

The Dangers and Ineffectiveness of the Fluoridation of Our Water Supply

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Introduction

The fluoridation of the water supply which occurs in Australia, the US, and just a handful of other countries is basically an attempt at mass-medication of the public with a product, fluoride, which is *not* a nutrient in the body, serves *no* function in the body, which is *highly toxic* to the body, which causes a wide range of significant physical and psychological health problems including brain damage and lowered IQ, which is *not* classified as a medication or a therapeutic good, which has *no* beneficial impact on the teeth, which has had *no* safety and efficacy testing before or after putting it into the water, which is being given to you without your informed consent, which is banned in many countries and communities, and where the majority of the fluoride dumped into our water supply is *not* of pharmaceutical grade but *untreated industrial waste* from the fertilizer and aluminium industries. So, before you drink up, please read on.

1. What is fluoride? *Fluorine* is an element which is a poisonous pale-yellow gas, whereas *fluoride* is the fluorine ion or, fluorine bonded with another element or group of elements such as sodium or calcium. [2]. (An ion is an atom or molecule with a net negative charge because it has gained or lost one or more electrons.)

2. Fluoride serves no beneficial purpose in the body, and it is not a medication. There is not one single biological process in the body that requires fluoride. [4; 15]. Here are some statements from eminent organisations and people to this effect. “Fluoride is no longer considered an essential factor for human growth and development.”—National Academy of Sciences, 1993. [8]. “Sodium fluoride used for therapeutic effect would be a drug, not a mineral nutrient. Fluoride has not been determined essential to human health. A minimum daily requirement for sodium fluoride has not been established.”—US Food and Drug Administration, 1963. “In summary, the FDA does not list fluoride as an essential nutrient.”—Food and Drug Administration, 1990. (The Food and Drug Administration is the peak body in the US for the regulation of food and drugs.) “Fluoride is not essential for human growth and development.”—European Commission, 2011. “Fluoride is not in any natural human metabolic pathway.”—Cheng, K.K. et al, *Adding Fluoride to Water Supplies* in *British Medical Journal*, 2007. Having no nutritional purpose in the body, it is not surprising that the ingestion of fluoride does *not* serve a medicinal purpose. The official classification of fluoride by the Food and Drug Authority in the US is that it is “an unapproved drug.” [1]. However, in Australia fluoride is *not* officially recognised as a medication. In July 2019 the Australian government amended the *Therapeutic Goods Act* to exclude fluoridated reticulated drinking water as an approved therapeutic good. [19].

3. Fluoride is actually highly toxic to the body. Fluoride is highly biologically active and interferes with fundamental biological processes. In particular, fluoride is a systemic poison which inactivates at least 64 types of enzymes which are protein catalysts needed for all biological processes. [4]. Fluoride is a known endocrine organ disruptor. The 2010 article by Barbier et al. entitled *Molecular Mechanisms of Fluoride Toxicity*, and found in the journal *Chemico-Biological Interactions*, provides an excellent summary of the ways in which fluoride is toxic to the human body and interferes with its biochemical processes. [15].

We are only able to excrete around 20-50% of the fluoride we ingest—even less if one’s kidneys are not functioning properly—and so it accumulates in the body. [1]. Fluoride does not naturally occur in the bones or teeth. Instead, because fluoride is toxic to the body it is therefore stored in the bones, teeth and other calcium rich tissues to prevent harm to the body. [10]. “The plain fact that fluoride is an insidious poison, harmful, toxic and cumulative in its effects, even when ingested in small amounts, will remain unchanged no matter how many times it will be repeated in print that fluoridation of the water supply is ‘safe’ ”—Dr Ludwig Gross, former Chief of Cancer Research, U.S. Veterans Administration.

A pea sized piece of toothpaste contains about 0.25 mg of fluoride which is equal to the amount of fluoride found in 250 millilitres (ml) of water with a fluoride level of 1 part per million (ppm), which is the normal level of artificial fluoridation of public water. If you swallow more toothpaste than this pea-sized amount the Federal Drug Authority in the US advises you to *seek medical advice* or ring the Poisons Information Centre. Yet, if you drink more than one glass of fluoridated water per day you are *also* swallowing more fluoride than contained in this pea-sized amount of toothpaste—indeed many times more if you are drinking many glasses of such water. [4].

