To Fluoridate or Not

an ethical and health issue which affects everyone's health

A Submission to Councils, Health Departments and People

Dr Robert Gammal BDS October 2013

"Drinking water containing as little as 1.2 ppm fluoride will cause developmental disturbances.

We cannot run the risk of producing such serious systemic disturbances. The potentialities for harm outweigh those for good."

Journal of the American Dental Association, Editorial, October 1, 1944.

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Summary of Main Points

Currently the issue of water fluoridation has become a pressing matter for some councils around Australia such as Northern NSW areas of Lismore, Ballina, Byron Bay and soon the Bega Shire.

The pro fluoridation lobby claim that fluoride reduces tooth decay in young children and that adding it to the water supply is the most cost effective means of preventing dental decay. They are adamant that 'governments' should implement this process regardless of community consultation or scientific representations. They also claim that consuming fluoride is 'safe and effective'. They do admit fluoride will cause 'dental fluorosis' which causes a physical mottling of the teeth all the way through to major destruction of the enamel of the tooth.

Nobel laureates have spoken about the dangers of fluoridation and even they are ridiculed by those with vested interests.

The fluoride compounds added to water supplies are derived from the hazardous waste products of the fertilizer industry. As there is NO quality control for a waste product these materials are always contaminated with arsenic, radium and a variety of other toxic substances. They are not the calcium fluoride found in nature or the Sodium fluoride that is in tooth paste.

Hexafluorosilicic acid, the form of fluoride which is used for water fluoridation, is listed as a **biocidal product** in the EU Biocidal Directive (98/8/EC). The EU banned Hexafluorosilicic acid (H2SiF6) for use as a biocidal product within the EU due to the lack of toxicological data to demonstrate that it was safe for humans and the environment. For some reason the pro-fluoridation lobby believe that it is safe to drink and suggest that it is even 'good for our health'! Biocidal means that it kills life.

Adding any form of fluoride to our water supply has no effect on reducing dental decay. The fantastic drop in dental decay world wide is the same in both fluoridated and non fluoridated countries according to World Health Organisation.

The claim that fluoride has an effect of preventing decay, means that a drug is being added to our drinking water supply. Whether or not this drug is beneficial, is of little consequence in regard to the fact that this is medication without informed consent. This is mass medication no matter which way you word it. The dental association's claim, that it is merely adding a nutrient to the water, is an insult to everyone's intelligence.

Very few countries in the world still practice fluoridation of water or salt. Most have never adopted the practice or have rejected it after long trial periods.

Many countries have rejected fluoridation on the basis that it is mass medication of a non-consenting population, that it does not stop decay and it is a serious poison to both humans and the environment.

Fluoride is NOT an 'essential mineral' nor is it a 'health supplement' nor is it a 'nutrient'.

No matter how well controlled the level of fluoride added to the water, the dosage to the end user is completely <u>Uncontrollable</u>.

Babies on bottle formula prepared with fluoridated water, may receive 3.5 times more fluoride than the accepted maximum dose for an adult.

People with kidney diseases are less able to excrete fluoride and thus 0.8ppm can easily become an overdose.

Fluoride does NOT stop or reduce decay rates. Decay rates around the world have dropped equally in all countries whether fluoridated or not.

Fluoride weakens teeth – it does NOT strengthen them.

Fluoride is now known as a 'low dose endocrine disrupting chemical' – EDC. As an EDC it is capable of causing a massive range of diseases from cancer to obesity. Thyroid function is severely affected as is the function of all of the endocrine system.

- Fluoride causes a massive drop in IQ
- Fluoride causes learning deficits and behavioural problems
- Fluoride is associated with a 7 fold increase in the rates of osteosarcoma.
- Fluoride is associated with a
 - o 300% increase in Sudden Infant Deaths
 - 450% increase in Early Onset Dementia
 - o 100% increase in Osteoporosis
 - o 83% increase in Down's Syndrome
 - o 60% increase in Rheumatoid Arthritis
 - o 220% increase in Congenital Hypothyroidism
 - 250% increase in Sarcoidosis
 - o 29% increase in Prostate Cancer
- Fluoride causes infertility in both male and female
- Fluoride causes kidney and liver damage
- Fluoride causes brain damage
- Accumulation within the brain of the fetus impacts the developing central nervous system and stunts neuron development
- Fluoride causes increased cardiac diseases
- Intolerance to Fluoride is common in all populations.
- Fluoride causes a variety of Musculoskeletal diseases
- The National Research Council of America concluded that there was evidence to demonstrate that fluoride exposure contributed to causing cancers as well as promoting cancers.
- Lymphoma and leukaemia in humans have been associated with EDC exposures
- Fluoride is associated with increased rates of obesity
- Fluoride is classed as a special EDC an 'obesogen"
- Fluoride is associated with an increase in diabetes.

- Fluoride causes immune system disturbances
 - "Several subpopulations are likely to be susceptible to the effects of fluoride exposure. From an immunologic standpoint, individuals who are immune compromised (e.g., AIDS, transplant, and bone marrow-replacement patients) could be at greater risk of immunologic effects of fluoride." National Research Council America 2006
- Fluoridation causes increased exposure to arsenic, lead, radium and a range of other toxins
- Fluoride causes a reduction in calcium absorption and calcium metabolism
- Fluoride causes fluorosis of the bones and thus a weakening of bones
- Fluoride causes osteoporosis and osteofluorosis
- Fluoride is toxic to nerve tissue
- Fluoride is toxic to embryonic tissue
- Fluoride is toxic across generations
- Fluoride causes gastrointestinal disturbances
- Fluoride creates oxidative stress in the tissues

And the list goes on

Fluoridation is an uncontrolled mass medication/poisoning of our drinking water.

Governments in Australia do NOT have a mandate to Mass Medicate.

Governments in Australia do NOT have a mandate to Mass Poison.

Fluoridation does not reduce or stop dental decay.

Introduction

The practice of medicine and dentistry is supposed to be based on "Evidence Based Science". This is true also for public health policy. As a dentist who has worked for many years in both fluoridated and the non-fluoridated areas of NSW, I can easily state that the healthiest and best looking teeth I have ever seen, are in those people who grew up drinking tank-rain water. I am also aware that the consensus of opinion from the dental profession is that fluoride has a dramatic affect on reducing tooth decay and that it is the responsibility of governments to enforce the fluoridation of our drinking water. A 'consensus of opinion' is not a scientific opinion.

Of course these are both anecdotal opinions, but which of these anecdotal opinions stands up to the published, peer reviewed, scientific data?

The Australian Dental Association and various health departments, promote the concept that fluoridation is the best way to reduce dental decay. This argument is based on the belief that there are no bad side effects and it is the cheapest way of ensuring that everyone has healthier teeth. Dental associations have even gone so far as to suggest that 'nature thought of it first'. Naturally occurring fluoride (Calcium Fluoride) is a very different substance to the fluoride that is added to drinking water. Naturally occurring fluoride has similar detrimental effects and all fluoride exposure is cumulative from all sources.

In Australia the call to fluoridate has reached hysterical levels, whereby a small, but influential group of dental personnel & the Australian Dental Association are suggesting that it is no longer the right of the individual to choose what he/she drinks. People like myself who present the scientific information, are ridiculed.

The group which is most at risk from fluoride poisoning, is precisely the group that fluoridation is aimed at – the fetus, infants and children in poorer socio-economic areas. Low Income Groups are more susceptible to fluoride toxicity from drinking water. Children are also removed from any consensual process about their medication. ^{1,2}

When consideration is given to the cost of diseases created by fluoridation, the idea that it is a cost effective way of bringing health to the people, must be considered ludicrous. This cost is spread across governments, local communities and by the individuals and their families who suffer from the policies of governments that enforce fluoridation. In fact every tax payer is paying for this addition of toxic waste to our drinking water.

It is now well accepted that the only affect that fluoride might have in allaying dental decay, is a topical one, which by definition, can only be applied after the teeth have erupted. It would therefore make more sense for governments to pay (i.e. our tax dollars) for every person to have a fluoride treatment at the dentist. Governments could even subsidies (again our tax dollars) the toothpaste manufacturers who like to fluoridate their products. Fluoride tablets have never been approved by the TGA in Australia nor the FDA in America.

NO government has the right to make any person consume a poison or medication against their will. No government has the right to take away the freedom of expression or the freedom of decision making by its constituents. No government has the right to enforce a dumbing down of its population. No government has the right to enforce diseases on its citizens.

Why would a government ignore the published science and choose to poison its constituents – including the very people who make these decisions? Do they not understand that they are also damaging the health of their own families? Is this really a problem of Cognitive Dissonance?

If fluoride were really so 'safe and effective' the remainder of this short paper and the references would not exist. I hope that the following pages will help to inform not only our elected representatives but also the rest of us, some of whom will be our next elected representatives. It is in the interest of every person to become well informed.

The dental associations and other pro-fluoride members of government claim that there are NO studies which show any deleterious health effects from fluoridation. I accept that these groups have not found any studies, or at least can refer to studies which did not show any danger. If only one or two studies did show a danger than integrity would dictate that other researchers may have overlooked things - or did not have sensitive enough measuring tools at the time. This is the argument that is continually used to convince the public that all is well.

To quote Carl Sagan;

The absence of evidence

is NOT evidence of absence.

The Right to Mass Medicate

The decision of the European Court of Justice stated in 2005;

"Fluoridated water must be treated as a medicine, and cannot be used to prepare foods."

If everyone must consume this water they are consuming something that governments and dental associations are claiming, have a 'health effect' by 'improving the teeth'.

Thus all pro-fluoride groups are acknowledging that FLUORIDE is a 'DRUG' whether or not they claim it has a beneficial effect.

Does any person or government entity, or vested-interest lobby group, have the right to mass medicate a population?

Dr. Hardy Limeback PhD, DDS – one of the 12 scientists who served on the 2006 National Academy of Sciences review of fluoride, and Head of Preventive Dentistry at University of Toronto states; ^{393,9}

"The issue of mass medication of an unapproved drug without the expressed informed consent of each individual must also be addressed. The dose of fluoride cannot be controlled. Fluoride as a drug has contaminated most processed foods and beverages throughout North America. Individuals who are susceptible to fluoride's harmful effects cannot avoid ingesting this drug. This presents a medico-legal and ethical dilemma and sets water fluoridation apart from vaccination as a public health measure where doses and distribution can be controlled. The rights of individuals to enjoy the freedom from involuntary fluoride medication certainly outweigh the right of society to enforce this public health measure, especially when the evidence of benefit is marginal at best."

"Fluoride seems to fit in with lead, mercury, and other poisons that cause chemical brain drain," Professor Grandjean (adjunct professor of environmental health at Harvard School of Public Health) says. "The effect of each toxicant may seem small, but the combined damage on a population scale can be serious, especially because the brain power of the next generation is crucial to all of us."

Adding fluoride to the water supply is not just a case of mass medication, but also a case of mass poisoning by the pollutants that accompany this type of fluoride which is added to the drinking water. One of the most important of these pollutants is arsenic – the most toxic material known (Agency for Toxic Substances and Disease Registry USA). Another is Radium.

There is no control of the level of arsenic that is present and there is NO level of Arsenic that is safe.

Fluoridated water is often also polluted with Lead which comes from the solder around copper water pipes. Fluoride reacts with and strips the lead off the solder and into the water we drink – at sometimes very high levels.

"Furthermore, these industrial-grade chemicals are contaminated with trace amounts of heavy metals such as lead, arsenic and radium that accumulate in humans.

Increased lead levels have been found in children living in fluoridated communities. Osteosarcoma (bone cancer) has been shown to be associated with radium in the drinking water. Long-term ingestion of these harmful elements should be avoided altogether." ³⁹³

If we are forced to drink or eat this drug, then we are being medicated whether we ask for it or not.

Fluoridation of our drinking water is mass medication no matter which way you spin it

Alternatives to fluoridation exist. People can choose to use fluoridated bottled water, fluoridated tooth paste and can choose to supplement their child's diet with Fluoride tablets. It can be an individual choice that people can make. Placing any substance in the general drinking water must always be seen as mass medication.

Despite being prescribed by pediatricians and dentists for over 50 years, fluoride supplements have never been approved as either safe or effective by the FDA in America nor the TGA in Australia.

The issue becomes even more urgent when the substance used for this mass medication is in fact a serious poison, classified by the EU as a biocidal compound (it KILLS LIFE) This chemical has been banned throughout the EU, as a 'biocide', because it has **never** been shown to be safe for human consumption.

At which point does mass medication become mass poisoning? At which point does the government take responsibility for the morbidity and mortality which is caused by this mass poisoning?

In January 2013 the Cairns Council in North Queensland, decided to 'stop' fluoridation of its water supply. The reason for this decision is based on the fact that it amounts to the "involuntary medication" of residents.

"If people want to have access to fluoride, they need to take that up with their dentists," a council spokeswoman told AAP.

"The decision has been made... it shouldn't be forced on people without consent." ⁵

The Cairns council said it based its decision on the policy of the Local Government Association of Queensland (LGAQ).

"In the LGAQ's statement, it recognises that involuntary medication must not proceed without the consent of the community,"

"The policy states that express consent of the community should be sought before entering into a process such as fluoridation;...⁶

Remarkably this is not the attitude of a Professorial representative of dental academia, Associate Professor of Preventative Dentistry at James Cook University, Robyn Boase,. She clearly believes that no one has a right to choose their medication. She clearly believes we are all too stupid to make up our own minds. Prof Boase says;

"I think there is a point to be made that we do accept some decisions about our health without being consulted.

"We do accept that the water is chlorinated and we do accept that we do have to wear seatbelts for our own good.

"There are some things that health officials should be able to make decisions about - that's what governments do." 7

Are we really to believe that we live in Professor Boase's dictatorship? Perhaps Professor Boase could clarify what other decisions about her own health, she would be willing to let governments control, without her consultation. Governments have certainly taken control of these measures in the past ("that's what governments do"), but they are not usually the democratically elected governments. Does she really equate mass medication and mass poisoning, with wearing a seat belt?

The rhetoric she uses is the same as the formula used by Hitler, and every other dictator – tell the same lie often enough and everyone believes it. We should expect a great deal more from our teachers of dentistry.

