

**SB 2416**

THE SENATE  
THE TWENTY-FOURTH LEGISLATURE  
REGULAR SESSION OF 2008

COMMITTEE ON HEALTH  
Senator David Y. Ige, Chair  
Senator Carol Fukunaga, Vice Chair

COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND  
AFFORDABLE HOUSING

Senator Russell S. Kokubun, Chair  
Senator David Y. Ige, Vice Chair

Friday, February 1, 2008      1:15 PM  
Conference Room 016

Testimony in support of SB 2416      RELATING TO  
DENTAL HEALTH.

Requires the department of health to establish and administer the water fluoridation pilot program in Maui county to adjust the amount of naturally occurring fluoride in the water to a level that will benefit oral health. Makes appropriations.      HTH, WAM

Chairmen: Honorable Senators Ige and Kokubun; Vice-chair: Honorable Senator Fukunaga

The Hawaii Dental Association and the American Dental Association supports community water fluoridation as the single most effective public health measure towards the prevention of tooth decay. It has found to have been more cost effective when compared to other fluoride delivery treatments or applications. Water fluoridation is endorsed by the Centers for Disease Control which also recognizes this as one of the 10 greatest public health achievements of the 20th century.

Darrell Teruya, DDS  
President, Hawaii Dental Association

# HMSA



Blue Cross  
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February 1, 2008

The Honorable David Ige, Chair  
The Honorable Carol Fukunaga, Vice Chair  
Senate Committee on Health

**Re: SB 2416 – Relating to Dental Health**

Dear Chair Ige, Vice Chair Fukunaga and Members of the Committee:

The Hawaii Medical Service Association (HMSA) appreciates the opportunity to testify in strong support of SB 2416 which would require the Department of Health to establish and administer the water fluoridation pilot program in Maui County.

Since the Honolulu City Council banned the use of fluoride in the public water supply in 2004, the community discussion to fluoridate the water in Hawaii has ceased. Unfortunately those most affected by this decision tend to be economically disadvantaged individuals and children. According to the Hawaii Primary Care Association, the Hawaii rate of baby bottle tooth decay is nearly three times the national rate and Hawaii's children have 33% more unmet treatment needs than children nationally. These statistics are even worse for Filipino, Southeast Asian, Native Hawaiian and other Pacific Island children.

HMSA was a part of the Oral Health Task Force, a group convened in 2002 by the Department of Health. The Task Force published a series of recommendations to improve the oral health of Hawaii's community. The number one recommendation was to fluoridate community water systems since Honolulu is one of the few remaining major metropolitan areas in the nation with no fluoridated water supply. Community water fluoridation reduces tooth decay by as much as 65%.

SB 2416 gives Hawaii another opportunity, even on a small scale, to allow our neediest populations to benefit from one of the major public health advances of the 20<sup>th</sup> century. Thank you for the opportunity to testify on SB 2416.

Sincerely,

Jennifer Diesman  
Director, Government Relations

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February 1, 2008

**RE: SB 2416**

To The Following Committee Members:

**HEALTH**

Senators Ige, Fukunaga, Baker, Menor, Whalen

**COMMERCE AND CONSUMER AFFAIRS**

Senators Kokubun, Espero, Ihara Jr., Sakamoto, Taniguchi, Trimble

Here we are discussing a bill for Dental Health I find interesting is that when it comes to so-called “Dental Health, there is never any mention on implementing any type of educational programs that would include proper brushing, how to floss and explaining the detrimental effects on the teeth from the consumption of sugary foods. It’s always, always about **fluoride** as the panacea despite all of the toxins it delivers.

I would like to pose some hypothetical questions:

What would you do if you suddenly found out that fluoride was not “safe and effective” at all, but was actually a carcinogenic industrial waste?

What would you do if you learned that the sugar lobby’s answer to cavity reduction is more fluoride rather than less sugar in the diet?

What would you think if you suddenly found out that fluoride doesn’t stop tooth decay at all, but actually causes teeth to rot and crumble, and by the same mechanism also causes osteoporosis?

What would you do if you found out that a myriad of research and reports from China, showing that fluoride ingestion causes interference with brain development, had been purposely withheld from the people in the U.S.?

What would you do if you suddenly found out that fluoride inhibits antibody formation in the blood, depresses thyroid activity, promotes the development of bone cancer, causes premature aging of the human body, and is used in rat poison, and that the contents of a family size tube of overpriced, huge profit margined fluoridated toothpaste is enough to kill a 25 pound child?

And after you found out all this, would it surprise you that federal health agencies have known these facts for years, but have been controlled by the political interests of the nuclear arms, aluminum, and phosphate manufacturers to keep it a secret?

Why would they do that? So that a toxic industrial waste could be passed off on the public as a nutrient with necessary health benefits, to the tune of \$10 billion a year or more going in the

pockets of these industries rather than they having to spend that amount to dispose of it properly as a toxic waste.

Next, we have to look at the people that are for and against this assault upon our health.

Those against this horror movie are everyday people. Accountants, retired engineers, chemistry professors, teachers, acupuncturists, dentists, believe it or not, the Union of Scientists at the EPA, and a host of others from all walks of life. And, all of them come armed with peer-reviewed scientific literature to back up what they say.

Those in favor of this horror movie, with lots of credentials, are the majority of dentists, the public health officials and many people in various government positions. And what do they come armed with? Speculation and years of repeating, like good little lemmings, that fluoride is “safe and effective”. If it were so safe and effective to ingest, why would the CDC say that fluoride’s effectiveness is on the surface of the tooth and only after it comes into the mouth?

Anyway, let’s take a look at some of these individuals with, “credentials”.

**Dr. Mark Greer, Dental Chief, Hawaii Dept. of Health**

Back in the year 2000, Dr. Greer, on Hawaii Public Radio, made the statement that fluoride is safe because there were toxicology tests done on it that verified this. Sounds great doesn’t it? There’s one problem though – only in 2006, by the National Research Council, were toxicology tests done on the fluoride substances that are added to the water supply with the conclusion that fluoride was indeed toxic and dangerous to health. Their finding? Anything more than 1.2 ppm is toxic! Also, after trying unsuccessfully twice to obtain a copy of Dr. Greer’s alleged report substantiating his toxicology assertion, I had to go through the Attorney General’s office to obtain the report under the Freedom of Information Act. It’s funny though that the several hundred page report that I received from Dr. Greer contained nothing about toxicology testing. I guess he thought I would never read such a long, boring report. But, when you know that a person is a liar, you leave nothing to chance.

So, the question that arises is, why would a man in Dr. Greer’s position deliberately lie? Does his brainwashed desire to fluoridate the water supply take precedence over his integrity? Apparently and unbelievably, so!

**Dr. Chester Douglass, Dental School Head, Harvard University**

In late 2005 or early 2006, one of Dr. Douglass’ dental doctorate students, Elise Bassin, prepared a thesis on fluoride. Dr. Douglass then released her thesis with one minor modification. He eliminated the part in the thesis where Bassin proved that fluoride causes bone cancer in adolescent boys. Boy oh boy, why would Dr. Douglass deliberately eliminate that part? I wonder if the fact that Dr. Douglass’s being on the payroll of the Colgate-Palmolive Company had anything to do with it? Then, Harvard did their own in-house investigation of Dr. Douglass’ actions and exonerated him. I wonder if the fact that Dr. Douglass’s donation of \$1 million to Harvard had any influence in that decision?

**Dr. Bruce Anderson, former Director of Health, State of Hawaii**

Back in 2004 or 2005 there was a hearing to determine whether or not the MCL (maximum contaminant level) of fluoride should be raised from 2ppm to 4ppm in Hawaii. Despite testimony by the public and many employees of the water department against such a raise, Dr. Anderson, public servant that he was, upped the level anyway.

Consider this: mother's milk contains .005 - .01 ppm of fluoride. The question you have to ask yourself is, who is right, God or the politicians?

### **Dentists**

Consider this: that same National Research Council report came to the conclusion that fluoridated water should not be used in infant formula because of the danger of neurological damage and that kidney patients, diabetics, seniors and outdoor workers were susceptible populations especially vulnerable to harm from fluoride ingestion. Yet, many dentists, many of the States' Dental Associations and our Public Health officials have failed to pass on that message. Do you think that it might be hard for some people to admit they were wrong about something?

Before organized dentistry became fluoride fixated, a 1950 Connecticut study, before fluoridation, clearly linked more fruit and vegetable consumption and less sugar consumption to fewer cavities. Did you know that a 20-ounce bottle of soda contains 14 teaspoons of sugar and a 7-11 "Big Gulp" contains 56 teaspoons of sugar? If there were any more than that the sugar would too heavy and settle to the bottom. But, I guess the dentist's answer to that situation would be if the soda were made with fluoridated water, cavities could be prevented. Riiiiiiight!

After 60 years of water fluoridation reaching 2/3 of Americans via public water supplies, virtually 100% via the food supply and fluoridated dental products, a multi-billion dollar international business, up to 1/2 of U.S. schoolchildren sport fluoride overdose symptoms as dental fluorosis – white, yellow or brown, and sometimes pitted teeth (1). But, tooth decay is still a national epidemic, especially among the low-income people who can't find dentists willing or able to fix their rotting teeth. And why are the dentists not willing or able to treat these low-income people? Because the amount that Medicaid pays is too low.

And, let us not forget that the American Dental Association still clings to the absurdity that mercury fillings, aka "silver" fillings are not harmful despite the enormous literature that factually states that mercury accumulates and stays in the body causing many neurological disorders. Even the CDC finally issued a warning that pregnant women should not eat tuna, which contains high levels of mercury, more than once a month to avoid fetal damage.

**Dental Health Aide Therapists (DHATs)** could be a solution to the oral health crisis. DHATs are to dentists what Physician's Assistants and Nurse Practitioners are to physicians. DHATs work successfully throughout the world and can drill, fill and pull teeth in the mouths and geographic areas where dentists will not or cannot go, more cheaply and as effectively (2).

Sounds really good doesn't it? The problem is that the American Dental Society and the Alaska Dental Society are suing to stop DHATs from supplying much needed dental care in Alaska where dentists cannot be enticed to live or work for love or money (3). Defying organized dentistry, the first U.S. DHAT School just opened in Alaska to train more DHATs (3).

### **Dr. Phyllis Mullenix**

Dr. Phyllis Mullenix was an established neurotoxicologist whose research proved that fluoride to be a neurotoxin affecting the central nervous system. Her work was not only dismissed when she published it in 1995, but it also ended her career. What's ironic is that one of her mentors, Dr. Harold Hodge, who served as the chief toxicologist for the Manhattan Project, aka the Atomic

Energy Commission, was instrumental in selling fluoride to the public. As her work progressed and she reported her findings to Hodge, he shrugged them off. It wasn't until much later that Mullenix learned that Hodge had conducted his own research 50 years earlier and had discovered then the connection between fluoride and its ill effects on the central nervous system.

Many of the early opponents to water fluoridation recognized that fluoride was a critical component in uranium and aluminum production and a necessity in the making of the "bomb". Common sense told them that adding the waste product of a chemical that can cut through steel is bound to have some adverse health effects. Despite their best efforts, a massive PR campaign was waged and won and fluoride was shoved into public drinking water supplies and into dental curriculums – a neat and tidy solution to the expensive problem of what to do with toxic waste. And, much of the research supporting fluoridation came from industry-funded studies. How objective!

### **Conclusion**

The National Research Council advises that more studies are required on fluoride's effects on reasoning ability, endocrine functions, immune deficiencies, fertility, gastric response, bladder cancer, kidney and liver enzyme functions, arthritis-like conditions, and more.

Peer reviewed studies already link fluoride to cancer, genetic defects, IQ deficiencies, thyroid dysfunction, gum disease, kidney, tooth and bone damage and symptoms characteristic of Alzheimer's disease. In fact, medical reports from India have indicated that arthritic type symptoms have disappeared when test subjects stopped using fluoridated toothpaste.

So, why do the dental associations and public health officials still cling to the idea that fluoridation is good?

Denial?

Dental school indoctrination?

Embarrassment that they have been wrong all along?

Possible liability associated with all the deleterious health effects people have suffered from fluoride being thrust upon them against their will?

I guess it's more convenient to carry on with the idea that fluoridation is beneficial than to lose face!

So, here we are again having yet another debate about fluoridation. And again the "uncredentialed" come in with references to peer-reviewed studies and the "credentialed" come in with, "it's been proven safe and effective", unsubstantiated speculation.

In 1961, when Dwight D. Eisenhower left the Presidency, he warned the American people to be aware of the rapidly growing power of the military-industrial complex. He surely new then how deeply entrenched the connections between industry and military affairs had become. Have we learned from this some 40 odd years later? Not by my standards we haven't.

Please, for heaven's sake, keep our drinking water pure and don't use it as a vehicle to deliver a highly toxic medication recommended by credentialed individuals with no integrity.

Consider this: under the Pure Water Drinking Act it is illegal to dump fluoride in the lakes, streams and oceans. But, for some weird reason, it's ok for fluoride to do this if it passes through a water faucet and a person's body first.

How's that for theater of the absurd?

Thank you for accepting my testimony.

A handwritten signature in black ink, appearing to be 'Hesh Goldstein', written over a horizontal line.

Hesh Goldstein  
"Health Talk" Moderator  
K-108 Radio  
Honolulu

References:

- (1) <http://www.cdc.gov/mmwr/preview/mmwrhtml/figures/s403a1t23.gif>
- (2) <http://www.anthc.org/cs/chs/dhs/>
- (3) <http://www.anthc.org/cs/chs/dhs>
- (4) <http://www.anthc.org/cs/dhs/upload/UAATheNorthernLight-DentalDebateGoesToCourt 2-21-06 Afleming.pdf>
- (5) <http://www.dfw.com/mld/dfw/news/16566335.htm>
- (6) [http://groups.google.com/group/Fluoridation-News-Releases/browse\\_thread/5198fb711662057](http://groups.google.com/group/Fluoridation-News-Releases/browse_thread/5198fb711662057)



## Fluoride and the Brain



**“Studies in animals and human populations suggest that fluoride exposure, at levels that are experienced by a significant proportion of the population whose drinking water is fluoridated, may have adverse impacts on the developing brain. Though no final conclusions may be reached from available data, the findings are provocative and of significant public health concern. Perhaps most surprising is the relative sparseness of data addressing the central question of whether or not this chemical, which is intentionally added to drinking water, may interfere with normal brain development and function.”**

**GREATER BOSTON PHYSICIANS for SOCIAL RESPONSIBILITY REPORT: In Harm's Way: Toxic**

**Threats to Child Development May 2000**

Fluoride is:

- an “endocrine disruptor” [NRC 2006].
- a universal and a well-established thyroid stimulating hormone (TSH) clone.
- a “universal G protein activator” meaning it can activate all G protein families. G proteins transfer/amplify signals from outside cells to inside cells.
- Aluminum Fluoride (AlFx) mimics the chemical structure of a phosphate [the body’s “energy currency” and important cell signaling mechanism].

