

Submission to the London ON Civic Works Committee

For Feb. 05, 2019 Public Record

by

Dr. Hardy Limeback BSc PhD (Biochem) DDS

Professor Emeritus, Faculty of Dentistry, University of Toronto

Member of the US NRC 2006

Committee on Fluoride in Drinking Water

The great fluoride debate



By Denis Langlois, Sun Times, Owen Sound
Friday, January 31, 2014 10:18:40 EST AM

Dr. Hazel Lynn,
Medical officer of health,
Owen Sound, Ontario





Medical officer of health Dr. Hazel Lynn holds up a picture of a child's teeth. Lynn said water fluoridation prevents tooth decay and is a safe practice. Others disagree. (JAMES MASTERS/QMI AGENCY)

This tooth decay
is NOT caused by
a 'lack of fluoride'
in the drinking
water!!

This is scare-
mongering

Public health fluoride policy confusion

 <p>fluoride supplement</p> <p>0.25mg of fluoride</p> <p>DO NOT prescribe for babies</p>	<p>=</p>  <p>Pea-sized dab of toothpaste</p> <p>0.25mg of fluoride</p> <p>Monitor children! Make sure they SPIT IT OUT!</p>	<p>=</p>  <p>One glass of 0.7ppm water</p> <p>0.25mg of fluoride</p> <p>No Risk. SWALLOW REPEATEDLY!</p>
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Fluoridation Ineffectiveness

- Not one double blinded, randomized clinical trial (standard for drug approval) was ever conducted to prove fluoridation works.
- The most recent cross-sectional study (Slade et al) showed that at most 0.5 teeth/person are saved from decay after 20 years of fluoridation

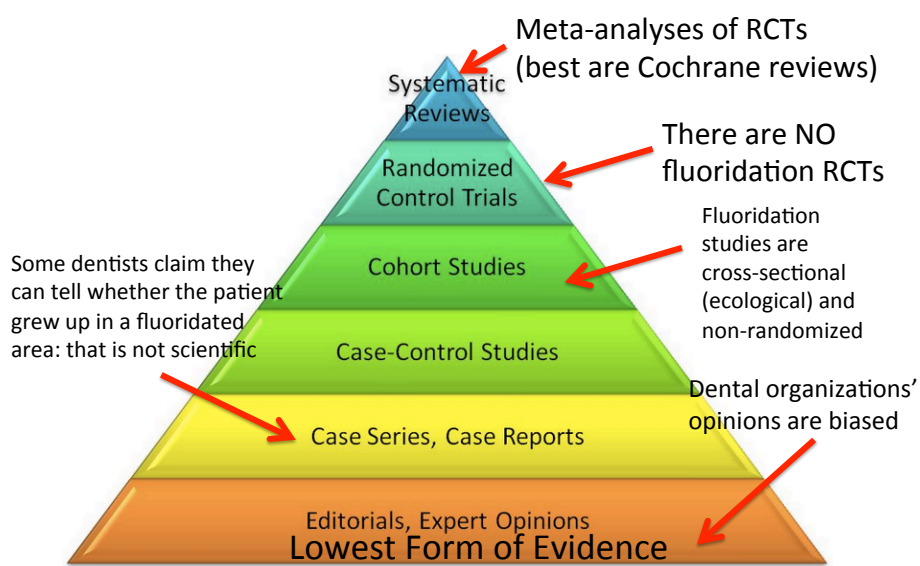
Most Canadian Communities Have Rejected Water Fluoridation



**As Of 2015 Less Than 30% Of Canadians Receive
Artificially Fluoridated Tap Water
Most Canadian's Have Said No To Fluoridation**

<http://cof-cof.ca/>

Fluoridation Strength of Evidence Pyramid



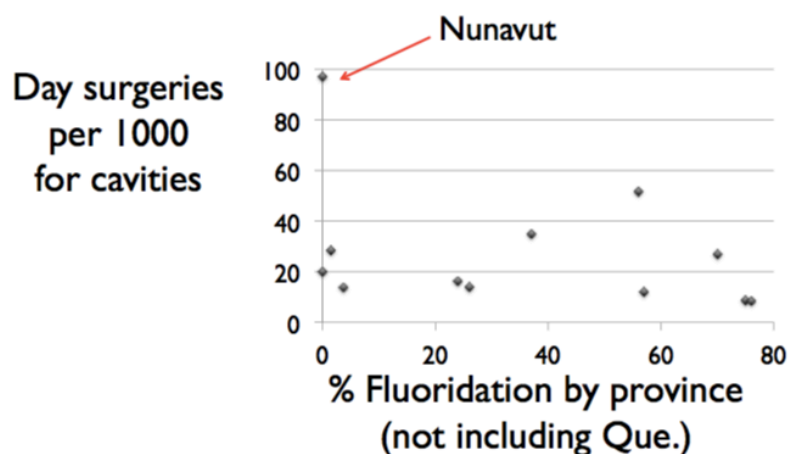
No Randomized Clinical Trial for Fluoridation!