"Just as medical doctors or dental practitioners are held responsible and accountable for the treatment or medicaments they give to their patients, it is only logical that Governments must also be held accountable for any form of treatment or medication they chose to issue upon their citizens, especially if it is issued without the citizen's consent.

If the Government does not consider the rights of its citizens who do not wish to consume fluoridated water, then that Government must be held accountable for its unethical conduct and be liable for all ill health (disease or illness) that are incurred as a result of excessive fluoride consumption."

Australian Dental Association Position

The position of the Australian Dental Association is clear – they are supportive of the total fluoridation of our water supply. They claim support of a variety of 'austere' organizations. The science about the dangers of fluoridation is ignored

in favour of a position which seems locked into the protection of their major financial supporters. The claim of the dental association, of the supposed 'scientific evidence' of fluoridation's 'safety and efficacy', is blatantly fraudulent.

A quote from Dr Andrew Harms is appropriate here; 9

"...I'm a practicing dentist from Adelaide, in South Australia. I'm a Former President of the Australian Dental Association, and in the mid-nineties, I supported fluoridation and I facilitated the introduction of fluoridation programs into South Australian country areas. I deeply regret this and I feel that it was a bad mistake."

"This industrial waste is mainly coming from the superphosphate industry, but also recently from industrial waste from China, of which we don't have a really good idea of the origins. I didn't realise that fluoridation involved dumping about 700 tonnes of industrial waste, mainly for the superphosphate industry, into Adelaide's water supply and it's not a pharmaceutical grade, it's an industrial grade."

"Some of the contaminants are aluminium, mercury, low levels of uranium, beryllium, cadmium and this has quite shocked me, because there are no long-term studies looking at the effect of dosing millions of people with hundreds of tonnes of chemicals every year for a very, very small change in the tooth decay rate."

"I tried in my dealings with the ADA to make people aware of what I'd found out and to my amazement, when I tried to raise the issue with the Dental Association, whom I thought were interested in the science and were interested in integrity, there was no interest. In fact there was a lot of pressure against me to say anything at all. There was a great concern about upsetting our principle sponsors, the toothpaste manufacturers, who heavily compromise our university and I even particularly tried to raise the issue of the warning bulletin that was given to nursing mothers in America and the United States and in Canada and this warning said that... it was given to all dentists, in those two countries, to avoid mixing infant formula for children under the age of 12 months with fluoridated water. When I raised this issue it was immediately dumped from the agenda and as a consequence, in view of the anger about that, I resigned from the Dental Association. I have taken no part in it since."

"... that a residential care program in South Australia has now gone national ... the recommended way to handle the oral care of elderly people, and that is to brush their teeth twice a day with 5000 parts per million toothpaste and then to ask the residents, the elderly people just to spit out a bit and then to swallow the rest. This is how far this lunacy of fluoride has gone in our community ..."

"It delays tooth eruption enough to give a distorted issue, a distorted reading, on the decay rates of say 12-year-old children."

"So studies that show or purport to show major benefits from fluoridation are bogus and the researchers have known this, and the people who should know better, have known this for the past 50 years and I have actually sighted studies back from the forties showing one of the early effects of fluoridation was to delay tooth eruption."

"What I would like to say is that these chemicals are all significant carcinogens and one example of the suppression of the evidence of carcinogenicity was the Bassin Study. Elise Bassin's study in 2001, clearly showed a link in teenage boys to osteosarcoma in fluoridated communities. There has been no study to refute the Bassin evidence and yet it is trivialised and it is ignored by our Australian scientific community."

".... the fraud of fluoridation doesn't stand up to scientific scrutiny and if people are afraid to expose themselves to the public and to expose themselves to another view, then they've obviously got something to hide."

It is time for the Australian Dental Association to take responsibility for the misinformation that they are spreading and the horrendous consequences to those who have been made sick and/or died from the implementation of their fluoridation policy. It is time for the deans and professors of dentistry to tell the truth about fluoride, instead of teaching dental students to poison their patients.

At time of writing the Chief Health Officer for NSW, Dr Kerry Chant, is reported to have said that:

"Having looked at the research, nothing is as effective at improving the teeth of low income families as fluoride in the drinking water. It is a no brainer." 10

Perhaps the severe drop in IQ, in fluoridated areas, is the 'no brainer' she speaks of! It would be interesting to see a list of references that Dr Chant examined, as she is sadly misinformed. Fluoride has NO effect on reducing decay rates anywhere in the world for any socio-economic group.

What is the Fluoride that is put into our water?

Although the dental profession claim that nature thought of it first the fluoride that is placed in the drinking water is not the calcium fluoride that is found in nature. It is an Industrial Toxic Waste Product.

The main chemicals used to fluoridate drinking water are known as "silicofluorides" (i.e., hydrofluorosilicic acid)

From the report on fluoridation in Ireland we read; 43

"Hexafluorosilicic acid and hexafluorosilicates are the most commonly used agents in drinking water fluoridation. As noted by the European Commission Scientific Committee on Health and Environmental Risks the toxicology of these compounds are incompletely investigated.¹¹

Similarly the National Research Council of America Scientific committee found that the toxicity database on silicofluorides is sparse with essentially no studies comparing the toxicity of silicofluorides with that of sodium fluoride¹² (as used in toothpaste and dental applications).

The Materials Safety Data Sheet for hexafluorosilicates, states that while toxicological data is sparse;

"absorbed fluoride can cause metabolic imbalances with irregular heartbeat, central nervous system depression, seizures, and deaths. Long-term exposure may cause osteofluorosis (weakened bone structure), skin disorders, and respiratory, liver and kidney effects. To the best of our knowledge, the chronic toxicity of this substance has not been fully investigated."

"repeated or prolonged exposure to the substance can produce target organs damage and that repeated exposure to a highly toxic material even at low doses may produce general deterioration of health."¹³

Senior Environmental Protection Agency personnel in the USA, have found no evidence that Silicofluoride (SiF) was ever tested for adverse health effects. (Fox 1999, Thurnau 2000).

The European Union banned Hexafluoprosilicic acid (H2SiF6) for use as a biocidal product within the EU due to lack of toxicological data to demonstrate that it was safe for humans and the environment. ¹⁴ The phase out date was set as 01/09/2006."

Silicofluorides are not pharmaceutical-grade fluoride products; they are unprocessed industrial by-products of the phosphate fertilizer industry. This material is scraped off the smoke stacks and the filters that were made compulsory so as to protect the environment and of course farm lands and farm stock. Since these silicofluorides undergo no purification procedures, they contain elevated levels of arsenic — more so than any other water treatment chemical. In addition, recent research suggests that the addition of silicofluorides to water is a risk factor for elevated lead exposure, particularly among residents who live in homes with old pipes.

The solution for the polluters (the manufacturers of this waste product) was simple – in 1983 Rebecca Hanmer, the Deputy Assistant Administrator for Water at the US Environmental Protection Agency stated; ¹

"In regard to the use of fluosilicic acid as the source of fluoride for fluoridation, this agency regards such use as an ideal solution to a long standing problem. By recovering by-product fluosilicic acid from fertilizer manufacturing, water and air pollution are minimized, and water authorities have a low-cost source of fluoride available to them." ¹⁵

This view is not supported by others in the scientific world. Dr William Hirzy, the Senior Vice President of the ENVIRONMENTAL PROTECTION AGENCY stated;

"If this stuff gets out into the air, it's a pollutant; if it gets into the river, it's a pollutant; if it gets into the lake it's a pollutant; but if it goes right into your drinking water system, it's not a pollutant. That's amazing... There's got to be a better way to manage this stuff." ¹⁶

Hexafluorosilicic acid is listed as a **biocidal product** in the EU Biocidal Directive (98/8/EC). The EU banned Hexafluorosilicic acid (H2SiF6) for use as a biocidal product within the EU due to the lack of toxicological data to demonstrate that it was safe for humans and the environment.¹⁷

Two recent studies report a relationship between water treated with silicofluorides and elevated levels of lead in children's blood (Masters & Coplan 1999, 2000). The authors of these studies speculate that the silicofluoride complex may increase the uptake of lead (derived from other environmental sources, such as lead paint) into the bloodstream. The researchers found that the greatest likelihood of children having elevated blood lead levels occurs when they are exposed both to known risk factors, such as old house paint and lead in soil or water, and to SiF-treated drinking water.

According to the National Sanitation Foundation, the addition of silicofluorides to the water supply will add, on average, about 0.1 to 0.43 ppb, and as much as 1.6 ppb, arsenic to the water. Arsenic is listed by the Agency for Toxic Substances and Disease Registry as the most toxic substance known. This is followed by lead and mercury.

A fatal case of poisoning due to ingestion of an apparently innocuous household product has been described in a study from 1994. A healthy 28-year-old man accidentally drank floor polish (Cristalizador, a Spanish import). On arrival at the emergency room a few hours later he passed large amounts of bloody stool and lost consciousness. A call to the Spanish Poison Center revealed that although not indicated on the label, the polish contained a highly poisonous salt, fluorosilicate. ¹⁸

The scientific community, have no hesitation stating that this is a 'highly poisonous salt', yet the dental associations claim that it is not only safe to drink, but that it is actually good for us. (The value of the dental association opinions and claims may be reflected in their attitude to dental amalgam. They claim that the mercury which comes from these fillings is safe.)

Commercial silicofluorides, chemicals such as those used for water fluoridation, are likely to be contaminated with fluosiloxanes. ¹⁹ Fluosiloxanes are classified by Health Canada and Environment Canada as toxic, persistent, and having the potential to bio-accumulate in aquatic organisms. ^{20,21} The European Union has classified siloxanes compounds as endocrine disruptors based on evidence that it interferes with human hormone function and a possible reproductive toxicant that may impair human fertility. ^{22,23}

Hydrofluorosilicic acid and sodium fluorosilicate, the toxic waste products that are used to fluoridate water supplies, are nothing like Calcium Fluoride found in nature. The dental associations claim that these chemicals are safe for humans

at the correct dosages. Neither the science nor the EU agree with these organizations.

Fluoride Dosage is NOT controllable

The supposed optimal level of fluoride in the drinking water is one part per million - 1mg/litre. This is the level which supposedly reduces decay without having side effects of dental fluorosis – or mottling of the teeth. This level is impossible to regulate correctly and it is now accepted by most water authorities that levels of one to four parts per million are actually being place in community water supplies.

These concentrations do not take into account the different amounts of water that are consumed by people in differing situations. More water is consumed in hotter climates. More is consumed by active sports people. ²⁴ Far more is consumed by babies drinking formula and also for adults drinking tea. Even though the dose may be 1mg/L, those people with kidney deficiencies are less able to excrete fluoride and will thus increase their body burdens of fluoride. This dosage does not account for the large number of people who display a 'sensitivity' to fluoride.

The United States Public health Service has warned that:

"segments of the population are unusually susceptible to the toxic effects of fluoride. They include postmenopausal women and elderly men, pregnant woman and their foetuses, people with deficiencies of calcium, magnesium and/or vitamin C, and people with cardiovascular and kidney problems."²⁵

Other research shows clearly that water consumption varies greatly in different regions;

"The present World Health Organization guideline for the upper limit of fluoride concentration in drinking water may be unsuitable for countries with a hot, dry climate." "...In areas where fluoride concentrations exceeded 4 mg/l the prevalence of dental fluorosis reached 100%." ²⁶

Ingestion of fluoride cannot be regulated by the amount in the water.

"Analysis of data from 70 cases with sufficient information revealed that as the amount of fluoride ingested increased, the percentage of patients with symptoms increased." ²⁷

Accidental Over Dosage

In Queensland, one massive overdose led to residents receiving 13 times the acceptable limit of fluoride. This is only one example of a series of disastrous accidents which have led to massive overdosing of the water supply. These 'accidents' relating to over-dosing of fluoride in the drinking water are common. ^{28,29,30,31,32}

"That resulted in the first reported death due to fluoride toxicity caused by drinking water from a community water system. 33

Apart from the difficulty in getting the dose right for what is put into the water, it is totally impossible to regulate the individual consumption and thus exposure to fluoridated water. Those at risk are of course those who are exposed to greater levels of fluoride. Fluoride is ingested from many sources including fluoridated water. These other sources include toothpastes, fluoride tablets, ³⁴ prescription medications, fluoride applied by dentists, smoking, and of course that fluoride which is naturally occurring in some water sources and. ³⁵ The effect is cumulative.

Shulman (1997) states;

"Dentists and other health care providers should educate parents and child care providers about the importance of keeping fluoride products out of reach of children. Manufacturers should be encouraged by the ADA and the FDA to use child-resistant packaging for all fluoride products intended for use in the home." ³⁶

Surely if the research is recommending 'child-resistant packaging' we might consider that there may be a problem with fluoride. Also note that this research is talking about the "supposed medical grade" Sodium Fluoride in toothpaste and not the biocidal waste products of the fertilizer industry.

Beverages and processed foods

All foods and beverages which are prepared in areas with fluoridated water will contain fluoride in completely **unregulated dosages**. Boiling water concentrates the fluoride into a higher level. This is true for the foods and drinks that are purchased which are already prepared, tinned and/or bottled. This also applies to foods and drinks prepared at home. Most alcoholic beverages are prepared with fluoridated water. Soft drinks and sports drinks are equally fluoridated. These are of course additional to the fluoride in the drinking water.

Baby Formula

Babies who are bottle fed with formula made with fluoridated water may receive substantially larger doses of fluoride for their body weight than is accepted for an adult. Most health authorities advise breast feeding of all babies up to 6 months of age. This is not feasible in many cases and in most western developed countries there is great reliance on infant formulas to replace or supplement breast feeding. Children with Downs Syndrome are more susceptible to fluoride poisoning because they have difficulty with breast feeding and they are formula fed for much longer than most babies.