**National Research Council 2006 Excerpts:**

“Fluorides also increase the production of free radicals in the brain through several different biological pathways. These changes have a bearing on the possibility that fluorides act to increase the risk of developing Alzheimer’s disease.” p186

“On the basis of information largely derived from histological, chemical, and molecular studies, it is apparent that fluorides have the ability to interfere with the functions of the brain and the body by direct and indirect means.” p187

“The possibility has been raised by the studies conducted in China that fluoride can lower intellectual abilities.” p187 [19 human studies to date]

**Scientific American January 2008, p80:**

“Prenatal exposures, she reported, correlated with hyperactivity in young rats, especially males, whereas exposures after birth had the opposite effect, turning female rats into what Mullenix later described as “couch potatoes.” & “a series of epidemiological studies in China have associated high fluoride exposures with lower IQ...”

# Fluoride and Cancer

**“The biggest current debate is over osteosarcoma—the most common form of bone cancer and the sixth most prevalent cancer in children.”** Scientific American Jan 2008, p 79.

Evidence now suggests young males, under the age of 20, are 5 to 7 times more likely to develop osteosarcoma when they drink fluoridated water.



Osteosarcoma (Bone Cancer) is a type of bone cancer that affects **mostly adolescent boys**. It is biologically plausible that fluoride affects the incidence rate of osteosarcoma, and that this effect would be strongest during periods of growth, particularly in males.

First, approximately 99% of fluoride in the human body is contained in the skeleton with about 50% of the daily ingested fluoride being deposited directly into calcified tissue (bone or dentition) [Whitford 1996].

Second, fluoride acts as a mitogen, increasing the proliferation of osteoblasts [Gruber 1991, Kleerekoper 1996] and its uptake in bone increases during periods of rapid skeletal growth [Whitford 1996].

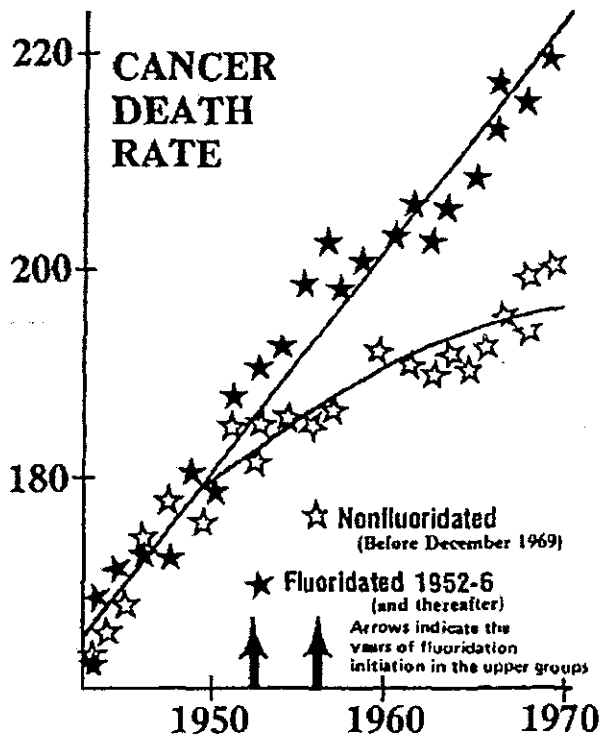
Lastly, the amount of fluoride present in bone depends on gender and intake [WHO 1984] and intake, on average, is greater for males than females for all **ages** over 1 year [Ershow].

**Bassin 2006 study** demonstrated an age [before the age of 20 years] and gender-specific [males only] relationship between fluoride level in drinking water. “All of our models were remarkably robust in showing this effect, which coincides with the mid-childhood growth spurt [Bogin 1998, Molinari 1980, Tanner 1980, Berkey 1983].”

**Dr. Victor Cecilioni, a Canadian physician from Hamilton, Ontario** examined cancer death rates in various Canadian cities and found that the cancer death rate in fluoridated areas was 15-25% higher in fluoridated areas than in nonfluoridated areas.

**1975, Burk and Yiamonyiannis** compared the cancer death rate of the ten largest fluoridated cities in the United States with the ten largest non-fluoridated cities that had comparable cancer death rates from 1940 to 1950, a period of time during which neither group of cities was fluoridated.

As shown in the illustration below, the cancer death rates of both groups rose in a virtually identical fashion between 1940 and 1950. However, following fluoridation of one group, the cancer death rate increased drastically in comparison to the other group. By 1969, the fluoridated cities had an average cancer death rate of about 220-225 cancer deaths per 100,000 people, while the other group had about 195-200, showing a fluoride-linked increase of approximately 10% in only 13-17 years.



Yiamouyiannis & Burk 1977.

The graph that started it all

Overall cancer death rates continued climbing in fluoridated cities after fluoridation but started leveling off in never-fluoridated cities.

**Dr. John David Erickson of the Center for Disease Control**

Examined the cancer death rates of all U.S. cities with a population of 250,000 or more and found that in the year 1970 people in fluoridated areas experienced a cancer death rate 15-25% higher than that of people in nonfluoridated cities.

**Dr. Donald Austin of the California Tumor Registry**

Examined cancer death rates in California and found that people living in fluoridated areas had a cancer death rate 40% higher than those living in nonfluoridated areas.

**1962, Dr. John Knutson of the U.S. Public Health Service**

Examined cancer death rates following fluoridation of Grand Rapids, Michigan (one of the first 4 water fluoridation trials) and found a 22% increase in cancer death rate following fluoridation - in contrast to the control city of Muskegon, Michigan.

The U.S. government's National Toxicology Program found increased incidence of bone cancer, liver cancer, sympathetic nervous system/adrenal medulla in a 1990, due to fluoride exposure from water.

## Fluoride and Children



Photo: [www.fluoridealert.org](http://www.fluoridealert.org)

Fluoridated drinking water contains up to 200 times more fluoride than breast milk (1000 ppb in fluoridated tap water vs 5-10 ppb in breast milk).

**“Consider using non-fluoridated, bottled water for drinking, cooking and mixing frozen fruit juices.”**

**“Where baby formula is used, non-fluoridated water should be used for mixing.”** Letter from Ontario Ministry of Health to Medical Officers of Health

**“When formula concentrations need to be diluted, it is recommended parents use low fluoride bottled distilled water (labeled as “purified” or “distilled baby water”) or tap water with a reverse osmosis home water filtration system attached that removes most of the**

**fluoride.”** Academy of General Dentistry. “Monitor Infant's Fluoride Intake.”

**“If using a product that needs to be reconstituted, parents and caregivers should consider using water that has no or low levels of fluoride.”** November 2006, the ADA [American Dental Association]

**“In Canada, actual intakes [of fluoride] are larger than recommended intakes for formula-fed infants and those living in fluoridated communities. Efforts are required to reduce intakes among the most vulnerable age group, children aged 7 months to 4 years”** Dr. David Locker 1999 Benefits and Risks of Water Fluoridation : An Update of the 1996 Federal-Provincial Sub-committee Report Prepared under contract for :Public Health Branch, Ontario Ministry of Health First Nations and Inuit Health Branch, Health Canada

**“A major effort should be made to avoid use of fluoridated water for dilution of formula powders.”** Ekstrand J. (1996). Fluoride Intake. In: Fejerskov O, Ekstrand J, Burt B, Eds. Fluoride in Dentistry, 2nd Edition. Munksgaard, Denmark. Pages 40-52.

**“[I]nfant formulas reconstituted with higher fluoride water can provide 100 to 200 times more fluoride than breastmilk, or cows milk.”** Levy SM, Guha-Chowdhury N. (1999). Total fluoride intake and implications for dietary fluoride supplementation. Journal of Public Health Dentistry 59: 211-23.

**“[P]arents of children using powdered infant formula should be warned by their medical practioners to use unfluoridated or defluoridated water to reconstitute the formula.”** Diesendorf M, Diesendorf A. (1997). Suppression by medical journals of a warning about overdosing formula-fed infants with fluoride. Accountability in Research 5:225-237.

**"Our analysis shows that babies who are exclusively formula fed face the highest risk; in Boston, for example, more than 60 percent of the exclusively formula fed babies exceed the safe dose of fluoride on any given day."** Environmental Working Group, "EWG Analysis of Government Data Finds Babies Over-Exposed to Fluoride in Most Major U.S. Cities", March 22, 2006.

**"[M]ore than 50 percent of infants are currently formula fed by 1 month of age, and these infants are likely to be continuously exposed to high intakes of fluoride for 9 or 10 months - a circumstance quite rare in the 1960s and early 1970s."** Fomon SJ, Ekstrand J. (1999). Fluoride intake by infants. *Journal of Public Health Dentistry* 59(4):229-34.

**"[F]luoride exposure, at levels that are experienced by a significant proportion of the population whose drinking water is fluoridated, may have adverse impacts on the developing brain... The findings are provocative and of significant public health concern."** Schettler T, et al. (2000). Known and suspected developmental neurotoxicants. pp. 90-92. In: *In Harms Way - Toxic Threats to Child Development*. Greater Boston Physicians for Social Responsibility: Cambridge, MA.

**"Infant foods mixed with water pose a special problem... One wonders what a 50-fold increase in the exposure of fluoride, such as occurs in infants bottle-fed with water-diluted preparations, may mean for the development of the brain and other organs... There is reason to be aware of the possibility that fluoride may affect the somatic and mental development of the child."** Carlsson A. (1978). Current problems relating to the pharmacology and toxicology of fluorides. *Lakartidningen* 25: 1388-1392.

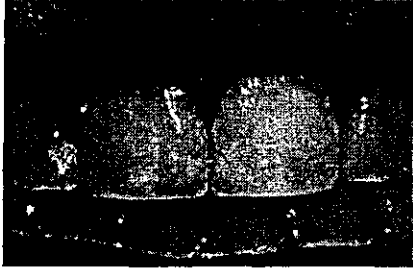
**"[W]e recommend use of water with relatively low fluoride content (e.g. 0 to 0.3 ppm) as a diluent for infant formulas..."** Fomon SJ, Ekstrand J, Ziegler EE. (2000). Fluoride intake and prevalence of dental fluorosis: trends in fluoride intake with special attention to infants. *Journal of Public Health Dentistry* 60: 131-9.

**"When infants are formula-fed, parents should be advised to reconstitute or dilute infant formula with deionized water (reverse osmosis, distilled, or low-fluoride bottled water) in order to reduce the amount of systemically ingested fluoride."** Brothwell D, Limeback H. (2003). Breastfeeding is protective against dental fluorosis in a nonfluoridated rural area of Ontario, Canada. *Journal of Human Lactation* 19: 386-90.

**"infant formulas should still be prepared using non-fluoridated water."** Clarkson JJ, McLoughlin J. (2000). Role of fluoride in oral health promotion. *International Dental Journal* 50:119-28.

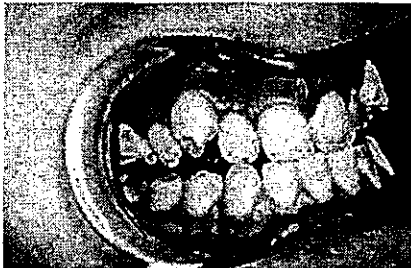
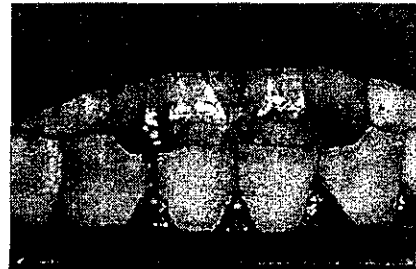
**"it is illogical to assume that tooth enamel is the only tissue affected by low daily doses of fluoride ingestion."** Dr. Hardy Limeback, Head of Preventive Dentistry, University of Toronto. (2000). *Why I am now Officially Opposed to Adding Fluoride to Drinking Water*.

## The Face of Dental Fluorosis



**Mild Fluorosis** “Dean advised that when the average child in a community has mild fluorosis, “. . . it begins to constitute a public health problem warranting increasing consideration” (Dean 1942, p. 29).” NRC 2006 p 106

**Moderate fluorosis** In moderate to severe forms of fluorosis, porosity increases and lesions extend toward the inner enamel. After the tooth erupts, its porous areas may flake off, leaving enamel defects where debris and bacteria can be trapped. The opaque areas can become stained yellow to brown, with more severe structural damage possible, primarily in the form of pitting of the tooth surface.” NRC 2006, p 79



**Severe Fluorosis** . “In the most severe forms of dental fluorosis, the extent and degree of porosity within the enamel are so severe that most of the outermost enamel will be chipped off immediately following eruption” (Fejerskov et al. 1990, p. 694)” NRC 2006, p 79.

The three main indexes used to grade enamel fluorosis in research are:

- Dean's index,
- Thylstrup-Fejerskov index (TFI),
- tooth surface index of fluorosis (TSIF).

Studies done in Canada demonstrate that:

- non-fluoridated BC had fewer cavities than fluoridated regions of Canada,
- communities in BC which discontinued fluoridation saw a significant decrease in the incidence of dental fluorosis.

**“When fluoride was removed from the water supply in 1992, the prevalence and severity of TFI [Thylstrup-Fejerskov index] scores decreased significantly...”** Clark DC, Shulman JD, Maupome G, Levy SM. 2006 Changes in Dental Fluorosis Following Cessation of Water Fluoridation. Community of Dental and Oral Epidemiology Jun;34(3):197-204.

**“Survey results in British Columbia with only 11% of the population using fluoridated water show lower DMFT [decayed, missing, filled teeth] rates than provinces with 40-70% of the population drinking fluoridated water.”<sup>108</sup> and “school districts recently reporting the highest caries-free rates in the province were totally unfluoridated.”** Gray AS. 1987 Fluoridation. Time for a New Base Line? Journal of the Canadian Dental Association. 53(10): 763-765

## Fluoride and Hypersensitivity

It commonly understood that many drugs and foods can cause hyper-sensitive or allergic reactions in some individuals, e.g. Penicillin and Peanuts.

Toronto resident, Aliss Terpstra, born 1952 in Grand Rapids, Michigan, is hypersensitive to fluoride. She was born in the first city in the U.S. to add fluoride to the water (1945), and has lived in cities with fluoridated water her entire life. Her youngest child is also hypersensitive to fluoride and has moderate dental fluorosis.



Aliss' symptoms after ingesting fluoride include extreme thirst, urgent, frequent and dilute urine similar to diabetes insipidus, heart palpitations, fatigue, abdominal pain, bloating, diarrhea, lowered body temperature, head-aches, muscle weakness, and joint pain.

According to research, 1-4% of human population is hyper-sensitive to fluoride<sup>30,31</sup>. Some animals are also known to be hypersensitive to fluoride<sup>117-119</sup>.

**"In hypersensitive individuals, fluorides occasionally cause skin eruptions such as atopic dermatitis, eczema or urticaria. Gastric distress, headache and weakness have also been reported. These hypersensitivity reactions usually disappear promptly after discontinuation of the fluoride." PHYSICIANS' DESK REFERENCE. 1994. 48th Edition, p. 2335-6.**

**Case Study:** "This patient remained completely well upon drinking and cooking with distilled water. In August 1955 she was obliged to use city water again. Within one day, her muscle pains and intestinal symptoms returned."

**Case Study: Mrs. W.E.A., age 61.** This patient had had a tendency to allergic nasal disease, to gastro-intestinal and bladder disturbances due to food and other allergy. On five occasions when visiting fluoridated cities she developed the following symptoms: nasal congestion, rhinorrhea, conjunctival edema, general pruritus, severe spastic pains throughout the abdomen, diarrhea, flatulence, polyuria and dysuria. This was accompanied by extreme general malaise. After repeated episodes she began to suspect the drinking water in these towns, namely, Richmond, Va., Washington, D.C., and Charleston, W. Va. By refraining from drinking fluoridated water and avoiding food cooked with city water she was able to prevent recurrences.

