

## **Response by FAN(NZ) to the NZ Dental Association's Complaint**

### **Preamble**

The pamphlet in question constitutes advocacy advertising, as do advertisements making contradictory claims placed by fluoridation promoters. These latter advertisements do not state that those views are opinions. Rather, they not only state them as purported fact, they claim that the advertisers' alleged authority is such that audiences should accept the statements without question and reject out of hand the opposing views of organisations such as ourselves. To this end they go so far as to make defamatory statements such as calling us "fringe lunatics".

Privately, however, the Ministry of Health admits that a view opposing fluoridation can legitimately be held on the same standard of scientific evidence as the Ministry's; that is, scientific article published in internationally recognized peer-reviewed journals (attached as Appendix 1). Further, an article published in the British Medical Journal in 2007 states that the UK Government "selectively uses unreliable research to support its [pro-fluoridation] case". The NZ Government bases its position largely on the same information.

When it comes to scientific evidence, it is acknowledged that even Courts are ill-equipped to determine where the balance of such evidence lies. We respectfully submit that the ASCB does not have the expertise to assess these either.

Consequently, it is our position that so long as we can refer to studies published in internationally recognized peer-reviewed Journals the only decision the ASCB can make that is consistent with Ministry's statement is that, as Ministry says, it comes down to opinion and interpretation of scientific studies, which is a matter of freedom of expression and a vital part of a democratic society. To stifle open "robust debate", to use the Ministry's phrase, is anathema to a free expression of views in an open society.

It is our position, therefore, that as long as pro-fluoridationist organizations are permitted to place advertising promoting pro-fluoridation views as fact rather than opinion, based on the same (or in many cases lower) standard of evidence as our own, and out of context by not citing opposing studies, natural justice requires that we may do the same.

### *Grounds for complaint*

The complaint states a range of grounds but in many cases does not specifically identify which ground(s) a statement has breached, or how it is claimed it has done so. In such instances we hold that there is no case to answer, and have confined our responses to address only clearly put allegations of breach.

### **A & B. Osteosarcoma.**

There is no section entitled "We trusted the local government's ..." This is a quote only.

The NZDA misleads the ASCB with the standard "corporate line" on this issue. It lists 5 reviews. One from 1982 can hardly be described as authoritative 26 years later. "Bates" refers to an inept review by Environmental and Scientific Research commissioned by the Ministry of Health. It states at its outset that it redefined its parameters such that it failed to meet its terms of reference. It looked at only 18 studies, compared with the York Review, which assessed over 3000. Both these pre-date the Bassin study. The MRC review 2002 also predates the Bassin study, and

was no more than a piece of propaganda commissioned by the UK Government, which funds the MRC, to undo the damage caused by the earlier York Review failing to find reliable evidence to support claims made in favour of fluoridation. That it misrepresented the York Review, to that end, is a matter of public record. The NHMRC review 2007 was conducted by the NHMRC, a pro-fluoridation body.

The most important point is that these were only reviews, not research. We quote the actual research, which overrides any review's failure to find it. A decision on this point must be made on the research; not flawed or outdated reviews.

### *Synopsis*

Elise Bassin was awarded her PhD for this study under Dr Chester Douglass. The research was completed in 2001, but suppressed by her supervisor until exposed in 2005. NZDA's talk of second stages of study are undoubtedly an attempt by Douglass to continue the cover-up of the truth, now 7 years later – where is this Phase II? The Bassin study stands on its own merits.

This study showed a 500% to 700% increase in osteosarcoma rates in adolescent boys who had consumed fluoridated water between the ages of six and ten specifically. Two previous studies,<sup>1</sup> and animal studies, support this finding. No other study examined age-related exposure. Consequently their failure to find a connection based on other irrelevant factors cannot, as a matter of simple logic, negate the Bassin study; in fact they are fully consistent with it as Bassin found the same lack of correlation with those same factors. Taken together, all the existing studies show the following results:

- Fluoridation does not cause osteosarcoma in females
- Fluoridation status at the time of diagnosis is irrelevant
- Average random lifetime exposure to fluoride is irrelevant
- Exposure to fluoridation between the ages of 6 and 10 increases the risk of osteosarcoma by up to 7 times (Bassin and New Jersey Department of Health)

It is therefore an invalid criticism to say that the Bassin study is quoted out of context, as it represents the current state of total scientific knowledge on the issue

Chester Douglass has since tried to dismiss Bassin's findings as unreliable, having recommended her for a PhD based on that very work. In effect, Douglass says that if you take the data on the high risk group (6 - 10 year old boys) and dilute it with irrelevant data from the whole population, you cannot see it anymore, so it doesn't really exist. On the same logic we would conclude there are no red haired Maori in NZ!