4. The majority of the fluoride put into our water supply is untreated, industrial waste. Fluoridation of the water supply in the US began in 1945. Fluoridation of Australia’s water supply began in 1953. As of 2019, artificially fluoridated drinking water was provided for 70% or more of Australia’s population. [19]. *The majority of fluoride which is put into the water supply in Australia and the US is not pharmaceutical grade fluoride where the quality has been tested; instead the majority of it is untreated industrial waste captured from the smoke stacks of factories which produce fertilizer and aluminium.* This untreated industrial fluoride is either sodium silicofluoride (also known as sodium hexa-fluoride silicate) or hydrofluorosilicic acid (also known as hexafluorosilicic acid). In Australia, most of these two industrial fluoride compounds i.e. industrial waste, comes from the phosphate fertilizer factory Incitec Pivot, located in Geelong, Victoria. However, increasingly this industrial waste fluoride is being sourced more cheaply from Chinese factories. [1; 3; 10; 16]. While early toxicity studies have been done for sodium fluoride, this is not the case for the waste products sodium silicofluoride or hydrofluorosilicic acid. These fluoride compounds are being used in our water as a medicine—a point which I elaborate upon below—and yet the Therapeutic Goods Administration, the peak regulatory body for drugs in Australia, has not undertaken any safety testing of these compounds at all. Nor have these fluoride compounds been approved by the Food and Drug Administration in the US. Further, there is no long-term testing for the safety or efficacy of fluoridation of the water in Australia. [1].

Because the fluoride which is tipped into our water supply is an untreated industrial waste product it is contaminated with a range of other toxic substances. Documentation under a freedom of information request South Australian member of parliament, Ann Bressington, showed that industrial grade sodium silicofluoride and hydrofluorosilicic acid contain the following: aluminium up to 71 milligrams per litre (mg/L); arsenic up to 5.2 mg/L; mercury up to 7.9 mg/L; uranium up to 2 mg /L as well as traces of copper, chromium, beryllium, nickel, selenium, etc. [1; 8].

Here is what Dr Hardy Limbeck, Associate Professor and Head of Preventive Dentistry, University of Toronto, has to say about this industrial grade fluoride being dumped into our water supply. “Hydrofluorosilicic acid is recovered from the smokestack scrubbers during the production of phosphate fertilizer...this industrial grade source of fluoride [is used] to fluoridate drinking water, rather than the more expensive pharmaceutical grade sodium fluoride salt. *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. Increased lead levels have been found in children living in fluoridated communities.... Long term ingestion of these harmful elements should be avoided altogether.” [1].

5. Fluoridation of the water supply does not reduce tooth decay. In light of what we have seen about the nature of water fluoridation, it is not surprising that only eight countries, including Australia, have 50% or more water fluoridation. Most countries, including most European countries (98%), do not fluoridate their water, indeed, as discussed later, many have explicitly banned it. Repeated studies show that the teeth of people in non-fluoridated countries and communities are as good or better than the teeth of people in countries or communities that do fluoridate. [4; 8]. The biggest comparative study ever done was undertaken in the US in 1986-7 by the National Institute of Dental Research. It surveyed 39,000 children in 84 communities. It was found that children drinking fluoridated water had only 0.6 of one tooth surface (of 128 tooth surfaces in a child’s mouth) less decay *vis-à-vis* children drinking non-fluoridated water. [4]. In the Australian context, Spencer et al. (1996) found that children drinking fluoridated water had only 0.12 to 0.3

of one tooth surface less decay. Spencer and Armfield (2004) found no statistical difference between children raised on fluoridated versus non fluoridated water in South Australia. [4]. The state of Queensland, Australia, started mass fluoridation of its water supply in 2009, whereas the states of New South Wales and Victoria have fluoridated their water for 20 to 30 years. However, there is no difference in tooth decay rates among these three states—which is to say that fluoridation of the water is useless. Indeed, countries across Europe which do not fluoridate their water have the same decay rates as Australians. [1]. In New Zealand, Dr John Colquhoun, former chief dental officer of Auckland found in a series of studies (1984, 85, 87) that there was no difference in tooth decay between fluoridated and non-fluoridated communities. In another study by De Liefde (1998) the difference in tooth decay was described as “clinically meaningless.” Other studies with similar conclusions are Kanagaratnam et al (2009) and Mackay and Thompson (2005). [4]. Likewise, World Health Organisation studies show that tooth decay rate is coming down *equally* in countries that do and do not fluoridate. For example, the decline in tooth decay in 12 year old children from 1960 to 2011 was found to be coming down equally in all countries, fluoridated or non-fluoridated. However, income level was strongly correlated with tooth decay: the greater the income level the less decay. [4; 8].