"Water fluoridation was instituted as a public health measure more than 50 years ago to help limit dental caries. However, with the advent of fluoridated dentifrices, fluoridated infant formulas, and commercially prepared beverages with fluoridated water, the incidence of dental fluorosis is increasing. Health care professionals need to understand the history of water fluoridation, examine the benefits and complications of fluoride, and, if need be, take an informed political stance on an issue that is affecting large numbers among our pediatric population." ³⁷

The 2006 Report of the National Research Council of the National Academy of Sciences, designated kidney patients, diabetics, seniors and babies as 'susceptible sub-populations' that are especially vulnerable to harm from ingested fluorides. ⁴³

The National Research Council of America 2006, (NRC) noted that a baby drinking fluoridated formula *receives the highest dosage of fluoride among all age groups in the population* (0.1-0.2+ mg/kg/day), whereas a breast-fed infant receives the lowest.

The National Research Council of America reported that the total fluoride intake for formula fed babies using fluoridated water (up to 6 months in age) is substantially higher than for breast fed babies (**up to186 times greater**). For children aged 7 months to 4 years the scientific committee reported that the total fluoride intake from food, water and household products (excluding medication) may be up to 3.5 times higher for children in fluoridated areas compared to non-fluoridated areas.

The National Research Council of America also found that when body weight is taken into account, non-nursing infants receiving formula made with fluoridated water, who are less than one year old, are exposed to a fluoride intake on average of about **three times that of adults**.

The mortality rate for infants from sudden death syndrome is 300% higher in fluoridated Republic of Ireland compared to non-fluoridated Northern Ireland and clearly indicates a possible association between infant fluoride exposure and SIDS.³⁸ It is important to note here that the countries which have the highest rates of Infant Mortality from SIDS are those which have the highest levels of fluoridation in their water. These include America, New Zealand, Canada, United Kingdom, Australia and The Republic of Ireland.

It is also important to note that both the Centre for Disease Control (CDC) and the American Dental Association recommend against the use of fluoridated water to make infant formula! ^{39,40}

Both organizations accept that formula made with fluoridated water, will cause a "greater Fluoride intake" in the baby. This may be substantially higher than what is recommended for an adult. They also do not advise that fluorosis is more than just mottled teeth. It is a sign of serious systemic poisoning which carries the burden of a wide range of diseases including neurological and developmental. They do not tell the public that fluoride will reduce children's IQ substantially.

According to the European Food Safety Authority ⁴¹ if formula milk were prepared with fluoridated drinking water the fluoride intake of babies would be in the region of 0.18mg/kg. This is;

- 180% above the recommended adequate intake level as recommended by the FDA for infants,
- 80% above the tolerable upper intake level for children up to eight years of age (0.1mg/kg/body weight/day) and

 50% above the Tolerable Upper Intake Level for fluoride for an adult (0.12mg/kg/day).

The EFSA determined that use of fluoridated water to cook food, may increase the fluoride content of all food by at least 0.5 mg/kg - this includes baby infant foods.⁴²

The most vulnerable members of our society are thus being exposed to levels of fluoride in bottled formula which is 'fifty percent above the Tolerable Upper Intake Level for fluoride for an adult'!

The supposedly safe level of 1 part per million is now looking like a severe overdose!

Clearly there is **NO** regulation of ingested fluoride from water or salt.

Tea and Coffee

The NRC noted that consumption of tea in Ireland can result in individual dietary exposure of up to 9mg of fluoride per day for an adult.⁴³

"Boiling fluoridated tap water increases the concentrations of fluoride in water and food. The concentration of fluoride in tea beverages is significantly increased by using boiled fluoridated water to make tea. This may add up to 25% more fluoride to a tea beverage that is already high in fluoride content thereby contributing further to the daily exposure of an individual to fluoride."

"The European Food Safety Authority noted that if fluoridated water was drunk and used for the preparation of food and tea (1-2 L of water/day; 500 mL of tea (2 cups) with a fluoride concentration of 5 mg/L, 3.5 to 4.0 mg fluoride would be added to the daily dietary intake of an individual. This level exceeds the maximum daily limit recommended by the WHO ."

"Dietary fluoride exposure will also be increased by the consumption of any other beverage of foodstuffs prepared with fluoridated tap water. Typical examples include beer, stout, fruit drinks, soft drinks, soup and foods such as processed chicken which all combine to add further substantial contribution to an individual's fluoride intake. (NRC 2006)" 43

"The European Food Safety Authority notes that fluoride content of the skeleton increases with increasing intake of fluoride via water."44

Fluoride concentration in water mg/L	Fluoride in Bone Ash concentrations mg/Kg
<0.3	140-790
1.0	400-2300
4.0	690

"The EFSA note that with increasing fluoride incorporation into bone, clinical stage I and II with pain and stiffness of joints, osteosclerosis of both cortical and

cancellous bone, osteophytes and calcification of ligaments develop. Crippling skeletal fluorosis (clinical stage III) may be associated with movement restriction of joints, skeletal deformities, severe calcification of ligaments, muscle wasting and neurological symptoms. All stages are accompanied by disturbed or deficient mineralisation of the bone, and osteomalacia may be present, particularly when calcium intake is insufficient. The EFSA also highlight that patients with renal insufficiency have an increased risk of developing skeletal fluorosis." ⁴³

Other sources of fluoride intake include "fluoridated dental products including toothpastes, dental mouthwashes and other dental treatments as well as from food additives, vitamin supplements, pharmaceutical drugs and from residues of fluoride based pesticides and fumigants (NRC 2006)."

The combination of Aluminum and Fluoride is particularly toxic especially to the developing brain and in later life may contribute to Parkinson's disease and Dementia. In fluoridated water the aluminum comes from the alum used as a flocculent or coagulant in water treatment.⁴⁵

Clearly the amount of fluoride that people consume, in fluoridated water supply areas, is often far greater than what is recommended by the World Health Organisation. The claim of 'optimal levels' is an impossible fantasy which has NO way of being regulated. No government has the right to expose our babies or elderly to this level of a known biocidal poison. Just as the fluoride level is not regulated neither is the level of pollutants such as Arsenic or Radium. This is also added to the tea and the infant formula.

Does Fluoride Reduce Dental Decay

If fluoride reduces decay rates, than there could be an argument for its use.

In 1938 Dr. Wallace Armstrong and P.J.Brekhus at the University Of Minnesota Department Of Biochemistry publish a study in which they claim that the enamel of sound teeth had a significantly greater fluoride content than the enamel of teeth with cavities. Armstrong was to admit that these results were false. In a follow up study in 1963, Dr. Armstrong found no difference in the fluoride contents of the enamel of sound or decayed teeth. 46

Incredibly, even the American Dental Association ⁴⁷ does not support the fluoridation chant, as they have published a paper in 2000, which states;

"Fluoride incorporated during tooth development [i.e., from ingested fluoride] is insufficient to play a significant role in caries protection." "The fluoride incorporated developmentally—that is, systemically into the normal tooth mineral—is insufficient to have a measurable effect on acid solubility".

The Centre for Disease Control have stated in 2001;

"The prevalence of dental caries in a population is not inversely related to the concentration of fluoride in enamel, and a higher

concentration of enamel fluoride is not necessarily more efficacious in preventing dental caries"

Health authorities in Australia, America, New Zealand and the UK all claim that fluoridation is the greatest thing that ever happened to dental health. They claim that the decay rate has dropped in all fluoridated countries. The media have continued this story and now most people are convinced that Fluoride reduces decay rates and that it is harmless. They fail to inform that the decay rate has dropped in both fluoridated and non fluoridated countries alike.

The European Commission Scientific Committee on Health and Environmental Risks (SCHER) review of water fluoridation (2010) found that the benefits of fluoridation to adult and elderly populations in terms of reductions in coronal and root decay are limited, that the caries preventive effect of systemic fluoride treatment from fluoridation of community drinking water is rather poor and that the improved dental health in countries that do not fluoridate suggests that water fluoridation plays a relatively minor role in the improved dental health.⁴³

Another study published in 2001 states;

"Caries incidence ... was not different between the still-fluoridating and fluoridation-ended communities." 48

Rather than reducing decay, fluoridation makes the decay rate increase. Although the dental associations deny this, it is not at all surprising, considering the fact that fluoride actually damages teeth. When fluoride is removed from the water supply the decay rate drops. These large epidemiological studies were conducted in Canada, Finland, East and West Germany, Cuba, New Zealand and Australia. All demonstrate a reduction in decay rates after the cessation of fluoridation. 49,50,51,52,53,54,55,56,

Clearly the addition of fluoride to the water does not reduce decay rates but may in fact make it worse. In a study conducted through the Human Sciences Program, Australian National University, Canberra, Australia in 1986

"Large temporal reductions in tooth decay, which cannot be attributed to fluoridation, have been observed in both unfluoridated and fluoridated areas of at least eight developed countries over the past thirty years. It is now time for a scientific re-examination of the alleged enormous benefits of fluoridation." ⁵⁷

The International Society of Fluoride Research noted in 2005: "Graphs of tooth decay trends for 12 year olds in 24 countries, prepared using the most recent World Health Organization data, show that the decline in dental decay in recent decades has been comparable in 16 nonfluoridated countries and 8 fluoridated countries ... The WHO data do not support fluoridation as being a reason for the decline in dental decay in 12 year olds which has been occurring in recent decades."

Science magazine noted in 1982: "The decline in caries [the scientific term for "cavities"] prevalence in communities without fluoridated water in various

countries is well documented. The cause or causes are, at this time, a matter of speculation."

The Journal of Public Health Dentistry noted in 1985: "Even the most cursory review of the dental literature since 1978 reveals a wealth of data documenting a secular, or long term, generalized decline in dental caries throughout the Western, industrialized world. Reports indicate that this decline has occurred in both fluoridated and fluoride-deficient areas, and in the presence and absence of organized preventive programs."

The prestigious science journal Nature noted in 1986: "... the period 1979-81, especially in western Europe where there is little fluoridation, a number of dental examinations were made and compared with surveys carried out a decade or so before. It soon became clear that large reductions in caries had been occurring in unfluoridated areas. The magnitudes of these reductions are generally comparable with those observed in fluoridated areas over similar periods of time"

The Journal of the American Dental Association noted in 1988: "The current reported decline in caries tooth decay in the US and other Western industrialized countries has been observed in both fluoridated and nonfluoridated communities, with percentage reductions in each community apparently about the same"

The Boston Globe reported in 1989: "The most exhaustive study ever conducted on the dental health of American children, conducted in 1986-87, has confirmed the great decline in cavities in the last 10 years, but it found much less difference than expected between areas with and without fluoridated water."

The Journal of Public Health Dentistry noted in 1991: "During the past 40 years dental caries has been declining in the US, as well as in most other developed nations of the world... The decline in dental caries has occurred both in fluoride and in fluoride-deficient communities, lending further credence to the notion that modes other than water fluoridation, especially dentrifices, have made a major contribution." (Note the words 'credence to the notion' as this part of the report is purely speculation as stated so elegantly below.)

The Critical Review of Oral Biology and Medicine noted in 2002: "It is remarkable, however, that the dramatic decline in dental caries which we have witnessed in many different parts of the world ...has occurred without the dental profession being fully able to explain the relative role of fluoride in this intriguing process. It is a common belief that the wide distribution of fluoride from toothpastes may be a major explanation (Bratthall *et al.*, 1996), but serious attempts to assess the role of fluoridated toothpastes have been able to attribute, at best, about 40-50% of the caries reduction to these fluoride products (Marthaler, 1990; Scheie, 1992). This is not surprising, if one takes into account the fact that *dental caries is not the result of fluoride deficiency*." ⁵⁸

The British Medical Journal noted in a 2007 paper: "Although the prevalence of caries [i.e. cavities] varies between countries, levels everywhere have fallen greatly in the past three decades, and national rates of caries are now universally low. This trend has occurred regardless of the concentration of fluoride in water or

the use of fluoridated salt, and it probably reflects use of fluoridated toothpastes and other factors, including perhaps aspects of nutrition." Note here also the speculation of 'probably reflects'.

Clinical Oral Investigations noted in 2007: "In most European countries, where community water fluoridation has never been adopted, a substantial decline in caries prevalence has been reported in the last decades, with reductions in lifetime caries experience exceeding 75%."

Globe and Mail wrote: "There has also been a worldwide reduction in cavity rates, regardless of whether countries use the chemical, suggesting factors other than adding it to water supplies are at work."

A study from 2011 states; "Fluoride administration during pregnancy and postpartum does not seem to have a significant impact on the reduction of caries incidence." ⁵⁹

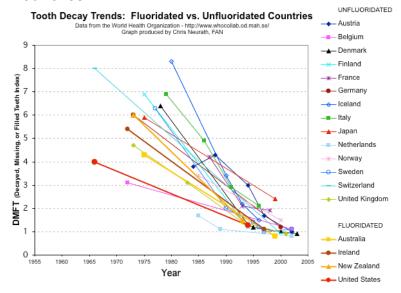
Most of the world is NOT fluoridated, yet the decay rate is dropping everywhere!

The WHO data does not support fluoridation as being a reason for the decline in dental decay in 12 year olds that has been occurring in recent decades. The overwhelming consensus of scientific opinion clearly demonstrates that reductions in decay rates worldwide have nothing to do with water fluoridation.

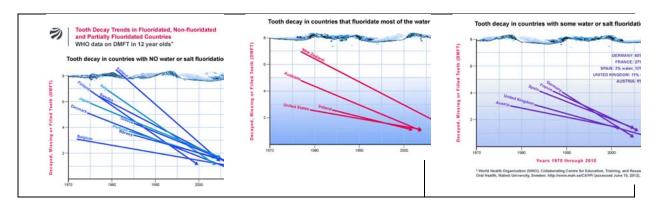
Decay rates have dropped equally in fluoridated and non fluoridated countries. 60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76

Data published by the World Health Organization shows this dramatic plunge in caries in virtually all countries (chart courtesy of Chris Neueth, Fluoride Action Network):

World Health Organization Data (2004) – Tooth Decay Trends (12 year olds) in Fluoridated vs. Unfluoridated Countries:



This trend is continuing as reported in 2010 by the World Health Organisation charts;



It is generally accepted by both the medical and dental profession that rates of dental decay are factors of diet, socioeconomic status, education and of course oral hygiene.

- Fluoride is NOT responsible for the world wide decline in dental decay.
- There is NO scientific justification to support the continued fluoridation of any water supply.
- Fluoridation must be considered a waste of the tax payer's money.
- The continued promotion of this practice is unscientific and outdated.
- Health departments and dental groups must take responsibility for the continued deception of the community and the resultant damage to the whole community's health.