The importance of looking for the right thing is highlighted by this embarrassment for Douglass. He failed to identify the connection, from the same data, after spending \$1.3 million on his research, because like those before him, he only looked at fluoridation status at the time of diagnosis or average lifetime exposure; not age-related exposure. Douglass also receives a lot of money from a fluoride toothpaste

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<sup>1</sup> Cohn, P. D. "A brief report on the association of drinking water fluoridation and the incidence of osteosarcoma among young males." New Jersey Department of Environmental Protection and Energy and the New Jersey Department of Health, 1992  
Maurer 1990; Maurer et al 1993.

manufacturer, and is editor for that company's magazine. Whatever his reasons for it, his criticism is patently absurd.

Douglass promises he, not Bassin, would do a follow-up study to disprove Bassin's findings, using an invalid methodology that ignored age-related exposure, to be published in 2006. This has never been published. It is the fabled "Part II" the NZDA refers to in its complaint.

The NZDA's statement that NZ cases of osteosarcoma are equally spread amongst fluoridated and unfluoridated communities can be seen as invalid on the basis discussed above: what is relevant is where they were between the ages of 6 and 10.

The information we have is that the estimated incidence is approximately 4–5 per million. As the NZDA notes, there were about 6 cases per year in the relevant age range. This is too small a sample for any statistical analysis. The Bassin study involved 279 subjects, whose age-related lifetime exposure to fluoride from all sources was thoroughly investigated, yielding a statistically and scientifically valid result.

On balance, the weight of current scientific evidence is that exposure to fluoridation between the ages of 6 and 10 leads to a 5 – 7 fold increase in osteosarcomas in males, as we stated.

This being so, between 5 out of 6 (83.3%) and 7 out of 8 (87.5%) cases of osteosarcoma in teenage males living in fluoridated areas between the ages of 6 and 10 are caused by fluoridation. We consider 85% a fair representation of this range.

In relation to Code 6, we do not consider this is playing on fear. The reality is a choice between a chance of one's son having 1 less filling, which is unproven, and a chance (1/100,000 apparently) of him dying from osteosarcoma before his life has really begun. This form of cancer is pernicious. Parents have a right to this information to make an informed choice. If it were my son, I would choose the filling. What would the panel members choose? And how would they explain that choice to their sons?

### *The Science*

The following analysis is in the public domain, on FANNZ' web site.

The study, completed by Dr. Elise Bassin, showed a strong correlation between exposure to fluoridated water from the ages of 6 - 10 and teenage osteosarcoma in teenage males. It was published in the internationally recognised journal *Cancer Causes and Control* in 2006.

Bassin demonstrated that exposure during rapid bone growth between the age 6-10 and especially 7-8, resulted in an increased risk of osteosarcoma 10 years or more later; but only for males. The analysis showed definitively no such link for females, supporting the reliability of the analysis.

Osteosarcoma accounts for about 3% of cancers, primarily in children. 50% of sufferers die. The remainder generally need affected limbs amputated to survive.

### **Early concerns about cancer**

Concern about the ability of fluoride to cause bone cancer arose first in a 1977 NAS review of fluoride safety, where the academy committee expressed concerns about a high (13.5 percent) incidence in bone structure defects in the population of one of the nation's first fluoridated communities, Newburgh, New York, compared to a 7 percent rate in the non-fluoridated Kingston community. At that time, the NAS recommended a full study of fluoride's potential to cause osteosarcoma in young boys. The resulting U.S. Public Health Service (USPHS) study was completed in 1991 and found a significant association between fluoride exposure and bone cancer in boys.

The 1991 USPHS study was based on data collected by the National Cancer Institute from 1973 through 1987. The first phase compared osteosarcoma rates in males under 20 years of age in fluoridated communities, with non-fluoridated communities in Iowa and around Seattle. The researchers found a 79 percent increase in osteosarcoma from 1973 through 1987 in fluoridated communities, compared to a 4 percent decrease over the same time period in non-fluoridated communities. A second phase of the study expanded the analysis nationwide, and found that the rates of osteosarcoma were 57 percent higher in the fluoridated communities than in communities with non-fluoridated water supplies (Hoover 1991).