Can epidemiology studies comparing fluoridated areas with non-fluoridated areas be used to estimate benefits? NO, not even if all these confounders are considered

Confounders	Slade et al, 2018	Confounders	Slade et al, 2018
ethnicity, genetics	yes	salivary buffering capacity	no
gender	yes	Vitamin D status	no
age	yes	use of fluoridated toothpaste	no
sucrose exposure	no	access to dental care,	no
education	yes	-professional fluorides,	no
income	no	-dental sealants,	no
rural vs urban	partial	-chlorhexidine	no
overall health	no	enamel hypoplasia prevalence	no
trace element exposure -Sr, Pb, Ca, Mg	no		
salivary flow	no		

See
Neurath, Beck, Limeback et al.
Commun Dent Oral Epid. 2017
for a discussion

Fluoridation in Canada DOES NOT reduce day surgeries required to treat rampant dental decay



http://www.hc-sc.gc.ca/ahc-asc/alt_formats/pacrb-dgapcr/pdf/branch-dirgen/wfc-efc-eng.pdf

<https://www.cihi.ca/en/access-data-reports/results?query=surgeries%2C+dental%2C+province&Search+Submit=>

Canadian Dental Association Recommendation to prevent dental fluorosis "the total daily fluoride intake from all sources should not exceed 0.05-0.07 mg/kg/day"

Infant Formula
up to 0.5 ppm



+

Fluoridated water
0.7 – 1.0 ppm



=

400%
higher

= 0.20 mg fluoride/kg/day



Who monitors my fluoride intake?

Fluorosis Cover Up



Half de-bonded composite veneer
on a front tooth of an 11 yr. old child

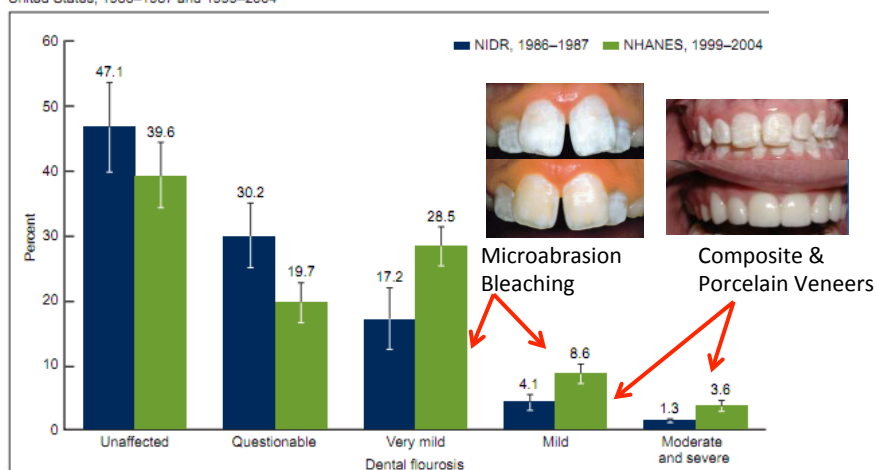
Dental fluorosis in Canada is fluoride poisoning

These are all cases of dental fluorosis I personally treated in fluoridated Mississauga



Dental Fluorosis in the US has increased: so has revenue in dental offices from cosmetic treatment

Figure 3. Change in dental fluorosis prevalence among children aged 12–15 participating in two national surveys: United States, 1986–1987 and 1999–2004



Beltrán-Aguilar ED, Barker L, Dye BA. Prevalence and severity of dental fluorosis in the United States, 1999–2004. NCHS Data Brief. 2010 Nov;(53):1-8.