Dental Decay is NOT the result of Fluoride Deficiency

The Risk/Benefit ratio just got jilted.

It is clear that there is NO health benefit by adding fluoride to the water.

Apples and Oranges

The argument put forward to promote fluoridation is of course that it stops or at least reduces the rate of decay of teeth. Although the world wide trend clearly shows an equivalent reduction in decay rates in fluoridated and non-fluoridated countries, the pro fluoridation lobby only like to look at their own studies. These are always done on a smaller more local population group and almost always compare the decay rates in fluoridated and non-fluoridated areas that are more adjacent to each other such as the Northern Rivers area and the Bega shire areas as compared to their surrounding areas of NSW in Australia. The studies that are presented to the pubic and local councils are rarely published, peer reviewed studies.

Sometimes they even compare rates of admission to hospitals for dental treatment under general anaesthetic for children up to 5 years old. If these studies were to demonstrate differences in socioeconomic groups they would certainly be of interest. Unfortunately these figures are supposed to reflect dental health in the fluoridated areas – for this they are a very poor gauge.

Principally though the studies that are pushed compare the decayed, missing and filled teeth (DMFT rate) in fluoridated and non-fluoridated areas for similar age groups eg 12 year olds. In doing so, the pro-fluoridation lobby neglect some of the most basic of systemic effects of fluoride, which have been known about for many years.

Fluoride acts systemically to alter the function of the thyroid gland, which results, amongst many other things, in a reduction in the amount of Thyroid Hormone produced by the gland. Adequate levels of Thyroid Hormone are required to allow full function of the cells which remove bone, the 'osteoclasts'. ⁷⁷ (new bone is laid down by cells called osteoblasts)

These Osteoclasts are also responsible for the resorption (erosion) of the roots of the baby teeth. Until this happens the permanent teeth will not erupt. A reduction in Thyroid Hormone caused by the systemic effect of fluoride on the Thyroid gland, will therefore result in delayed eruption of the permanent teeth. This delay in eruption may be as long as 1 to 3 years. This therefore merely delays the onset of dental decay by 1 to 3 years. This information was published as long ago as 1933! Thus when we compare 12 year olds in fluoridated and non-fluoridated areas we really are comparing oranges and apples. To gain any real information we should be comparing 12 year olds in non-fluoridated areas with 15 year olds in fluoridated areas.

These presentations presented by the pro-fluoride lobby are flawed and nonsensical as well as being unscientific, prejudicial and misleading.

Of note there is also a dramatic increase in the amount of fluorosis found in a tooth and the increased delay in eruption of the permanent teeth. More Fluorosis = longer delay. More fluoride = more fluorosis. The math is relatively simple. For full referencing about this most important aspect of the issue, I recommend reading a paper called Delayed Eruption of Teeth & Time at Risk for Cavities compiled by Carole Clinch BA, BPHE Research Coordinator People for Safe Drinking Water 2010. This document has over 100 references and is a complete explanation of the distortion of the dental studies that show fluorides supposed effect on tooth decay.

(http://www.newmediaexplorer.org/chris/Clinch_2010_Delayed_Eruption-Annotated_Bibliography.pdf)

Risks Associated with Fluoridation

There is a vast body of scientific evidence, in well published, peer reviewed papers, which demonstrates that fluoride may have profound effects on health. The group which is most at risk is precisely the group that fluoridation is aimed at – the infants and children in poorer socio-economic areas.

In a recent Risk Assessment Report to the US Environmental Protection Agency, the author states;⁸²

"In addition, it should be noted that some of these effects may occur at lower fluoride exposures than those typically associated with dental or skeletal effects, such that protection against the

dental or skeletal effects does not necessarily ensure protection against other anticipated adverse health effects.

A few comments regarding the interpretation of the available fluoride studies may be helpful. As Cheng et al. (2007) have described, a "negative" study may simply mean that the study was not sufficiently sensitive to demonstrate a moderate (as opposed to large) effect. This is often due to use of too small a sample size. In addition, study populations are often grouped by community, water source, or fluoride concentration in the water, rather than by individual intake. Due to the wide variation in drinking water intake, this approach results in study groups with overlapping intakes and makes it difficult to detect dose-response relationships that do in fact exist.

The few studies that have looked at age-dependent exposure to fluoride have found increased risks of adverse effects (e.g., Bassin et al. 2006 for osteosarcoma; Danielson et al. 1992 for hip fracture risk); studies that have not looked at age-dependent exposure cannot be assumed to provide evidence of no effect. Similarly, studies that have used a measure of current exposure where a cumulative measure would be more appropriate, or vice versa, cannot be assumed to demonstrate lack of an effect.

Studies of fluoride toxicity in laboratory animals are sometimes dismissed as irrelevant because the exposures or fluoride concentrations used were higher than those expected for humans drinking fluoridated tap water. It is important to know that animals require much higher exposures (5-20 times higher, or more; see NRC 2006; 2009) than humans to achieve the same effects or similar fluoride concentrations in bone or serum. In other words, humans are considerably more sensitive to fluoride than are most animal species that have been studied."

Some of the Earlier Scientific Findings;

- "Fluorides are general protoplasm poisons, with the capacity to modify the metabolism of cells by inhibiting certain enzymes. Sources of fluoride intoxication include drinking water containing 1ppm or more of fluorine."⁸³
 Journal of the American Medical Association, September 18, 1943.
- "Drinking water containing as little as 1.2 ppm fluoride will cause developmental disturbances. We cannot run the risk of producing such serious systemic disturbances. The potentialities for harm outweigh those for good." ⁸⁴ Journal of the American Dental Association, Editorial, October 1, 1944.
- Fluoride exposure disrupts the synthesis of collagen and leads to the breakdown of collagen in bone, tendon, muscle, skin, cartilage, lungs, kidney and trachea. 85,86,87,88,89

- Fluoride stimulates granule formation and oxygen consumption in white blood cells, but inhibits these processes when the white blood cell is challenged by a foreign agent in the blood. ⁹⁰
- Fluoride depletes the energy reserves and the ability of white blood cells to properly destroy foreign agents by the process of phagocytosis. As little as 0.2 ppm fluoride stimulates superoxide production in resting white blood cells, virtually abolishing phagocytosis. Even micro-molar amounts of fluoride, below 1ppm, may seriously depress the ability of white blood cells to destroy pathogenic agents. 91,92,93,94
- Fluoride confuses the immune system and causes it to attack the body's own tissues, increasing the raes of autoimmune diseases (eg. Rheumatoid Arthritis) and increases the tumor growth rate in cancer prone individuals.
- Fluoride inhibits antibody formation in the blood. ¹⁰⁰
- Fluoride depresses Thyroid activity. 101,102,103,104,105
- Fluorides have a disruptive effect on various tissues in the body. 106,107,108
- Fluoride promotes development of bone cancer. 109,110,111,112,113,114,115
- Fluorides cause premature aging of the human body. ^{116,117,118}
- Fluoride ingestion from mouth-rinses and dentifrices in children is extremely hazardous to biological development, life span and general health. ^{119,120,121,122}
- Fluorides diminish the intelligence capability of the human brain. 123
- Fluoride studies in rats can be indicative of a potential for motor disruption, intelligence deficits and learning disabilities in humans. Humans are exposed to plasma levels of fluoride as high as those in rat studies. Fluoride involves interruption of normal brain development. Fluoride affects the hippocampus in the brain, which integrates inputs from the environment, memory, and motivational stimuli, to produce behavioral decisions and modify memory. Experience with other developmental neurotoxicants prompts expectations that changes in behavioral functions will be comparable across species, especially humans and rats. 124
- Fluorides accumulate in the brain over time to reach neurologically harmful levels. 125

Neurological Damage and Reduction in Intelligence

"It's senseless to keep subjecting our children to this ongoing fluoridation experiment to satisfy the political agenda of special-interest groups," says attorney Paul Beeber, NYSCOF President. "Even if fluoridation reduced cavities, is tooth health more important than brain health? It's time to put politics aside and stop artificial fluoridation everywhere," says Beeber.

Neurological Damage in the Foetus

The NRC Report 2006 states

"Reduced thyroid hormones during pregnancy is also associated with reduced intelligence quotient, ADHD and even autism in children."

"...the passage of fluorine through the placenta of mothers with chronic fluorosis and its accumulation within the brain of the fetus impacts the developing central nervous system and stunts neuron development." ¹²⁶

The Environmental Protection Agency states that fluoride is a chemical "with substantial evidence of developmental neurotoxicity."

"Previous experiments have shown that the brains of fetuses from endemic fluorosis areas as well as fluoride-poisoned rats manifest morphological changes. Following experimental testing of the monoamine neurotransmitters in fetuses from fluorosis endemic areas, the present study found lowered levels of norepinephrine and elevated levels of epinephrine. ... When norepinephrine levels drop the ability to maintain an appropriate state of activation in the central nervous system is weakened." 127

Transmission of nerve impulses is severely affected within the brain by affecting the production of neurotransmitters. ¹²⁸

"These changes indicate that fluoride can retard the growth and division of cells in the cerebral cortex. Fewer mitochondria, microtubules, and vesicles within the synapses could lead to fewer connections between neurons and abnormal synaptic function, influencing the intellectual development after birth." ¹²⁹

"Fluoride damage to cell structures was multifaceted. Cell membranes, mitochondria, rough endoplasmic reticulum, and nuclear membranes could all be damaged at the time of fluorosis." 130

The NRC 2006 Report states;

"It is apparent that fluorides have the ability to interfere with the functions of the brain and the body by direct and indirect means"

"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."

"...aluminium fluoride complexes not only provides false messages throughout the nervous system but, at the same time, diminishes the energy essential to brain function."

"There are numerous reports of mental and physiological changes after exposure to fluoride from various routes (air, food, and water) and for various time periods."

"NaF and SiF inhibit cholinesterases, including acetylcholinesterase. The progressive accumulation of ACh at synaptic locations produced by the diminished esterase activity leads to a number of complex effects that can be summarized as an initial increase in stimulation of the target cells but ultimately leads to diminished stimulation—even a blockade of all activity."

"There is evidence that fluoride enhances the uptake of aluminium"

"Human exposure to aluminofluorides can occur when a person ingests both a fluoride source (e.g. fluoride in drinking water) and an aluminium source;

sources of human exposure to aluminium include drinking water, tea, food residues, infant formula, aluminium containing antacids or medications, deodorants, cosmetics, and glassware."

This begs the question – why, with the knowledge that fluoridation does not reduce dental decay, are we hell bent on destroying our brains and those of future generations?

Fluoride causes a Reduction in IQ

One of the most profound effects that fluoride has is to affect the neurological development of the fetus which will result in a reduction in intelligence as measured by IQ. ^{131,132}

The NRC Report 2006 states; "there is some evidence that impaired thyroid function in pregnant women can lead to children with lower IQ scores"

Over 37 published studies create a definitive association between reduced IQ levels in fluoridated areas compared to those without fluoride. These studies have been conducted on large population groups in countries around the world. Those areas that are fluoridated have severe reductions in IQ – this effect is passed on to successive generations. (See Appendix A from http://www.fluoridealert.org/studies/brain01/).

IQ reductions have been significantly associated with fluoride levels of just 0.88 mg/L among children with iodine deficiency. (Lin 1991) Other studies have found IQ reductions at 1.8 ppm (Xu 1994); 1.9 ppm (Xiang 2003a,b); 0.3-3.0 ppm (Ding 2011); 2.0 ppm (Yao 1996, 1997); 2.1-3.2 ppm (An 1992); 2.38 ppm (Poureslami 2011); 2.45 ppm (Eswar 2011); 2.5 ppm (Seraj 2006); 2.85 ppm (Hong 2001); 2.97 ppm (Wang 2001, Yang 1994); 3.1 ppm (Seraj 2012); 3.15 ppm (Lu 2000); and 4.12 ppm (Zhao 1996). 133

"A 1 or 2 point drop in IQ is similarly small. But if it occurred across a broad swath of a huge population, even such a tiny change would prove costly. Each 1 point drop in IQ will diminish an individual's lifetime earnings potential — and even, potentially, boost community costs for education and dealing with behavioral and learning problems. Similarly, each drop of a few points in neurobehavioral measures effectively shifts huge numbers of children below the threshold of being able to effectively manage stress, anger, disappointment and relationships with family and others". ¹³⁴

A more recent study done at Harvard University in 2012 found that fluoride does cause a reduction in IQ levels. It is published in the Federal Government Journal.

This study indicates that there may be up to a SEVEN point reduction in IQ. This is astronomical!

On the basis of these studies alone, all health departments should have grave concerns about the safety of water fluoridation. On the basis of these studies alone there should be a complete and immediate ban on water fluoridation. This is not difficult and does not need to have a phase out time period. All that is needed is to NOT add any more. Turn off the fluoride taps immediately.

Australia used to be called the 'lucky country' but after 50 odd years of fluoridation in Australia, a great deal of damage has already been done. Several generations have now been born with reduced IQ levels. This has a profound effect of dumbing down the population. In years to come do we really want to be known as the dumb country?

Fluoride Is Neurotoxic.

Fluoride damages the brain and other nerve cells. Fluoride will have a negative impact on neural development. Interference with Neurological development may result in Down Syndrome, autism, and may be associated with early onset dementia in the adult. This developmental interference may translate into a reduction in IQ. 136,137,138,139,140,141,142,143,144

Early Onset Dementia is far more common in fluoridated areas

Early onset dementia is 450% more prevalent in fluoridated Republic of Ireland than in non-fluoridated Northern Ireland. The NRC observed that "It is possible that the decline in glucose utilization is an early sign of the onset of dementia."

The neurological effects of fluoride have been known for many years. The fluoride – aluminium combination has also been known for years to have dangerous impacts on mental health.

There is a very strong association with alumina-fluorides and Parkinson's disease.

Behavioral changes & Learning Deficits

This is an increasing problem in many fluoridated countries both for education and for the society at large. 147,148,149,150,151

Note that many of the medications that are used to treat the behavioral and social problems, do themselves contain, and therefore contribute fluoride to the overall body burden.