As a follow-up to the USPHS study, the New Jersey Department of Health (NJDH) commissioned a similar study at the municipal level based on an individual's residence at the time of osteosarcoma diagnosis. The NJDH found that young males living in fluoridated communities had significantly higher rates of osteosarcoma than young males living in non-fluoridated areas; males 10-19 years old in fluoridated areas were 6.9 times more likely to develop osteosarcoma than those in non-fluoridated areas. According to the study authors, the findings "support the importance of investigating the possible link between osteosarcoma and overall ingestion of fluoride" (Cohn 1992).

Some experts questioned the significance of the NTP study findings when it was published, citing the lack of an association between osteosarcoma and the length of time that individuals were exposed to fluoride in tap water. The Bassin study demonstrates that it is not the total length of exposure, but the timing of that exposure, that is critical. The overall weight of the scientific evidence, in fact, provides compelling evidence that fluoride exposure during distinct mid-childhood periods of rapid bone growth is a much better indicator of osteosarcoma risk, than total duration, or average lifetime exposure.

Fluoridation promoters try to avoid recognizing this landmark study by claiming "we cannot change our position because of just one study when earlier studies found no connection." This is a deliberate falsification of the situation. Of the studies that have failed to find an association between fluoride in tap water and bone cancer (Operskalski 1987; McGuire 1991; Freni and Gaylor 1992; Moss 1995; Gelberg 1995), most have basic methodological issues that readily explain the negative findings. For instance, four of the five studies referenced above failed to analyze for age-specific effects, making it impossible for them to find such an association. The other (Operskalski) used friends and neighbors as controls, which can produce a phenomenon called overmatching, where "detecting a benefit or risk for fluoride would be unlikely" (Bassin 2001, pg 78).

These studies are irrelevant as summarized by Bassin:

"Prior studies have primarily evaluated fluoride exposure at the time of diagnosis or as an average lifetime exposure, and have not evaluated exposures at specific ages

during growth and development when cell division is occurring rapidly" (Bassin 2001, pg 69).

Consequently, although gleefully quoted by pro-fluoridationists as a sound reason for burying their heads in the sand, the studies do not in any way negate the Bassin findings.

### **Non-epidemiological Studies**

Beyond human epidemiologic studies, the core supporting evidence includes the following:

- The two animal cancer bioassays conducted to date each found an increase in extremely rare bone tumors among male test animals in two species, rats and mice, exposed to fluoride (Maurer 1990; Maurer et al 1993; NTP 1990).
- Six separate studies have found that fluoride causes genetic mutations in humans (Meng 1995, 1997; Lazutka 1999; Sheth 1994; Wu 1995; Joseph 2000); additional studies show that humans appear to be more sensitive to the genotoxicity of fluoride than rodents (Kishi 1993).
- The link between fluoride and osteosarcoma during periods of rapid growth is biologically highly plausible. Fluoride is a proven mitogen, meaning that it increases the proliferation of osteoblasts (bone formation) during periods of rapid skeletal growth (Gruber 1991; Kleerekoper 1996; Whitford 1996). As put by Dr. Bassin in her doctoral thesis: "It is biologically plausible that fluoride increases the rate of osteosarcoma, and that this effect would be strongest during periods of rapid growth, particularly in males" (Bassin 2001, pg 79).

### **Animal studies found bone cancer in male test animals**

Only two long-term animal cancer bioassays with fluoride have ever been conducted; one by the National Toxicology Program (NTP), and another by Procter and Gamble, which involved both rats and mice. Both found an increase in rare bone tumors among male animals exposed to fluoride.

In the NTP study, a dose-dependent increase of osteosarcoma was seen in the bones of fluoride-treated male rats (NTP 1990). These findings are highly significant for a number of reasons:

- Osteosarcoma is extremely difficult to produce in rats; the only other environmental agent known to induce osteosarcoma in rats is high doses of radiation;
- The levels of fluoride in the treated rats' bones were in the same range as fluoride found in human bones;
- Bones are the site of fluoride accumulation, and;
- The osteosarcomas were evident before the end of the study, indicating an age dependent vulnerability similar to that seen in human males.

