are no randomized controlled trials evaluating fluoridated public water, in other words, there are no quality studies. The absence of data is not proof of safety. Randomized controlled trials can and should be done using fluoride urine and serum for measurements of exposure, controlling for known confounding factors and unknown confounding factors with a margin of safety of at least 10. Data from research funded by HHS must be published on the internet.

And notice to water users to avoid using fluoridated water for infant formula and drinking is reasonable.
American Dental Association Foundation Grant Application: "After 60 years of community water fluoridation we still do not know how much F is required to prevent caries."[39]

Snohomish Health District may be correct in that most scientific communities in the US supported fluoridation, but most reviewed the evidence 50 years ago and have failed to keep up with the literature. Currently most European dental associations no longer support fluoride supplements.

We agree the EPA is responsible for determining the safe concentration of naturally occurring fluoride in water.

[38] Tellez M et al, Dental fluorosis, dental caries, and quality of life factors among schoolchildren in a Columbian fluorotic area, Community Dent Health, 2012 Mar;29(1)95-9

[39] Carey, CM., Chow, LC, Eichmiller FC, Schumacher GE, American Dental Association Foundation Paffenbarger Research Center 6/2003 Grant application. No publication has been found on the data from this grant.

Snohomish Health District suggests the EPA and CDC "are the leading national authorities for the scientific basis for the safety and health effects of fluoride."

EPA

"The Safe Drinking Water Act prohibits the deliberate addition of any substance to drinking water for health-related purposes other than disinfection of the water." FOIA Request HQ-FOI-01418-10

"**No national primary drinking water regulation may require the addition of any substance for preventive health care purposes unrelated to contamination of drinking water.** " 42 USC 300g-1(b)(11):

CDC

CDC: Ingestion of fluoride is not likely to reduce tooth decay CDC (1999). Achievements in Public Health, 1900-1999: Fluoridation of Drinking Water to Prevent Dental Caries. MMWR, 48(41); 933-940, October 22

CDC: "It is not CDC's task to determine what levels of fluoride in water are safe." http://www.cdc.gov/fluoridation/safety.htm 5/26/2012

Many are ingesting too much fluoride as measured in their blood serum.

CDC: "Normal serum fluoride levels are <20 mcg/L (0.02 ppm) but varies substantially. . . ."http://www.bt.cdc.gov/agent/sulfurylfluoride/casedef.asp

Taves ('66) normal <0.013 ppm

Sowers controls 0.05 ppm (4th quartile)
Sandhu controls 0.042 ppm and tumors at 0.072 ppm (Xiang 0.064 ppm)
Zang controls 0.04 ppm and 8 IQ loss 0.08 ppm
Rathe controls 0.025 ppm and stones at 0.12 ppm
Hossney (2003) Mother's Milk most samples - none detected

Note: controls are used in part because they are expected to have little risk of disease (the variable) and common levels in the community. For infants, "normal" would be mother's milk where fluoride is usually not detected.

Snohomish Health District is correct that significant fluoride can be ingested from other sources than fluoridated water. Total exposure from all sources is too high. How is the City going to control for these other new sources of fluoride exposure?

CDC lists many studies claiming a reduction in dental caries. However, CDC avoids listing many studies which did not find a reduction in dental caries. All studies fail to consider some or all of the following confounding factors:

- **A. Not one Study corrects for Unknown Confounding Factors**
- **B. Not one Prospective Randomized Controlled Trial**
- **C. Socioeconomic status usually not controlled**
- **D. Inadequate size**
- **E. Difficulty in diagnosing decay**

- **F. Delay in tooth eruption not controlled**
- **G. Diet: Vitamin D, calcium, strontium, sugar, fresh and frozen year around vegetables and fruit consumption not controlled.**
- **H. Total exposure of Fluoride not determined**
- **I. Oral hygiene not determined**
- **J. Not evaluating Life time benefit**
- **K. Estimating or assuming subject actually drinks the fluoridated water.**
- **L. Dental treatment expenses not considered**
- **M. Breast feeding and infant formula excluded**
- **N. Fraud, gross errors, and bias not corrected.**
- **O. Genetics not considered**

Snohomish Health District references the private company NSF International funded by manufacturers. NSF policy prohibits a contaminant from raising the contaminant level by more than 10% of EPA's MCL. EPA's MCL is 4.0 ppm and 10% is 0.4 ppm. Why does NSF permit fluoride at greater concentrations? NSF does not regulate the substance itself, only the contaminants within the substance.

The AWWA does not provide regulatory approval for any drug to be added to water.

