

The Crippling Toxin You Knowingly Consume Every Day... Posted By Dr. Mercola | August 10 2011 | 106,017 views Share
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Dr. Mercola Recommends...

Every "Like" Helps Support This CauseThe fact that fluoride can damage your bones, often quite seriously, is no longer in dispute. Just ask the millions of people throughout the world who currently suffer from skeletal fluorosis—a crippling bone disease caused by too much fluoride and marked by irregular bone growth and calcification of the joints.

Of course, it takes a high dose of fluoride to cause crippling fluorosis.

But fluoride accumulates over time, so the severity of skeletal fluorosis exists along a continuum, with the earlier stages produced by lower doses and marked by more subtle symptoms, such as joint pain and stiffness.

These early symptoms, which may not be accompanied by obvious bone changes, are often very hard to distinguish from common forms of arthritis. And, indeed, researchers over the years have repeatedly cautioned that the early stages of skeletal fluorosis may be misdiagnosed as a form of arthritis.

In 2006, skeletal fluorosis was identified by the US National Research Council (NRC) as an adverse effect that needs to be considered by the EPA when lowering the maximum safe level of fluoride in water. While case studies in recent years have documented advanced skeletal fluorosis in the US among high-tea drinkers, the EPA has done no serious analysis of the extent to which the disease may be occurring throughout the country.

While fluoridation proponents and US health authorities claim that clinically obvious skeletal fluorosis will only develop at prolonged exposures to 10 milligrams (mg) of fluoride per day, virtually no attention—and even less research—has focused on the earlier, less obvious stages of the disease.

The fact that fluoride exposures in the U.S. are generally not high enough to cause crippling fluorosis is therefore of little comfort when taking into account that fluoride can cause non-diagnosable joint problems well before the crippling stage sets in—especially in a country where 60 million adults suffer from some form of arthritis. As noted by Dr. Phyllis Mullenix,

"If I was an arthritic individual, I would be eliminating every possible source of fluoride exposure that I could think of."

Fluoride Linked to the Development of Bone Fractures

In addition to skeletal fluorosis, the National Research Council's 2006 landmark review of fluoride toxicity also expressed concern about fluoride's ability to decrease bone strength and increase the risk of fractures. Of particular concern was fluoride's potential to increase hip fracture rates in the elderly, as hip fractures often send elderly patients into a spiral of declining health ending in death. Based on available evidence, the NRC concluded that fluoride increases the rate of fracture at 4 ppm (the level currently considered "safe" by the EPA), and noted that fluoride may increase the fracture risk at levels lower than 4 ppm.

To understand fluoride's potential to damage bone structure, some basic information about how fluoride acts in your body may be helpful.

First, up to half of ingested fluoride accumulates in your bones, with the other half excreted in urine. Second, once fluoride enters your bones it is removed very slowly. The NRC estimates, for instance, that the biological half-life of fluoride in bone (the time for half of it to be removed) is as long as 20 years. Third, most people have constant low level exposures to fluoride, and are taking more fluoride into their bones than is being removed. As a result, the fluoride level in bone increases steadily with time.

Thus, whereas young people generally don't have more than a few hundred parts per million (ppm) fluoride in their bones, older people living in fluoridated areas can have several thousand ppm—a level where skeletal fluorosis may begin.

Fourth, the ability to excrete fluoride in urine is significantly decreased among individuals with impaired kidney function. This creates a double-whammy for the elderly, for not only do they already have high accumulated levels of fluoride in their bone, but – because kidney function declines with age – they have a reduced ability to remove the new fluoride entering their system.

Finally, fluoride appears to interfere with the process of bone turnover (aka bone remodeling), wherein the mineral portion of bone is broken down by one type of cell and rebuilt by another.

Specifically, fluoride may cause an irregular mineralization, where the density of trabecular bone (which comprises the majority of the spine) can increase at the expense of reductions in cortical bone (which comprises the majority of the extremities). Since the integrity of cortical bone is critical to hip strength, fluoride's ability to reduce cortical bone density has been posited as a key mechanism explaining the link between fluoride and hip fractures.

In the past, for example, when high doses of fluoride were given as an experimental drug to osteoporotic patients, fluoride was consistently found to both decrease cortical bone density and increase the rate of hip fractures. Even when fluoride increases bone density, as it often does with trabecular bone, it can simultaneously make your bone more brittle and subject to fracture.