The study authors were unequivocal about their findings: "The neoplasms were clearly malignant (one metastasized to the lung) and there was complete agreement concerning the diagnoses at both the quality assessment and Pathology Working Group stages of the histopathology review."

Curiously, a 1993 National Research Council (NRC) review appeared to miss the importance of the findings. In characterizing the significance of the findings the NRC

stated simply: "The equivocal result of osteosarcoma in male rats was not supported by results in females in the same study" (NRC 1993). This is an extraordinary statement given the prescient concerns for young males raised 16 years earlier by the NAS (in 1977), and the available epidemiologic data available at that time (Hoover 1991; Cohn 1992). Increased osteosarcoma in males, as identified in the Hoover and Cohn studies, is precisely the result that the 1977 NAS panel was concerned about.

In a 2002 review of fluoride toxicity the World Health Organization offered a more reasoned assessment of the results of the NTP rat study: "Such a (dose-dependent) trend associated with the occurrence of a rare tumour in the tissue in which fluoride is known to accumulate cannot be casually dismissed" (WHO 2002).

An additional animal study was conducted by Procter & Gamble, using both mice and rats. The study found a large, dose-dependent increase in rare bone tumors (osteomas) in fluoride-treated mice (Maurer 1993). The second part of the study, in rats, again found bone tumors and a rare tooth tumor in the treated rats but not the controls (Maurer et al. 1990). Apparently this study was discounted because most of the tumors, although rare, were not yet malignant.

### **C. Infant Formula warning**

The url for the Hutt City web page is <http://www.huttcity.govt.nz/Council-Projects/Fluoride/>

This is readily found by searching on "fluoride infant" on the Council site. The first page listed in the search results has the link. The NZDA may wish to complain to the Hutt City Council CEO, as profluoridation Council officers have done their best to hide this page from the public, in direct defiance of the Council's instructions, as the NZDA has experienced. Nevertheless, we have to question the credibility of a professional body that claims not to have found a page that any computer-savvy 6 year old could find, and I found by this method in less than a minute.

We disagree with NZDA's opinion that the difference between recommendation and advice is important. On the contrary, we consider that profluoridationists like the NZDA are obfuscating the matter with semantics. The core message from the CDC and ADA is:

- There is an increased risk of dental fluorosis from using infant formula made with fluoridated water as an infants' primary food source.
- The risk is from the fluoridated water; not the formula powder
- Making up formula with unfluoridated or defluoridated water avoids this increased risk.

Identifying a health risk and recommending how to avoid it sounds like a health warning, looks like a health warning, and smells like a health warning. To call it otherwise is, in our view, not just splitting hairs but totally irresponsible. In this context, the CDC is facing ethics charges for playing down this warning.

The CDC site also contains the following passage (emphasis added):

The possibility of an association between fluoride in infant formula and the risk for enamel fluorosis has been studied for many years. Until now, most researchers concluded that fluoride intake during a child's first 10 to 12 months had little impact on the development of this condition in permanent teeth. A recent study, however, has raised the possibility that fluoride exposure during the first year of life may play a more important role on fluorosis development than was previously understood. It now appears that the amount of the fluoride contained in the water used for mixing infant formula may influence a child's risk for developing enamel fluorosis, particularly if the child's sole source of nutrition is from reconstituted infant formula.

In fact there are numerous studies showing this correlation, not just one. What the NZDA fails to acknowledge is that an increased risk is still a health issue. Cancer-causing agents also only increase risk; they do not ensure you get cancer, just as fluoridated water increases the risk of enamel fluorosis, but doesn't ensure you get it. Yet a mandatory "health warning" on cigarette packets states "Smoking exposes you to poisonous chemicals that cause cancer and death". Since the Ministry of Health uses the word "cause" synonymously with "increases risk", and is an "expert body" on health issues in terms of Cameron as the ASCB must hold based on previous decisions, we submit that an advertisement consistent with the Ministry of Health's position cannot be in breach of the Code.

We note the following extract, published in the Journal of the American Dental Association in 2000:

**"The findings of this investigation suggest that nearly 10 percent of the enamel fluorosis cases in optimally fluoridated areas could be explained by having used infant formula in the form of a powdered concentrate during the first year."**

SOURCE: Pendrys DG. (2000). Risk of enamel fluorosis in nonfluoridated and optimally fluoridated populations: considerations for the dental professional. Journal of the American Dental Association 131(6):746-55.