FDA

"A search of the Drugs@FDA database . . . does not indicate that sodium fluoride, silicofluoride, or hydrofluorosilicic acid has been approved . . . ." FOI 2009 Best regards, Drug Information SH, Division of Drug Information, Center for Drug Evaluation and Research, Food and Drug Administration

FDA CDER ADVISES: "Manufacturers of unapproved drugs are usually fully aware that their drugs are marketed illegally, yet they continue to circumvent the law and put consumers' health at risk."
http://www.nabp.net/publications/assets/OR082008.pdf Washington and Oregon Board of Pharmacy Newsletter 2008 Fall.

Half a century ago courts determined fluoride was a public health rather than a drug. Since that time, Congress has strengthened drug laws and fluoridation is now a drug, unapproved and illegal. Changes to drug laws include:

1962 Kefauver-Harris Amendments to ensure efficacy and safety
1962 Consumer Bill of Rights (Pres. JF Kennedy) the right to safety, be informed, to chose and be heard.
1966 Fair Packaging and Honest Labeling
1974 Safe Drinking Water Act (EPA)
1981 Human Subjects Protection
1988 FDA Act
1988 Prescription Drug Marketing Act
1990 Safe Medical Devices Act
1997 FDA Modernization Act
1997 "Protection of Children"(Executive Order 13045)
1998 Pediatric Rule
2002 The Best Pharmaceuticals for Children Act & Office of Combination Products

2005 Drug Safety Board

The American Dental Association (ADA) is referenced as a credible source for determining the scientific basis for safe and effective. However, the ADA cherry picks the research to support policy. When legally questioned, the ADA stated in to the Superior Court of the State of California Case No. 718228, Demurrer (October 22, 1992):
, **"The American Dental Association (ADA) owes no legal duty of care to protect the public form allegedly dangerous products** . . . . **Dissemination of information relating to the practice of dentistry does not create a duty of care to protect the public from potential injury."**

Snohomish Health District correctly references the FDA as having regulatory oversight for fluoride prescriptions (which are not FDA approved), fluoride over-the-counter use (which caution not to swallow the same amount found in each glass of Everett water), labeling bottled water; however, ***Snohomish Health District*** fails to provide any Federal or WA State law exempting the FDA CDER from regulating the same substance with the same warnings for the same purpose when diluted with water. ***Snohomish Health District*** expects the City to "trust him" that all fluoride used to prevent disease is regulated as a drug except when diluted with public water. ***Snohomish Health District*** provides no exemption from the FDA CDER for fluoridated water.

The FDA testified before Congress in 2001 that fluoride is a drug. No exception when diluted in public water was provided.

HHS has confirmed fluoride is a drug.

Either fluoride is a poison or a drug.

RCW defines poisons as RCW 69.38.010 (4)***. "Any other substance designated by the state board of pharmacy which, when introduced into the human body in quantities of sixty grains or less, causes violent sickness or death"***

60 grains is 3,888 mg. There is no dispute that 60 grains of fluoride will cause violent sickness or death. The probable toxic dose (PTD) of fluoride if swallowed at one time is considered 5 mg/kg[i] or about 250 to 350 mg for an adult and as little as 15 for a child. 3,888 mg of fluoride is lethal. The Board of Pharmacy does not dispute the scientific evidence that fluoride (silicofluorides, hydrofluosilicic acid, sodium fluoride, fluoridation chemicals) when introduced into the human body in quantities of 60 grains or less will probably cause violent sickness or death. The laws of science are undisputed. As defined by RCW 69.38.010, fluoride is a poison. The liability of putting a clearly defined poison into humans without their consent and without the supervision and prescription of a licensed doctor should be carefully weighed.

RCW 69.38.020 Exemptions from chapter.

> All substances regulated under chapters 15.58, 17.21, 69.04, 69.41, and 69.50 RCW, and chapter 69.45 RCW are exempt from the provisions of this chapter.

Poisons are exempt from poison laws when regulated under drug laws.

The authorization of a project or service by the electors and/or legislative body assumes the project or service will abide by the other applicable laws and regulations and be adequately supervised by responsible authorities. The legislature was correct in RCW 57.08.012 by not providing for exception.

In fact, at the beginning the chapter states "RCW 57.08.005 Powers:

(13) To contract for the provision of engineering, legal, and other professional services as in the board of commissioner's discretion is necessary in carrying out their duties;

(14) To sue and be sued;"

The Washington Board of Pharmacy confirmed, "Fluoride is a legend drug regulated under chapter 69.41 RCW."

Fluoridated water is a drug based on intent of use to prevent caries and the claim, "safe and effective."

CONGRESS AND WASHINGTON STATE LEGISLATURE DEFINE *DRUGS:*
"Articles intended for use in the . . . prevention of disease . . . ." 21 USC 321 (g)(1)(B)

Fluoride toothpaste has a warning not to swallow. Fluoride prescription drugs have not been approved by the FDA CDER because of lack of evidence of efficacy (Drug Digest 1975) and a doctor's prescription is required. Ask ***Snohomish Health District*** under who's DEA license Everett dispenses the fluoride drug? Is Dr. Goldbaum willing to take the legal responsibility under his DEA license? If not, then who's license does Everett use?