Fluoride Is a Toxic Poison – for ALL tissues

The published science continues to damn fluoride for the damage it does to human health and the health of other animals and the environment. Fluoride is toxic at levels found in artificially fluoridated water. ⁶

Exposure of the fetus to fluoridated water has long lasting, functional, sex-specific alterations. ¹⁵²

"...significantly affected learning, memory, motor coordination and blood pressure only in male rats. ... a lack of habituation and failure in the ability to discriminate between the novel and the familiar object were observed only in NaF 5.0 mg/kg female rats....a significant impairment of sexual behavior was observed in male rats at both NaF dose levels. The present data indicate that perinatal rat exposure to NaF results in long lasting functional sexspecific alterations which occur at fluoride levels approaching those experienced by offspring of mothers."

Fluoride Intolerance (Sensitivity)

Intolerance to Fluoride is common in all populations. This represents a group of people who cannot live healthy lives when exposed to fluoride but do not show an overt allergic response. This group of people constitutes one of the largest groups of people seeking medical attention, as the symptoms are so varied that they all have different names like constipation, arthritis and inflammation in the mouth. The financial costs to society could be in the billions. The Australian Government has announced that the cost of medical care to the government (and thus the taxpayer) is in the order of \$140 Billion for the last financial year.

"Certain individuals are intolerant to fluoride and reproducibly developed gastrointestinal symptoms with pains in the epigastric area and in the bowels; nausea; vomiting; diarrhea alternating with constipation; and symptoms attributable to the neuromuscular system, namely headaches, paresthesias, muscular fibrillation, pains in arms and legs, and arthritis in the spinal column as well as skin disorders such as (urticaria), inflammation oral cavity (stomatitis), visual disturbances and excessive thirst (polydipsia). The findings of this public health study ultimately resulted in cessation of water fluoridation in the Netherlands in 1973." ⁴³

In addition, chemical intolerance is associated with poor quality of life and functional impairments leading to loss of employment and socioeconomic hardships. ^{161,162,163} It is also associated with more medication prescriptions, ¹⁶⁴ greater use of physicians and hospitals after exposures, ¹⁶⁵ and more visits to environmental specialists. ¹⁶⁶

Fluoride Damages Teeth – it does not make them stronger!

Not only does fluoride have no affect on reducing decay rates, it is clear from the science that the addition of fluoride into the structure of a tooth actually damages that tooth – it does not make it stronger. Fluoride in tooth structure which causes fluorosis is associated with an elevated incidence of decay. It causes structural damage to the teeth. It makes the tooth more susceptible to decay and esthetically may cause severe psychological problems and antisocial behavior. ^{167,168,169}

The NRC Report 2006 states;

"Severe enamel fluorosis compromises that health-protective function by causing structural damage to the tooth. The damage to teeth caused by severe enamel fluorosis is a toxic effect that is consistent with prevailing risk assessment definitions of adverse health effects. This view is supported by the clinical practice of filling enamel pits in patients with severe enamel fluorosis and restoring the affected teeth." ⁴³

Fluorosis Dental and Skeletal

At time of writing (Aug 2013) Medline listed 2,079 references for a search on 'dental fluorosis'. The problem is worldwide. When we have fluoride mottling in teeth we will also have fluorosis and weakening of the bone in a dose dependant manner. ^{170,171,172,173,174,175,176,177,178,179,180,181,182,183,184,185,186,187,188,189,190,191},

It is ludicrous to think that fluoride's damaging effects are limited to teeth.

Fluorosis occurs in non-fluoridated areas also and has been shown to be caused by ingestion of tooth pastes containing fluoride. Fluoride from all sources is toxic, whether it is from intentional water fluoridation or from accidental industrial exposures and emissions. Dental Fluorosis is more than just mottled and speckled teeth. It is not just an issue of aesthetics. It is not normal. It is a sign of tooth damage. It is also a sign of general fluoride poisoning.

When there is dental fluorosis there is also fluorosis of the bones. Fluorosed bone is NOT normal bone. Fluoride will cause an increased weakening of long bones and hips. There is a dramatic increase in the number of hip fractures in fluoridated areas. Rates of osteoporosis are increased in fluoridated areas. There is an increased incidence of Spina Bifida in fluoridated areas¹⁹²

Knock-knees, bowlegs, and saber shins develop when walking begins. Combinations of osteomalacia, osteoporosis, and osteosclerosis result in a spectrum of bone changes from an early age. ¹⁹³

Fluoride Weakens Bones

Fluoridated communities in the USA have a substantially increased prevalence of osteoporosis (55% women and 68% men) compared to non fluoridated areas of 10%.

Fluoride weakens the bones at levels found in artificially fluoridated water supplies. 195,196,197,198,199,200,201,202,203,204,205,206,207,208,209,210,211,212

Muscular Skeletal Changes & Arthritis 213,214,215

The NRC 2006 Report concluded that;

"Fluoride exposure contributes to musculoskeletal disease with associated symptoms such as chronic joint pain, arthritic symptoms, calcification of ligaments, and osteosclerosis of cancellous bones as well as weakens bone and increases the risk of fractures." ⁴³

The NRC state;

"... intake of fluoride will manifest itself in a musculoskeletal disease with associated symptoms such as chronic joint pain, arthritic symptoms, calcification of ligaments and osteosclerosis of cancellous bones. In patients with reduced renal function the potential for fluoride accumulation in the skeleton is increased. People with renal insufficiency will have elevated plasma fluoride concentrations compared to normal healthy persons."

"lifelong exposure to fluoride at 2mg/L fall within or excess the range associated with Stage II and Stage III skeletal fluorosis."

Note that this 2mg/L is easily attainable in areas with artificial fluoridation, where the concentration of fluoride is actually 1mg/L. This is also true on a dose for weight basis in regard to total fluoride intake for babies being fed formulas made

with fluoridated water. As discussed in the beginning of this paper there is no way that dosages can be regulated for all people.

"According to the World Health organisation the Republic of Ireland has the second highest mortality from musculoskeletal diseases in the EU next to the UK. Both countries are high tea drinkers and both countries practice water fluoridation affecting some 6 million UK citizens and approximately and 3.6million residents of the Republic of Ireland. High mortality rates are also recorded for fluoridated New Zealand, the United States and Australia. Of the top eight ranking countries six are fluoridated." 43

Cancer

The NRC found associations between fluoride exposure and bladder cancer, osteosarcoma, thyroid cancer, oral-Pharyngeal cancer, uterine cancer, soft tissue sarcoma, non-Hodgkin's lymphoma, colorectal cancer, and lip cancer.

The NRC stated:

- Alternations in DNA suggest that the chemical (Fluoride) has the potential to cause genetic effects as well as carcinogenic potential.
- Fluoride has a role in p53 mutations that could influence the development of osteosarcoma
- Human leukemic cells lines may also be susceptible to the effects of hexafluorosilicicate the compound used for fluoridation.
- Perhaps the single clearest effect of fluoride on the skeleton is its stimulation of osteoblast proliferation. Because fluoride stimulates osteoblast proliferation, there is a theoretical risk that it might induce a malignant change in the expanding cell population.
- Fluorides increases the production of free radicals in the brain
- Human leukemic cells lines may also be susceptible to the effects of hexafluorosilicicate the compound used for fluoridation.

The scientific research and vast epidemiological studies confirm the increased incidence of a variety of cancers in fluoridated areas. ^{216,217,218}

"The mutagenicity of fluoride supports the conclusion that fluoride is a probable human carcinogen. An important toxicologic consideration is that a toxic substance stores at the same place it exerts it toxic activity." (Dr. William Marcus, Environmental Protection Agency Scientist)

"The principal finding of the National Toxicology Program study was the occurrence of a significant dose response trend in male rats of osteosarcoma (malignant bone cancer)."

The Department of Health in New Jersey found that bone cancer in male children was between two and seven times greater in areas where water was fluoridated. U.S. Environmental Protection Agency (EPA) researchers confirmed the bone cancer-causing effects of fluoride at low levels in an animal model. The likelihood of fluoride acting as a genetic cause of cancer requires consideration. ²¹⁹

According to the peer reviewed Journal of Free Radical Biology and Medicine (Volume 2 Issue 2, 1988) "Free radicals participate in the development of carcinogenesis, particularly tumor promotion."

This position is supported by the National Cancer Institute at the U.S. National Institutes of Health. The European Journal of Cancer (Jan 1996 32A(30-8) similarly concluded that "a large body of evidence suggests important roles of oxygen free radical in the expansion of tumour clones and the acquisition of malignant properties. In view of these facts, oxygen free radicals may be considered as an important class of carcinogens."

The U.S Public Health Service published the findings of a study (1991) that examined Fluoridation of Drinking Water and subsequent Cancer Incidence and Mortality, in which they found increases in soft tissue sarcoma, non-Hodgkin's lymphoma, colorectal cancer and lip cancer in people living in Fluoridated communities. (U.S. National Research Council, Review, 2006).

Ireland has been found to have the highest incidence rate of Prostate and Ovarian cancer in Europe, as well as higher incidence rates of colorectal, lung, non-Hodgkin's Lymphoma, and pancreatic cancers compared to the European average." ²²⁰

Uterine Cancer.

An association of uterine cancer (combination of cervical and corpus uteri) with fluoridation was reported by Tohyama 221 (1996), who observed mortality rates in Okinawa before and after fluoridation was terminated, controlling for sociodemographics. ²²¹

Osteosarcoma

This rare bone cancer is most common amongst young males. The incidence in fluoridated areas is dramatically increased. ^{222,223,224,225,226}

"Mean serum fluoride concentration was found to be significantly higher in patients with osteosarcoma as compared to the other two groups." ⁷⁴

"Our exploratory analysis found an association between fluoride exposure in drinking water during childhood and the incidence of osteosarcoma among males but not consistently among females." ⁷⁵

Can governments really justify putting fluoride in the drinking water? How many dead children can be ignored? How much suffering must patients and families have to bear before this madness is ended? Perhaps it is time for governments, fertilizer industries and the dental industry to pay the compensation for the cancers that are caused by adding fluoride to the water supply. It may be easier to switch off the cause than to keep trying to find a cure.

Fluoride is Toxic to all tissues of the body.

Fluoride is a protoplasmic poison which is toxic at many levels of cell metabolism. Its affects are varied from tissue to tissue and organ to organ. 227,228,229,230,231,232,233,234,235,236,237,238,239,240,241,242

Insulin Levels are affected by fluoride. ²⁴³ This will affect the rate of tumor growth and will damage all tissues in the body. 244,245,246,247,248,249,233,250,251 ,

Fluoride Creates Oxidative Stress in the body

Fluoride exposure impairs glucose tolerance via decreased insulin expression and oxidative stress.²⁵⁰

Kidney and Liver Damage ^{252,253,254,255,256}

"These observations emphasize the risk of high chronic fluoride intake in patients with renal failure, even with mild reduction of glomerular filtration rate." ²⁵⁷ The study found also that there is an increased risk of bone disease with increasing concentrations of fluoride in the tissues.

It is interesting to note that the same dental associations, who promote fluoridation, are also the main promoters of the use of mercury amalgam. Research from 1991 demonstrates that the presence of amalgam in the mouth will release enough mercury to have a dramatic reduction of the glomerular filtration rate of the kidneys (50 - 60%). Everyone with mercury amalgam fillings has a reduced kidney filtration rate. This is highly significant as the NRC established that people with reduced kidney function are unable to excrete as much fluoride, which will thus increase the toxic load in the tissues.

Calcium Metabolism Is Interfered with & Calcium Absorption Reduced 259,260,261,262

The NRC 2006 Report states;

"Fluoride exposure contributes to hyperparathyroidism, increased calcium deficiency, osteoporosis, and may be associated with hypertension, arteriosclerosis, degenerative neurological diseases, diabetes mellitus, some forms of muscular dystrophy and colorectal cancer."

"The indirect action of fluoride on the parathyroid function occurs by fluoride inducing a net increase in bone formation and decreasing calcium absorption from the gastrointestinal tract; both of these effects lead to an increase in the body's calcium requirement. If dietary calcium is inadequate to support the increased requirement, the response is an increase in secondary hyperparathyroidism. Fluoride exposure in the presence of calcium deficiency further increases the dietary requirement for calcium."

"Fluoride clearly has the effect of decreasing serum calcium and increasing the calcium requirement in some or many exposed persons. Secondary hyperparathyroidism in response to calcium deficiency may contribute to a number of diseases, including osteoporosis, hypertension, arteriosclerosis, degenerative neurological diseases, diabetes mellitus, some forms of muscular dystrophy and colorectal cancer. Calcium deficiency induced or exacerbated by fluoride exposure may contribute to other adverse health effects including increased concentration of lead in critical organs and nutritional rickets. Recent increases in nutritional rickets in the United States appear to reflect calcium-deficient diets rather than Vitamin D Deficiencies."

Furthermore the United States Public health Service has warned that: "segments of the population are unusually susceptible to the toxic effects of fluoride. They include "postmenopausal women and elderly men, pregnant woman and their foetuses, people with deficiencies of calcium, magnesium and/or vitamin C, and people with cardiovascular and kidney problems."²⁶³

"There exists a positive correlation between fluoride concentration in the drinking water and the morbidities of endemic fluorosis disease" 264,264

Fluoride is an Endocrine Disruptor

Fluoride is listed as a 'Low Dose Endocrine Disrupting Chemical – EDC'. It Inhibits insulin secretion, inhibits parathyroid hormone secretion, and reduces thyroid hormone output. ^{265,266,267}

The WHO and UNEP state that extremely low levels of Endocrine Disrupting Chemicals, can have a profound impact on the endocrine system.