**Case Study Mrs. B.M., 50-year-old white female,** consulted me because of generalized urticaria present since December, 1952, usually worse on arising. In addition, she complained of severe headaches, paresthesias in arms and hands, pains in legs and edema of both ankles, ulcers in the mouth, pain in the lower spine. Typical urticarial lesions were present on trunk and extremities; there was limitation in motion in the lower spine.

Laboratory and biochemical studies were entirely normal, except for a sedimentation rate of 67 mm per hour. There was X-ray evidence of sclerotic changes of the lower spine. An allergic survey including extensive intradermal tests failed to detect anything significant. On 6/10/57 the patient while being kept on a low (137 mg.) calcium diet was given a placebo test of 300 cc. of distilled water. It caused no ill effect. On June 12th 2 mg. NaF (.9 mg. F) in 300 cc. of distilled water was administered. The patient was not aware that the water contained fluoride. She had previously had similar tests (glucose tolerance and urea clearance). Within 20 minutes she developed a generalized urticaria associated with cough and pain in the gastric region followed by marked flatulence in the abdomen.

This test was repeated on June 18th, after placing the patient on a high calcium (2 gms.) diet to which 1.3 gms. of calcium lactate had been added. The patient experienced the same symptoms as had occurred subsequent to the above-described test. Urticaria dominated the picture. Since eliminating fluoridated water for drinking and cooking foods all symptoms have subsided.

**Case no. 6.** Mrs. N.S., 29 years-old, consulted me on 10/7/57 because of a dermatitis in the suprapubic area and at the adjoining parts of both thighs. This had been present for 3 1/2 months during the past two weeks. She also complained of paresthesias in arms and legs, of severe frontal headaches associated with blurring of the eyes, dizziness and fainting spells, pain and stiffness in the lower spine, mild arthritic symptoms migratory in character, affecting practically every joint.



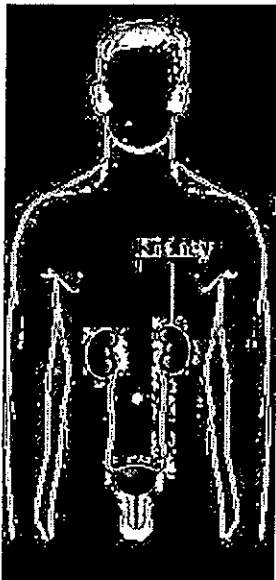
The skin eruption was characteristic of a dermatitis with papulo-pustular lesions, showing many scratch marks. There was tenderness and limitation in motion in the lower spine, hyper-reflexia in both extremities; otherwise the examination was negative.

X-rays showed minor hypertrophic changes in the lower spine. Blood and urine studies were normal except for an increase in cholesterol esters (130.5 mg.%). Intradermal skin tests were inconclusive. During the stay at Women's Hospital the lesions improved spontaneously without treatment.

On 10/10/57, the patient was given a placebo test dose of 300 cc. of distilled water. It had no ill effect. The following day she received 6.8 mg. of fluoride as NaF in the same amount of water. Within one hour the skin lesions which had practically subsided returned with marked vesiculation, oozing and severe pruritus. In addition she developed frontal headache, lethargy and minor episodes of syncope. The headaches began to subside after 5 to 6 hours; the skin started to improve during the following days. This patient has been well without treatment following elimination of fluoride water.



## Fluoride and Kidneys



Kidney disease markedly increases an individual's susceptibility to fluoride toxicity. In healthy adults, the kidneys are able to excrete approximately 50% of an ingested dose of fluoride. However, in adults with kidney disease the kidneys may excrete as little as 10 to 20% and young children may only excrete 15% of an ingested dose - thus increasing the body burden of fluoride and increasing an individual's susceptibility to fluoride poisoning (e.g. renal osteodystrophy).

**"Overall, an average of 86.6% of the dose was retained by the infants, which is about 50% higher than would be expected for adults...the pharmacokinetics of fluoride in infants reveal(s) a completely different pattern compared to what has been found in adults."** Whitford GM 1994 Intake and Metabolism of Fluoride. *Adv Dent Res* 8(1): 5-14.

**"HD (hemodialysis) patients need to practice dietary control for the restriction of oral F intake."** Usuda K, Kono K, Yoshida Y (1997). The effect of hemodialysis upon serum levels of fluoride. *Nephron* 75:175-8.

**"According to the National Institute of Dental Research, also part of NIH, fluoride levels in water are set according to normal consumption of water. If an individual is consuming abnormally large quantities of water, drink bottled water."** Letter from National Institute of Diabetes and Digestive and Kidney Diseases, Dept. of Health & Human Services, 1991

**Case Study #1: "In my medical practice I have encountered two cases in which fluoridated water interfered with kidney function. One of these, Miss G.L., 27 years old, had been under my care from July 1966 to September 1969 for allergic nasal and sinus disease. She had a congenital cystic kidney necessitating consultation with a urologist. As shown by its inability to excrete indigo carmine, a dye employed as an indicator of kidney function, the left kidney was not working and was slated for removal. This patient also reported having pains and numbness in arms and legs, spasticity of the bowels, ulcers in the mouth, headaches, and a progressive general disability - symptoms of possible intolerance to fluoride - for about 15 years. Her water supply (Highland Park, Michigan) had been fluoridated since September 1952. On February 1, 1967, I instructed her to avoid fluoridated water for drinking and cooking. Within a few weeks all the above-mentioned symptoms disappeared, and another kidney dye test on June 12, 1967, astonishingly revealed that the left kidney had begun to function again! A follow-up 5 years later revealed that the patient had remained in good health as long as she refrained from drinking fluoridated water.**

**Case Study #2: The other patient, Mrs E.P., 39 years old, who visited me on August 25, 1969, had advanced pyelitis of the left kidney, beginning with osteosclerotic changes in the pubic bones, and exostosis at the sternum, accompanied by the same clinical picture as in**

the patient just discussed. The function of the diseased kidney and the other symptoms improved markedly within six weeks after she stopped drinking the municipal water in Midland, Michigan (fluoridated since January 1946). Twenty-four hour urinary fluoride excretions before and after the tests were 2.39 and 4.20 mg, respectively. For most of her life she had resided in Lubbock, Texas (water supply fluoride then 4.4 ppm). The development of osteosclerosis in this case was not surprising, since - as recorded in fluoridated Evanston, Illinois, and also in a fluoridated Finnish community - kidney patients retain as much as 60% more fluoride than do persons in normal health. In the Finnish work blood fluoride levels were 3 to 4 times higher than normal in the patients with renal disorders." Waldbott GL, et al. (1978). Fluoridation: The Great Dilemma. Coronado Press, Inc., Lawrence, Kansas, pp. 155-156.

**"Individuals with kidney disease have decreased ability to excrete fluoride in urine and are at risk of developing fluorosis even at normal recommended limit of 0.7 to 1.2 mg/l."** Bansal R, Tiwari SC. (2006). Back pain in chronic renal failure. *Nephrology Dialysis Transplantation* 21:2331-2332.

**"In patients with reduced renal function, the potential for fluoride accumulation in the skeleton is increased. It has been known for many years that people with renal insufficiency have elevated plasma fluoride concentrations compared with normal healthy persons and are at a higher risk of developing skeletal fluorosis."** National Research Council. (2006). Fluoride in Drinking Water: A Scientific Review of EPA's Standards. National Academies Press, Washington D.C. p140.

**"Persons with renal failure can have a four fold increase in skeletal fluoride content, are at more risk of spontaneous bone fractures, and akin to skeletal fluorosis even at 1.0 ppm fluoride in drinking water."** 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

**"It is important to control the intake of this element [fluoride] and the prolonged use of fluoridated dental products in the subjects with chronic renal insufficiency, to avoid a risk of fluorosis."** Torra M, et al. (1998). Serum and urine fluoride concentration: relationships to age, sex and renal function in a non-fluoridated population. *Science of the Total Environment* 220: 81-5.

**"[A] fairly substantial body of research indicates that people with kidney dysfunction are at increased risk of developing some degree of skeletal fluorosis. ... However, there has been no systematic survey of people with impaired kidney function to determine how many actually suffer a degree of skeletal fluorosis that is clearly detrimental to their health."** Hileman B. (1988). Fluoridation of water. Questions about health risks and benefits remain after more than 40 years. Chemical and Engineering News August 1, 1988. 26-42.

# Skeletal Fluorosis

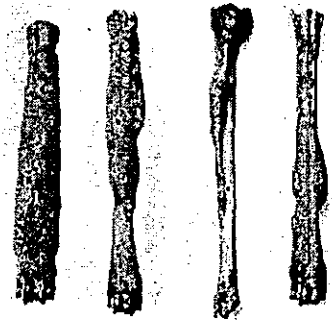
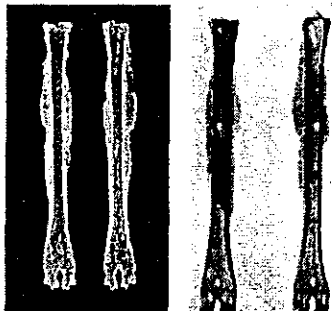


Fig. 1. Sheep bones showing skeletal fluorosis. (a) Normal bone; (b) bone with slight fluorosis; (c) bone with moderate fluorosis; (d) bone with severe fluorosis.



Photos: Bones of Icelandic Sheep that died due to fluoride over-exposure. Roholm, K. 1937. Fluoride Intoxication. A Clinical Hygienic Study With a Review of Literature and Some Experimental Investigations. H.K. Lewis and Co.,

**"Clinical Phase 1 Fluorosis: Sporadic pain; stiffness of joints; osteosclerosis of pelvis & vertebral column.**

**Clinical Phase 2 Fluorosis: Chronic joint pain; arthritic symptoms; slight calcification of ligaments...**" Department of Health and Human Services. (1991). Review of fluoride: benefits and risks. Report of the Ad Hoc Subcommittee on Fluoride. Washington, DC.

Given the lack of training western doctors receive on fluorosis, it is plausible that early stages of the condition (including pain and stiffness) are being misdiagnosed as arthritis in artificially fluoridated areas. The causes of most forms of arthritis (e.g. osteoarthritis) are unknown.

**"increasing numbers of people with carpal-tunnel syndrome, arthritic-like pains, osteoporosis may be due to the mass fluoridation of drinking water."** EPA 2003 Annual Report

**"Although skeletal fluorosis has been studied intensely in other countries for more than 40 years, virtually no research has been done in the U.S. to determine how many people are afflicted with the earlier stages of the disease, particularly the preclinical stages. Because some of the clinical symptoms mimic arthritis, the first two clinical phases of skeletal fluorosis could be easily**

**misdiagnosed... Even if a doctor is aware of the disease, the early stages are difficult to diagnose."** Hileman B. (1988). Fluoridation of water. Questions about health risks and benefits remain after more than 40 years. Chemical and Engineering News August 1, 1988, 26-42.

Canadian National Research Council 1977 Environmental Fluoride reports that a retention of 2 mg of fluoride per day (corresponding approximately to a daily intake of 4-5 mg) "would mean that an average individual would experience skeletal fluorosis after 40 yr, based on an accumulation of 10,000 ppm fluoride in bone ash."

**"In a 55-yr-old woman with long-standing arthritis, but no obvious signs of fluorosis, X-rays exhibited degeneration of discs and calcification in disc spaces. Her daily fluoride intake, mainly from tea, exceeded 9 mg; her daily urinary excretion was 3 mg. When she discontinued consuming tea, her fluoride intake fell below 1 mg daily; excretion through the urine exceeded intake; the arthritic pains diminished and virtually ceased in 6 mo; mobility of her spine was restored and she was able to resume work. Arthritis of the spine of unknown cause might represent subclinical fluorosis which is not demonstrable radiologically."** Cook HA 1972 Crippling arthritis related to fluoride intake: Case report. Fluoride 5 (4):209-213 (1972)

**"Skeletal fluorosis' is a condition associated with prolonged accumulation of fluoride resulting in fragile bones having low tensile strength. It affects the joints as well as the bones. It is not easily recognizable till advanced stage. In its early stages, its symptoms may resemble those of arthritis. In its most severe stages it becomes a crippling disability that has a major public health and socio-economic impact, affecting millions of people in various regions of Africa, China and India."** Ayoob S. Gupta AK. (2006) Fluoride in Drinking Water: A Review on the Status & Stress Effects. *Critical Reviews in Environmental Science & Technology* 36:433-487.

**"The authors describe a 50-year-old man with previously treated cancer who was using tray-applied topical fluoride gel. He complained of gastric symptoms, difficulty in swallowing, leg muscle soreness and knee joint soreness... The patient's fluoride regimen was altered, and within a short period his urinary fluoride levels returned to normal and his symptoms resolved."** Eichmiller FC, Eidelman N, Carey CM. (2005). Controlling the fluoride dosage in a patient with compromised salivary function. *Journal of the American Dental Association* 136:67-70.

**"Fluorine is known to bind calcium in the body, causing ionic calcium to decrease; this, in turn, causes secondary hyperparathyroidism. It is thus clear that the clinical picture of fluorosis includes softening of the bones and osteoporosis as well as secondary hyperparathyroidism on a global basis."** Trace Elements in Human and Animal Nutrition - Fifth Edition, Edited by Walter Mertz, U. S. Dept. of Agriculture. Agricultural Research Service, Beltsville Human Nutrition Research Center, Beltsville, Maryland, (1987)

**"The initial symptoms usually were headache and weakness. These were followed by multiple joint pains, mostly in the feet, knees, and back. Spinal stiffness and kyphosis developed in a few patients."** Wang Y, et al. (1994). Endemic fluorosis of the skeleton: radiographic features in 127 patients. *American Journal of Roentgenology* 162: 93-8.

**"Symptoms of pain, stiffness and diffuse aches may be dismissed as functional, but may in fact be early signs of fluoride damage to tendinous insertions and ligaments as well as joint capsules."** Anand JK, Roberts JT. (1990). Chronic fluorine poisoning in man: a review of literature in English (1946-1989) and indications for research. *Biomedicine & Pharmacotherapy* 44: 417-420.

**"Vague, diffuse aches and stiffness of joints with decreased range of motion are common initial symptoms. With disease progression, kyphosis with limited spinal mobility, flexion contracture of lower extremities, and restricted chest wall expansion occur."** Fisher RL, et al. (1989). Endemic fluorosis with spinal cord compression. A case report and review. *Archives of Internal Medicine* 149: 697-700.

**"The most frequent symptoms in those exposed >6 yr were low back pain, painful knee, elbow, and hip... Analysis of workers' complaints showed no specific pain or other symptom that we could refer only to fluorosis...The only characteristic feature would be multiple-joint involvement in the case of fluorosis. This would differentiate fluorosis from monoarticular osteoarthritis (OA), but unfortunately not from multiple-joint osteoarthritis or rheumatoid arthritis (RA)."** Czerwinski E, et al. (1988). Bone and joint pathology in fluoride-exposed workers. *Archives of Environmental Health* 43: 340-343.