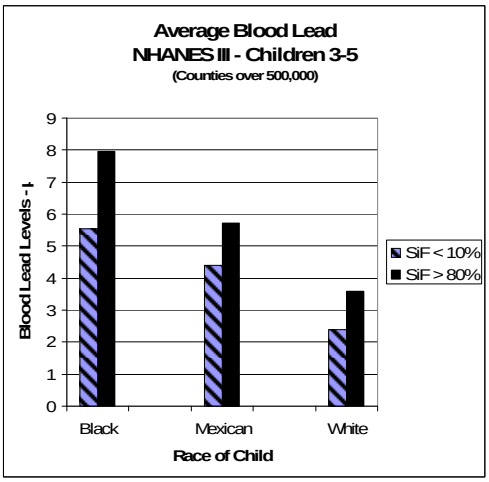
Snohomish Health District is seriously flawed equating "concentration" and "dose." Concentration for fluoride is measured in milligrams per liter (or ppm) and dose is measured in milligrams per kilogram of body weight. Dose is specific for the size of the individual. Everett City has no control over the size of the individual or how much water they drink. For example, a 150 kg adult may drink a liter of fluoridated water a day and a 5 kg infant a liter of fluoridated water in formula a day. And another adult may drink 19 liters of water a day. Dose is not regulated.

Snohomish Health District suggests fluorosilicic acid is not an industrial grade product and would prefer to call them "by-products." Certainly he would agree the substances added to water are not pharmaceutical grade. And the EPA's MCLG for arsenic is zero ppm. Just because a substance is found naturally in nature and water, does not mean it is safe and we can add more.

The City of Everett does not meet EPA's MCLG for either arsenic or lead which are zero ppm.

Snohomish Health District suggests there is no measurable lead in treated drinking water leaving the plant. Fluorosilicic acid has some lead in it, but the majority of the problem is the

fluoride increasing the lead leached out of pipes, fittings and fixtures and the result is an increased measured blood lead concentration in fluoridated communities.



(For NHANES III Children 3-5, mean blood lead is significantly associated with fluoridation status (DF 3, F 17.14, p < .0001) and race (DF 2, F 19.35, p < .0001) as well as for poverty income ratio (DF 1, F 66.55, p < .0001). Interaction effect between race and fluoridation status: DF 6, F ;3.333, p < .0029)

Snohomish Health District claims, "No European country has banned water fluoridation."

Zimmer (2003) Most European Dental Associations have rejected fluoride supplements.

- **Austria** **REJECTED: "toxic fluorides" NOT added**
- **Belgium** **REJECTED: encourages self-determination – those who want fluoride should get it themselves.**
- **Finland** **STOPPED: "...do not favor or recommend fluoridation of drinking water. There are better ways of providing the fluoride our teeth need." A recent study found ..."no indication of an increasing trend of caries...."**
- **Luxembourg:** "drinking water isn't the suitable way for medicinal treatment. . . people needing an addition of fluoride can decide by their own to use the most appropriate way, like the intake of fluoride tablets"
- **Germany** **STOPPED: A recent study found no evidence of an increasing trend of caries**. stopped all fluoridation and provided the most extensive reasons for that action via a position statement issued by the DVGW (German Technical and Scientific Association for Gas and Water). As the letter indicated, "The information is dated 1992, but we still fully agree with this statement." The DVGW sets technical standards that are used in the operation of water systems in Germany and the European Union. The following are quotes from the DVGW position statement.
  (1) "It is not the task of water supply companies to add substances to drinking water intended as prophylactics against illness not caused by drinking water."
  (2) "Caries is not the manifestation of fluoride deficiency, but is the result of a generally false nutrition and inefficient dental hygiene. Unwholesome habits resulting in caries are not eliminated by the fluoridation of drinking water; on the contrary, they are promoted." (3) "The suggested optimal fluoride concentration of 1 mg per litre is very close to the dose with which long term

detrimental effects in people cannot be excluded. . . the limit value in drinking water cannot be justified in view of different habits and therefore differing consumption of drinking water and the uncontrolled intake of fluorides from other sources. The safety of a lifelong accumulation of fluoride in the human body as a result of increased intake is disputed in medical science throughout the world." (4) "More than 99 per cent [of fluoride contained in drinking water] would be discharged with waste water directly into the environment. This additional fluoride emission into waters is unacceptable for ecological reasons." (5) "The consumer cannot avoid fluoridated drinking water made available by public water supply. This mandatory intake of fluoride violates the basic right to bodily freedom from injury . . . provided by the Basic Law of the Federal Republic of Germany." (6) "Fluoride intake for the prevention of caries is more effective with specific measures taken by the individual than by fluoridation of drinking water." (7) "An assessment of risks vs. benefits involving both the health aspects and ecological consequences justifies DVGW's rejection of the fluoridation of drinking water."