Information from the World Health Organization shows that in 2010 "the standardised disease ratio (SDR) for endocrine, nutrition, metabolic disease disorders involving immune mechanism", was 51% higher for Ireland than the UK. (13.32 per 100,000 Ireland compared to 8.71 per 100,000 UK) ⁴³

The WHO and UNEP report 268 notes that "systemic inflammation, immune dysfunction and immune cancers such as lymphoma and leukaemia in humans have been associated with EDC exposures." 43

The NRC report identifies the main areas of human health impacted by endocrine disrupting chemicals;

- Thyroid-related disorders
- Immune function is interfered with
- Bone diseases
- Neuro-developmental disorders in children
- Hormone Related Cancers
- Metabolic Disorders
- Reproductive Disorders
- EDCs can interfere with endocrine signalling of pubertal timing, fecundity and fertility and with menopause
- Can cause cognitive and behavioural deficits in humans
- Reduced thyroid hormones during pregnancy are also associated with reduced intelligence quotient, ADHD and even autism in children.
- Obesity, diabetes and metabolic syndrome are due to disruption of the energy storage—energy balance endocrine system and thus are potentially sensitive to EDCs.
- These chemicals constitute a new class of endocrine disruptors called "obesogens".
- ... result in altered glucose tolerance and reduced insulin resistance.
- ... can play a role in the development of immune-related disorders
- Systemic inflammation, immune dysfunction and immune cancers such as lymphoma and leukaemia in humans have been associated with EDC exposures.
- A wide variety of developmental problems and common adult diseases and disorders are well-known to be caused by abnormal endocrine function.

- Exposure to some endocrine disrupting chemicals during pregnancy can lead to altered cholesterol metabolism, weight gain and type 2 diabetes in the offspring later in life.
- The immune system plays an important role in osteoporosis, which often arises from estrogen deficiency and secondary hyperparathyroidism. It is possible that exposure to EDCs may influence the development of osteopenia and osteoporosis.
- The developing and neonatal immune response is easily affected by EDCs, and disruption during critical windows of development may have detrimental long-term consequences.

Pineal Gland is affected with reduction in melatonin production ^{269,270}

According to the 2006 report issued by the National Research Council:⁴³

- "Fluoride is likely to cause decreased melatonin production and to have other effects on normal pineal function, which in turn could contribute to a variety of effects in humans. Melatonin seems to be involved in anxiety reactions and other physiological effects including regulation of sleep, effects on calcium and phosphorus metabolism, parathyroid activity, bone growth, development of postmenopausal osteoporosis and anticarcinogenic effects, antioxidant actions, effects on the central nervous system, psychiatric disease and sudden infant death syndrome. The pineal gland is a calcifying tissue, Melatonin secretion is well correlated with the amount of uncalcified pineal tissue. An increase in the calcification of the pineal gland represents a decrease in the individual's ability to produce melatonin. As with other calcifying tissue, the pineal gland can accumulate fluoride with fluoride concentrations being positively related to the calcium concentration in the pineal gland."
- "The NRC reported that "animal studies have demonstrated that circadian rhythm of melatonin production was altered by fluoride exposure, prepubescent animals had significantly lower melatonin production and it was shown that the sexual maturation in females occurred earlier when exposed to fluoride."

Thyroid Function

The thyroid is severely affected by fluoride. Fluoride can replace iodine and thus reduces thyroid function. Hypothyroidism is common in fluoridated areas. This will affect everything from obesity to diabetes, insulin tolerance, and neurological development. Reproduction and early puberty are also associated with reduced thyroid function. ^{271,272,273,274,275,276}

The NRC 2006 Report states:

"Fluoride affects normal endocrine function and response; the effects of the fluoride induced changes vary in degree and kind in different individuals. Fluoride is therefore an endocrine disruptor in the broad sense of altering normal endocrine function or response." "hypothyroidism produces tiredness, depression, difficulties in concentration, memory impairments, and impaired hearing. In addition, there is some evidence that impaired thyroid function in pregnant women can lead to children with lower IQ scores"

The Ireland Report (p44) states; 43

"It has been reported that within the last two decades thyroid cancer has become the fastest rising neoplasm among women in North America (2010)²⁷⁷ In Ireland since the early 1970's there has been a documented 2.5 fold increase in thyroid cancers^{205, 278}. This period happens to also coincide with water fluoridation in Ireland. It is interesting to observe that thyroid cancer rates in Sweden reduced by 18 per cent in the period after cessation of water fluoridation. ²⁷⁹"

From the Ireland Report 43

"... thyroid hormone concentrations are correlated with adverse effects in organ systems other than the nervous system in the adult, including the cardiovascular system and control of serum lipids 280,281,282 pulmonary system 283,284,285 and kidney. Total cholesterol, low density lipoproteins (LDL), nonhigh density lipoproteins (non-HDL), and triglycerides increase linearly with increasing TSH, and HDL decreases consistently with increasing TSH across normal reference ranges without evidence of any threshold effect. 286

Parathyroid Function

As a Low Dose EDC, fluoride has a profound effect on the parathyroid gland which will have repercussions throughout the body^{287,288,289,290,291,292,293,294,295,296,297}

"Fluoride, by interfering with calcium balance, may be the cause of secondary hyperparathyroidism." 76

The NRC 2006 report states;

"The indirect action of fluoride on the parathyroid function occurs by fluoride inducing a net increase in bone formation and decreasing calcium absorption from the gastrointestinal tract; both of these effects lead to an increase in the body's calcium requirement. If dietary calcium is inadequate to support the increased requirement, the response is an increase in secondary Public Health Investigation of Epidemiological data on Disease and Mortality in Ireland related to Water Fluoridation hyperparathyroidism. Fluoride exposure in the presence of calcium deficiency further increases the dietary requirement for calcium."

"Fluoride clearly has the effect of decreasing serum calcium and increasing the calcium requirement in some or many exposed persons. This "may contribute to a number of diseases, including osteoporosis, hypertension, arteriosclerosis, degenerative neurological diseases, diabetes mellitus, some forms of muscular dystrophy and colorectal cancer." ⁴³

Hyperparathyroidism is associated with Hypothyroidism!

Insulin Levels are affected by fluoride

This will affect the rate of tumor growth and will damage all tissues in the body. 298,299,300,301,302,303,304,233,305,306,

Obesity and Diabetes

The NRC 2006 Report states;

"sufficient fluoride exposure appears to bring about increases in blood glucose or impaired glucose tolerance in some individuals and to increase the severity of some types of diabetes and noted that given the increasing prevalence of diabetes mellitus "any role of fluoride exposure in the development of impaired glucose metabolism or diabetes is potentially significant."

The WHO and UNEP state that extremely low levels of Endocrine Disrupting Chemicals, can have a profound impact on the endocrine system. The NRC also states that the recognised inhibition of glucose metabolism is a risk factor in weight gain and obesity. The countries with the highest incidence of obesity are the USA (about 30% of the population), Australia, New Zealand, Ireland, the UK and also Chile all of which practice water fluoridation. Although the water is not fluoridated the salt is and this provides dietary fluoride intake levels similar to drinking fluoridated water.

Obesity, diabetes and metabolic disorders are due to disruption of the energy storage – energy balance endocrine system and thus are potentially sensitive to ECDs.²⁶⁷

Because obesity is an endocrine related condition, it is sensitive to EDCs.

The incidence of diabetes in the Republic of Ireland is 60% higher than in the non fluoridated NI. The rates of stroke and kidney failure among diabetic people, has now reached record levels in Ireland.

Fluoride is in a new class of endocrine disruptors called "obesogens".

Gastrointestinal symptoms and mucosal abnormalities

"... gastrointestinal symptoms as well as mucosal abnormalities are common in patients with osteofluorosis." ³⁰⁷ Osteofluorosis is only caused by exposure to fluoride. It means fluorosis of the bones.

Fluoride exposure damages the histological structure (the structure of the cells) in the gastric mucosa (the lining of the gut), due to the formation of hydrofluoric acid. 308,309,310,311 Hydrofluoric acid is used in industry to etch glass. It is extremely toxic to human tissues.

"when we consume fluoridated water hydrofluoric acid is created in the stomach which is highly corrosive and damaging, it destroys the lining of the stomach and intestine. Fluoride inhibits the enzymes that produce the mucus in the goblet cells. When your microvilli in the lining is gone, you will not absorb nutrients no matter what food you consume." 312

No nutrients = No health. Gastrointestinal symptoms are common in individuals with fluoride sensitivity

Male Fertility is severely affected by fluoride

"Decreased testosterone concentrations in skeletal fluorosis patients and in males drinking the same water as the patients but with no clinical manifestations of the disease compared with those of normal, healthy males living in areas nonendemic for fluorosis suggest that fluoride toxicity may cause adverse effects in the reproductive system of males living in fluorosis endemic areas." 313

Fluoride reduces sperm numbers as well as sperm motility and reduces fertility. 314,315,316,317,318,319,

320,321,322,323

Female Fertility is also reduced by fluoride

The European Union has classified siloxanes compounds as endocrine disruptors based on evidence that it interferes with human hormone function and a possible reproductive toxicant that may impair human fertility. 324,325,326 Fluoride Crosses the placenta and is stored in the fetus 327

Fluoride is Toxic Across Generations 328,139

"presence of generational or cumulative effects of fluoride on the development of the offspring when it is ingested continuously through multiple generations is evident from the present study." ⁷⁷

"... presence of generational or cumulative effects of fluoride on the development of the offspring when it is ingested continuously through multiple generations is evident from the present study." 139 \

Fluoride is Embryo Toxic

Fluoride is toxic to the developing fetus. The NRC report associates fluoride poisoning with reduced IQ, damaged neurological development, autism, down syndrome, sudden infant deaths. ADHD and other behavioral disorders did not exist before water fluoridation was introduced. The NRC also associate fluoride poisoning with a range of other diseases which are now being seen in childhood rather than adults, including arthritis, diabetes, lung diseases and other muscular-skeletal disorders. 329,330,331

Fluoride Causes Learning Deficits

The primary toxic effect of Acetylcholinesterase inhibitors is to block the normal breakdown of the neurotransmitter, acetylcholine which is critical for concentration and learning functions of the brain. Research into Attention Deficit Hyperactivity Disorder (ADHD) in children, found that children with ADHD had dramatically reduced levels of acetylcholine which could lead to problems with concentration and learning. 332, 333

There is a link between exposure to silicofluorides and increased substance abuse, violent behaviour and other learning disabilities. 334,335,336,337,338,339,340,341,342,343,344

Silicofluorides have been found to leach lead from the solder on copper water pipes (especially if used in combination with either chlorine or chloramine) and that the combination of silicofluorides and other heavy metals such as lead may contribute significantly to disease burdens and behavioural toxicity in certain individuals. ⁴³

Developmental Effects 345

The NRC 2006 Report states;

The possible association of cytogenetic effects of fluoride exposure suggests that Down's syndrome is a biologically plausible outcome of exposure" "A few studies of human populations have suggested that fluoride might be associated with alterations in reproductive hormones, fertility and Down's syndrome"

In Ireland the incidence of Downs Syndrome is 1 in 546 births compared to UK which is 1 in 1.000 births.

Immune System is affected in a number of ways 346,347

The NRC 2006 Report states;

"People who live in artificially fluoridated communities will accumulate fluoride in their skeletal systems and potentially have very high fluoride concentrations in their bones. The bone marrow is where immune cells develop and that could affect humoral immunity and the production of antibodies to foreign chemicals."

"Fluoride has a number of effects on immune cells, including polymorphonuclear leukocytes, lymphocytes, and neutrophils. Fluoride also augments the inflammatory response to irritants."

"There is no question that fluoride can affect the cells involved in providing immune responses."

"Several subpopulations are likely to be susceptible to the effects of fluoride exposure. From an immunologic standpoint, individuals who are immune compromised (e.g., AIDS, transplant, and bone marrow-replacement patients) could be at greater risk of immunologic effects of fluoride."

Note that cancer patients whether receiving chemo or radiotherapy or not, have compromised immune systems. People with exposure to mercury from their amalgam dental fillings have a compromised immune system.

Rheumatoid Arthritis is an autoimmune disease and its prevalence in the western countries is increasing. The rate of Rheumatoid Arthritis is substantially higher in fluoridated countries than those that do not fluoridate. The fluoridated Republic of Ireland has 60% more Rheumatoid Arthritis than nonfluoridated Northern Ireland. The rate of RA is about 0.89% of the population. (NI is 0.55%)

Australia has a rate of Rheumatoid Arthritis of 1.7%, New Zealand 1-2%, America 1.02 – 1.07%, Singapore 1% and Canada 1%. These figures come from the Working Group Report to Australia's National Health and Medical Research Council.³⁴⁸

A study of Rheumatoid Arthritis in Hong Kong which is also fluoridated showed that:

the "Average total costs of RA (Rheumatoid Arthritis) were estimated at \$9286 (2006 US dollars) per patient per year, >60% of which was attributable

to indirect costs due to productivity losses. Patients' out-of-pocket expenses and costs of inpatient care dominated direct costs, each representing 11% of total direct costs. Younger age, poorer physical and mental health independently predicted high direct costs. Older age, lower education level and more functional disability independently predicted high indirect costs."

A double blind study was conducted to obtain proof that only fluoride was responsible for the symptoms being reported. The list of the most common complaints they could readily identify with the exposure to fluoridation included; Stomach and intestinal pains, Mouth ulcers, Excessive thirst, Skin irritation and eczema, Migraine-like headaches, Visual disturbances (blurred vision), Worsening of known allergic complaints, Mental depression, Stomatitis, Joint pains, Muscular weakness, and extreme tiredness.

A definite relationship between the symptoms and fluoride in water was clearly established.³⁵¹

Dr. Moolenburgh concluded:

"As a summary of our research, we are now convinced that fluoridation of the water supplies causes a low grade intoxication of the whole population, with only the approximately 5% most sensitive persons showing acute symptoms. The whole population being subjected to low grade poisoning means that their immune systems are constantly overtaxed. With all the other poisonous influences in our environment, this can hasten health calamities. It is in the light of this constant low grade poisoning that the substantial evidence of increased cancer death rate due to fluoridation needs to be considered and understood."

Following publication of their research results, water fluoridation in Holland was discontinued in 1976. 43

Fluoride is Toxic to the Heart ³⁵²

The NRC found that fluoride may indirectly contribute to a number of diseases, including hypertension and arteriosclerosis.

EDCs being thyroid disrupting chemicals may adversely affect cardiovascular risk in humans by reducing serum T4. 267

The OECD Health Indicators show that Ischemic Heart Disease is most prevalent in USA, New Zealand, Canada, Ireland, the United Kingdom and Australia, all of which have fluoridated their water for over 40 years.