Caries susceptibility of human fluorosed enamel and dentine

P.G.K. Waidyasekera^{a,*}, T. Nikaido^a, D.D.S. Weerasinghe^a, K.A. Wettasinghe^b, J. Tagami^{a,c}

JOURNAL OF DENTISTRY 35 (2007) 343–349

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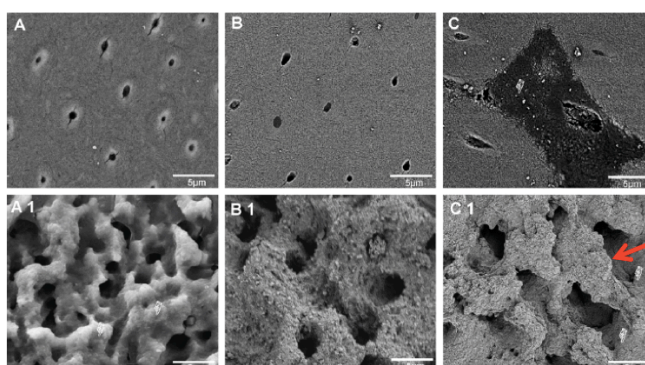


Fig. 4 – SEM images of the dentine surfaces. (A) Non demineralized polished surface of the normal dentine. (B) Non demineralized polished surface of the mild fluorosed dentine. (C) Non demineralized polished surface of the moderately fluorosed dentine showing an area of interglobular dentine (pointer). (A1) Normal demineralized dentine showing the spongy appearance of the intertubular dentine (pointer). (B1) Mild fluorosed demineralized dentine. (C1) Moderately fluorosed demineralized dentine showing irregular shaped tubular orifices (pointer).

Moderately fluorosed dentin is more susceptible to acid attack (caries)

Fluoridation- a lousy trade off from 40 years of exposure

One tooth might have been saved from dental decay

.....but look at the dental fluorosis



out of 100 children
100 fillings might be saved
=\$20,000

8.6%

Mild



8.6 children out of 100 needing cosmetics at \$1000/child = \$8,600

Moderate



3.6 children requiring cosmetics up to \$20,000/child = \$72,000

Severe



Total = \$80,600

CDC (2004) "The prevalence of very mild fluorosis increased from 17.2% to 28.5% and mild fluorosis increased from 4.1% to 8.6%. The prevalence of moderate and severe fluorosis increased from 1.3% to 3.6%".

“Moderate + severe fluorosis has reached epidemic proportions in the US. 30% of children have fluorosis that needs treatment.”

Dr. Hardy Limeback BSc PhD DDS

Prof. Emeritus, Former Head of Preventive Dentistry, University of Toronto

Member of the 2006 NRC Committee on Fluoride in Drinking Water

Neurath, Limeback et al. JDR Clin Trans Res in press

Lead poisoning

Burton's Lines-bluish discoloration of the gums



Arsenic Poisoning

Mees Lines on the fingernails



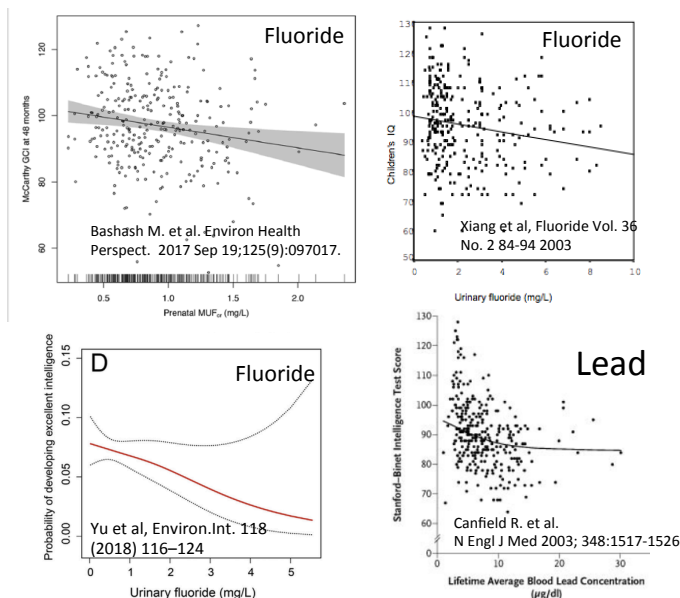
Cosmetic signs (lines) of lead, arsenic, fluoride overdoses..... poisoning is poisoning !!