6 The harmful effects of fluoride in the water are many. Here is a list of the detrimental effects fluoride in our water supply can or does have on our health: dental fluorosis, brain damage, lowered IQ, bone damage (increased chipping and breaking), increased incidence of cancers and tumours, increased arthritis, interruption of DNA and RNA repair, impairment of the pineal and thyroid (hypothyroidism) glands, depression, lethargy, kidney damage, lowered melatonin, and allergic reactions to fluoride such as dermatitis. Let’s look at some of these areas in more detail. [9].

6.1 Fluorosis, Arthritis, Chipped and Broken Bones are all caused or exacerbated by fluoride. The Centre for Disease Control (CDC) in the US showed that 41% of US children aged between 12 to 15 years had fluorosis, a discolouring and flaking affliction of the teeth caused by *too much* fluoride. This figure had risen 9% from 1987 to 2004. In New Zealand the rate of fluorosis is around 30%. [4; 15; 8]. The same type of damage is caused to the bones in the body leading to arthritis. Indeed, we find that increased fluorosis is correlated with increased bone defects in children and also with increased bone fractures and arthritis. [8]. A number of peer-reviewed studies published in prestigious journals such as the *Journal of the American Medical Association* have shown that increased fluoride intake is associated with increased bone fractures. The level of fluoride involved here is what will be received in drinking fluoridated water. [8]. In addition to fluorosis, there is another reason why increased fluoride is correlated with and causative of teeth and bone problems. Fluoride builds up in calcium rich tissues such as teeth, bones and ligaments as the body seeks to store this toxic and harmful substance where it can do the least harm. Scientific studies using control groups show that giving people increased sodium fluoride increases their bone mass. However, it does so in such a way that their bones become less flexible, and therefore, weaker and more brittle. In this condition the bones are more prone to problems such as breaking and chipping. [4; 8].

6.2. Fluoride causes cancer. In 2001 Dr Elise Bassin found in a case-controlled study, as part of her doctoral thesis at Harvard University, and later (2006) published in the journal *Cancer Causes and Control*, that if young boys were exposed to fluoridated water in their 6th, 7th or 8th years then they had a 5 to 7 times greater chance of developing osteosarcoma (bone cancer) by the age of 20. This research stands as unrefuted. [4].

6.3. Fluoride interferes with the working of the pineal gland. The pineal gland is the master gland of the endocrine system of the body. The endocrine system releases hormones into the body to regulate a great variety of functions. Thus, interference with the pineal gland in turn interferes with the whole endocrine system and many functions of the body, especially the immune system. Fluoride has a particular affinity for the tissues of the pineal gland; fluoride is magnetically attracted to this gland. In a 2001 study Dr Jennifer Luke at the University of Surrey found that fluoride accumulates in calcium hydroxy apatite crystals around the pineal gland at an average of 9,000 parts per million (ppm). [4]. The adult pineal gland accumulates more fluoride than any other soft tissue and can be enveloped with deposits of calcite micro crystals with the

hardness of teeth. If this reaches an advanced stage it will interfere with a person's sense of direction and make him/her disoriented, forgetful and even zombie-like.

6.4. Fluoride impairs brain development and lowers IQ. As of December 2019 there were over 300 human and animal studies which showed or indicated that fluoride causes brain damage in people and/or lowers IQ in children. 72 studies had been conducted on humans with 64 of these showing that elevated fluoride was associated with lowered IQ. Regarding these studies Ellen Connett from the Fluoride Action Network stated that “The human studies, which are based on IQ examinations of 23,773 children (62 studies) and 245 adults (2 studies), provide compelling evidence that fluoride exposure during the early years of life can damage a child's developing brain.” [18]. A synopsis of each of these 72 studies can be found at www.fluoridealert.org which is the website of Fluoride Action Network. [9]. Also 60 animal studies have found that fluoride exposure is associated with reduced learning and/or memory. Overall, there are at least 100 animal studies showing biochemical changes and damage to the brain from fluoride. Also, there are three human studies which show that fluoride negatively impacts foetal brain tissue. [4; 15; 9]. What follows are some specific studies showing the adverse impact of fluoridated water on intelligence.