Fluoride plays a critical role in the development of heart disease. 353,354,355,356,357,358,359,360

A study from 2006 found an overall risk in the risk of coronary heart disease of over 65% in people with subclinical hypothyroidism. ^{361,267}

Fluoride's effect on cardiac function can also be related to the fact that fluoride inhibits the absorption and thus availability of calcium. The naturally occurring

fluoride is already bound to calcium in the form of calcium fluoride and does not have a similar negative effect on the heart.

Red Blood Cells are affected

Red cells from humans exposed chronically to toxic levels of fluoride through drinking water showed significant increase in lipid peroxidation and membranous cholesterol and phospholipids. ^{362,363}

Tooth Paste with Fluoride Is Toxic 364

"The most common sources of acute overexposures today are dental products - particularly dentifrices because of their relatively high fluoride concentrations, pleasant flavors, and their presence in non-secure locations in most homes. For example, ingestion of only 1.8 ounces of a standard fluoridated dentifrice (900-1,100 mg/kg) by a 10-kg child delivers enough fluoride to reach the 'probably toxic dose' (5 mg/kg body weight). ... the potential for toxicity requires that fluoride-containing materials be handled and stored with the respect they deserve." ³⁶⁴ (published 2011)

If it were not toxic than Colgate would not put a warning on its labels; 365



Colgate Fluoride tooth paste contains **0.24% Sodium Fluoride**

Its purpose is listed as 'Anticavity' – (clearly the label is misleading.)

The label also states;

Warnings

Keep out of reach of children under 6 years of age.

If more than used for brushing is accidently swallowed, get medical help or contact a Poisons Control Centre right away.

Stainless Steel & Nickel Titanium orthodontic wires react with fluoride to become toxic to human cells ²²³

Orthodontic bands and wires make cleaning teeth more difficult. The dental profession and most orthodontic specialists insist that children with orthodontic appliances should have regular fluoride treatment, should brush with fluoridated toothpastes and should drink fluoridated water. They completely ignore the published science in this regard. Nickel which is released from SS and NiTi appliances is one of the most immune reactive metals known.

The NRC scientific committee clearly identified children as a high priority risk group requiring special consideration because their health risks can differ from those of adults as a result of their immature physiology, metabolism, and differing levels of exposure due to factors such as greater food consumption per unit of body weight. The scientific committee highlighted the lack of toxicity data on

silicofluorides and the lack of appropriate safety standards for children for fluoride exposure or its long term toxicity on humans.

Lead absorption is enhanced with fluoride intake which also reacts with other metals 366,367,368,

According to the Agency for Toxic Substances and Disease Registry, the three most toxic metals known to man are in order Arsenic, Lead and Mercury!

In 1999 and 2000, senior ENVIRONMENTAL PROTECTION AGENCY personnel admitted they knew of no health-effects studies of SiFs. In 2002 SiFs were nominated for NTP animal testing. In 2006 an NRC Fluoride Study Committee recommended such studies. It is not known at this writing whether any had begun. ³⁶⁹

Environmental Toxin

Very little of the water which has had Fluoride added to it is actually swallowed by humans – estimates of only 5% are accepted as being directly consumed by humans. Most is flushed in sewerage and drain water. Much is used in industry. It thus becomes a very expensive waste of taxpayer money. The dollars are literally flushed away. Sadly this fluoridated water has devastating effects on the environment, live stock, and in fact all life forms. 370,371,372,373,374,375,376,377,378,379,380,381,382,383,384,385

"The toxic action of fluoride resides in the fact that fluoride ions act as enzymatic poisons, inhibiting enzyme activity and, ultimately, interrupting metabolic processes such as glycolysis and synthesis of proteins."

"There was no industrial pollution in the study site; hence, availability of these compounds in groundwater was due to natural reasons and by the use of chemical fertilizers." ³⁷⁶

"Inorganic fluorides were declared toxic under the Canadian Environmental Protection Act in 1993 based on their potential to cause long-term harmful effects in aquatic and terrestrial ecosystems,..."

National Research Council Report 2006

Key findings of the report are summarized below. The report illustrates the tremendous difference in the incidence of a variety of diseases between fluoridated Republic of Ireland and non-fluoridated Northern Ireland. The report also highlights similar disease burdens in the few other countries that continue to practice fluoridation especially in North America, Australia and New Zealand. The NRC has also found from recent scientific research that fluoride is a Low Dose Endocrine Disrupting Chemical with major impacts to overall human health.

Summary of Main Findings of the NRC Report (2006)

 The NRC concluded that there was evidence to demonstrate that fluoride exposure contributed to causing cancers as well as promoting cancers.
 Fluoride exposure impairs glucose metabolism, causes impaired glucose tolerance and decreases insulin production.

- Fluoride exposure increases the production of free radicals in the brain, impairs brain function, causes neurotoxic effects on the brain, affects the general nervous system and increases the risk of developing Alzheimer's. Cytogenetic effects of fluoride exposure may contribute to Down's syndrome.
- Fluoride exposure contributes to musculoskeletal disease with associated symptoms such as chronic joint pain, arthritic symptoms, calcification of ligaments, and osteosclerosis of cancellous bones as well as weakens bone and increases the risk of fractures.
- Fluoride exposure contributes to hyperparathyroidism, increased calcium deficiency, osteoporosis, and may be associated with hypertension, arteriosclerosis, degenerative neurological diseases, diabetes mellitus, some forms of muscular dystrophy and colorectal cancer.
- Fluoride contributes to other adverse health effects including increased concentration of lead in critical organs and nutritional rickets. Fluoride is an endocrine disruptor contributing to hypothyroidism and hyperparathyroidism. Fluoride exposure decreases melatonin production that may indirectly contribute to increased anxiety reactions, development of postmenopausal osteoporosis, anticarcinogenic effects and psychiatric diseases.
- Fluoride directly affects the immune system while silicofluorides inhibit cholinesterases, including acetylcholinesterase which is a contributory factor in Alzheimer disease. Human leukemic cells lines are also susceptible to the effects of silicofluorides and symptoms such as oral ulcers, colitis, urticaria, skin rashes, nasal congestion and epigastric distress may be due to sensitivity of some sufferers to silicofluorides or fluoride.
- Fluoride also forms complexes with other elements including aluminium, sodium, iron, calcium, magnesium, copper and hydrogen that may have implications for neurotoxic effects.
- Previous peer reviewed studies in the Netherlands, Finland and U.S have shown that a percentage of the population are intolerant to fluoride and that exposure to fluoride in water/food resulted in dermatologic, gastro-intestinal and neurological disorders.
- Taken together, the evidence suggests that chemical intolerance and increased exposure to fluorides through fluoridation of public water supplies may be viewed as one of the largest single causes of preventable death and health inequality in the Republic of Ireland.
- The NRC scientific committee clearly identified children as a high priority risk group requiring special consideration because their health risks can differ from those of adults as a result of their immature physiology, metabolism, and differing levels of exposure due to factors such as greater

food consumption per unit of body weight. The scientific committee highlighted the lack of toxicity data on silicofluorides and the lack of appropriate safety standards for children for fluoride exposure or its long term toxicity on humans.

- The committee also identified Individuals with renal disease as a subgroup
 of particular concern because their ability to excrete fluoride can be
 seriously inhibited, causing greater accumulation of fluoride in their bodies.
 Another category of individuals in need of special consideration includes
 those who are particularly susceptible or vulnerable to the effects of
 fluoride. For example, Downs syndrome children.
- The NRC also identified the elderly as another sector of the population of concern, because of their long-term accumulation of fluoride into their bones. The NRC further noted that there are also Individuals with medical conditions that can make people more susceptible to the effects of fluoride. An example would be individuals with thyroid disorders or individuals with compromised immune systems.
- This report shows how premature death and health inequalities are far greater for all ages in the Republic of Ireland compared to NI or other European countries.
- In each of the disease categories a highly significant increased burden of disease has been recorded for Southern Ireland with the most pronounced variation being early onset dementia (450%) followed by sudden infant death syndrome (300%), sarcoidosis (250%), congenital hypothyroidism (220%), osteoporosis (100%) Downs syndrome (83%), depression (78%), rheumatoid arthritis (60%) diabetes (60%) and cancer where significant increased risk for a wide range of cancers are to be found in REPUBLIC OF IRELAND compared to non-fluoridated Northern Ireland and Europe.
- Overall cancers incidence was significantly higher in fluoridated Republic of Ireland compared to non-fluoridated Northern Ireland. The World Health Organisation has also reported that the overall incidence of cancer per 100,000 in the Republic of Ireland is 85% above the European region average, 43% above the EU average and 38% above the UK incidence. It is important to highlight that over 6million citizens in the UK (<10%) also consume artificially fluoridated drinking water.
- ... exposure to fluoridation chemicals in drinking water combined with
 fluorides and silicofluorides ability to increase the bioavailability of other
 harmful elements such as aluminium and lead, and fluorides competition
 and interaction with calcium, magnesium, iodine and other essential
 elements, that fluoride is a significant contributor to the disease burden in
 Republic of Ireland. This impact is reflected most strikingly with the
 increased incidence of neurological diseases followed by increased
 disorders of the immune system, endocrine disorders, musculoskeletal
 disorders and cancer.

- ... mortality from diabetes was 470% higher, endocrine and metabolic disorders (350%) rheumatoid arthritis (277%) and diseases of the musculoskeletal system (228%) in the Republic of Ireland compared to Northern Ireland.
- The NRC (2006) scientific committee observed: "fluoride has the potential to cause genetic effects as well as carcinogenic potential". 386

The Ireland Report

The title is "Public Health Investigation of Epidemiological data on Disease and Mortality in Ireland related to Water Fluoridation and Fluoride Exposure Key findings and observations on Fluoride by the U.S National Research Council examined within the context of a comparison of population health and disease burdens between Fluoridated Republic of Ireland and Non-Fluoridated Northern Ireland and Europe."

Report for The Government of Ireland The European Commission and World Health Organisation Prepared By Declan Waugh BSc. CEnv. MCIWEM. MIEMA. MCIWM March 2013

This report is available at http://www.enviro.ie/Public Health Investigation of Epidemiological data on Disease and Mortality in Ireland related to Water Fluoridation_Waugh D_Febuary 2013 Master.pdf

This report is critical reading for anyone who wants to understand the significant disaster that water fluoridation represents. It is critical for dentists and doctors to understand so that patients may be treated with significantly better outcomes. Dentists must start to read the science rather than depending on the opinions of trade organizations who have their own vested interests. Dentists must take responsibility for the treatment of individual patients. Dentists have a great responsibility as health care providers to become informed of the published science.

North Ireland (NI) is not fluoridated. The southern Republic of Ireland has been fluoridated for over 40 years. This has been the cause of the difference between health statuses in both regions of Ireland. The report is a vast epidemiological study which also relies on recent published science.

The American Dental Association responded to this report on 22 March 2006 and state on their website;

"What is important to remember about the report?

This report is limited to a review of the level of naturally occurring fluoride currently recommended in drinking water - a level many (2 to 5) times higher than the level of fluoride used in optimally fluoridated community water systems. Nothing in this report calls into question the optimal levels of 0.7-1.2 parts per million in fluoridated community water systems." 387

This statement is blatantly incorrect and misleading, as the report examines ALL sources of fluoride especially that which is artificially placed in drinking water.

Certainly there are areas where the natural sources of fluoride in the water are as high as 5 times more than what is placed in the water, but these areas do not occur in Ireland where the natural input is far less. All sources of fluoride exposure were accounted for in the report including the uncontrollable dosage delivered via tap water. The American Dental Association is wrong on both accounts. Their statements are misleading and dangerous to everyone's health. It is clear from the NRC report that the dosage proposed as safe by the American Dental Association is uncontrollable for the consumer. Examples above include warmer climates where people drink more water, the use of fluoridated water to make infant formula, and of course the tea drinkers of the world as well as those people with reduced kidney function who cannot excrete fluoride efficiently. The American Dental Association fails to mention that baby formula may supply a child with levels of fluoride that are significantly higher than the maximum tolerable dose for an adult.

Sudden Infant Death Syndrome is 300% higher and early onset dementia is 450% higher in the Republic of Ireland.

"Death rates from SIDS are variable among developed countries and comparisons between countries should be carefully interpreted. Nevertheless the highest SIDS rates in 1990 (≥2.0 in 1000 live births) were in Ireland and New Zealand. In a recent international comparison of SIDs mortality rates (2005) the highest incidences were to be found in New Zealand followed North America, Argentina and Australia and Ireland. Artificial fluoridation of drinking water is implemented in each of these countries by public health authorities. More males than females are affected by SIDs (1.5:1). ³⁸⁸ Interestingly it is also known that Osteosarcoma also affects more males than females for which fluoride has been found to be a contributory factor. ^{225,389,390}

Ireland has the highest rate of congenital abnormalities than all of Europe followed closely by New Zealand and America.

The report demonstrates massive differences between the incidence and severity of diseases between unfluoridated North Ireland and the fluoridated Republic of Ireland in the south. The charts below come from the report. Other variables were accounted for.

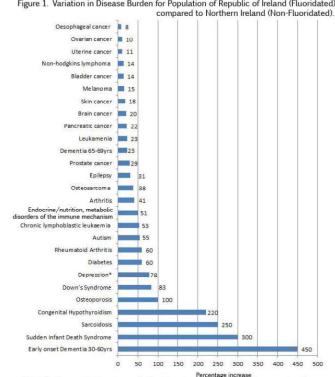


Figure 1. Variation in Disease Burden for Population of Republic of Ireland (Fluoridated)

Percentage increase

Note: Where increased incidence is recorded for either male or females in certain instances, such as for cancers, the highest percentage increase is presented for either sex. Where data is not available for NI, UK data is provided *Data from AWARE ROI/NI and Health Promation Agency UK. Further information included in report. Ireland has highest incidence in EU of Prostate cancer. Non Hoddgkins lymphoma and Ovarian cancer.