Fluoride Poisoning

-mild dental fluorosis lines on teeth



Three Urine Fluoride -IQ studies ...compare to the Lead-IQ study that contributed to the banning of lead in drinking water, paint, gasoline



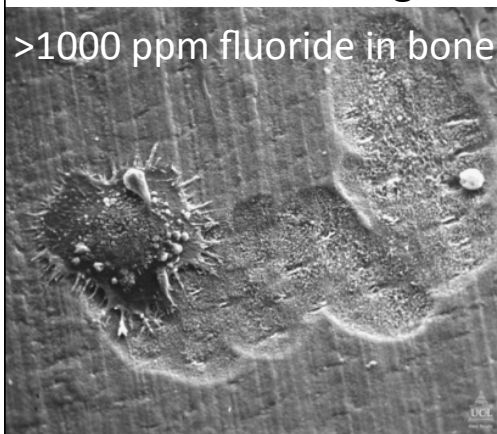
Fluoride is just as neurotoxic as lead according to recent studies

Fluoride exposure MUST be reduced

Effect of fluoride accumulation in bone on bone cells

Osteoclast resorbing bone

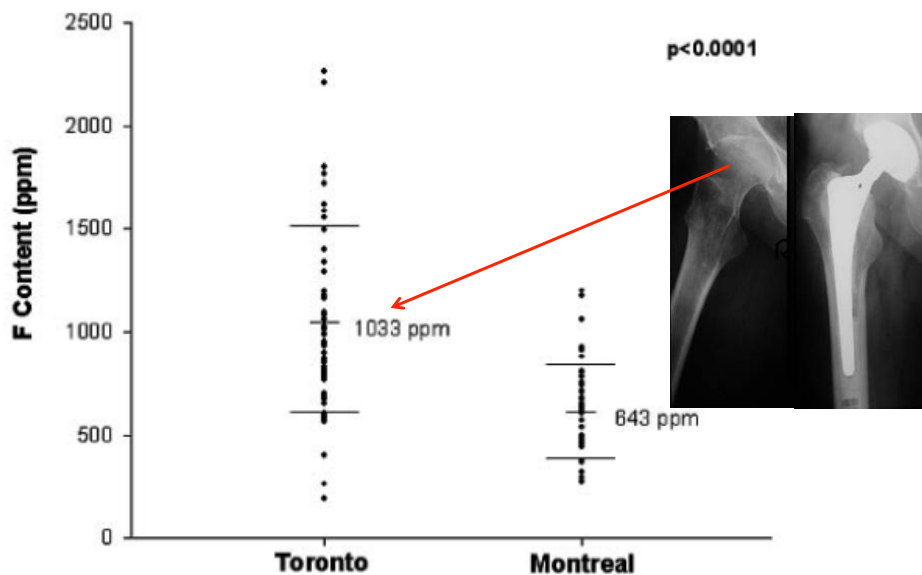
>1000 ppm fluoride in bone



- early bone cell death
- release of high F- levels to immune cells
- change in bone architecture

NRC Report 2006

Toronto vs Montreal Bone Study



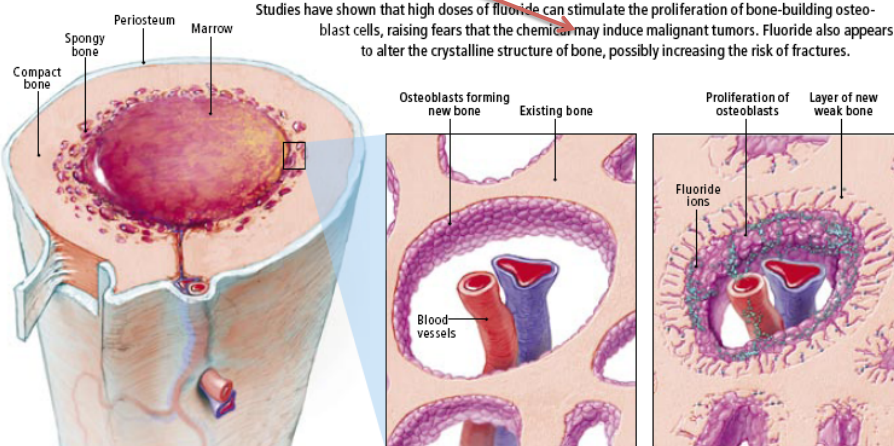
Chachra D. Limeback H. et al. J Dent Res. 2010

...may induce malignant tumours!

[AREA OF CONCERN]

IS FLUORIDE WEAKENING BONE?

Scientists have focused on fluoride's effects on bone because so much of the chemical is stored there. Studies have shown that high doses of fluoride can stimulate the proliferation of bone-building osteoblast cells, raising fears that the chemical may induce malignant tumors. Fluoride also appears to alter the crystalline structure of bone, possibly increasing the risk of fractures.