First, in 2017 a study entitled *Prenatal Fluoride Exposure and Cognitive Outcomes in Children at 4 and 6-12 Years of Age in Mexico* by Bashash, M. et al. was published in the journal *Environmental Health Perspectives*. This was a 12 year multi-million dollar study funded by The National Institute of Environmental Health Sciences, US National Institutes of Health, and the Environmental Protection Agency (all of which actually promote fluoridation). The researchers involved in the study came from top-ranking universities in Canada, US and Mexico and between them had published some 50 studies on cognitive effects in children. This study is the most meticulous we have in this area of research. In particular, it controlled for all major factors other than fluoride such as lead, income, smoking, health in pregnancy, etc. which may have biased the results. The study involved 287 mother-child pairs. It found a *very strong correlation* between higher concentrations of fluoride in the urine of mothers—from whatever source—and lower IQs of their respective children. The researchers found that for every one milligram per litre (or one part per million) of fluoride in the mother's urine there was an average loss of 5-6 IQ points in the child. One milligram of fluoride per litre in the urine would roughly equate with drinking fluoridated water at one part per million (1 ppm). They found also that the most critical period of exposure for brain development was during foetal development. The implication here is that a supposedly safe dose of fluoride for an adult mother of one part per million in the drinking water—the normal level—is not safe for the growing fetus/child. This is precisely what would be expected in light of the fact that the growing foetus weighs far less than the mother. The study concluded: “Conclusion: In this study, higher levels of maternal urinary fluoride during pregnancy (a proxy for prenatal fluoride exposure) that are in the range of levels of exposure in other general population samples of pregnant women as well as nonpregnant adults were associated with lower scores on tests of cognitive function in the offspring at 4 and 6-12 y old.” [15].

Second, in 2019 a study entitled *Association Between Maternal Fluoride Exposure During Pregnancy and IQ Scores in Offspring in Canada*, and conducted by Green, Lanphear and Hornung, was published on-line in the journal *JAMA Paediatrics*. It showed lowered IQ in children of 3-4 years when mothers consumed fluoridated water. Because the study would be controversial it came with an editorial confirming: one, the data had been triple checked; two, the study's rigor; and three, the definitive nature of the evidence.

Third, as of 2011 there were 24 epidemiological studies—which look at disease rate, distribution and causes in populations—mainly from China, Mexico, Iran and India, which showed that fluoride exposure reduced IQ in children. For example, Xang et al (2003) found a drop of 5-10 IQ points for all males and females between a group drinking fluoridated water at 0.7 ppm and another drinking water at 2.5 to 4.5 ppm. It was concluded that a level of 1.9 ppm was the threshold past which negative health effects were apparent. (This study was updated and re-published in 2010 in the *Environmental Health Perspectives* journal of the National Institute of Environmental Health Services which is, in turn, part of the US Department of Health and Human Services.) Similarly Ding et al (2011) found that an even lower exposure to fluoridated water of just 0.3 to 3 ppm had a negative effect on IQ. Further, there was an inverse correlation between increased

fluoride (as found in urine analysis) and lowered IQ. They concluded that fluoride of 1 ppm was associated with a 0.59 IQ point loss. [4]. Professor Paul Connett, head of the Fluoride Action Network, states that based on these studies an adequate safety margin to protect the more sensitive segment of the population would need to be a fluoride level of just 0.19 ppm. To provide a scientifically proper safety margin here, people, particularly children, would need to drink *less* than a glass of fluoridated water per day. However, he is advocates for *no* fluoride. [4].

