

# Health Canada - Guidelines for Canadian Drinking Water Quality

## Guideline Technical Document - Fluoride - December 2010

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**1. HC - States that the Chief Dental Officer of Health, Dr. Peter Cooney, sought external expert advice from the dental community (pg 2 of report).**

**But fluoride affects the whole body not just the teeth.** This panel of six consisted of four dentists, two of whom are public health dentists, a public health doctor and a PhD in community health. All were known profluoridationists. Dr. Cooney did NOT pick an impartial panel.

**2. HC - Did not discuss the chemical, hydrofluorosilicic acid (HFSA), which is used to fluoridate most communities and which has never been tested for safety and efficacy.**

It is a highly toxic waste product collected from the scrubbers of the smokestacks of phosphate fertilizer plants.

**3. HC - Concludes that evidence does not support a link between water fluoridation and any adverse health effect (pg 1 of report).**

Yet its own report finds the preponderance of hip fracture studies in seniors over 50 years old showed artificial water fluoridation to be associated with hip fractures (pg 28-29 of report).

- 7 studies showed a higher hip fracture rates in fluoridated communities
- 3 studies showed no difference.
- 2 studies showed fewer hip fractures in fluoridated communities

These results are consistent with Dr. Miloslev Nosal's analysis of hip fractures and water fluoridation. Dr. M.Nosal is a biostatistician at the Univ of Alberta who wrote a letter to this effect to the city of Calgary which recently voted to stop fluoridating its water. <http://www.fluoridation.com/CalgaryFluoride/Calgary-Fluoridation-ProfNosal.pdf>. He was the one member of the expert panel who voted against fluoridation for the city of Calgary in 1999 and he wrote a dissenting report based on the hip fracture data.

Hip fractures are increasing. Fluoride increases in bone with age. Fluoride makes bones more brittle.

#### 4. HC - *Did not show fluoride to be safe for the thyroid gland.*

**There were no human studies on the thyroid and fluoride reviewed.** There were two animal studies that showed harm at high levels.

Sodium fluoride was used in the past century to treat **hyperthyroidism**. Today in Canada we have an epidemic of hypothyroidism, or low thyroid. Synthroid, used to treat hypothyroidism, is as of 2010, the most prescribed drug in Canada.

[http://www.imshealth.com/deployedfiles/ims/Global/North%20America/Canada/Horne%20Page%20Content/Pharma%20Trends/Top50Dispensed\\_En\\_11.pdf](http://www.imshealth.com/deployedfiles/ims/Global/North%20America/Canada/Horne%20Page%20Content/Pharma%20Trends/Top50Dispensed_En_11.pdf)

HC - *Says Canadians will not suffer effects of fluoride on the thyroid because we ingest more than 1mg/day of iodine (pg 39 of report)*

This is 3-5 times the iodine intake of Americans (over 1 mg/day compared to 0.2-0.3 mg/day in the U.S.). This "fact" cited from the Institute of Medicine (IOM) 2001, sounds pretty current. Either HC did not check this reference or chose to omit the fact that the iodine intake was based on a much older Canadian government report printed in 1987. Data from that time and earlier may have reflected the use of iodate in bread and as a disinfectant and a very different diet than most Canadians presently eat. Iodized salt is available in both countries and diets are not that dissimilar. It is likely that iodine intake is similar to that in the U.S. and much lower than HC states.

Hypothyroidism can be a serious condition as the thyroid gland affects many bodily functions. Low thyroid poses a risk to the fetus and a recent study in NY State has shown preterm births to be higher in fluoridated communities.

<http://apha.confex.com/apha/137am/webprogram/Paper197468.html>

Dr. John Doull, the panel chair of the NRC 2006 Report on Fluoride in Drinking Water (U.S.) stated regarding water fluoridation, "The thyroid changes do worry me."