- **Denmark** **REJECTED: "...toxic fluorides have never been added to the public water supplies in Denmark."**
- **Norway** **REJECTED: "...drinking water should not be fluoridated" "**we had a rather intense discussion on this subject some 20 years ago, and the conclusion was that drinking water should not be fluoridated. It was therefore up to each individual to decide whether to use fluoride tablets, toothpaste or mouthwash."
- **Sweden** **BANNED: "not allowed". No safety data available!** "Drinking water fluoridation is not allowed in Sweden due to repeal in 1971 of the Drinking Water Fluoridation Act issued in 1962. . . . New scientific documentation or changes in the dental health situation that could alter the conclusions of the commission have not been shown."
- **Netherlands REJECTED: Inevitably, whenever there is a court decision against fluoridation, the dental lobby pushes to have the judgment overturned on a technicality or they try to get the laws changed to legalize it. Their tactics didn't work in the vast majority of Europe.**
- **Hungary** **STOPPED: for technical reasons in the '60s. However, despite technological advances, Hungary remains unfluoridated.**
- **•Japan** **REJECTED: "...may cause health problems...." The 0.8 -1.5 mg regulated level is for calcium-fluoride, not the hazardous waste by-product which is added with artificial fluoridation.**
- **Israel SUSPENDED mandatory fluoridation until the issue is reexamined from all aspects.: June 21, 2006 "The labor, welfare and health Knesset committee"**
- **China BANNED: "not allowed"**
- **France** "Fluoride chemicals are not included in the list [of 'chemicals for drinking water treatment']. This is due to ethical as well as medical considerations." *(Louis Sanchez, Directeur de la Protection de l'Environment, August25, 2000).* France does have fluoridated salt as a choice, about 15% use it at home.
- **Ireland** **74% Fluoridated**
- **UK** **9% Fluoridated**
- **Czech Republic:** Stopped fluoridation in 1989 because it was (1) uneconomical since "only 0.54% of water suitable for drinking water is used as such," (2) "unecological,"

(3) “unethical (forced medication),” (4) it “disregards actual individual intake and requirements”.

- **India**: Rather than putting fluoride into the water, India is removing “the fluoride that pollutes the water naturally. . .we know that fluoride is injurious to health.” Furthermore, it is mandated that toothpaste cartons indicate the fluoride content and state that “children below 4 years of age should not use fluoridated toothpaste as fluoride is injurious to health.” India has a problem with fluorosis in 17 of the 32 states leading the government to recommend that individuals not use fluoridated toothpaste.

Focus by ***Snohomish Health District*** is on protecting policy rather than people.

Snohomish Health District assumes without any specific reference that the absence of fluoride will increase dental caries and dental expenses. As expected, the research which does not consist of prospective double blinded controlled studies is mixed.

Komarek (2005) “A number of recent cessation studies show that stopping fluoridation does literally nothing to increase overall dental decay.” Komarek et al, A Bayesian analysis of multivariate doubly-interval-censored dental data, Biostatistics 2005 6 pp 145-155 Copy Available.

Aoba (2002) Decay is not the result of fluoride deficiency. Aoba T, Fejerskov O. (2002). Dental fluorosis: chemistry and biology. *Critical Review of Oral Biology and Medicine* 13: 155-70.

With unification between East and West Germany, the fluoride pumps were immediately turned off and dental caries rates in East Germany decreased.

The latest WHO world data on caries finds three countries with dental decay rates below 1 DMF per child. Two of those countries, Sweden and Denmark, are not fluoridated.

It is time for the ***Snohomish Health District*** to provide references for the studies they have actually read which support their unequivocal support for fluoridation.

Until ***Snohomish Health District*** can provide FDA CDER approval or a letter with legal citation that the FDA CDER is exempt from drug regulatory authority when a drug is diluted in water, then the City of Everett must stop marketing the unapproved drug.

One day, fluoridation will be considered one of public health’s greatest blunders.

Bill Osmunson DDS, MPH President
Washington Action for Safe Water
1418 – 112th Ave NE
Bellevue, WA 98004

[i] "it may be concluded that if a child ingests a fluoride dose in excess of 15 mg F/kg, then death is likely to occur. A dose as low as 5 mg F/kg may be fatal for some children. Therefore, the probably toxic dose (PTD), defined as the threshold dose that could cause serious or life-threatening systemic signs and symptoms and that should trigger immediate emergency treatment and hospitalization, is 5 mg F/kg."
SOURCE: Whitford G. (1996). Fluoride Toxicology and Health Effects. In: Fejerskov O, Ekstrand J, Burt B, Eds. Fluoride in Dentistry, 2nd Edition. Munksgaard, Denmark. p 171."