** Data from NICR/NCRI Cancer in Ireland 1994-2004

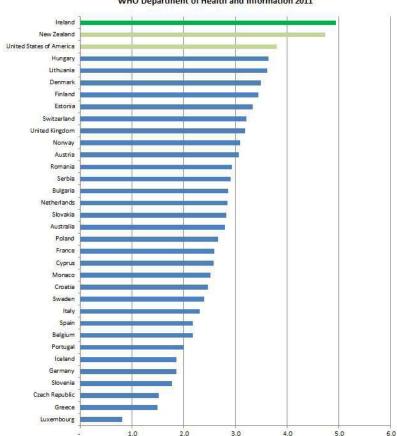


Figure 5. Estimated Deaths per 100,000 of Population from Congenital anomalies WHO Department of Health and Information 2011

The report states that fluoride is an Endocrine Disrupting Chemical, EDC, which alone has wide ranging effects on the thyroid, parathyroid, pituitary and pineal glands and in fact the whole of the endocrine system. This alone will have devastating effects on neurodevelopment and IQ levels. The report clearly states that IQ is severely affected in fluoridated areas. Fluoride also stimulates osteoblasts, and is thus a suspected cause of osteosarcoma.

Who benefits from water fluoridation?

So far there seems to be little benefit to most people. There are though a few select groups who could gain financial benefit from adding Fluoride to the water.

- Dentists are the first obvious group. The average dental practice could earn about \$30,000 per year from applying topical fluoride to their patients. (estimated from the number of patients I see annually in my practice and thus an anecdotal estimate based on charging \$50 per fluoride treatment had I done this)
- If only 30% is taxed this is \$10,000 per dentist. Australia has about 10,000 dentists. Thus the government earns \$100 million in taxation.
- Local governments who receive additional funding for adding fluoride to the water.

Health Minister Jillian Skinner, of The NSW Government, announced on Sept 18 2013 that the "NSW Government will commit \$7.5 million to ensure councils are supported to build the vital infrastructure needed to fluoridate their water supplies."

"The NSW Government is committing \$5 million to ensure the 15 councils who have chosen not to fluoridate are able to provide this vital service to their communities," Mrs Skinner said. "A further \$2.5 million will be invested for the implementation of technological advancements for smaller communities with current approval for fluoridation.

Mrs Skinner said. "This educative approach has been integral to fighting misinformation, and as a result, NSW Health will now be undertaking annual audits of all councils to ensure their commitment to fluoridation is unwavering. "No council which has commenced fluoridation of their water supplies will be able to renege on their decision without the permission of the NSW Director-General of Health." ³⁹¹

At this point we may need to reassess the definitions of 'educative approach', 'misinformation' and also the concept of ensuring 'their commitment'. It is incredible that a "sweetener" such as this is being so openly proffered, while at the same time denying the possibility of councils to change their minds about mass medicating their constituents.

 Drug companies who sell drugs to treat the diseases caused by fluoridation. Considering the range and severity of these diseases this could equate to earnings for the drug companies in the billions of dollars. (my estimate)

- Share holders in these companies who gain dividends from the profits.
- The aluminium and fertilizer industries who get paid by tax payers, to dump their toxic waste products into the water supply, instead of having to pay for its safe disposal.
- As most fluoride is imported from China, the Australian taxpayer's dollars are going overseas.
- Manufacturers of products containing fluoride eg tooth pastes and fluoride supplements and those products that dentists use for topical application of fluoride. Again this could be in the range of billions of dollars. (my estimate)
- The institutions who seek donations for research to help cure the diseases caused by fluoride.
- The dental associations are international. They have close ties to the industries which manufacture fluoride containing products. Dental Associations benefit financially by allowing the manufacturers to use their signature of approval. Not just on their Fluoride products but on a range of other products that they manufacture.

What the Real Experts are saying

The United Nations News Centre released (21 November 2006) the following statement; ³⁹²

"Excessive amounts of fluoride in drinking water are exposing millions of people around the world to risks ranging from often crippling skeletal problems to milder dental conditions, according to a report released today by the United Nations World Health Organization (WHO).

The report, issued in Geneva, finds that the widespread effects of fluoride in drinking water remain largely unrecognized and neglected, and that much of the suffering could easily be prevented."

Dr. Hardy Limeback is a recently retired full professor and former head of Preventive Dentistry at the Faculty of Dentistry, University of Toronto, a position he served for 18 years. Dr. Limeback served as president of the Canadian Association for Dental Research (1998-99) and served on the US National Academy of Sciences Subcommittee on Fluoride in Drinking Water – the NRC 2006 report. He states; ³⁹³

- "Even when very large sample sizes are used to obtain statistically significant results, the benefit of water fluoridation is not a clinically relevant one (the number of tooth surfaces saved from dental decay per person is less than one half)."
- "It is not an essential nutrient. Nor should it be considered a desirable "supplement" for children living in non-fluoridated areas. Fluoride ingestion delays tooth eruption and this may account for some of the differences seen

- in the past between fluoridated and non-fluoridated areas (i.e. dental decay is simply postponed)."
- "The notion that systemic fluorides are needed in non-fluoridated areas is an outdated one that should be abandoned altogether."
- "Fluorosilicates have never been tested for safety in humans. Furthermore, these industrial-grade chemicals are contaminated with trace amounts of heavy metals such as lead, arsenic and radium that accumulate in humans."
- "Half of all ingested fluoride remains in the skeletal system and accumulates with age. Several recent epidemiological studies suggest that only a few years of fluoride ingestion from fluoridated water increases the risk for bone fracture."
- "People unable to eliminate fluoride under normal conditions (kidney impairment) or people who ingest more than average amounts of water (athletes, diabetics) are more at risk to be affected by the toxic effects of fluoride accumulation."
- "There is a dose-dependent relationship between the prevalence/severity of dental fluorosis and fluoride ingestion."
- "Infants and toddlers are especially at risk for dental fluorosis of the front teeth since it is during the first 3 years of life that the permanent front teeth are the most sensitive to the effects of fluoride"
- "The long-term effect of fluoride accumulation on dentin colour and biomechanics is also unknown."
- "Generalized dental fluorosis of all the permanent teeth indicates that the bone is a major source of the excess fluoride."
- "... and it is illogical to assume that tooth enamel is the only tissue affected by low daily doses of fluoride ingestion."
- "The money saved from halting water fluoridation programs can be more wisely spent on concentrated public health efforts to reduce dental decay in the populations that are still at risk and this will, at the same time, lower the incidence of the harmful side effects that a large segment of the general population is currently experiencing because of this outdated public health measure."

"Regarding fluoridation,
the ENVIRONMENTAL PROTECTION AGENCY
should act immediately
to protect the public, not just on the cancer data,
but on the evidence of bone fractures,
arthritis, mutagenicity and other effects"
William Marcus, Ph.D.,
senior EPA toxicologist, Covert Action, Fall 1992, p.66

"Fluoridation is the greatest case of scientific fraud of this century"

Robert Carlton, Ph.D., former U.S. EPA scientist on "Marketplace" Canadian Broadcast Company Nov 24, 1992

Statements from European Health, Water, & Environment Authorities on Water Fluoridation ³⁹⁴

- 1971 Germany bans water fluoridation
- **1972** Sweden bans fluoridation of public water.
- 1973 The Netherlands constitution bans water fluoridation.
- 1982 The Water Chemicals Codex is published from Washington DC showing all fluoride products used in public water supplies are lead contaminated. Further, it is widely known that fluorides are extremely corrosive and leach lead from pipe joints. When water stands in pipes, the lead contamination in the water can easily double or triple. It is also widely known that fluoride has a synergistic action on lead in the water, increasing lead's absorption in the human body.
- The City Parliament of Basel, Switzerland voted 73 to 23 to stop Basel's 41 year water fluoridation program. Basel was the only city in Switzerland to fluoridate its water, and the only city in continental western Europe, outside of a few areas in Spain.
- 2004: Scotland which is currently unfluoridated rejected plans to add fluoride to the nation's water.

China

Fluoridation is banned: "not allowed". Naturally high fluoride levels in water are a serious problem in China. In China alone, 30 million people suffer crippling skeletal fluorosis." (Jamie Bartram, Coordinator of the WHO's Water, Sanitation and Health Program, March 22, 2002)

The Chinese government now considers any water supply containing over 1 ppm fluoride a risk for skeletal fluorosis. In China, the World Health Organization has estimated that 2.7 million people have the crippling form of skeletal fluorosis. (Bo Z, et al. (2003). Distribution and risk assessment of fluoride in drinking water in the West Plain region of Jilin Province, China. Environmental Geochemistry and Health 25: 421-431.)

Austria:

"Toxic fluorides have never been added to the public water supplies in Austria." SOURCE: M. Eisenhut, Head of Water Department, Osterreichische Yereinigung fur das Gas-und Wasserfach Schubertring 14, A-1015 Wien, Austria, February 17, 2000.

Belgium:

"This water treatment has never been of use in Belgium and will never be (we hope so) into the future. The main reason for that is the fundamental position of the drinking water sector that it is not its task to deliver medicinal treatment to people. This is the sole responsibility of health services."

SOURCE: Chr. Legros, Directeur, Belgaqua, Brussels, Belgium, February 28, 2000.

Denmark:

"We are pleased to inform you that according to the Danish Ministry of Environment and Energy, toxic fluorides have never been added to the public water supplies. Consequently, no Danish city has ever been fluoridated." SOURCE: Klaus Werner, Royal Danish Embassy, Washington DC, December 22, 1999.

Finland:

"We do not favor or recommend fluoridation of drinking water. There are better ways of providing the fluoride our teeth need."

SOURCE: Paavo Poteri, Acting Managing Director, Helsinki Water, Finland, February 7, 2000.

"Artificial fluoridation of drinking water supplies has been practiced in Finland only in one town, Kuopio, situated in eastern Finland and with a population of about 80,000 people (1.6% of the Finnish population). Fluoridation started in 1959 and finished in 1992 as a result of the resistance of local population. The most usual grounds for the resistance presented in this context were an individual's right to drinking water without additional chemicals used for the medication of limited population groups. A concept of "force-feeding" was also mentioned.

Drinking water fluoridation is not prohibited in Finland but no municipalities have turned out to be willing to practice it. Water suppliers, naturally, have always been against dosing of fluoride chemicals into water."

SOURCE: Leena Hiisvirta, M.Sc., Chief Engineer, Ministry of Social Affairs and Health, Finland, January 12, 1996.

France:

"Fluoride chemicals are not included in the list [of 'chemicals for drinking water treatment']. This is due to ethical as well as medical considerations." SOURCE: Louis Sanchez, Directeur de la Protection de l'Environment, August 25, 2000.

Germany:

"Generally, in Germany fluoridation of drinking water is forbidden. The relevant German law allows exceptions to the fluoridation ban on application. The argumentation of the Federal Ministry of Health against a general permission of fluoridation of drinking water is the problematic nature of compuls[ory] medication."

SOURCE: Gerda Hankel-Khan, Embassy of Federal Republic of Germany, September 16, 1999.

Luxembourg:

"Fluoride has never been added to the public water supplies in Luxembourg. In our views, the drinking water isn't the suitable way for medicinal treatment and that people needing an addition of fluoride can decide by their own to use the most appropriate way, like the intake of fluoride tablets, to cover their [daily] needs."

SOURCE: Jean-Marie RIES, Head, Water Department, Administration De L'Environment, May 3, 2000.

Netherlands:

"From the end of the 1960s until the beginning of the 1970s drinking water in various places in the Netherlands was fluoridated to prevent caries. However, in its judgement of 22 June 1973 in case No. 10683 (Budding and co. versus the City of Amsterdam) the Supreme Court (Hoge Road) ruled there was no legal basis for fluoridation. After that judgement, amendment to the Water Supply Act was prepared to provide a legal basis for fluoridation. During the process it became clear that there was not enough support from Parlement [sic] for this amendment and the proposal was withdrawn."

SOURCE: Wilfred Reinhold, Legal Advisor, Directorate Drinking Water, Netherlands, January 15, 2000.

Northern Ireland:

"The water supply in Northern Ireland has never been artificially fluoridated except in 2 small localities where fluoride was added to the water for about 30 years up to last year. Fluoridation ceased at these locations for operational reasons. At this time, there are no plans to commence fluoridation of water supplies in Northern Ireland."

SOURCE: C.J. Grimes, Department for Regional Development, Belfast, November 6, 2000.

Norway:

"In Norway we had a rather intense discussion on this subject some 20 years ago, and the conclusion was that drinking water should not be fluoridated."

SOURCE: Truls Krogh & Toril Hofshagen, Folkehelsa Statens institutt for folkeheise (National Institute of Public Health) Oslo, Norway, March 1, 2000. Sweden:

"Drinking water fluoridation is not allowed in Sweden...New scientific documentation or changes in dental health situation that could alter the conclusions of the Commission have not been shown."

SOURCE: Gunnar Guzikowski, Chief Government Inspector, Livsmedels Verket — National Food Administration Drinking Water Division, Sweden, February 28, 2000.

Czech Republic:

"Since 1993, drinking water has not been treated with fluoride in public water supplies throughout the Czech Republic. Although fluoridation of drinking water has not actually been proscribed it is not under consideration because this form of supplementation is considered:

uneconomical (only 0.54% of water suitable for drinking is used as such; the remainder is employed for hygiene etc. Furthermore, an increasing amount of consumers (particularly children) are using bottled water for drinking (underground water usually with fluor)

unecological (environmental load by a foreign substance) unethical ("forced medication")

toxicologically and physiologically debateable (fluoridation represents an untargeted form of supplementation which disregards actual individual intake and requirements and may lead to excessive health-threatening intake in certain population groups; [and] complexation of fluor in water into non biological active forms of fluor."

SOURCE: Dr. B. Havlik, Ministerstvo Zdravotnictvi Ceske Republiky, October 14, 1999.

Israel

On July 29, 2013, the Supreme Court of Israel ruled that new regulations require Israel to stop adding fluoride chemicals into public water supplies in one year, by 2014.

In April 2013, however, the Minister of Health, Yael German, revoked both the 1974 and 1998 regulations.

"It must be known to you that fluoridation can cause harm to the health of the chronically ill," including "people who suffer from thyroid problems," German wrote in a letter addressed to doctors opposed to ending fluoridation. ³⁹⁵

As the rest of the world moves away from fluoridation the Australian government wastes time and taxpayer money to cling to this outdated and unscientific belief

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