The warning is repeated in the report on which the NZ Standard 2.9.1 for fluoride levels in infant formula is based (see Appendix 2).

The ASCB needs to bear in mind that these two agencies are the key fluoridation promoters in the USA, whose mantra has been that fluoridation is "safe and effective" for everyone in the community. This admission, by these agencies, of risk from fluoridation is unprecedented and threatens their political agenda. It is not surprising, therefore, that they have couched the warning in such verbosity as to detract as much as possible from its impact, while being mindful of the litigation risk of saying nothing. On balance, we consider that, if anything, we have simply clarified the deliberate obfuscation of the warnings these agencies have made, so that the public at large get the clear and important health message that is the core of these agencies' statements.

### *3. Dental fluorosis*

The NZDA refers to an unspecified study allegedly showing "enhanced quality measures" whatever that means. We submit that this is inadmissible as it would be in any Court (as hearsay), and because we cannot respond to an unnamed report. By coincidence I and another committee member recently encountered a young woman with dental fluorosis. She repeatedly curled her top lip over her top teeth to hide the fluorosis of her incisors, through embarrassment. She advised she had two friends who had even worse fluorosis, and all were concerned about the appearance.

It appears the NZDA is not challenging the fact that dental fluorosis is the first outward sign of fluoride poisoning, hence we have not enclosed evidence supporting that fact.

We cite the following published research in support of our statement, and contradicting the NZDA's hearsay that mild fluorosis does not cause psychological problems:

*Dental Fluorosis – Studies on Perception of Mild Dental Fluorosis:*

"Many participants reported that they were at least occasionally distressed or worried over the appearance of the children's teeth, that it hindered children from smiling freely, and that it was an unsatisfactory appearance."

SOURCE: Martinez-Mier EA, et al. (2004). Development of a questionnaire to measure perceptions of, and concerns derived from, dental fluorosis. *Community Dental Health* 21:299-305.

"There is some evidence that members of the public can be aware of even mild changes due to fluorosis and may display a preference for 'normal' over mildly fluorotic teeth. Our studies of esthetic perceptions of dental fluorosis found that members of the public had strong preferences about variations from normal tooth appearance. For example, all respondents had a preference for teeth with normal colour over teeth with mild fluorosis, whereas about two-thirds preferred the appearance of an open bite to that of moderate fluorosis.."

SOURCE: Levy SM. (2003). An update on fluorides and fluorosis. *Journal of the Canadian Dental Association* 69: 286-91.

"Mild fluorosis was assessed less favorably than normal/control, midline diastema was less favorable than mild fluorosis, and mild fluorosis was less favorable than isolated opacity."

SOURCE: McKnight CB, et al. (1999). A pilot study of dental students' esthetic perceptions of computer-generated mild dental fluorosis compared to other conditions. *Journal of Public Health Dentistry* 59: 18-23.

"Although many dental professionals often state that very mild fluorosis is not a cosmetic problem, these results suggest that it is perceived otherwise. Even parents of children suffering from very mild fluorosis showed an increase in dissatisfaction with their child's appearance."

SOURCE: Lalumandier JA, Rozier RG. (1998). Parents' satisfaction with children's tooth color: fluorosis as a contributing factor. *Journal of the American Dental Association* 129: 1000-6.

"South Australian children 10- to 17-years-old were able to recognize very mild and mild fluorosis and register changes in satisfaction with the colour and appearance of teeth. Even mild changes were associated with psycho-behavioural impacts. Hoskin and Spencer asked eight questions on psycho-behavioural impact, such as embarrassment of teeth or self consciousness because of the appearance of the teeth... The most dramatic finding was the strength of the association of TISF score with psycho-behavioural impact was similar to that of crowding and overbite, both considered key occlusal traits driving the demand for orthodontic care. "

SOURCE: Spencer AJ, et al. (1996). Water fluoridation in Australia. *Community Dental Health* 13(Suppl 2): 27-37.