Fourth, regarding the above epidemiological studies, in 2012 a research team from both Harvard University's School of Public Health and China Medical University in Shenyang jointly produced a meta-analysis of 27 epidemiological studies, mainly from China, which looked at exposure of children to fluoridated water. Collectively, these studies involved around 8,000 children of school age. The research, entitled *Developmental Fluoride Neurotoxicity: A Systematic Review and Meta-Analysis*, was published in the National Institute of Environmental Health Sciences journal *Environmental Health Perspectives*. (This is the leading environmental health journal in the world.) The study concluded that while the studies reviewed had, overall, a degree of incompleteness, they were remarkably consistent in showing that fluoride exposure, particularly among developing children, is highly problematic for proper cognitive development and brain function; and that there was no denying the link between fluoride exposure and lowered IQ. 26 of the 27 studies showed decreased IQ associated with drinking fluoridated water. Overall the studies showed an average reduction of 7 IQ points. The research team stated: "[Our] results support the possibility of an adverse effect of high fluoride exposure on children's neurodevelopment." One of the reviewed studies stated that "Fluoride readily crosses the placenta." and another that "Fluoride exposure to the developing brain, which is more susceptible to injury caused by toxicants than is the mature brain, may possibly lead to damage of a permanent nature." [14; 15; 17].

Fifth, in 2006 an independent panel of the UN Research Council produced the world's most thorough report on the negative effects of water fluoridation. This 507-page report took three years to produce and has some 1,100 references. The authors found that a standard of four parts per million in the water is *not* safe and needs to be lowered. The harmful effects of fluoride which were found included: dental fluorosis, brain damage, lowered thyroid function, accumulation in the pineal gland, bone damage, possible osteosarcoma, and that some people were very sensitive to fluoride exposure. The US and Australia dismissed this study as not relevant because they have 1 ppm in the water. However, it is not the concentration of fluoride in the water which is primary, but the overall *dose* that a person is receiving which is most important. The more fluoridated water you drink the more fluoride, or the higher dose, you will receive, and the greater the harm inflicted. For example, if a person drinks four glasses of fluoridated water with a concentration of 1ppm then he or she indeed receives the amount of fluoride found in a glass of water with a concentration of 4 ppm. [4].

In 2007 the Australian National Health and Medical Research Council (NHMRC) released a report entitled *A Systematic Review of the Efficacy and Safety of Fluoridation* or NHMRC report. It concluded that fluoridation of the water supply was not harmful; and it is often referred to by pro-fluoridation advocates. This report was written by two writers from a private firm contracted by the NHMRC. These writers, or the final editors, omitted much of the relevant research which clearly showed the adverse effects on fluoride on health including: its adverse effects on kidneys; a brief (three lines) dismissal of the world-leading research by Dr Elise Bassin (discussed above) that showed fluoride causes the cancer osteosarcoma; and the evidence that fluoride impairs thyroid activity—there are hundreds of reports linking fluoridation to decreased thyroid activity—was completely overlooked. The NHMRC report also ignored the 2006 report by the US National Research Council entitled *Fluoride In the Drinking Water*. This latter report was undertaken by an independent team. It is 500 plus pages long and details the adverse effects of fluoride. One of the authors of the report was Professor Dr Robert Isaacson. He stated "As far as I can see, there is no doubt that the intake of fluoridated water is going to interrupt basic functions of nerve cells in the brain." And the report stated "It is apparent that fluorides have the ability to interfere with functions of the brain." [8]. This immaculate report was dismissed in just *two sentences* by the NHMRC report. [1]. How do we explain the outstandingly bad 'quality' of the NHMRC report? (Perhaps the authors of the NHMRC report had drunk fluoridated water since they were children.)

7. The harmful effects on health of fluoride have resulted in the banning of fluoridated water or fluoridated water products.

The naturally occurring rate of fluoride in mothers' milk is 0.004 ppm. If a baby is drinking water which is fluoridated at 1 ppm then that child is getting 250 times more fluoride per unit of fluid/water than is present in mothers' milk. This is a 20,000 percent increase. [4]. Consequently, the American Dental Association has finally instructed parents *not* to use fluoridated water when making up baby formula. [8].

The high levels of naturally occurring fluorides in some water sources in countries such as China, India, Africa and Mexico have in fact wreaked havoc on the health of tens of millions of people. Thus, organizations like UNICEF assist developing nations in finding ways of *removing* fluoride from the water.

A number of countries have explicitly banned water fluoridation including China, Austria, Belgium, Finland, Germany, Denmark, Netherlands, Norway, Sweden and Japan. Likewise, many communities and counties in the US have banned or are banning fluoride in their water supplies. Since 1999 over 60 communities in the US have rejected water fluoridation. [16].