## Fluoride and Thyroid Function

“Fluoride exposure in humans is associated with elevated TSH concentrations, increased goiter prevalence, and altered T4 and T3 concentrations; similar effects on T4 and T3 are reported in experimental animals.” P 218

“In humans, effects on thyroid function were associated with fluoride exposures of 0.05-0.13 mg/kg/day when iodine intake was adequate and 0.01-0.03 mg/kg/day when iodine intake was inadequate.” P 218

“The recent decline in iodine intake in the United States could contribute to increased toxicity of fluoride for some individuals.” P 218



“Intake of nutrients such as calcium and iodine often is not reported in studies of fluoride effects. The effects of fluoride on thyroid function, for instance, might depend on whether iodine intake is low, adequate, or high, or whether dietary selenium is adequate.” National Research Council 2006 Report on Fluoride in Drinking Water P 222

In 1946 the Atomic Energy Commission (Department of Pharmacology & Toxicology) - headed by Harold Carpenter Hodge, who was also head of the International Association for Dental Research (IADR) - acknowledges the German findings from 1930-1970 that all fluoride compounds - organic or inorganic - inhibit thyroid hormone activity, and declares this issue a research priority. No further research into this issue is conducted, however.

### Fluoride-Thyroid-Iodine Antagonism: Mechanisms of Action

- Fluoride interferes with iodine uptake
- Fluoride is a universal G-Protein activators/inhibitors
- Fluoride is a TSH [thyroid stimulating hormone] analogue.
- Fluoride in inhibits thyroid hormone transport
- Fluorides mimic the action of TRH i.e. by causing elevated prolactin levels in the pituitary (Yuan et al, 1991).
- Fluoride interferes with Deiodinases [enzymes necessary to “deiodinate” or remove iodine from thyroid hormones]
- Fluoride causes thyroid cancer?

Evidence suggests that thyroid cancer rates increase in areas of water fluoridation. Kinlen 1974 shows an increase in **thyroid cancer** of 18 to 19 per cent in fluoridated areas as compared to nonfluoridated ones. Orgiazzi 1976 demonstrates that fluoride more actively stimulates adenylate cyclase in cold thyroid nodules than in normal thyroid tissue.

# Fluorosilicate Toxicity



Bears paw, Alberta [suburb of Calgary]

**Any implication that the water treatment facility is merely adjusting the amount of fluoride that is found naturally in the water supply is misleading.**

**Fluoride concentrations that are found naturally in water usually contain a proportionately high level of calcium, which is not represented in hydrofluorosilicic acid used in the fluoridation process. The presence of calcium is able to alter fluoride absorption and protect against fluoride toxicity.**

Hydrofluorosilicic acid is neither “natural” nor passive. It is anthropomorphic, meaning made by man [in the smoke stacks of the phosphate fertilizer industry], and extremely toxic.

## **Brenntag Canada Inc. HYDROFLUOROSILICIC ACID (HFSA) Safety Precautions**

**“Inhalation:** Corrosive! Product may cause severe irritation of the nose, throat and respiratory tract. Repeated and/or prolonged exposures may cause productive cough, running nose, bronchopneumonia, pulmonary oedema and reduction of pulmonary function.

**Skin Contact:** Corrosive! May cause pain and deep and severe burns to the skin. Prolonged and repeated exposure to dilute solutions often causes irritation, redness, pain and drying and cracking of the skin. Toxic effects may be delayed.

**Eye Contact:** Extremely Corrosive! This product causes corneal scarring and clouding. Glaucoma, cataracts and permanent blindness may occur.”

**Burns caused by hydrofluoric acid can be life-threatening. Of special significance is the often underestimated local and sometimes delayed deep action of the highly diffusible free fluoride ions and the accompanying systemic toxicity. The specific antidote calcium gluconate can be topically applied, injected into tissue or infused intra-arterially. Because of the extreme danger of systemic toxicity even after seemingly trivial injuries, monitoring in the intensive care station, especially by measuring the calcium concentration in blood and electrocardiography, and therapy is recommended.** Richter H, Hollenberg S, Sachs HJ, Oeltjenbruns J, Weimann J. 2005 Hydrofluoric Acid Burns: A rare chemical emergency situation. *Anaesthesist* Feb;54(2):123-6. [in German].

**“Accidental hydrofluoric acid (HF) splashes often occur in industrial settings. HF easily penetrates into tissues by initial acid action allowing fluoride ions to penetrate deeply, chelating calcium and magnesium. Resultant hypocalcemia and hypomagnesemia can be fatal.”** Soderberg K, Kuusinen P, Mathieu L, Hall AH. 2004 An Improved Method for Mergent Decontamination of Ocular and Dermal Hydrofluoric Acid Splashes. *Vet Hum Toxicol* Aug;46(4):216-8.

**A 37-year-old male laboratory technician was performing acid digestion of sedimentary rock samples with 70% w/w concentrated hydrofluoric acid ...he knocked over a small quantity (100–230 mL of the hydrofluoric acid onto his lap, splashing both thighs. He sustained burns to 9% of his body surface area, despite washing his legs with water from a makeshift plumbing arrangement that supplied water at low pressure...Following flushing, because he was still in severe pain and shock, he immersed himself in a chlorinated swimming pool at the rear of the**

**workplace, where he remained for approximately 35–40 min before ambulance help arrived. At that time he was hypothermic and hypocalcaemic on admission to an intensive care unit at a nearby hospital, and soon became unconscious. His condition continued to deteriorate despite subcutaneous injections of calcium gluconate and administration of intravenous calcium and magnesium. His right leg was amputated seven days after the incident. He subsequently died from multi-organ failure 15 days after the spill.** Muriale L, Lee E, Genovesef J, Trend S. 1996 Fatality due to acute fluoride poisoning following dermal contact with hydrofluoroic acid in a palynology laboratory. *Annals of Occupational Hygiene* 1996; 40(6):705-10.

A quick look at the **Periodic Table** will show you that the halogen family holds a distinct position. It is a group that is chemically very reactive [group 7]. Fluorine is the smallest of the halogens, the most reactive of all of the halogen family and the most reactive non-metal element known to man. It has a propensity to combine with anything in its path. Fluoride combines with essential nutrients like calcium and magnesium, interfering with tissue uptake. Fluoride can help facilitate the uptake of aluminum and lead into tissues where these metals would not otherwise go (Gilman 1987, Wittinghofer 1997, Mahaffey 1976; Allain 1996; Varner 1998, Li 2003, Sternweiss 1982, NRC 2006). It interferes with hydrogen bonding (Emsley 1981, NRC 2006) and interferes with more than 100 enzymes [see partial bibliography below or visit WHO website].

Virtually every vital function of the body is dependent on enzymes. The same enzyme in different tissues/organs exhibit different sensitivities to fluoride; e.g. **Esterase** in liver – fluoride inhibits; **Esterase** in pancreas and bowels – fluoride does not inhibit.

Some enzymes are inhibited, others are activated by fluoride. For example, fluoride inhibits glycolysis [breakdown of glucose into energy for cells] by inhibiting the enzyme enolase. Fluoride inhibits energy metabolism through the tricarboxylic acid cycle by blocking the entry of pyruvate and fatty acids and by inhibiting succinic dehydrogenase.

Voluntary and involuntary muscle action is stimulated by **acetylcholine (ACh)** which is cleaved by the enzyme **acetylcholinesterase (AChE)** to end the stimulation. Without AChE, muscle excitation would persist as spasm with potentially lethal effect, as caused by a nerve gas. Acetylcholine modulated by acetylcholinesterase also induces saliva flow. Intense salivation is a symptom of fluoride poisoning. Fluoride interferes with acetylchlorinesterase, but silicofluorides are a much more potent inhibitor of this essential enzyme. [Westendorf 1975]

Alkaline phosphatase [an enzyme involved in growth of bones and liver function] on the other hand is often elevated in chronic fluoride poisoning [Merz 1970, Srikantia 1965, Waldbott 1962].

Hypothesized mechanisms of action for fluoride include the inhibition of enzymes vital for the survival of bacteria in mouth which are involved in acid dissolution. This begs the question; if fluoride destroys the enzymes in the bacteria, what does it do to the enzymes in other parts of our body? Kakei et al. 2007 demonstrate that it destroys enzymes involved in the construction of teeth and bones at very low doses in rats [0.1ppm].

**Table 7-1**  
**Comparative Toxicity of Inorganic Fluorides<sup>6</sup>**

<i>Extremely Toxic</i>	
Hydrogen fluoride (anhydrous)	HF
Silicon tetrafluoride	SiF <sub>4</sub>
Hydrofluoric acid (aqueous)	HF
Hydrofluorosilicic acid	H <sub>2</sub> SiF <sub>6</sub>
<i>Very Toxic</i>	
Easily soluble fluorides and fluorosilicates	
Sodium fluoride	NaF
Potassium fluoride	KF
Ammonium fluoride	NH <sub>4</sub> F
Sodium fluorosilicate	Na <sub>2</sub> SiF <sub>6</sub>
Potassium fluorosilicate	K <sub>2</sub> SiF <sub>6</sub>
Ammonium fluorosilicate	(NH <sub>4</sub> ) <sub>2</sub> SiF <sub>6</sub>
<i>Moderately Toxic</i>	
Poorly soluble (almost insoluble) fluorides	
Cryolite	Na <sub>3</sub> AlF <sub>6</sub>
Calcium fluoride	CaF <sub>2</sub>

**Table 7-2**

**Lethal Dose of Fluorides in Adult Guinea Pigs<sup>7</sup>**

<i>Compound</i>	<i>Oral (mg/kg)</i>	<i>Subcutaneous (mg/kg)</i>
NaF	250	400
CaF <sub>2</sub>	>5,000	>5,000
AlF <sub>3</sub>	600	3,000
HF (aqueous)	80	100
H <sub>2</sub> SiF <sub>6</sub>	200	250
Na <sub>2</sub> SiF <sub>6</sub>	250	500
Al <sub>2</sub> (SiF <sub>6</sub> ) <sub>3</sub>	5,000	4,000

Industry Fluoride

vs.

Natural Fluoride

Hydrofluorosilicic Acid (H<sub>2</sub>SiF<sub>6</sub>)

is 20 times more toxic than

Calcium Fluoride (CaF<sub>2</sub>)

Table 7-2 shows the acute toxicity of the most important fluoride salts to guinea pigs, expressed in milligrams per kilogram of body weight. It also demonstrates the difference in the lethal dose following oral and subcutaneous administration.

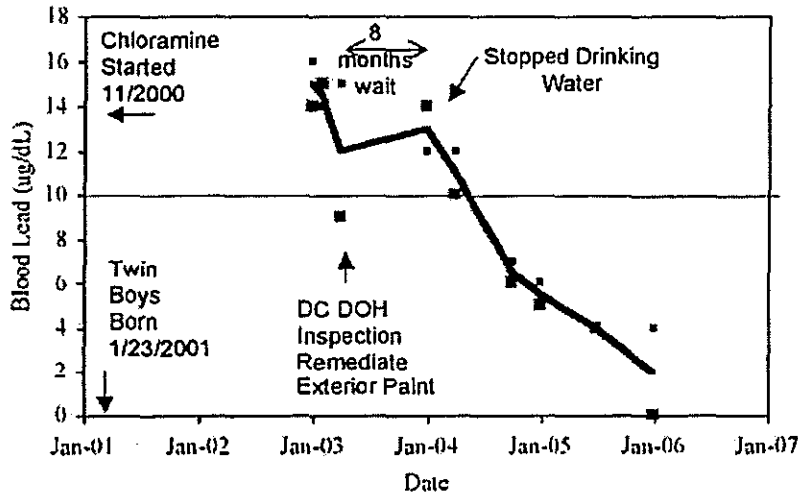
Table 7-2 from: Simonin P, Pierron A. 1937 Toxicite brute des derives fluores. C.R. Seances Soc. Biol. Fil. 124: 133-134.



## Fluorosilicates Increase Blood Lead Levels

A growing body of research suggests that the practice of fluoridation may double the exposure of lead in our children from drinking water.

A statistically significant association between the use of silicofluorides as water fluoridation agents (in both Massachusetts and New York State) and an increased uptake of lead into children's blood<sup>44-45</sup> was previously demonstrated.



### Blood lead data for twin boys born in 2000.

"After the levels were found to be higher than CDC's [Centers for Disease Control] level of concern, DOH [department of health] inspected their home for lead paint and found only a remote exterior door as an admittedly unlikely source. However, painting the door failed to bring down the boys' blood lead

levels. But when they stopped drinking tap water and it was no longer used in cooking their meals, the boys' blood lead levels declined rapidly." Renner R. 2006 Mis-Lead. Environmental Science Technology Online News: Science News May 31. [http://pubs.acs.org/subscribe/journals/esthag-w/2006/may/science/rr\\_mislead.html](http://pubs.acs.org/subscribe/journals/esthag-w/2006/may/science/rr_mislead.html).

### Sodium Fluoride → Silicofluorides

Silicofluorides were substituted for sodium fluoride in 1947 and endorsed in 1950 by the US Public Health Service without prior animal testing because rats teeth got as much fluoride as from sodium fluoride, and a community could save 4 cents per year per resident (McClure, 1950).<sup>46</sup>

### Chlorine → Chloramine

A switch from chlorine to chloramine [ammonia + chlorine] was recently recommended and adopted in some water systems for several reasons:<sup>46</sup>

- Chloramine is cheaper than other disinfection methods
- Easy to add ammonium to already-chlorinated water
- Chloramine produced fewer disinfection by-products [DBPs] than chlorine

**Fluorosilicates &/or Chloramine + Lead or Leaded Brass = Increased Blood Levels**

Two new studies<sup>46-47</sup> demonstrate that fluoride in various combinations with chlorinating chemicals (e.g. chlorine or chloramine) increases the release of lead from leaded brass fittings used in water pipes. There are several chemical reasons<sup>46</sup>:

1. fluosilicic acid, the most widely used fluoridating agent, is a good solvent for lead.
2. chlorine, ammonia, and chloramine are all hostile to copper in that they induce copper stress cracking and/or can dissolve it.
3. ammonia added to chlorine to produce chloramine will also react with fluosilicic acid to produce ammonium fluosilicate, an established solvent for copper alloys/brass.

Besides these chemical factors, the lead in brass is present as nodules, so that any attack on the copper matrix of brass would make lead particles readily accessible for mobilization<sup>46</sup>.

**Drinking Water is an important source of increased lead. Increased blood levels were found in homes without lead service lines or lead soldered copper piping. The only possible lead source had to be leaded-brass plumbing and/or brass faucets.**

Silicofluoride use is associated with 2 neurotoxic effects<sup>47</sup>:

1. Prevalence of children with elevated blood lead (PbB>10µg/dL) is about double that in non-fluoridated communities
2. Voluntary and involuntary muscle action is stimulated by **acetylcholine** (ACh) which is cleaved by the enzyme **acetylcholinesterase** (AChE) to end the stimulation. Without AChE, muscle excitation would persist as spasm with potentially lethal effect, as caused by a nerve gas. Acetylcholine modulated by acetylcholinesterase also induces saliva flow. Intense salivation is a symptom of fluoride poisoning. Silicofluorides inhibit AChE.

“It is proposed here that SiFW [silicofluorides in water] induces protein mis-folding via a mechanism that would affect polypeptides in general, and explain dental fluorosis, a tooth enamel defect that is not merely "cosmetic" but a "canary in the mine" foretelling other adverse, albeit subtle, health and behavioral effects.”<sup>47</sup>.

