



**FLUORIDE IS
ONE OF OUR
GREAT PUBLIC
HEALTH
VICTORIES**

**FLUORIDE IS
TOXIC WASTE
THAT DOES
MORE HARM
THAN GOOD**

Health Canada wants the levels in our tap water cut. Now the fight to ban it outright is back on.

**BY KATIE ENGELHART
AND CATHY GULLI**

When it comes to fluoride in his community's water, the mayor of Lambton Shores, Ont., Gord Minielly, has one thing to say: "Better out than in." But he's not the only one calling the shots. On the other side of the debate is Mike Bradley, mayor of nearby Sarnia, who is pro-fluoridation. The two communities share a water supply—which is fluoridated. And that's where things get messy. "It's been an issue every year since it was put in in the '60s," Bradley says.

Fluoride debates are old hat here. Sarnia

was involved in Canada's first-ever water fluoridation experiment. In 1945, the city paired with Brantford, Ont., to study the effects of adding fluoride to drinking water. Sarnia was the non-fluoridated control city for 11 years. When Brantford's tooth decay rates dropped, Sarnia began fluoridating too. Today, Bradley says it's time to "put it to the public"—to settle the issue with a referendum on water fluoridation, which would coincide with municipal elections in 2010. He's not the only civic leader making that call.

More than 50 years after fluoride found its way into Canadian taps, the controversy

has been resurrected. Battle lines are hardening as anti-fluoridation groups swell in size and municipal elections loom. What's more, in some cities fluoridation equipment is on its last legs. As it breaks down, investment demands test local commitment to fluoride. In Gander, Nfld., the issue of funds for machinery inspired a paralyzing local confrontation that led to a two-year halt on fluoridation.

Quebec City voted last year to shut off its fluoride taps, while Dorval, Que., reintroduced fluoridated water after a five-year hiatus. Edmonton opted in July to lower fluoride levels; months earlier, Calgary rejected a

motion to do away with the additive. In British Columbia, anti-fluoride activists in Prince George are ramping up their attacks, following the lead of Vancouver, which eschews fluoridation. And in Ontario, Waterloo has set the stage for a plebiscite in 2010 that threatens to make fluoride a high-priority election issue.

The issue was ignited last year, when Health Canada published a report from an expert panel that advised the federal agency to lower recommended fluoride levels—again. Falling targets have been a national trend. In the last 40 years, Health Canada's optimum fluoride level has been almost halved. That's partly because we are exposed to more fluoride now—in what we eat and drink, for example—than when water fluoridation was first conceived.

Still, fluoridation is backed by a veritable force of health authorities, including the Public Health Agency of Canada, the Canadian Medical Association, the Canadian Dental Association and the World Health Organization. In the U.S., the Centers for Disease Control and Prevention laud fluoridation as "one of the 10 great public health achievements of the 20th century." But no matter how fervently the chief dental officer of Canada, Dr. Peter Cooney, espouses the benefits of fluoridation, it's up to each community to decide for itself whether or not to add fluoride to the local water supply. Even today, less than half of Canadians—about 45 per cent—drink fluoridated water.

One by one, communities of every size are re-weighing their options. Sometimes a shortage of fluoride itself can even tip the scales. A few years ago, the question of fluoridation was raised in Ottawa when shortages meant the city had to go fluoride-free for months. Certainly, how each place finally decides varies widely and is determined by a number of factors—from the cost of new fluoridation machines to political will to the strength of anti-fluoridation lobbies to which medical information sounds most convincing. In other words, all too often, decisions that have an impact on the health of millions of Canadians are up for grabs.

As the medical and political realities of water fluoridation collide, it's clear the issue is as much a quagmire today as ever. In the 1960s, anti-fluoride advocacy was often relegated to the domain of grassroots extremists. But today, even the head of preventative dentistry at the University of Toronto, Dr. Hardy Limeback, has done an about-face on fluoridation. Until 10 years ago, he supported it. But "new evidence," he told *Maclean's* in a recent email, has "convinced [him] even more that a precautionary approach would be wise when considering launching new

fluoridation programs." Limeback has called for a moratorium on fluoridation "until there is better data on its benefits and safety." The question now isn't just how much fluoride is too much, but do we need it at all?

When it comes to water fluoridation, Cooney has heard it all. "There is really nothing that people haven't said fluoride causes," he muses. "Everything from Communist plots to nymphomania to cancers to AIDS." That's why, in January 2007, Health Canada asked a panel of six leading medical experts to examine fluoride in community drinking water, including intake levels, benefits and risks.

CRITICS in the '60s saw a fluoride conspiracy. They oppose it for other reasons now.