In 2012 laws requiring *mandatory* fluoridation of the water supply in Queensland, Australia, were abolished. Responsibility now lies with individual councils to consult with local constituents on fluoridation programs. Since 2012 dozens of councils across the state have abandoned fluoridation including the Gladstone Regional Council and Mackay Council. [19].

According to legal advice given by Tim Robertson SC to the Port Macquarie Council in 2019, *Australian councils do not have legal approval to add fluoride to community water supplies*. The advice, published on the Council's website, in part states: "Fluoridated water is an unregistered therapeutic good under the TG [Therapeutic Goods] Act. The TG Act binds council. Its supply of fluoridated water is in breach of the Act until fluoridated water is registered as a therapeutic good or excluded from the TG Act. Council is exposed to both civil and criminal liabilities." (My interpolation.) [19]. Consequently, the Australian government has amended the *Therapeutic Goods Act* to exclude "fluoridated reticulated drinking water" as an approved therapeutic good. The submission was lodged on 17 April 2019 and made available to the public on 19 June 2019. Legislation has been changed as of 11 July 2019. [19].

8. Fluoridation of the water supply is basically an attempt at mass-medication of the public with a product which, at least in Australia, is *not* regarded as a medication or a therapeutic good, and which is being given to you without your informed consent. Fluoridation is basically an attempt at mass medication where a substance is being put into the water to supposedly prevent a disease, dental decay. [4]. In design, albeit not in efficacy, this is precisely on par with a doctor prescribing calcium to prevent osteoarthritis or vitamin C to prevent colds. Indeed, the Supreme Court in New Zealand ruled that fluoridation of the water constituted medication of the public. The first great problem is that the fluoride 'prescription' comes not from your doctor but from the government, primarily on the advice of dentists. The next great problem is that, as previously noted, fluoride is *no longer* officially recognised as a medication in Australia. In July 2019 the Australian government amended the *Therapeutic Goods Act* to *exclude* fluoridated reticulated drinking water as an approved therapeutic good. [19]. The official classification of fluoride by the Food and Drug Authority in the US is that it is "an unapproved drug." There are no agencies in the US, Australia or NZ which have conducted experimental testing, using control groups, to ascertain if it is safe and efficacious to medicate the population by using fluoride, from industrial sources, introduced into the water supply. [1; 4]. Further, it seems no one around the world is measuring the *total* amount of fluoride exposure populations are receiving and its effects. [8].

Introducing fluoride into the water as a supposed medication uses a one-size-dose-fits-all policy. This is unheard of in medical and pharmaceutical practice where, instead, dosage is tailored to the individual according to his or her unique needs. Introducing fluoride in a one-size-dose-fits-all way will mean that

different people will be getting different and random-sized doses depending on *how much* water they drink. Further, it means that some people will be getting the same dose despite having greatly different requirements, for example, a baby versus an adult. Further, a person's dose will vary from day to day depending on the amount of water drunk. Further still, unfortunately people are receiving doses of fluoride from other sources such as pesticides. (What a 'surprise' that fluoride, a toxic poison, is the active ingredient in some pesticides?) Putting fluoride into the water is an attempt to medicate the population with a substance which has a known and serious risk profile, and yet there has been no informed consent from most of the public, indeed to ingest and to bathe in fluoridated water is *against* their informed consent. Of course, fluoride is *not* a medication; it's a poison.

9. Fluoridation of our water is a scam. So, how did the madness of putting untreated and toxic industrial waste into our water supply and calling it medication begin? The air pollution filled with toxic fluorides escaping from the rapidly expanding aluminium industry in the US was so toxic that two things were happening: agriculture and agricultural animals were being destroyed; and the aluminium industry was being repeatedly sued. Here are some relevant quotations of note. "Airborne fluorides have caused more worldwide damage to domestic animals than any other air pollution."—US Department of Agriculture, 1970. "Certainly there has been more litigation of alleged damage to agriculture by fluoride than all other pollutants combined."—Dr Leonard Weinstein, Cornell University, 1983. "Between 1957 and 1968 fluoride was responsible for more damage claims against industry than all twenty nationally monitored air pollutants combined."—Dr Edward Growth, Senior Scientist, Consumer Union. [16]. As a result, laws were introduced and today these industries cannot release pollution from their smoke stacks into the atmosphere. Instead, this pollution is captured by a spraying or scrubbing process in the smoke stacks, the end product of which is sodium silicafluoride or hydrofluorosilicic acid. But, it is also illegal for these industries to dump this waste at sea—it is too toxic. International law bans the dumping of these two compounds into the sea. [4]. To treat these two compounds so that they are no longer dangerous would be extremely costly: fertilizer corporations would need to pay US \$4,000 to \$7,000 to get rid of it. Solution? Sell this toxic waste to governments to then put it into our water supply under the pretence that it is good for our teeth! A double win for industry and a major loss for the health of the nation. But how did this deception begin?