One new study reports:

Over the first test week with chlorine flushing, lead concentrations nearly doubled [from 100ppb to nearly 200ppb]. When fluorosilicic acid was added, lead concentrations spiked from 100ppb to over 900ppb<sup>46</sup>.

Lead concentrations from the chlorine-based waters appeared to be decreasing over the study period. Lead concentrations seemed to be increasing with the chlorine + ammonia + fluorosilicic acid combination<sup>46</sup>.

Citations

Coplan MJ, Patch SC, Masters RD, Bachman MS. 2007 Confirmation of and explanations for elevated blood lead and other disorders in children exposed to water disinfection and fluoridation chemicals. *Neurotoxicology*. Sep;28(5):1032-42.

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Maas RP, Patch SC, Christian AM, Coplan MJ 2007 Effects of fluoridation and disinfection agent combinations on lead leaching from leaded-brass parts. *Neurotoxicology*. Sep;28(5):1023-31.

Masters RD, Coplan M. 1999 Water treatment with silicofluorides and lead toxicity. *International Journal of Environmental Science* 56: 435-449.

Masters and Copland 2000 Association of silicofluoride treated water with elevated blood lead levels. *Neurotoxicology* 21(6):1091-1100.

Renner R. 2004 Leading to lead. *Scientific American* 291(1):22-4.

Renner R. Mis-Lead. *Environ Sci Technol Online News: Science News* May 31, 2006. [http://pubs.acs.org/subscribe/journals/esthag-w/2006/may/science/rr\\_mislead.html](http://pubs.acs.org/subscribe/journals/esthag-w/2006/may/science/rr_mislead.html).

January 31, 2008

To: Ige and Fukunaga; committee on health, on commerce,

Consumer Protection and Affordable Housing, hearing 2/1/08, 1:15 PM, RM 016

Re: SB 2416 Relating to Dental Health

**TESTIMONY IN OPPOSITION TO SB 2416**

Fr: Ronald S. Carlson, AB Chem., DDS [ddscarlson@hawaiiantel.net](mailto:ddscarlson@hawaiiantel.net)

Good day and thank you for your service to our community.

A "**medication**" is by definition—taken from medical dictionaries and Wikipedia—"a drug or substance used to **prevent**, or remedy a disease." This is also the official definition of MEDICATION used in Hawaii State law.

Communal water fluoridation is designed to **prevent dental caries(tooth decay)**, a disease in humans. Therefore, fluoride slipped into water supplies in Maui, as proposed in a so-called "pilot project", is to **prevent dental caries(tooth decay)**, a disease.

A dentist (physician) is required by law to prescribe topical fluoride application in his practice or, if appropriate, prescribe a specific amount in table form to be ingested by a child or adult to prevent the disease, dental caries. State law, to anyone other than a dentist, prohibits this act.

Ordinary people cannot obtain fluoride for **internal** use but by prescription from a dentist or physician. They may, however, apply it to their teeth topically with tooth pastes, but with warnings to avoid ingestion of more than a "pea size" by manufacturers. The warnings tell the user to call the "poison control center" locally.

November 2007 the American Dental Association stated, officially, that baby formula using fluoridated tap water **should not** be given to a child under the age of one year. These are unarguable facts!

Ingestion of fluoride to **prevent dental decay** (actually practicing medicine by State law so defined) is dose specific to the individual relative to age, weight, and other vital factors. Too much will cause crippling of the body, malformation of teeth, bones, brain, pineal gland, kidney, and other endocrine glands, possibly.

Anyone consuming more that one-quart of water with slightly more than one part per million fluoride per day will exceed that recommended by the ADA, state and federal agencies too.

Dosage via community water programs is uncontrollable regarding amounts consumed by each individual, and this too is unarguable. In a very real sense the Board of Water Supply now becomes the dentist or physician dispensing to those allegedly needing and not needing a remedy to **prevent a disease**.

The point is, the State Department of Health wishes to engage itself and others in **mass medication** (by their own definition), and, without choice. What happened to our rights to choose protected by the Constitution for the United States of America and the State of Hawaii?

Use of a medication—remember fluoride is a substance used to **prevent a disease**—without a dental or medical license in the State of Hawaii is practicing dentistry/medicine without a license, a violation of laws of the State of Hawaii.

People, see any problems here?

Lawyers, see any possibilities?

Respectfully submitted: Ronald S. Carlson, DDS

For Senator David Ige  
& members of the Health Committee  
SB 2416 relating to Dental Health  
Feb. 1, 2008  
1:15 pm  
Conference Rm. 16

I am seven years old, going on eight.  
Please keep our water clean and  
safe

for me and my family and others.  
Say NO to SB 2416.

Jade Marie Kam  
P.O. Box 10193  
Honolulu, HI 96816  
Jan 31, 2008

Fax 586-6659 for Health Committee Hearing

To Senator David Ige

& Members of the Health Committee

For SB 2416

Feb. 1, 2008, 1:15 pm, Conference Rm. 16

From Elaine Kam

I am a parent, grandparent and senior citizen.

I strongly oppose SB 2416 regarding Dental Health

and urge you to keep our drinking water pure.

Fluoridation is financially costly and affects humans and all living creatures negatively... within the years to come. (Reference: 50 Reasons Against Fluoridation; by Paul Connett, Ph.D.)

Please vote NO to SB 2416.

Thank you.

Elaine Kam  
PO Box 10103, Hahaione, HI  
Jan. 31, 2008 96816

To: Senate Sgt-At-Arms Office FAX No. 586-6659. Please submit the following testimony with attachment to Committee Clerk, Room 215, State Capitol. Mahalo.

HEARING ON Friday, February 1, 2008 at 1:15 p.m.  
Conference Room 016, State Capitol

COMMITTEE ON HEALTH  
Senator David Y. Ige, Chair  
Senator Carol Fukunaga, Vice Chair

COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND AFFORDABLE  
HOUSING  
Senator Russell S. Kokubun, Chair  
Senator David Y. Ige, Vice Chair

SB 2416 RELATING TO DENTAL HEALTH

Please do NOT pass this bill. Before you take any action in establishing anything to do with fluoridation, please check on recently published scientific evidence on the risks of fluoride. There are several but I point out to you one book and one article that I find very compelling.

First, a comprehensive and thoroughly researched book titled, "*The Fluoride Deception*" by Christopher Bryson. I am attaching a review.

Secondly, an article in the January, 2008 issue of the magazine Scientific American titled "Second Thoughts About Fluoride" by Dan Fagin on Page 74. There is no dosage control when you put fluoride in the public water system. We already ingest fluoride from many sources and everyone has differing water intakes.

What we should really promote is Responsibility to take care of one's teeth and as for children, someone to enforce taking care of teeth. Decayed teeth is not a disease and I cannot see putting fluoride in drinking water and everyone has to drink it---whether they need it or not and perhaps allergic to it. I personally know of people who are allergic to fluoridated toothpaste.

Ruth Nakasone  
Pearl City  
c. 497-3191

continued on next page....

Here is the Publisher's Weekly Review.

<<http://reviews.publishersweekly.com/searchDetail.aspx?id=1583225269>>

The Fluoride Deception

Bryson, Christopher

ISBN: 1-58-322526-9

Seven Stories Press

Hardcover \$24.95

2004/04

Concerns over fluoridated drinking water have long been derided as the obsession of McCarthyite cranks. But this muckraking j'accuse asserts that fluoride is indeed a dire threat to public health, one foisted upon the nation by a vast conspiracy—not of Communist agents, but of our very own military-industrial complex. Investigative reporter Bryson revisits the decades-long controversy, drawing on mountains of scientific studies, some unearthed from secret archives of government and corporate laboratories, to question the effects of fluoride and the motives of its leading advocates. The efficacy of fluoridated drinking water in preventing tooth decay, he contends, is dubious. Fluoride in its many forms may be one of the most toxic of industrial pollutants. and Bryson cites scientific analyses linking fluoridated drinking water to bone deformities, hyperactivity and a host of other complaints. The post-war campaign to fluoridate drinking water, he claims, was less a public health innovation than a public relations ploy sponsored by industrial users of fluoride—including the government's nuclear weapons program. Legendary spin doctors like Edward Bernays exploited the tenuous link between dental hygiene and fluoridation to create markets to stimulate fluoride production and to prove the innocuousness of fluoride compounds, thereby heading off lawsuits by factory workers and others poisoned by industrial fluoride pollution. Bryson marshals an impressive amount of research to demonstrate fluoride's harmfulness, the ties between leading fluoride researchers and the corporations who funded and benefited from their research, and what he says is the duplicity with which fluoridation was sold to the people. The result is a compelling challenge to the reigning dental orthodoxy, which should provoke renewed scientific scrutiny and public debate. Copyright © Reed Business Information, a division of Reed Elsevier Inc. All rights reserved.

SB 2416 - Committee on Health.  
2-1-08 1:15 pm.  
Conf. rm 016 State Capitol

Attachment to testimony from  
Ruth Nakasone  
Pearl City



**To:** Senator David Y. Ige, Chair, Senate Committee on Health

**From:** Warren Woodward, 8805 Kula Hwy., Kula, Hawaii 96790, 808 878 3103

**Re:** In opposition to SB2416, RELATING TO DENTAL HEALTH, being heard by HTH on Wednesday, 02-01-08 at 1:15 pm in conference room 016.

**Testimony:** My name is Warren Woodward and as a resident of Maui I object to having our Maui water supply being adulterated with fluoride. I also object to the concept of involuntary mass-medication. It has no place in a free society. People who want fluoride should be free to eat as much as they want, but at the same time, those of us who do not want it should not have it literally forced down our throats.

There are ample studies available that show not only the ineffectiveness of fluoride but its toxicity. Fluoride is a hazardous waste by-product of the phosphate fertilizer and aluminum industries and is a key ingredient in rat poison.

I'll let Dr. Joseph Mercola conclude my testimony:

In 2005, eleven unions within the EPA publicly called for a ban of water fluoridation, over concerns that it may cause bone cancer. And in 2006, the American Dental Association warned parents of infants not to use fluoridated water when mixing baby formula.

As award-winning journalist Christopher Bryson revealed in his book The Fluoride Deception, there has been a multi-tiered effort -- or as Bryson says, an abuse of power -- by military and industry scientists and public health officials to shamelessly promote fluoride to the dentistry field and the American public with little regard to the implications it would have on human health.

Just what are those potential implications?

- An increased risk of bone cancer
- Fluorosis, a discoloring of your teeth and breakdown of their enamel (between 30 percent and 50 percent of children have dental fluorosis on at least two teeth in "optimally fluoridated communities")
- An increased risk of osteoporosis
- Developmental problems such as lower IQ

But that's not all. According to Paul Connett, PhD:

1. Fluoride accumulates in your bones and makes them more brittle and prone to fracture. Lifetime exposure to fluoride will contribute to higher rates of hip fracture in the elderly.
2. Fluoride accumulates in your pineal gland, possibly lowering the production of melatonin, a very important regulatory hormone
3. There are serious concerns about a connection between fluoridation and the current epidemics

of both arthritis and hypothyroidism.

4. In animal studies fluoride at 1 ppm in drinking water increases the uptake of aluminum into your brain.

5. Counties with 3 ppm or more of fluoride in their water have lower fertility rates.

6. The fluoridating agents most commonly used in the United States not only increase the uptake of lead into children's blood but are also associated with an increase in violent behavior.

Of course, the main reason why fluoride is reportedly added to the U.S. water supply in the first place is to prevent cavities. Yet, data compiled by the World Health Organization shows no difference in tooth decay in countries that use fluoridated water compared with countries that don't use fluoridated water. So not only is fluoride unsafe, it is ineffective as well.

**To: Senator David Y. Ige, Chair, Senate Committee on Health**

**From:**

**Patricia Aiken, 76 Uahaa Place, Wailuku, HI 96793 808 281 8874**

**Re:**

**In opposition to SB2416, RELATING TO DENTAL HEALTH, being heard by HTH on Wednesday, 02-01-08 at 1:15 pm in conference room 016.**

**Testimony: My name is Patricia Aiken and I am a resident of Maui. I can't put in strong enough words my complete objection to adding fluoride to the Maui water supply. What kind of gulag are you running here when you decide to mass-medicate an entire population? If you think fluoride is good, give it to your own families. It's readily available. However, more than adequate research shows otherwise and I am appalled at the thought of adding this known toxin to our water supply. Just look at the skull and crossbones on the packaging!**

**There are numerous books and websites devoted to this issue. Please read them before you proceed any further with this ridiculous attack on the aina and it's people. I recommend you start with The Fluoride Deception by Christopher Bryson.**

**If fluoride diminished dental caries, Kentucky would have the lowest rate in the country. That state has been fluoridating for 30 years. Instead they have the highest rate of cavities. Counties that fluoridate have higher rates of hip fractures amongst their elderly than the un-fluorated county next to them.**

**If you really want to help people have better health through better dental health- ban mercury amalgams the way most of Europe already has.**

**What doctor would prescribe the same drug without any specific dose for infants, children, adults and the elderly? He'd be sued for malpractice. But you know better! Give us a break. People with thyroid conditions are warned to avoid even fluoridated tooth paste. And you're going to give it to the entire population in completely unmeasured doses?**

**Granted, the American people have been completely brainwashed by years of shameless promotion on this toxic substance. But as elected officials, you're counted on to dig a little deeper than the toothpaste commercials you watched as a child. As a former director of the Maui Unit of the American Cancer Society, I used to enjoy showing a video of a doctor in the 1950's sitting at his desk in his white coat smoking. He says "Oh, yes, I recommend Pall Malls to all my patients that smoke." The AMA used to say that not only was smoking not harmful but could indeed be beneficial to your health. Smoked any healthy cigarettes lately? Encouraged your children to smoke? I doubt it.**

**Well, people are waking up to the fluoride lie as well. I'll do everything in my power to oppose this bill and the people who have sponsored it up to and including funding and campaigning for any candidate that opposes them in the next election.**

**Please vote for the health of Mauians- vote against SB2146.**

testimony@capitol.hawaii.gov

To: Senator David Y. Ige, Chair, Senate Committee on Health

and Kalani English

So what you guys. have you at least spent an hour on the internet researching Flouride poisoning?

If someone wants it sprayed on their teeth let them go to the dentist. It is bad enough that so much sodium hypochlorite is in the water and whatever else i don't know.

GET A CLUE.

In opposition to SB2416, RELATING TO DENTAL HEALTH, being heard by HTH on Wednesday, 02-01-08 at 1:15 pm in conference room 016.

Peace, Aloha,

Francis Spalluto

104A Ike Drive  
Makawao, HI 96768  
808-264-1802

My name is Gwen Wintermeyer, resident of maui, mother of 4 children and of one granddaughter. I would like to be on the record opposing adding fluoride to the Maui water supply , as an former dental assistant, I have looked into the contraversy surrounding this substance. I am fully convinced that it is a Neuro-Toxin and Cyto Toxin, damaging to the entire body. At one time I was convinced of the effectiveness of fluoride in preventing dental caries, however, many patients alerted me to the DANGERS.

Hours of research have proven this is nothing more than a Toxic waste and has no place in any PUBLIC WATER SUPPLY.

Please look into this further and vote no to .....SB2416.