There have been four such reviews since Health Canada started recommending optimum fluoride concentrations to the provinces in 1968. Then, the target was 1.2 mg/litre, but that number was lowered to 1 mg/litre just a decade later. In 1996, it was cut again, this time to a range of 0.8 to 1 mg/litre. The latest review was no exception; in the new recommendations, released publicly in April 2008, the panel concluded that Health Canada should set the optimum level at 0.7 mg/litre.

It's this trend of falling targets that has some wondering if even this all-time low will be deemed too high the next time Health Canada undertakes a review. Health Canada acknowledges that could occur, as does Dr. Don Friedlander, president of the Canadian Dental Association (CDA). "But you know what? The science gets better and better. And the decision is made on a scientific basis."

The basis for the panel's recommendation is concern that we get too much fluoride from sources other than drinking water, ranging from toothpaste and dental treatments to common foods. Experts on either side of the debate agree on this point. The hotly contested issue is over what problems excess fluoride consumption may cause. One of the latest studies to spark a furor suggested that fluoride was linked to a rare form of cancer called osteosarcoma in young males. But this 2006 study has been criticized for its methodological limitations; even the author said it was hard to draw conclusions. Other contested studies suggest high levels of fluoride may be linked to lower IQ in children and suppression of the thyroid gland.

But most of these charges are not supported by medical and dental authorities. The main risk according to Health Canada is dental and skeletal fluorosis, which happens when we consume too much fluoride. In its mildest state, dental fluorosis discolours teeth. In more severe forms, it can damage tooth enamel, causing pain or chewing problems. Children are most susceptible as their teeth are developing. That's why the CDA urges parents to use only a "pea-sized" amount of toothpaste for children under six, and a "smear" for those under three. Most recently, Health Canada's panel took a further step, recommending that infant formula manufacturers cease adding fluoride to their products.

Health Canada also notes on its website that if high levels of fluoride are consumed for prolonged periods, skeletal fluorosis—a "progressive but not life-threatening disease in which bones increase in density and become more brittle"—can kick in. At best, this leads to stiff or sore joints; at worst, it causes deformed bones and mobility problems, making patients prone to fractures.

In Canada, Cooney says we're seeing decreasing rates of moderate to severe fluorosis, but increasing occurrence of mild fluorosis. That's one reason our target levels were lowered. But Cooney doesn't believe mild fluorosis is enough of a reason to stop fluoridation, given that its symptoms are largely cosmetic. Proponents of fluoride say there's a "trade-off" between developing fluorosis and preventing a much more crippling menace: tooth decay, which dental professionals such as Cooney are keen to point out is "five times more common than asthma" and "seven times more common than hay fever." Fluoride, they stress, cuts decay rates 20 to 40 per cent, meaning that the trade-off is worth it. Kids aren't the only ones who benefit from fluoride, according to Cooney. In adults and the elderly, it prevents root cavities and reduces tooth decay by 27 per cent. Decay can lead to periodontal disease, which has been linked to heart disease.

Because in Canada fluoride decisions are made regionally, national fluorosis and decay rates are scarce. The best information compares non-fluoridated and fluoridated communities in close proximity to each other. A recent report by health units in Simcoe-Muskoka, a region of Ontario that is largely unfluoridated, found that its population had dramatically worse tooth decay than many other parts of the province. The health units believe the problem would be alleviated with optimum levels of fluoride in local water.

Simcoe-Muskoka stands out in Ontario because the province has the highest rate of water fluoridation in Canada: 75.9 per cent

**EDMONTON REDUCED
ITS FLUORIDE.
QUEBEC CITY HAS CUT
IT OUT ENTIRELY.**



SOME STUDIES have tied fluoride to a rare cancer, but medical authorities are skeptical

of Ontarians have access to fluoridated water, almost the same percentage as in Alberta (74.7 per cent). But fluoridation is almost unheard of in Quebec (6.4 per cent), British Columbia (3.7 per cent) and Newfoundland (1.5 per cent)—and it's non-existent in Nunavut. So if water fluoridation is so good, why doesn't every community have it?

That communities across Canada are wrangling over fluoride underscores a political disjoint: while federal and provincial governments and professional bodies widely endorse fluoridation, they have little influence over municipalities. While Cooney extols fluoride's virtue, and bemoans the resistance of large urban centres like Vancouver and Montreal, he says Health Canada must "respect the federal-provincial-territorial dynamics of the country." But in turn, those communities are

increasingly at the mercy of local activists.