Chris Bryson, in his work *The Fluoride Deception*, exposes the skullduggery which occurred in the 1940s and 1950s to get fluoride into the US water supply beginning in 1945, a move which Australia followed in 1953. The short video *The Fluoride Deception Interview With Christopher Bryson* provides a brief overview of Bryson's findings. [16]. The following is a summary of some of his key findings. The aluminium industry had grown immensely in the US but was generating large amounts of fluoride laden air pollution which was ruining crops, killing farms animals, fish in the rivers, aluminium workers and people in general. The industrial giant American Aluminium Company of America, or ALCOA, was at the centre of this disaster, and was being sued. At this time Gerald Cox, based at the Mellon Institute, took up the suggestion of putting fluoride into the water to strengthen teeth. (It is interesting to note that at the time, and for many years afterwards, the Mellon Institute was a staunch defender *against* the position that asbestos was harmful and caused mesothelioma.) Cox's plan was supported by people like Andrew Mellon, founder of the Mellon Institute and also founder of and shareholder in ALCOA. Alas, Mellon was also head of the US Public Health Services. Similarly, in 1947 Oscar Ewing, a long-time lawyer of ALCOA, also became head of the Federal Security Agency which placed him in charge of the US Public Health Services. Under these two men, both with great conflicts of interest, the fluoridation of the water supply in the US was initiated. In addition, bogus 'scientific' studies were fabricated and some key and corrupt scientists of the period, like the toxicologists Harold Hodge and Robert Kehoe, were enlisted to convince the public that fluoridation of the water was safe. Among his roles, Hodge was the chief toxicologist at the Manhattan Project—to produce the atomic bomb—where he oversaw the safety of the chemicals involved. Fluoride is used in enormous quantities to make atomic bombs. If water fluoridation was found to be harmful the US bomb program as well as many other fluoride polluting industries would be open to massive litigation. Thus Hodge had a great interest in declaring this substance safe for use in the public water supply. At this time the US government and military were facing lawsuits over fluoride pollution, and so they too corruptly supported the effort to make it appear as though fluoridation of the water was safe. The moral calibre, or lack thereof, of Hodge,

can be ascertained from the fact that he was also involved at this time with experimenting on US citizens by injecting them with plutonium and uranium—nice man. The Kettering Institute was a major US laboratory dealing with chemical toxicity and cancer. Robert A. Kehoe was a former director who today is infamously known as one of the great defenders of adding lead to gasoline/petrol and declaring that it was safe. Kehoe's and the Kettering Institute's work in the area of water fluoridation was funded by companies including ALCOA, Aluminium Company of Canada, American Petroleum Institute, DuPont, Kaiser Aluminium, Reynolds Metals, US Steel and also, the National Institute of Dental Research. Kehoe was also employed by the Fluorine Lawyers Committee headed by Frank L Seamans, attorney for ALCOA. Kehoe provided the Committee with information to defend their clients like ALCOA and Monsanto from lawsuits alleging injuries from fluoride pollution. In his role at the Kettering Institute Kehoe covered up damning research into air pollution from fluoride where dogs which were exposed to levels of fluoride experienced by workers, became very sick with great lung and lymphatic node damage. Also adding his substantial influence to the early fluoride propaganda and deception campaign was Edward Bernays, the greatest public relations man in US history. He also sold water fluoridation to the US public and was employed by the National Institute of Dental research for this purpose. Finally, Bryson's research also exposes how senior scientists who exposed the toxic and harmful effects of fluoride and water fluoridation have been vilified, fired and denied funding. [16; 1; 10].