**TESTIMONY OPPOSING WATER FLUORIDATION OF MAUI COUNTY**  
Senate Bill 2416, Hearing Feb 1, 2008, Conference Rm 016. Health Committee

**INTRODUCTION:** My name is Adrian Chang and I am a retired Nuclear/Radiological Engineer from Pearl Harbor with a degree in Electrical Engineering. I have been studying fluoride/fluoridation for about 8 years to determine how it affects the unborn, infants, and children since I am also a grandfather. I compiled a reference source with over 50,000 items in order to better understand the science and controversy. Several major concerns are addressed in my testimony:

**MAJORITY OF THE 2006 NATIONAL RESEARCH COUNCIL CONSIDERS DENTAL FLUOROSIS TO BE AN ADVERSE HEALTH EFFECT.** The NRC which is affiliated with the National Academy of Sciences, represent the highest level of scientific review in the U.S. 10 of the 12 council members concluded that dental fluorosis is an adverse health effect. This is a major paradigm shift since previously health professionals considered it to be a "cosmetic problem". The prevalence of dental fluorosis in the U.S. is about 30%, but could vary depending on fluoride exposure from multiple sources such as swallowing toothpaste, eating/drinking mainland foods and beverages, medications, living in selected areas of Oahu, medical contrasting dyes, and anesthesia. Moderate/severe fluorosis often require expensive repair by cosmetic dentistry. The cost for veneers in Hawaii range from \$950 to \$2000 per tooth and may be good for only about 8-10 years. A teenager having veneers should expect to pay for at least 6 replacement cycles in the average lifetime

**MANY MAJOR REVIEWS LACKED SCIENTIFIC OBJECTIVITY BY EXCLUDING NON-ENGLISH STUDIES FROM OTHER COUNTRIES.** This major omission significantly contributes to the controversy since many foreign studies report adverse health effects and may have been denied publication in an American journal. In the YR 2000, two Chinese studies which showed the effect of fluoride in lowering children's IQ by 6 to 10 points were presented to the legislature. These studies were told to be unreliable by the proponents because they were "Chinese." Today, there are two more studies and all four studies have been cited in the 2006 National Research Council report on Fluoride in Drinking Water with recommendation for more studies. Since China has socialistic medical and dental care, published studies are more likely to be free of conflicts of interest and influence from biased groups or profit-seeking corporations even though they may be criticized by U.S. review groups.

I have come across two important Chinese studies which observed adverse effects on the bones and brains of actual fetuses (the most vulnerable stage of human life). Research in this area has been lacking, perhaps because of ethical reasons. However, several studies confirm that fluoride does cross the placenta barrier and the blood brain barrier. The studies are summarized as follows:

1. The Chinese Journal of Preventive Medicine study (J Shi, et al) reported bone pathological changes such as low bone density, uneven formation of bone matrix, and cavities in the bone. An example of bone change is also illustrated in the Jan 2008 issue of Scientific American. From an engineering viewpoint, the uneven proliferation of new bone formation could easily result in formation of micro-cracks and fractures depending on physical activity. Currently, there are 11 of 19 published studies that show an association of fluoride with bone/hip fractures. Studies are available at [www.SLWEB.org](http://www.SLWEB.org) under Bibliography.

2. The Chinese Journal of Pathology study (J. Du) reported uneven formation/clustering of neurons in the fetus brain was associated with chronic fluorosis. The description is similar to that of the brains of autistic children where neurons are not uniformly distributed and cause breakdown of signal transmission. It is my opinion that brain/neurological disorders in young children, although given different disease names, could possibly be just different degrees of chemical exposure damage. Hence,

diagnosis could range from ADD/ADHD, low IQ, anxieties, neurological disorders, autism, Alzheimer's, and in the worst case, Down's Syndrome. The impact may be even worse if calcium fluoride compounds form in the brain and becomes electrically charged when exposed to x-rays. Calcium fluoride belongs to a group known as thermoluminescent phosphors which could store charges for extended periods of time.

**STATISTICAL REPORTS ARE UNDERUTILIZED FOR SCIENTIFIC REVIEWS.** For example, a 1988 State of Hawaii Dept of Health study (R&S Report, Issue 58), which compared birth defects from the State, Kohala (Big Island) and the military showed that the Tripler babies had double the birth defects. When comparing specific defects that may be fluoride/bone-related, Tripler had 19 times higher hip clicks and 8.5 times higher heart murmurs than Hawaii babies. Unfortunately, published statistical studies, although based on data, are often overlooked during scientific reviews. It is important to note that the military also provides access to free dental and health care and stresses heavily on preventive education to avoid baby-bottle-teeth-decay starting from the OB/GYN in pre-birth to the pediatrician at post-birth. So, comparison of military children caries with Hawaii's children is a poor comparison.

**THE COMBINATION OF FLUORIDATION AND CHLORINATION CHEMICALS SIGNIFICANTLY INCREASE THE LEACHING OF LEAD FROM SYSTEM COMPONENTS.**

In YR2004, the City and County of Honolulu passed Ordinance 04-01 (aka the Pure Water Bill) to prohibit adding any chemical to the drinking water to treat people. It also stipulates that should any state law mandate adding such a chemical, "the chemical additive shall not increase corrosion of the water piping system material components or increase leaching of heavy metals such that another chemical additive will be required to minimize corrosion." Fluoridation chemicals do increase corrosion and in some cities also require the addition of zinc orthophosphate (same one used in Maui) to coat the piping system surfaces. Recently, some major fluoridated cities, including Washington DC, were in the news due to high levels of lead in their drinking water and required addition of another chemical to minimize corrosion. Because corrosion and leaching problems are normally not mentioned in medical journals, there is a lack of awareness by health professionals that it exists.

Finally, two recent research studies (Maas, Sep 2007 and Coplan Sep 2007) published in the journal Neurotoxicology, confirmed by testing and explains how the combination of different chlorination and fluoridation chemicals significantly increased the leaching of lead from brass components normally installed in a delivery system. Two earlier studies (Masters, 2000 and Masters, Coplan 1999) also reported the association of silicofluoride treated water with elevated blood lead in young children. These studies demonstrate the great danger of lead exposure, especially to young infants many of whom are drinking infant formula made with fluoridated tap water. Ironically, the American Dental Association has issued an alert to their members to inform parents not to use fluoridated tap water to make infant formula because of the concern for fluorosis. I hope the pediatricians also got the word.

**PILOT PROJECT & PETITION SIGNATURES FROM MAUI COUNTY.**

To date, there are about 2548 people in Maui County that have signed a petition opposing fluoridation of their drinking water. Maunaloa, Molokai was the first fluoridation project from 1961 to 1973 but was terminated. Although the data provided shows a decrease in caries up to age 11, an unpublished preliminary report showed an increase in caries of 9.9 percent for 12 year olds. This information was not provided to the public and was found in UH Library during the course of searching for information. Please keep our drinking water as pure as possible and do not pass this bill. Remember when protecting our aina, drinking water is an important part of our aina.

Respectfully,

*AC* Adrian Chang, Cell 227-9763

## REFERENCES:

National Research Council. 2006. Fluoride In Drinking Water – A Scientific Review of EPA's Standards. National Academies Press. Elected officials may call 1-800-624-6242 for a free copy or go on line to [www.fluoridealert.org](http://www.fluoridealert.org) to view it.

## INTELLIGENCE (IQ) STUDIES:

Xiang Q, Y Liang, L Chen C Wang, B Chen, X Chen, M Zhou. 2003. Effect of fluoride in drinking water on children's intelligence. Fluoride 36(2):84-94.

Lu Y, ZR Sun, LN Wu, S wang, W Lu, SS Liu. 2000. Effect of high-fluoride water on intelligence in children. Fluoride 33(2):74-78.

Zhao LB, GH Liang, DN Zhang, XR Wu. 1996 Effect of a high-fluoride water supply on children's intelligence. Fluoride 29(4):190-192.

Li XS, Shi JL, RO Gao . 1995. Effect of fluoride exposure on intelligence in children. Fluoride 28(4):189-192

## HUMAN FETUS STUDIES: (Translated from Chinese but never included in any major review).

Shi J, G Dai, Z Zhang. 1995. Relationship between bone fluoride content, pathological change in bone of aborted fetuses and maternal fluoride level. Zhonghua Yu Fang Xue Za Zhi (Chinese Journal of Preventive Medicine) 29(2):103-105. PMID: 7796679

Du L. 1992. The effect of fluorine on the developing human brain. Zhonghua Bing Li Xue Za Zhi (Chinese Journal of Pathology) 21(4):218-20. PMID: 1473206

## HAWAII BIRTH DEFECTS VS MILITARY TRIPLER BABIES

Kirkham J, MD. 1988. Large Sample Hawaii Birth Abnormality Rate Determination. R & S Report. Issue No. 58. Research and Statistics Office, Hawaii Dept of Health. ISSN: 0093-3481

## LEAD LEACHING FROM USE OF FLUORIDATION AND CHLORINATION CHEMICALS

Maas RP, SC Patch, AM Christian, MJ Coplan. 2007. Effects of fluoridation and disinfection agent combinations on lead leaching from leaded-brass parts. Neurotoxicology 2007 Sep;28(5):1023-31. PMID: 17697714

Coplan MJ, SC Patch, RD Masters, MS Bachman. 2007. Confirmation of and explanations for elevated blood lead and other disorders in children exposed to water disinfection and fluoridation chemicals. Neurotoxicology 2007 Sep;28(5):1032-42. PMID: 17420053



**SENES Oak Ridge Inc.****Center for Risk Analysis**

F. Owen Hoffman, Ph.D., President

*Specialists in Energy, Nuclear  
and Environmental Sciences.  
Custom Applications in Human Health  
and Ecological Assessment.*

December 13, 2006

Governor Phil Bredesen  
Governor's Office  
Tennessee State Capitol  
Nashville, TN 37243-0001

Dear Governor Bredesen,

I was one of the members of the National Research Council committee that authored a 2006 report on the toxicology of fluoride in drinking water. I first reviewed the health effects of fluoride in the 1980s, when I authored a report for the Environmental Protection Agency. At that time I assumed water fluoridation to be a good thing, because all the experts said so. As I have gained greater experience as a scientist and risk assessment professional, and as I have reviewed much more of the abundant literature on fluoride toxicity, I have become increasingly convinced that deliberate exposure of a large fraction of the U.S. population, including most of Tennessee's population, to uncontrolled and unmonitored intake of fluoride in their drinking water is unwise at best, and probably harmful to a substantial number of people. I support Representative Joey Hensley's recent recommendation that Tennessee water agencies stop adding fluoride to their water, and I encourage you to do so as well. ← Only MAD

I am enclosing a brief set of comments on issues that should be considered with respect to the practice of water fluoridation. I will also be happy to provide you with any additional information about fluoride exposure and health effects that would be helpful to you.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kathleen M. Thiessen".

Kathleen M. Thiessen, Ph.D.  
Senior Scientist  
[kmt@senes.com](mailto:kmt@senes.com)

RE SB 2416 Relating to Dental Health  
Hearing Friday, February 1, 2008, 1:15 p.m. Room Conference 016  
Committees on Health and Commerce, Consumer Protection and Affordable Housing  
TESTIMONY IN OPPOSITION




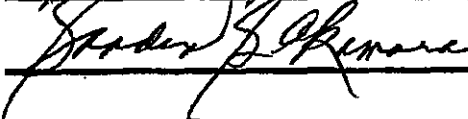
To the Honorable Chairpersons:

The issue of water fluoridation has come up many times in the past, and each time has been voted down by the representatives of the people. The City and County of Honolulu passed an ordinance in 2004 to keep chemicals which were intended for mass-medication out of the water.

Now another attempt is being made by the Department of Health to reopen the case for putting a harmful chemical in the water supply, under the guise of improving dental health for the children of Hawaii.

We don't want fluoridation, pure and simple. Parents can get rid of the sodas, fast food, and sweets the children are consuming and remind them to brush their teeth. Fluoride is not an essential nutrient, and more scientific research is proving the detrimental effects of too much fluoride.

Maui has already had controversy with its water supply when the Board of Water Supply officials tried to reduce the lead content. We oppose the use of fluoride as an experiment on the children of Maui County.

Signature	Name	Address	Zip Code
	Steven Yamase	1800-B Laniloa Pl. Wahiawa	96786
	B. Toquelin	94-021 Hokuwalamo Pl. Mililani	96786
	Hiroaki Hiroki	1127 California Ave. Wahiawa	96786
	Sandra S. Kamea	98-458 Pono St. Aiea	96707

LINDA LINGLE  
GOVERNOR OF HAWAII



CHIYOME LEINAALA FUKINO, M.D.  
DIRECTOR OF HEALTH

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P.O. Box 3378  
HONOLULU, HAWAII 96801-3378

In reply, please refer to:  
File:

**Senate Committee on Health**

**SB 2416, Relating to Dental Health**

**Testimony of Chiyome Leinaala Fukino, M.D.  
Director of Health**

**February 01, 2008, 1:15 pm**

1 **Department's Position:** The Department of Health appreciates the intent of this measure and  
2 supports the importance of fluoridation of drinking water but notes that this matter is appropriately  
3 addressed by County Boards of Water Supply and therefore defers to these agencies.

4 **Fiscal Implications:** This bill seeks to appropriate unspecified general funds for fiscal year 2008-2009  
5 to the Department of Health for the establishment of a community water fluoridation pilot program in  
6 Maui County and for the Department to study its impact annually.

7 **Purpose and Justification:** The purpose of this proposal is to establish a pilot program of fluoride  
8 supplement through public water systems in Maui County and monitor its efficacy.

9 While the Department of Health appreciates the intent of this proposal, we respectfully defer to the Maui  
10 County administration and their respective water system managers. The public waters systems on Maui  
11 and Molokai are operated under the Maui Board of Water Supply and the water system on Lanai is  
12 privately operated. They presently have the option of supplementing the fluoride levels of their water  
13 systems.

14 Thank you the opportunity to testify on this measure.

# LATE TESTIMONY

To: testimony@capitol.hawaii.gov

Attn: Senator David Y. Ige, Chair, Senate Committee on Health

In opposition to SB2416, RELATING TO DENTAL HEALTH, being heard by HTH on Wednesday, 02-01-08 at 1:15 pm.

My name is Robert Kinslow and as a resident of Honolulu, Hawaii. I strongly urge you to reject any bills that adulterate our water supply with fluoride. People who want fluoride should be free to eat as much as they want, but those of us who do not want it should not have it forced down our throats.

There are ample studies available that show not only the ineffectiveness of fluoride but its toxicity. Fluoride is a hazardous waste by-product of the phosphate fertilizer and aluminum industries and is a key ingredient in rat poison.

Dr. Joseph Mercola is a man I respect and I want you to hear what he has to say:

In 2005, eleven unions within the EPA publicly called for a ban of water fluoridation, over concerns that it may cause bone cancer. And in 2006, the American Dental Association warned parents of infants not to use fluoridated water when mixing baby formula.

As award-winning journalist Christopher Bryson revealed in his book *The Fluoride Deception*, there has been a multi-tiered effort -- or as Bryson says, an abuse of power -- by military and industry scientists and public health officials to shamelessly promote fluoride to the dentistry field and the American public with little regard to the implications it would have on human health.

Just what are those potential implications?