## D1 Timaru

First, NZDA refers to the irrelevant statistics at age 5. We base our statement on figures for 12 year olds as recommended by WHO, which states that 5 year old figures are unreliable. Because of the delay in eruption caused by fluoridation, which profluoridationists deny, the first teeth have less exposure to decay influences for a child of the same age as a non-fluoridate child. When the delay is allowed for in analysis there is no difference. The apparent difference disappears by the early teens, as demonstrated by the Armfield and Spencer study from Australia, published in *Caries Research* in 2004.

Although the figures we state for 1984 and 1989 are not publicly available, they were made available privately by the Principal Dental Officer of those times. These are attached as Appendix 3.

The 2004 figures are made publicly available by the Ministry of Health.

Thus:-

- a) Decay for Timaru District 12-year-olds in **1984 = 3.75 MFT** (missing filled teeth) and **15.04% caries free**. (Letter dated 12/11/85 from M B Henderson, Principal Dental Officer).
- b) Decay for Timaru District 12-year-olds in **1989 = 2.23 MFT** (missing filled teeth) and **31.05% caries free**. (Letter 17/5/90 from A. Roddick, Senior Dental Officer, Primary Health Divn).
- c) Decay for Timaru District 12-year-olds in **2004 = 1.63 DMFT** (decayed missing filled teeth) and **41.98% caries free**. (MoH published table of 2004 statistics).

	<b>Average Decayed Teeth per child (DMFT)</b>			
	<b>Fluoridated</b>	<b>Non-Fluoridated</b>	<b>Percent Fluoridated</b>	<b>Percent at low SES</b>
Nelson-Marlborough	n/a*	1.25	0	11
West Coast	n/a*	1.98	0	13
Canterbury	2.45	1.58	4	15
<u>South Canterbury</u>	n/a*	1.63	0	15
Otago	1.65	1.94	47	9
Southland	2.03	2.11	41	24
<b>Whole of South Island</b>	<b>1.79</b>	<b>1.62</b>		

(\* means non-fluoridated)

("Percent at low SES" means "percentage at low socio-economic status".)

("DMFT" means "decayed, missing, filled teeth")

In conclusion, unreliable data on 5 years does not contradict data on 12 year olds, hence the NZDA has made no case that our advertisement is misleading.

## D2 Lancet article.

The NZDA has misled the ASCB by quoting a single passage out of context. The passage quoted identifies that fluoride is not a proven neurotoxin (in infants), but we do not claim that it is. The passage in fact appears in a section of the paper entitled "Emerging Neurotoxic Substances", and is discussed as "one of three obvious candidates" (the other two being perchlorate and manganese). We submit that it is

not credible to suggest that the NZDA accidentally overlooked telling the ASCB this critical fact.

The paper's focus is on neurotoxicity in relation to the developing brain, particularly in the developing foetus. The authors discuss two types of substance:

- 1) acknowledged, proven neurotoxins affecting the developing brain, such as lead, arsenic, and polychlorinated biphenyls (PCBs)
- 2) substances not currently classified as neurotoxic to adults, and for which there is emerging evidence that they are neurotoxic to the developing brain, hence children and the unborn.

Fluoride is discussed as an emerging, rather than proven, neurotoxin in this context, as indicated, though somewhat unclearly, by the quoted passage. It should be noted that there is a typographical error in the passage quoted: the panel referred to (found on page 3) lists "fluoride compounds" as "chemicals known to be neurotoxic in man". The following, from another article co-authored by Grandjean explains things more clearly. The key passage is, after identifying proven neurotoxins: "From this evidence, including our own studies on some of these substances, parallels may be drawn that suggest that fluoride could well belong to the same class of toxicants, but uncertainties remain."

#### **"POTENTIALS FOR DEVELOPMENTAL FLUORIDE NEUROTOXICITY**

The foetus and the child are particularly vulnerable to pollution. The foetus shares the mother's exposure and accumulated body burden of pollutants, and some chemicals are transferred to the infant via human milk. Occurrence of severe dental fluorosis in a child, whose mother had worked at the Danish cryolite factory suggests that fluoride transfer from mother to child takes place. The central nervous system may be a target organ, as suggested by laboratory animal studies. During early life, cell differentiation, multiplication and migration must happen in a particular sequence and at certain times to create optimal brain functions of the mature organism.