#### 5. HC - *Finds moderate dental fluorosis an adverse effect based on its potential cosmetic concern (pg 1 of report).*

*Based on a recent HC survey of 15 Canadian fluoridated and unfluoridated cities, HC says that fewer than 0.3% of Canadian children 6-12 years old have moderate - severe dental fluorosis. HC found only 60% of children had normal enamel. 16% had fluorosis and 24% were "questionable" - had some white spots (pg 55 of report). HC did not document which cities in its study were fluoridated and what the fluorosis rates were by city.*

When surveying dental fluorosis rates it is important to compare rates between fluoridated and unfluoridated cities yet HC has not disclosed these details.

Over the last 10 years Halton public health has documented between 4.6 and 10.8% of teenagers with moderate-severe fluorosis. **This is 15 to 36 times the rate HC found. Or 1500-3600% higher.** Dental fluorosis is very apparent in our community and moderate fluorosis can be very costly to fix with veneers.

**6.** HC - *states correctly that fluoride is not essential for growth and reproduction (pg 24 of report).*

This is **unlike** iodine in salt, vitamin **D** in milk or folic acid in bread. Often Public Health officials will wrongly compare fluoridation with other supplementation of nutrients.

**7.** HC - *omitted important facts from the toxicology report prepared by one of its panel, Dr. Robert Tardif of the University of Montreal.*

In that report (Toxicology of Fluoride, 2006) Tardif reviews the uterine cancer studies from Okinawa, Japan (<http://www.ncbi.nlm.nih.gov/pubmed/9002384>). Uterine cancer was shown to have increased significantly in 20 municipalities in Okinawa after they were were fluoridated. Japan no longer fluoridates.

Tardif also states in his report that the impact of fluoride on intelligence (cognitive effects) seems to occur at levels **less than 1.0 ppm** and that further investigation is needed. Since 2006 more than 20 studies have shown a relationship between fluoride and intelligence. They are from India and China and they have been discredited by Health Canada (*pg 37 of report*). A recent Indian study showed that IQ levels in children with no fluorosis were higher than those with fluorosis and the lowest IQ's were associated with more severe fluorosis.

<http://www.ncbi.nlm.nih.gov/pubmed/21911949>

Yet **no** intelligence studies have been done in Canada or the U.S. which Tardif suggests are needed.

**8.** HC- *included Dr. Jennifer Luke's study that showed the effect of fluoride on the pineal gland of gerbils. This study showed that fluoride lowered melatonin levels and caused early female maturation (pg 23 of report).*

HC did not report that early human female maturation was found after only five years in the Newburgh - Kingston NY study, a study which HC chose not to review even though it was set up to compare the health consequences in two cities, one fluoridated and one unfluoridated.

**9.** HC - *Takes more credence than warranted from a letter written in 2006 by Dr. Chester Douglass promising an upcoming publication that says it would refute his own student's published thesis (pg 34 of report).*

Douglass' paper (<http://www.ncbi.nlm.nih.gov/pubmed/19390788>) was published more than five years after Bassin's (<http://www.ncbi.nlm.nih.gov/pubmed/16596294>) and after the HC report. It was not comparable to Bassin's study, which is considered to be of high quality, and it did not weaken Bassin's conclusions.

Bassin concluded that there is approximately a five times higher chance of getting osteosarcoma for young males living in a fluoridated city. Osteosarcoma is rare but it is frequently fatal. There have been cases in Halton.

**10.** HC-Table B3 of the report: <http://hc-sc.gc.ca/ewh-semtlconsult/2009/fluoride-f/fluorureltable-b-tableau-eng.php#tab3>

This table shows that babies fed milk-based formula made with fluoridated water will receive a fluoride intake that is **3300% higher** than the adequate intake (AI) set by the Institute of Medicine (IOM).

In the U.S. the American Dental Association and the Centers for Disease Control both advise using unfluoridated water to mix formula if mothers wish to avoid dental fluorosis. But not Health Canada.

## **11. Conclusion**

This report does not reassure Canadians that artificial water fluoridation is safe and effective.

There is evidence that hydrofluorosilicic acid may be negatively affecting many organ systems of the human body, including the teeth.

In the last 14 months, 13 Canadian communities, totalling approximately 1,638,000 people, have voted to stop artificial water fluoridation in their communities. No Canadian communities have started fluoridation during this period.

The Precautionary Principle should be applied.