- \* An increased risk of bone cancer
- \* Fluorosis, a discoloring of your teeth and breakdown of their enamel (between 30 percent and 50 percent of children have dental fluorosis on at least two teeth in "optimally fluoridated communities")
- \* An increased risk of osteoporosis
- \* Developmental problems such as lower IQ

But that's not all. According to Paul Connett, PhD:

1. Fluoride accumulates in your bones and makes them more brittle and prone to fracture. Lifetime exposure to fluoride will contribute to higher rates of hip fracture in the elderly.

2. Fluoride accumulates in your pineal gland, possibly lowering the production of melatonin, a very important regulatory hormone

3. There are serious concerns about a connection between fluoridation and the current epidemics of both arthritis and hypothyroidism.

4. In animal studies fluoride at 1 ppm in drinking water increases the uptake of aluminum into your brain.

5. Counties with 3 ppm or more of fluoride in their water have lower fertility rates.

6. The fluoridating agents most commonly used in the United States not only increase the uptake of lead into children's blood but are also associated with an increase in violent behavior.

Of course, the main reason why fluoride is reportedly added to the U.S. water supply in the first place is to prevent cavities. Yet, data compiled by the World Health Organization shows no difference in tooth decay in countries that use fluoridated water compared with countries that don't use fluoridated water. So not only is fluoride unsafe, it is ineffective as well.

--  
Rob Kinslow  
OM Creations  
media to educate & inspiration to act  
omcreations@riseup.net

# LATE TESTIMONY

HTH and WAM regarding Senate Bill 2416

I am absolutely against Fluoridation of Maui's Drinking Water. I am taken a back that such an important matter has had so little public notification, discourse or input. I urge all to oppose this bill and seek to use other method's to remedy bad teeth problems on Maui or across the Hawaiian Islands. Maui is not available to test a pesticide industry by-product in our water system: We don't want toxic waste in our drinking water.

Herewith attached, is an eye opening letter for those unfamiliar with Fluoridation based on THE EPA Union of Scientists against fluoridation of public drinking water supplies. It has quite an extension bibliography of source material. If the length exceeds the 5 page limit for email testimony submittal please go to the the following website: at VIDEO  
<http://video.google.com/videoplay?docid=8903910725020792574&q=epa+fluoride+senate&total=1&start=0&num=10&so=0&type=search&plindex=0> ; <http://www.fluoridealert.org/> the EPA is at the US senate currently trying to end this practice. Why would we in Hawaii want to start it?

I encourage everyone to follow suit and oppose Flouridation of all drinking water supplies on all the Hawaiian Islands.

Best regards and Have a Fantastic New Year!

Maria N. Isotov-Chang, Land Use Planner



## LAND & WATER

LAND & WATER PLANNING AND CONSULTING, 65 Lihikai Place, Haiku, Hawaii 96708  
Office Phone: (808)575-9763; Mobile Phone: (808)344-0330; Office Fax: (808)575-9763; Email: [misotov@maui.net](mailto:misotov@maui.net)

# LATE TESTIMONY

SB2416 testimony

For Senator Dan Ige and others considering the fluoridation of Maui's water supply.

## Testimony:

My name is Marshall Scott, and I've been a Maui resident for almost a year now. I grew up in Ohio where water is fluoridated and always thought that fluoridation was a very good thing. Just earlier today, however, a friend, vehemently opposed to water fluoridation, told me that Maui's water supply could be fluoridated depending on the outcome of an upcoming meeting.

She told me a lot of things about fluoridation that I took with much, much skepticism, and after research I realize that much of it is misleading or wrong. Sure, fluoride is poison, but so is any other substance on Earth if you take too high of a dose. Fluoride has caused various health issues in animals, but she failed to say that the fluoride levels they give the animals are significantly higher than those in fluoridated water.

But as I did my own research, I found a recent, unbiased, well-written article from Scientific American by Dan Fagin: *Second Thoughts about Fluoride*. It contains a lot of facts (as opposed to so-and-so Ph.D says fluoride makes your hips break), most important of which is in regards to the development of children's teeth. Fagin writes the following in his article:

"*Fluoride* has a very different effect, however, when large doses are ingested by young children whose permanent teeth are still developing and have not yet erupted. The key proteins in early tooth formation are called amelogenins, which regulate the formation of hydroxylapatite crystals. As a crystal matrix forms, the amelogenins break down and are removed from the maturing enamel. But when some children consume high doses of *fluoride*, which is absorbed through the digestive tract and delivered by the bloodstream to the developing teeth, the biochemical signaling goes awry and the proteins remain inside the budding tooth longer than usual, thereby creating gaps in the crystalline enamel structure. As a result, when a fluorosed tooth finally erupts it is often unevenly colored, with some portions whiter than others--a visual effect caused by light refracting off the porous enamel. In more severe cases, the surface of the tooth is pitted and the stains are brown. Nutrition and genetics can influence the risk of fluorosis, but the most important factor by far is the amount of *fluoride* ingested."

and later:

"By the time the Iowa children were nine years old and their permanent front teeth had emerged, it was obvious that the earlier exposures to *fluoride* had literally left their mark. The front teeth of children who had been in the high-intake group as infants and toddlers were more than twice as likely to show the telltale staining of fluorosis than the teeth of children who had ingested less *fluoride* when they were younger. And as their diet broadened, so did their sources of *fluoride*. Tests performed in Levy's lab found, for example, that many kinds of juice drinks and soda pop contain enough *fluoride* (generally about 0.6 mg/L) so that drinking a little more than a liter a day would put a typical three-year-old at the optimal intake level, without counting any other daily sources."

The data found in the Iowa study shows that children already receive enough fluoride without fluoridated water, and that having too much fluoride can cause fluorosis.

There really isn't an argument that says fluoride doesn't make teeth stronger. It does. But the case seems to be that between brushing our teeth with fluoridated toothpaste, and eating a standard every-day diet, we get plenty of fluoride without fluoridated water. Because of this, all other cases against this bill are superfluous. We can look at this problem with tooth development in children, or we can look at all the accusations against fluoride that have been neither proven or disproved, but we don't need to. There simply is no need to supplement our water supply with fluoride.

-Marshall Scott



# LATE TESTIMONY

SB2416

Please oppose fluoridation of Maui's public water.  
I certainly do.  
Thank you.

Denise La Barre  
Voter, Taxpayer, Parent  
Maui, Hawaii

## LATE TESTIMONY

**To:** Senator David Y. Ige, Chair, Senate Committee on Health

**From:** Tim Regan 4405 Honoapiilani Hwy. suite 213, Lahaina, HI 96761 (808)669-0560

**Re:** Opposition to SB2416, RELATING TO DENTAL HEALTH, being heard by HTH on Wednesday, 02-01-08 at 1:15 pm in conference room 016.

**Testimony:** My Name Is Tim Regan and I live on Maui. As if it matters if a constituent is outraged by the proposed actions of an elected government body; Why is it even being considered to poison the water supply of Maui and all of Hawaii? I'm not going to recite to you the litany of foul and dangerous consequences of fluoridating public water supplies. There is over thirty years of scientific research on this matter that prove the dangers. I don't know if you and the Roz Bakers of the senate think this is the good news or the bad news but the Nazi's were very fond of placing Fluoride in the water of their "prisoners" to keep them docile and incapable of revolt or escape.

How could a bill like this ever make it to committee? Either you already know about all these effects and are ignoring them for your own personal reasons or you don't care about any effects and I can only conclude that your welcomed ignorance is for your own "personal" reasons.

Besides, lets just say for the fun of it that this bill (SB2416) did have something to do with 'dental health'. What the hell business are my teeth to you! THAT IS NOT THE FUNCTION OF GOVERNMENT. What part of the Hawaii constitution states that the the government shall maintain clean and shiny teeth for the people.

We know that I don't have any clout or any money but please consider carefully the consequences of fluoridating my children's and your children's water supply and stop this bill immediately.

## LATE TESTIMONY

This is in testimony to strongly oppose SB 2416.. to add fluoride the water in Maui County on trying to help the children have good dental health.

As I read the 7 pages of information..which I have heard over and over.....which is full of half truths ..it saddens me to think our State Department of Health continues to be ignorant of the dangers of fluoridation.

There is so much scientific data to prove the dangers of fluoride on the human body. Please, please, I beg of you to make time and to have the courage to study the information at [www.fluoridealert.org/fluoride-facts.htm](http://www.fluoridealert.org/fluoride-facts.htm) and please.... please, I beg of you to read with an open mind.

How can we fluoridate with fluoridation chemicals that are industrial waste products???This is a fact. " The chemicals used to fluoridate water in the US are not pharmaceutical grade. Instead, they come from the wet scrubbing systems of the superphosphate fertilizer industry. These chemicals, (90 % of which are sodium and fluorosilicic acid) are classified hazardous wastes contaminated with toxic metal (particularly arsenic) and trace amounts of radioactive isotopes." information derived from Facts about Fluoridation; Fluoride Action Network.

Please, I beg of you...let us use Wisdom ... Water is Mother Nature's gift to us to survive...let us take good care of our water!!!!

I wish to close with Margaret Mead's words of wisdom...  
"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has."  
Please Listen...to that small group of thoughtful committed citizens!!!  
Thank you very much.

Carrie Kawamoto  
94-244 Hokulewa Loop  
Mililani Hawaii 96789

## LATE TESTIMONY

Please forward this Senate Committees on HTH and WAM regarding Senate Bill 2416, as below.

I realize the Hearing is tomorrow but as it applies to us folks here on Maui and it was only noticed in the paper on Monday, I humbly ask that my testimony against the bill be forwarded to the appropriate committee members. As this Bill is to be heard Friday, February 1, 2008, at the legislature and Public Testimony is due immediately I am sending in my comments as follows:

I am absolutely against Fluoridation of Maui's Drinking Water. I am taken a back that such an important matter has had so little public notification, discourse or input. I urge all to oppose this bill and seek to use other method's to remedy bad teeth problems on Maui or across the Hawaiian Islands. Maui is not available to test a pesticide industry by-product in our water system. We don't want toxic waste in our drinking water. Herewith attached, is an eye opening letter for those unfamiliar with Fluoridation based on THE EPA Union of Scientists against fluoridation of public drinking water supplies. It has quite an extension bibliography of source material. If the length exceeds the 5 page limit for email testimony submittal please go to the following website: at VIDEO

<http://video.google.com/videoplay?docid=8903910725020792574&q=epa+fluoride+senate&total=1&start=0&num=10&so=0&type=search&plindex=0> ; <http://www.fluoridealert.org/> the EPA is at the US senate currently trying to end this practice. Why would we in Hawaii want to start it?

Joy Brann, educator, Family Planning Education Services  
18 Kai Makani Loop #201  
Kihei HI 96753  
808-891-1607, 268-0130

# LATE TESTIMONY

To: Senate Committee on Health  
From: Mark Hyde  
Re: SB 2416  
When: 1/31/08  
Where: Room 016

As a member of the Maui Health Care Initiative Task Force, I **STRONGLY SUPPORT SB 2416** and thank Maui's senators for introducing legislation responding to one of our key recommendations.

The Centers for Disease Control, the American Academy of Pediatrics and the American Dental Association all support fluoridation of water supplies as a cost effective means to improve dental health for children and adults.

According to HMSA's 2007 Trends report, 33% of Hawaii's children have unmet dental treatment needs and 72.7% of Hawaii's 6-8 year olds have one or more cavities compared to 35% nationally, and 15.8% of Hawaii's children have "baby bottle" tooth decay compared to 5% for mainland children. This is largely attributed to lack of fluoridation of our water. The islands of Maui and Lanai, both without water fluoridation, have the highest rates of dental caries in the state according to data gathered by the State of Hawaii Department of Health.

The Task Force also received compelling testimony from local health care experts to the effect that periodontal disease is clearly linked to diabetes, heart disease and preterm labor. One witness identified two recent admissions at Maui Memorial Medical Center for dental abscesses that resulted in inpatient costs exceeding \$254,000. Clearly, an ounce of prevention is worth a pound of cure and our children and elderly deserve the benefits that fluoridation can easily and cost-effectively supply.

Mahalo,

Mark Hyde  
4320 E. Waiola Loop  
Wailea, Hawaii 96753  
[hydem001@hawaii.rr.com](mailto:hydem001@hawaii.rr.com)  
(808) 874-3839 (home)  
(808) 344-3358 (cell)

# L A T E

February 1, 2007

RE: **IN OPPOSITION of SB 2416, Oral Health: Oral Health: Water Fluoridation: Maui Pilot Program: Appropriation**

**PLEASE Protect Our Precious Drinking Water**

DATE OF HEARING: February 1, 2007

By: **Lisa Yoshimura**

To: **Hawaii State Legislature**

Praise the Lord for the members of the Honolulu City Council who had the wisdom and courage to overwhelmingly vote to ban toxic fluoride and any other chemicals from Honolulu's water supply.

SB 2416 grossly and falsely states that fluoridation is safe! Even the *American Dental Association* established interim recommendations to reduce fluoride intake during a baby's first year of life because it creates a risk for enamel fluorosis in teeth during development before eruption through the gums.

**Imagine** that I have a container of a substance. On the data sheet describing this substance, it's manufacturer lists fungicides, pesticides, wood preservatives, and aluminum fluxes among its many uses. It also states that this substance is **poisonous** when taken internally. On the label of this substance, its manufacturer warns **DANGER!** May be fatal if inhaled or swallowed. Avoid breathing dust. Wash thoroughly after handling. It also reads **POISON!**, with the picture of the skull and cross bone. Ingestion may cause **convulsions and death** due to cardiovascular collapse or respiratory failure. **CALL PHYSICIAN.** Now, if I added just a pinch of this substance to a glass of water and offered it to you to drink, would you drink it or give it to your child to drink? **The warnings I just read is from the container of sodium fluoride (or similar), the chemical, which is being proposed to be added to the Maui County's public water supply systems.**

According to a news article from the Grand Rapids Press, dated May 8, 1994, after the introduction of fluoride in the Grand Rapids, Michigan, water system, the city estimated that 4 out of 10 water customers may be **drinking unacceptable levels of lead**, a toxic heavy metal that dissolves into drinking water from old lead pipes or plumbing fixtures.

The corrosion of pipes was also evident on one of our military bases in Hawaii where fluoride continues to be added to the water. A plumber from the Pearl Harbor Shipyard testified at one of the legislative hearings that after fluoride was added to the water on base, the pipes had to be constantly replaced because of substantial corrosion. According to the chemical data sheet from Brewer Environmental Industries, Inc., "When dry, **sodium fluoride** is non-corrosive... **When moist, or in solution, the salt is corrosive**" and "Sodium fluoride **is poisonous when taken internally.**"

Testimony of Lisa Yoshimura in OPPOSITION OF SB 2416, February 1, 2007

It is no wonder that the **EPA scientists, engineers and attorneys** who assess the scientific data for Safe Drinking Water Act standards have gone on record **AGAINST** the practice of adding fluoride to the public drinking water.

Many of you who are parents are familiar with the fluoride tablets the dentists prescribe for your children. On June 8, 1993, an **FDA official** informed a NJ legislator that **fluoride supplements for children** are classified as "**unapproved new drugs**". Hawaii dentist, Dr. David Doi, confirmed this with the FDA.