Thus, developmental exposure to neurotoxic substances can cause serious disease and also widespread loss of IQ. While fluoride exposure may cause neurotoxicity in adults, the evidence on developmental neurotoxicity in humans is uncertain and is mainly based on studies carried out in China. Exposures were generally assessed on a community basis, and cross-sectional examinations of neuropsychological test performance were related to water-fluoride concentrations. In humans, only five substances have so far been documented as developmental neurotoxicants: lead, methylmercury, polychlorinated biphenyls, arsenic, and toluene. From this evidence, including our own studies on some of these substances, parallels may be drawn that suggest that fluoride could well belong to the same class of toxicants, but uncertainties remain. At least 200 industrial chemicals are known to cause brain toxicity in humans, mainly in adults, and they must also be suspected to harm the developing brain. Because of the individual and societal importance of optimal brain function, recognition of developmental neurotoxicity is a public-health priority, and further evidence on fluoride is needed."

Authors: **Choi Anna L**, Grandjean Philippe.

Correspondence: Harvard School of Public Health, Boston, MA, USA; University of Southern Denmark,

Consequently, *The Lancet* article has, in fact, listed fluoride as an "emerging neurotoxic substance" based on recent research. What is most important is, as identified in the quoted section, fluoride appears to be developmentally neurotoxic in both high and very low exposures.

### **D3 Statement of Advertiser.**

The pamphlet was produced for FAN Dunedin, headed by Olive McRae, a FANNZ committee member. We consider that the contact details of FANNZ committee member Olive McRae and reference to FANNZ provide adequate information regarding the identity of the advertiser.

We also note that in our complaints against the West Coast DHB 05/237, 05/251, 05/255, 05/253, 05/252, we included a complaint that some of the advertisements did not carry the name of the advertiser at all. These complaints were rejected in their entirety by the ASCB. The (mis)classification of DHBs as (allegedly) expert bodies on fluoridation does not absolve them of this requirement. We hereby give the ASCB the opportunity to explain why this requirement of the Code should apply discriminately.

The NZDA has every right to disagree with us calling ourselves experts on fluoridation, just as we disagree with dentists and the NZDA calling themselves experts, when the issues relate to medicine, not dentistry, including such disciplines as oncology, toxicology, and neurology. NZDA has provided no evidence that we are not experts; neither does it provide any evidence that “antifluoridationists” are any less experts than “profluoridationists” like the NZDA. Consequently we consider there is no case to answer. As discussed in the preamble, we attach as Appendix 1 confirmation by the Ministry of Health that a view opposing fluoridation (and therefore that of the NZDA) can be based on the same standard of scientific evidence as that on which the Ministry bases its pro-fluoride view.

We note that when the DHBs place advertisement they do not identify themselves as “profluoridationists”. We fail to see why we should be obliged to refer to ourselves as “antifluoridationists” when:

- 1) this would be inconsistent with there being no requirement for profluoridationists to identify themselves as such
- 2) we are health advocates, rather than “antifluoridationists”
- 3) being opposed to fluoridation has no bearing on credibility as acknowledged by the Ministry of Health, hence it is difficult to see what value this would add for audiences

### **Reference to a conference of “80 experts”**

This conference was convened by three politically pro-fluoride bodies. It is a matter of record that the WHO’s fluoridation panel is made up of leading political promoters of fluoridation, and that it has consistently refused to include any research adverse to fluoride in its monographs, on which WHO’s position is based. These so-called “experts” would undoubtedly all be promoters of the alleged dental benefits of fluoridation. The timing of this conference is telling: it was just after the National Research Council published its report. The organisers would not have invited any of the fluoride experts whose works the NRC studied (Such as Dr Elise Bassin, Dr Roger Masters, or Dr Phyllis Mullinex). This conference was undoubtedly politically orchestrated as “damage control” in the aftermath of the NRC review.

## Appendix 1: Ministry of Health Statement



6 May 2003

Mr Mark Atkin  
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Ref. No. \_\_\_\_\_

Dear Mr Atkin

The Minister of Health has referred your letter of 2 April 2003 to me for direct reply.

Question 6(a)

*What information do you possess that establishes that the publications and research of these scientists are not "reputable". You listed a number of scientists who oppose fluoride.*

This appears to be an issue relating to the weight of evidence of both sides. As in any health issue there is robust debate on both sides. The Ministry acknowledges the various different views relating to fluoridation (as with almost any health issue). The Ministry looks for articles in publications that have been peer-reviewed and that have standing in the scientific community. That is not to say that scientists who hold opposing views to fluoride do not necessarily meet that test.