10. Strategies to reduce exposure to fluoride include the following. Topical application of fluoride, including through toothpaste, may have benefits for reducing tooth decay. This topic is outside the scope of this paper. However, getting rid of fluoridated toothpaste along with fluoridated water are obvious ways to reduce your fluoride intake. Reverse osmosis filters seem to be about the only effective method of getting fluoride out of fluoridated water. Possible 'antidotes' to fluoride or its negative effects include calcium, magnesium, selenium, iodine and vitamin C. However, this is a medical or nutritional question which is also outside the scope of this paper. The *naturally* occurring levels of fluoride in most fresh fruits and vegetables, and fresh surface water are very low. The average level of fluoride in these products generally ranges from 0.01 to 0.1 ppm. Most, not all, bottled spring waters are around 0.1 ppm. Eggs and milk contain very low levels at around 0.01 to 0.03 ppm. However, seafood, tea, water from deep wells, and fresh fruit/vegetables *sprayed with fluoride pesticides* are all higher in fluoride. While fluoridated water contains 0.7 to 1.2 ppm, processed beverages and drinks generally contain around 0.5 to 0.8 ppm. Juices made from grapes sprayed with fluoride pesticide contain an average of 2.1 ppm.

Most of the above information comes from the following sources, most of which are videos on YouTube. Clear, accessible and informative places to start are marked with an asterix *

1. **Firewater: Australia's Industrial Fluoridation Disgrace.* (Two hour documentary by independent film-maker Jaya Chela Drolma, 2011. Focuses upon the nature, history and negative consequences of the fluoridation of the water supply in Australia.)
2. www.thoughtco.com, *What Is Fluoride? Fluoride vs. Fluorine.*
3. Wikipedia, *Hexafluorosilicic acid.*
4. **Best Fluoride Documentary: The Truth About Fluoride With Doctor Paul Connett.* (Video of a 2011 presentation given by Paul Connett, Professor Emeritus in Environmental Chemistry at St Lawrence University. He has been at the forefront of opposition to water fluoridation since that late 1990s. This presentation provides a summary of many of his key findings regarding the dangers and ineffectiveness of fluoride in the water supply.)
5. **Professor Paul Connett: Your Toxic Tap Water.* (Similar to the above video, 1 hour.)

6. *Dr Paul Connett On the Case Against Fluoride* (Interview 1352 on the Corbett Report, 2012.)
7. *Court Rules in Favour Of Case Against Fluoride* (Short interview with Dr Paul Connett on the Corbett Report, March 2018.)
8. **Professional Perspectives On Water Fluoridation*. (Half-hour documentary where professionals from many fields expose the dangers and ineffectiveness of water fluoridation.)
9. Fluoride Action Network at www.fluoridealert.org (Provides a great deal of information on water fluoridation.)
10. *The Great Culling: Our Water* (1.5 hour documentary on water fluoridation's history and hazards.)
11. *The Case Against Fluoride* (Book by James Beck and Paul Connett, 2010.)
12. Fluoridefree.org.nz (Provides information regarding water fluoridation.)
13. *Studies Linking Fluoride in Water to Health Issues Prompt Australian Review*. (Article by Julia Meadow in the *Sydney Morning Herald*, Feb. 2015).
14. *Developmental Fluoride Neurotoxicity: A Systematic Review and Meta-Analysis*. (Article by Anna L. Choi et al in the journal *Environmental Health Perspectives*, Oct. 2012).
15. **Prof Paul Connett Fluoride and IQ Otago University 2018*. (Video of a short presentation by Professor Paul Connett discussing the dangers and ineffectiveness of water fluoridation.)
16. *The Fluoride Deception Interview With Christopher Bryson*. (Short video of an interview with Christopher Bryson whose book *The Fluoride Deception* exposes the history of how fluoride was introduced into the water supply in America through a corrupt and fraudulent alliance between various industrial interests, scientists, the military and government, and dental institutions in the US.)
17. *Impact of Fluoride on Neurological Development in Children*. (Article by Marge Dwyer, published by the Harvard School of Public Health, 2012.)
18. *Fluoride & IQ: The 64 Studies*. (Article by Ellen Connett located at www.fluoridealert.org, 2019.)
19. *New Legal Advice Exposes Fluoridation Programs*. (Article by Ethan Nash at *Tott News*, July 2019.)