**In a Congressional investigation by the House Committee on Science, the Environmental Protection Agency, Center for Disease Control, and the Food and Drug Administration, acknowledged that they have NO scientific studies on the actual fluoride substances used in 90% of the nation's fluoridation programs.** When we had hearings on a fluoridation bill in our Hawaii legislature a few years ago, Representative Stonebreaker chastised the former **Health Director, Bruce Anderson**, for failing, in spite of repeated requests, to provide the legislature with scientific studies which support the Health Department's claims on the effectiveness of fluoride. To this date, the Health Department has not provided any such scientific studies. It is absolutely **shameful** that the **Health Department officials** continue to promote such a toxic chemical as fluoride, knowing there are no valid scientific studies which support fluoride!

Dr. David Doi, DDS, states in his Spring 2000 newsletter, "The proposed program of putting fluoride in the drinking water seriously compromises citizens' right to choose and unduly exposes the health of our people to injury. Finally, the program is an inaccurate, costly and overly wasteful way of accomplishing the objective of quality dental care for the youth of our state."

**I urge you to OPPOSE SB 2416, establishing and administering the water fluoridation pilot program in Maui county. We should take a lesson from the rest of the world where Japan, China, and 98% of Europe which have rejected fluoride.**

**PLEASE PROTECT OUR PRECIOUS DRINKING WATER!**

Thank you.

# LATE TESTIMONY

REVISED to reflect 2/1/08 Committee Hearing Date

To: Senate Committee on Health  
From: Mark Hyde  
Re: SB 2416  
When: 2/1/08  
Where: Room 016

As a member of the Maui Health Care Initiative Task Force, I **STRONGLY SUPPORT SB 2416** and thank Maui's senators for introducing legislation responding to one of our key recommendations.

The Centers for Disease Control, the American Academy of Pediatrics and the American Dental Association all support fluoridation of water supplies as a cost effective means to improve dental health for children and adults.

According to HMSA's 2007 Trends report, 33% of Hawaii's children have unmet dental treatment needs and 72.7% of Hawaii's 6-8 year olds have one or more cavities compared to 35% nationally, and 15.8% of Hawaii's children have "baby bottle" tooth decay compared to 5% for mainland children. This is largely attributed to lack of fluoridation of our water. The islands of Maui and Lanai, both without water fluoridation, have the highest rates of dental caries in the state according to data gathered by the State of Hawaii Department of Health.

The Task Force also received compelling testimony from local health care experts to the effect that periodontal disease is clearly linked to diabetes, heart disease and preterm labor. One witness identified two recent admissions at Maui Memorial Medical Center for dental abscesses that resulted in inpatient costs exceeding \$254,000. Clearly, an ounce of prevention is worth a pound of cure and our children and elderly deserve the benefits that fluoridation can easily and cost-effectively supply.

Mahalo,

Mark Hyde  
4320 E. Waiola Loop  
Wailea, Hawaii 96753  
[hydem001@hawaii.rr.com](mailto:hydem001@hawaii.rr.com)  
(808) 874-3839 (home)  
(808) 344-3358 (cell)



# LATE TESTIMONY

Megan Wells [megan.wells@hawaiiintel.net]

**Subject:** Please forward to Committees on HTH, WAM SB 2416 flouritdation of maui's water

I was the head of Citizens for Safe Drinking Water on Maui during the last attempt to pollute our drinking water with toxic waste from phosphate fertilizer companies. We will not allow this and I will personally head up a campaign against this and those who attempt it. Last time we got over 10,000 signatures within a short period of time and there is already a radio show slated to expose this next week. Stop this now while your voters still like you. If you support this, the press against you will be deadly for your re-election, if you stop the poisoning of your families and constituents they will love you with their votes!

Megan Wells

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11

# LATE TESTIMONY

James Marcus [jma788@netzero.com]  
SB 2416

Absolutely NO FLOURIDE in public waters, Thanks.  
James Marcus, Waimanalo

RECEIVED  
MAY 10 2001

Jade Brothel  
P. O. Box 945  
Kaunakakai, Hawaii  
96748

January 31, 2008

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To: David Ige  
Senate Health Committee

Subject: Re: Senate Bill 2416 – Dental Health  
Senate Health Committee Hearing, February 1, 2008

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TESTIMONY

**This testimony is to ask your committee to please NOT pass this bill.**

I am SAD to see the repeated attempt to impose mandatory public fluoridation in Hawaii.

Hawaii's Constitution provides for the right to clean pure water from our tap. Why and with what reason should we allow the forced mass medication of the public through public water system with a severely poisonous chemical?

Fluorine is # 2 on the poison list just after arsenic. In the scientific world of chemistry fluorine is known as the "DEVILS ELEMENT". Being the most corrosive of all elements it will even etch glass. It will also corrode the municipal pipelines causing extremely expensive repair and leaching of lead joints as shown in other fluoridated communities.

The poison soup that they would inject into our fine Hawaiian drinking water is industrial waster that also includes lead and mercury.

Our past Hawaiian Legislative Committees have been successful in keeping our well free from this body destroying chemical. Their decision not to fluoridate had a sound bases as it reviewed top level studies showing it to be carcinogenic and demanding brain, bones, glands and organs. The studies done by the EPA research team alone show beyond reasonable doubt that fluoride is much too toxic and dangerous to ingest, let alone add to public water system.

As a personal experience, during the last fluoridation attempt I traveled to Washington D.C. to visit Bill Herzy, Vice President of Research Team at the EPA Headquarters –to discuss water fluoridation. At which time, he related that the hole EPA team was unanimous in their condemnation of the fluoridation of public water supplies.

I am a wood worker, when I drill a pilot hole that is a guide hole for a larger drill bit to drill a larger hole. A pilot fluoridation project on Maui certainly has the intention of the rest of Maui County, and eventually the rest of the state. The only good fluoridation would do would create a windfall for the medical industry, treating rising cancer rates, Alzheimer disease, bone deterioration and more.

If an adult really wanted to ingest fluoride in any way it should be their right, probably, but to impose a medication on the population through the public water system would deprive the citizens of Hawaii of their State Constitution Rights.

The fluoridators say it is a measure to improve the health of the kiddies' teeth. Does anyone really want to swallow that one? We think they are 'lying thru their teeth'. Teeth rot from poor diet and dental hygiene' not a lack of poisonous fluoride in our public water supply. Fluoride should be banned from tooth paste also. Has anyone read the danger warning label on the tooth paste tubes? There is enough fluoride in the tube of tooth paste to kill a child.

If this committee were to uphold the wise decisions of previous Legislators, we might then see these attempts as a criminal action and deal with it as such. What would other societies do with those who would poison their well? We keep cutting the branches and pruning this weed. It should be pulled by the roots and rid us of having to constantly deal with those who relentlessly scheme to poison our well in Hawaii. Injurious fraud, professional buffoonery, scientific misconduct appears to run rampant and should be questioned.

We the citizens of Maui during the last attempt to fluoridate collected 2500 petition signatures that emphatically we say NO to any type of water fluoridation.

**PLEASE serve the public and KILL THIS BILL!**

Respectfully Submitted:

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Jade Bruhjell, Molokai Resident

**Michele Y. Matsuo**  
Attorney at Law  
700 Richards St., Suite 709  
Honolulu, Hawaii 96813  
Telephone: 808-545-4036

February 1, 2008

*Faxed to*  
*586-6231*  
*586-6899*  
*586-6659*

The Honorable David Y. Ige, Chair  
The Honorable Carol Fukunaga, Vice Chair,  
and Honorable Members of the Committee on Health

Subject: SB 2416 relating to Dental Health

Dear Chairman Ige, Vice Chair Fukunaga, and  
Honorable Members of the Committee on Health:

Thank you very much for this opportunity to offer  
testimony.

My family and I oppose SB 2416 in the strongest  
possible terms.

To list all the reasons for our strong opposition  
would take too long. So, let me just offer a few  
points today.

1. **SB 2416 proposes to medicate the community through medicating the community water supply, using industrial grade fluoride, if typical, not even pharmaceutical grade fluoride. International ethical standards prohibit force medication, and opens the way for class action lawsuits.**

In areas where the program proposed by SB 2416 is implemented, people will not be able to take a bath, wash their clothes or wash their hands without being medicated through the water supply.

Home-grown produce will become medicated. Even culturally valued Ti plants and good luck money

plants will start to burn and turn brown (necrosis) when the plants take low levels of fluoride from the soil into their systems and concentrate them in their leaves. According to a University of Hawaii Professor of Tropical Agriculture, this can start to happen in as little as 2 weeks.

Crops will also become medicated. Past efforts to fluoridate the community water supply in Hawaii have failed in part because Hawaii's farmers and flower interests have objected, to protect their crops, their lands, their workers, and themselves. A few years ago Mendocino, California farmers successfully defeated community water fluoridation efforts in their area. Think of all the crops on Maui, Molokai and Lanai. Maui County is an important breadbasket for the People of Hawaii.

**2. Fluoridation of community water supplies as a method of treatment is obsolete, out-dated technology. Fluoride works topically not systemically.\***

Disfiguration and weakening of tooth enamel from excess fluoride is epidemic in communities with community water fluoridation. For those who wish to voluntarily use fluoride, there is toothpaste, supplements, bottled water, and topical applications. However, better options exist. (\* *"Fluoride's main effect occurs after the tooth has erupted above the gum. This topical effect happens when small amounts of fluoride are maintained in the mouth in saliva and dental plaque."* The American Dental Hygenists' Association website's *Fluoride Facts*)

Typically, most fluoridated communities report about 1/3 of their children suffer from fluorosis. But, usually, the longer the community is fluoridated, the higher the fluorosis rates because

the fluoride accumulates.

Fluorosis categories were determined decades ago, so are very liberal. Even "Mild" fluorosis, the lowest category, includes yellow, brown, white, and other colored mottling which is permanently disfiguring; permanently soft, chalky enamel; permanent brittleness which can cause the teeth to pit and break off; and is also just the outward symptom of the poisoning of the body with excess fluoride.

Today, pediatricians and pediatric dentists are concerned about fluorosis and are trying to cut down on fluoride consumption and exposure. (It is important to note that while adult teeth may not get mottled from excess fluoride, adults are also at health risk from excess fluoride exposure. See Reuters News Service article regarding January 2008 Scientific American report on Fluoride below.)

When my daughter, Allegra Ke'alahikeaokalani Matsuo Mossman, went for her 3<sup>rd</sup> birthday checkup, in early 2000, her formerly aggressively pro-fluoride pediatrician told me that the pediatric bulletin was reporting that to the extent that fluoride was effective for teeth, it worked topically not systemically, but that there were indications that fluoride was not very effective.

So, the doctor's recommendation was to brush Allegra's teeth using only water and a toothbrush and to floss. When I compared notes with other parents, their pediatricians had given similar advice. So, Allegra and her friends have grown up without using toothpaste, without fluoride treatments, and without cavities.

The pediatrician told me that if I wanted to get fancy, we could use Xylitol (a delicious sugar substitute), which the pediatric bulletin reported



IS effective (as opposed to fluoride which was of questionable, if any, effectiveness).

My understanding is that Xylitol works largely by starving the bacteria which causes tooth decay, because it is a non-usable sugar. In the study that came out around that time, chewers of xylitol gum had 80% less cavities during the study, but had 90% less cavities 5 years after stopping the use of the gum because the xylitol was thought to somehow impair the ability of the bacteria to adhere to the teeth.

**3. Second Thoughts about Fluoride,' Reports Scientific American, January 2008 issue.**

**The following is the Reuters article regarding the Scientific American report.**

Wed Jan 2, 2008 9:48am EST

NEW YORK, Jan. 2 /PRNewswire-USNewswire/ -- "Some recent studies suggest that over-consumption of fluoride can raise the risks of disorders affecting teeth, bones, the brain and the thyroid gland," reports Scientific American editors (January 2008). "Scientific attitudes toward fluoridation may be starting to shift," writes author Dan Fagin.

"Fluoride, the most consumed drug in the USA, is deliberately added to 2/3 of public water supplies theoretically to reduce tooth decay, but with no scientifically-valid evidence proving safety or effectiveness," says lawyer Paul Beeber, President, New York State Coalition Opposed to Fluoridation.

Fagin, award-winning environmental reporter and Director of New York University's Science, Health and Environmental Reporting Program, writes, "There is no universally accepted optimal level for daily

intake of fluoride."

Some researchers even wonder whether the 1 mg/L added into drinking water is too much, reports Fagin.

After 3 years of scrutinizing hundreds of studies, a National Research Council (NRC) committee "concluded that fluoride can subtly alter endocrine function, especially in the thyroid -- the gland that produces hormones regulating growth and metabolism," reports Fagin.

Fagin quotes John Doull, professor emeritus of pharmacology and toxicology at the University of Kansas Medical Center, who chaired the NRC committee thusly, "The thyroid changes do worry me."

Fluoride in foods, beverages, medicines and dental products can result in fluoride over-consumption, visible in young children as dental fluorosis -- white spotted, yellow, brown and/or pitted teeth. We can't normally see fluoride's effects to the rest of the body.

Reports Fagin, "a series of epidemiological studies in China have associated high fluoride exposures with lower IQ."

"(E)pidemiological studies and tests on lab animals suggest that high fluoride exposure increases the risk of bone fracture, especially in vulnerable populations such as the elderly and diabetics," writes Fagin.

Fagin interviewed Steven Levy, director of the Iowa Fluoride Study which tracked about 700 Iowa children for sixteen years. Nine-year-old "Iowa children who lived in communities where the water was fluoridated were 50 percent more likely to have

mild fluorosis... than [nine-year-old] children living in nonfluoridated areas of the state," writes Fagin. Levy will study fluoride's effects on their bones.

Over 1200 professionals urge Congress to cease water fluoridation and conduct Congressional hearings because scientific evidence indicates fluoridation is ineffective and has serious health risks. Support them; write your representative here:  
[salsa.democracyinaction.org/o/2477/t/2782/campaign.jsp?campaign\\_KEY=21960](http://salsa.democracyinaction.org/o/2477/t/2782/campaign.jsp?campaign_KEY=21960)

In conclusion, SB 2416 proposes to take Maui County and potentially the rest of Hawaii in the wrong direction by using obsolete force-medication methods which are of questionable efficacy and open the State of Hawaii's deep pockets up to class action litigation.

I urge you to vote against SB 2416.

If communities are suffering from poor dental hygiene, I urge you to start funding educational efforts to halt the common practice of letting babies and small children sleep with milk, chocolate milk, and juices pooled in their mouth, which causes "baby bottle mouth", a pattern of tooth decay where the front teeth and molars are decayed. The first front in this educational battle should be pediatricians and family doctors, as well as all dentists, because the information may go to a care-giver who will halt the practice. This can be as simple as providing handouts and posters to health care practitioners, and to schools for dissemination.

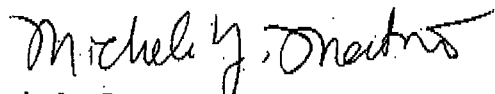
If that fails to generate enough improvement, and to address current needs, please consider providing

teeth cleaning, and dental sealants to all of Hawaii's children. Kokua Kalihi Valley has reported in testimony before a House committee that when all of Kalihi Valley's children had their molars sealed, there were no new cavities in those children for 3 years. This is a low cost, very effective thing to do compared with community water fluoridation.

If teeth cleaning and dental sealants also prove insufficient, then please consider funding dentist positions to provide dental care for those who may have insufficient access to dental care.

Thank you for your kind attention.

With warmest Aloha,



Michele Y. Matsuo