Dr Colin Tukuitonga  
Acting Deputy Director-General  
Public Health Directorate

## Appendix 2: Infant Formula Standard 2.9.1

November 1999

### INQUIRY REPORT

SUBJECT: P93 - INFANT FORMULA PRODUCTS

Sources of food and beverage products that may contribute to excess fluoride ingestion in infants are fluoridated water, infant formula (reconstituted with optimally fluoridated water) and infant foods (cereals). However, the fluoride content of infant formulas depend mainly on the fluoride concentration of the water used to reconstitute the products. Thus, daily intakes by individual infants from these products are highly variable and can range from as little as 0.1 to over 1 ppm/day of fluoride (equivalent to between 0.01-0.1 mg/kg bw/day in infants weighing up to 10 kg).

Additionally, while it is recognised that an increase in fluorosis may be

However, due to the possibility of dental fluorosis from the use of some formulas, ANZFA proposed that products with high fluoride contents should have an advisory statement on the label to advise carers of this potential risk. This statement was proposed for infant formula powders containing fluoride levels >0.5 mg/L when reconstituted with fluorine free water (formulas with approx. 17 microgram fluoride /100 kJ) and ready-to-drink formulas containing fluoride > 1.5 mg/litre. These levels were also proposed to accommodate the higher levels in soy-based products (cited in published literature and surveys) arising from current manufacturing processes yet still retain protection of public health and safety.

suggested threshold for fluorosis of 0.1 mg/kg bw. However, it was concluded that prolonged consumption (beyond 12 months) of infant formulae with water fluoridated at 1ppm could contribute to dental fluorosis.

### Appendix 3: Letters re Timaru Dental Statistics



25-104

STOPPED 1985

17 May, 1990

Mrs Inelda Hitchcock  
6A Ranfurly St  
TIMARU

Dear Mrs Hitchcock

Thank you for your enquiry dated 05 May 1990.

Presuming your reference to "the Timaru district" to mean the dental district administered through the Timaru Health Development Unit, I am able to supply the following figures from our 1989 dental clinic returns, covering both fluoridated and non-fluoridated areas.

Caries-free at Form 2 level: 31.05%

Missing and filled teeth (equivalent to DMF) for the same group: 2.23 teeth per child

Taking figures for fluoridated and non-fluoridated areas separately:

	Fluoridated	Non-fluoridated	
Caries-free	31.75%	30.82%	
M + F per child	2.08	2.29	+ 511

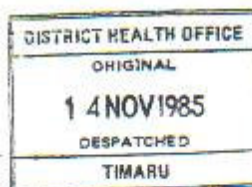
Yours sincerely

Alan Roddick  
Senior Dental Officer  
for Manager  
Primary Health Division

*'Towards a Healthy Canterbury for and with the People'*

12 November 1985

Mrs I Hitchcock,  
28 Rose St,  
TIMARU.



Dear Mrs Hitchcock,

Further to my letter of 29 October, figures have now been compiled relating to the statistics you requested.

The first relates to fillings per child in Timaru and Oamaru. These are for Timaru and Oamaru clinics and therefore include statistics for children from country schools attending those clinics from outside urban areas. This figure is for total fillings in both permanent and deciduous teeth as was provided at your last request of June 1984. The filling rates for the areas are:-

<u>Timaru</u>		<u>Oamaru</u>	
1984	1.53 fillings per child	1984	2.19 fillings per child

The data for FII children is recorded in more detail than that for fillings per child and children known to be from country or contributing schools are excluded to give figures for the urban areas.

The first figure shows the percentage of children at the end of their Form II year who have no record of decay in their permanent teeth, the percentage "caries free" as requested.

<u>Timaru</u>		<u>Oamaru</u>	
1984	15.04% caries free	1984	9.85% caries free

The figure for decayed, missing and filled teeth (D)MFT also from the FII group is as follows:

<u>Timaru</u>		<u>Oamaru</u>	
1984	3.75 MFT	1984	4.83 MFT

In all returns quoted it is understood that the numbers of children in Timaru are greater than the Oamaru group. I trust this information meets with your request.

Yours faithfully,

(M B Henderson)  
Principal Dental Officer