Marilyn Juds, a former teacher, became an activist after learning about fluoride from other residents in her town of Prince George, B.C. Like others, Juds has health concerns: namely, that fluoride causes cancer and lowers IQ. But her critiques are also philosophical in tone. She believes water fluoridation is akin to "mass medicating a whole society." So she started the Safe Water Coalition and petitioned city council to end fluoridation.

But Mayor Dan Rogers says he's "comfortable" with fluoride, and he chalks local opposition up to marginal chatter. "What we're seeing is an international movement assisted by the Internet," he explains. There may be something to his claim. When Juds had trouble finding support from local dentists, she looked

online, and found YouTube videos of an Oregon dentist decrying water fluoridation. After exchanging emails, Juds's fellow activists paid to fly the dentist in, putting him up in a hotel so that he could speak to officials on their behalf. "It was marvellous that we could get a dentist on our side," Juds affirmed. "You can't argue with his studies... thousands of hours of studies." Mayor Rogers was tight-lipped when talking about the dentist's presentation: "I believe the gentleman has been on the speaker's circuit."

Many city officials describe fluoride as an ever-present issue, one which activists are quick to bring to the fore when political space opens. That rang true after Montreal and surrounding cities amalgamated in 2001. A few years later, Dorval's water equipment deteriorated to the point where fluoridation ceased. National assembly member François Ouimet explains that, at that time, the prov-



HEALTH CANADA CAN ONLY ISSUE GUIDELINES. CITY OFFICIALS, ACTIVISTS AND VOTERS MAKE THE CALL.

ince agreed to foot the bill for a new plant. But he says that Montreal, which has never fluoridated, blocked the receipt of those funds: "It was an ongoing little war between the city of Montreal and the city of Dorval."

Ouimet agrees that the fluoride fight was a way for politicians on both sides to flex political muscle and to test out their place in the megacity. Eventually, Loi 55 was passed, giving Dorval final control. But it took until last year for fluoride to be put back. The city held "a lovely press conference where we were drinking the new, drinkable, fluoridated water," says Ouimet. "It's been happy ever since."

But even when the fluoride question is settled at the official level, the debate can persist. In July, Edmonton slashed its fluoride levels by 13 per cent to conform to the recommendations put forth by Health Canada's expert panel. But then, local MP Peter Goldring reported that he was a victim of identity theft; allegedly, a stranger sent out mass emails under Goldring's name—one of which stated: "Fluoride is a harmful toxin and the government puts it in your water."

At a loss for what to do, some communities are turning to popular votes. Waterloo, Ont., will have a referendum in 2010. Fluoride is obviously a burning issue there. When *Maclean's* spoke to Mayor Brenda Halloran, she had just returned from a lunch attended by activist Erin Brockovich, along with Robert Fleming, leader of the city's main anti-fluoride network. Halloran insists that fluoride is backed by all but "a few aggressive activists." She claims residents often "stop her on the street and say: don't you dare take it out." But Angela Vieth, a city councillor, has a different take. She was inspired to enter the fray while campaigning, because so many people asked her "about getting fluoride out."

Despite the democratic veneer of a referendum, Robert Fleming isn't pleased with

Back in Sarnia and Lambton Shores, another multi-tier system, it's more of the same debate. Lambton Shores mayor Minielly rejects the idea of a referendum as "ridiculous."

A number of cities admit that they're floundering without direction. Sammy Forcillo, who is responsible for Montreal's water management, argues that "it is not the responsibility of the city of Montreal to decide on scientific issues." Forcillo says he's asked the province to "assume its public health responsibilities and adopt legislation that will direct communities in this matter." Clark Somerville, city councillor in Halton Hills, Ont., whose council is reconsidering fluoridation, agrees. "There's no standard across the country," he points out. "If fluoride was something that was that great, you'd think the federal government would mandate it."



ONLY A MINORITY of Canadians have access to fluoridated water at present

the idea. "This referendum stinks from the get-go," he says, "because it's not legally binding." Fleming argues that Ontario law leaves a grey area when it comes to cities like Waterloo, whose water facilities are shared by a larger region. He claims there is no legal basis for a local referendum on fluoridation. And he insists the mayor knows it—"because I just finished educating her over lunch." Vieth agrees, saying a plebiscite would be nothing but a "public opinion poll." But the mayor is categorical: "It is a binding referendum."

In the meantime, back in Sarnia, officials await an update to the technical guidelines document for drinking water from Health Canada—which Cooney says will "hang very closely" to the expert panel's recommendations—with the hope that it will cast new light on the fluoride question. Some would rather get the ball rolling. But by Mayor Bradley's calculation, the city has been debating fluoride for 75 years. So the issue can hold, officials say, for a few more months at least. **M**

With Nicholas Köhler