Fagan. D. Second thoughts about fluoride. Sci. Amer Jan, 2008, 74-81.

Fluoride kills cartilage cells

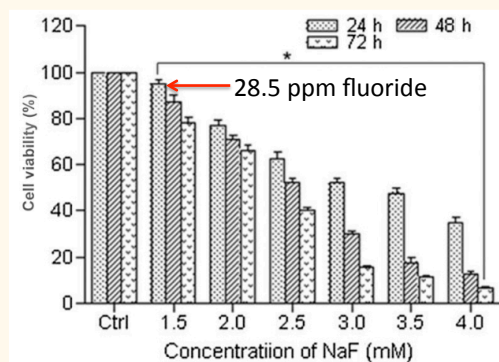
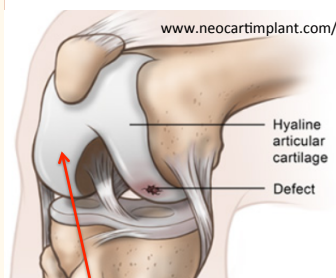


Figure 2

Sodium fluoride (NaF) inhibited cell viability of primary cultured rat chondrocytes. The effect of NaF on cell viability was measured by MTT assay. Cell viability of chondrocytes treated with gradient doses of NaF for 24, 48 and 72 h were decreased compared with that of the control groups, and were inhibited in a dose- and time-dependent manner. * $P < 0.05$ vs. control.

MENG H, ZHANG T, LIU W, et al. Sodium fluoride induces apoptosis through the downregulation of hypoxia-inducible factor-1 α in primary cultured rat chondrocytes. International Journal of Molecular Medicine. 2014;33(2):351-358. doi:10.3892/ijmm.2013.1576.



500 ppm fluoride

Kosik-Bogacka et al.

FLUORIDE CONCENTRATION IN SYNOVIAL FLUID, BONE MARROW, AND CARTILAGE IN PATIENTS WITH OSTEOARTHRITIS Fluoride 51(2)164–170, April-June 2018

**SO DOCTOR, WHAT CAN I DO TO PREVENT MY ARTHRITIS?
I READ FLUORIDE IN MY JOINTS CAN CAUSE MY SYMPTOMS.**



**SHOULD I STOP DRINKING TEA?
CAN YOU TEST MY FLUORIDE LEVELS?**

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Prenatal Fluoride Exposure Linked to ADHD in Kids

George W. Citroner
 October 18, 2018
 27 Read Comments

Not sure about causes of ADHD?
This could be the main cause!

Recommendations

- Brain Injury an Independent Risk Factor for ADHD in Kids
- ADHD Prevalence Rises, but Reasons Remain Unclear
- Autoimmune Disease Linked to ADHD

Prenatal exposure to higher levels of fluoride not only impairs cognitive development but also significantly increases the incidence of attention-deficit/hyperactivity disorder (ADHD) in children, new research shows.

"Our current study suggests that fluoride not only interferes with overall IQ or overall cognitive development but may also contribute to symptoms of ADHD," lead investigator Morteza Bashash, PhD, Dalla Lana School of Public Health, University of Toronto, Canada, told Medscape Medical News.

With respect to geographic region, the Western United States (**more cities that are non-fluoridated**) had the lowest rate of ADHD (7.0%), the Midwest had the highest (12.2%), and the Northeast (10.3%) and South (11.1%) were in the middle.

Fluoride poisons the pineal gland

0.25 mg fluoride 2X/day

Warnings: Keep out of reach of children under 6 years of age. If you accidentally swallow more than used for brushing, get medical help or contact a Poison Control Center immediately.

+

0.7 ppm fluoride water

0.25 mg fluoride 4X/day

Fluoride effect on the pineal gland

- interferes with melatonin (sleep cycles)
- lowers energy levels
- implicated in increasing obesity

Barrenetxe J, Delagrange P, Martínez JA. Physiological and metabolic functions of melatonin. J Physiol Biochem. 2004 Mar;60(1):61-72.

Fluoridation workers at risk

Facial and forearm burns
from splatter of H_2SiF_6



Severely eroded and
broken down teeth



When there
is a fluoride
spill,
hazmat teams
are called

Fluoride Spill WQAD News 8

lifelong health issues from fluoride poisoning after one exposure



19.02 / 20.06

Our Daily Dose

Our Daily Dose: excellent short film by Jeremy Seifert