Recent Studies Shed New Light on Fluoridation and Bone Density/Fracture
Whether water fluoridation can lead to high enough levels of fluoride in bones to cause the type of alterations that can weaken them, remains an unresolved question. About 20 epidemiological studies have tried to find out, with mostly mixed results. Some of the studies suggest that fluoridated water, at 1 ppm, can increase the risk of fractures, whereas others have found no effect.

University of Toronto Study First in Humans to Show Fluoride and Fracture Connection¹

An important recent study from a team at the University of Toronto tried a different approach. Instead of looking at the rate of fractures in people exposed to varying amounts of fluoride, it used samples of actual bone from people undergoing hip replacement to see whether the fluoride concentration in bone correlated with the mechanical strength of the tissue.

This type of study had previously been done on laboratory animals (where increased concentrations of fluoride have been correlated with decreased strength), but never in humans.

The Toronto study was completed in 2001 but not published until 2010. The number of subjects in the study was small, with only 92 people, so the results were not definitive and the authors themselves do not draw any firm conclusions. Yet when the results are examined carefully, there is clear evidence that the people with higher levels of fluoride in their skeleton had weaker bones, by several different measurements of bone quality.

This lends further support to the concept that fluoride, like osteoporosis drugs, does make your bones denser, but may actually make them weaker and more susceptible to fracture.

The most straightforward measurement of strength was the amount of compression force the sample could withstand before breaking, which is called the Ultimate Compressive Stress. The people with the highest levels of fluoride in their bone had their sampled bone tissue break under about 50 percent less stress than those with the lowest levels of fluoride. This result was statistically significant.

University of Iowa Study²

Another recent study, from the University of Iowa, suggests that fluoridated water might be causing subtle bone changes in young people, long before the bone fluoride concentration reaches the high levels in later life³. In the study, several types of bone mineral density measurements were periodically made among a group of children during the first 11 years of their life. Simultaneously, the children's fluoride intake was also being monitored. When the authors (led by a pro-fluoridationist dentist who owes his voluminous research funding to the pro-fluoridation NIH), checked to see if there was any association between fluoride intake and bone density, they concluded there was no effect to be worried about.

For, while they found a slight reduction in bone density among girls, they found a slight increase in density among the boys.

However, lost in the authors' discussion, was the important fact that the alteration in bone density among the girls mirrored the changes that have been found in high-dose clinical studies. Namely, when the highest-exposed girls were compared with the lowest-exposed girls, the highest-exposed girls had reductions in bone density in cortical-rich bone (e.g. hip), but not in trabecular-rich bone (e.g. spine). These reductions were statistically

significant after 8.5 years of life, and remained very close to significant after 11 years.

The fact that this same pattern has been consistently observed in high dose clinical studies, suggests that this was not merely a random finding, but could well represent a similar, albeit subtler, fluoride effect on bone.

While the authors never discussed this possibility, they did note in closing (without any explanation), that they plan to do further research on how low-level fluoride intake may be related to "trabecular versus cortical bone component outcomes." In the meantime, however, anyone reading the abstract to the study will be forgiven for having the impression that their data gives fluoride a "clean bill of health."

Millions are Likely at Risk for Bone Fractures from Fluoride

Simply finding that water fluoridation may be sufficient to cause changes in bone remodeling at both old and young ages is worrying. However, when these two recent studies are seen in the light of earlier work, the concern is heightened. In one of the best bone fracture studies on adults to date⁴, it was found that hip fracture rates increased steadily starting from the lowest fluoride level examined, which was similar to what many Americans are getting from fluoridated water.

In children, one of the only studies ever conducted on children looked at fracture rates among Mexican youths in relation to dental fluorosis, a developmental disorder of the growing teeth caused by too much fluoride. The study, led by Alarcon-Herrera, and published in 2001, found that bone fracture rates rose sharply with increasing severity of dental fluorosis, and that the risk was heightened even among children with "mild" fluorosis.

In the US today, roughly 40 percent of all children have dental fluorosis, with millions having "mild" fluorosis" and thousands having the more severe stages. No U.S. study however, has yet attempted to investigate fractures in children as a function of fluorosis.

Despite the fact that 170 million Americans now drink fluoridated water every day, we continue to have little understanding on how the consequent contamination of our food and water with fluoride is affecting bone health.

While we know that fluoride at high doses clearly harms bone, and while there are several worrying indications that similar harm is occurring at the lower levels that Americans regularly ingest, the absence of competent research by U.S. health authorities has enabled many basic, fundamental questions to remain unanswered. Until researchers feel free to report adverse findings on fluoride without fear of losing their funding, this situation is likely to persist, to the possible peril of millions of American's bone health.

Important! The producers of this powerful film are allowing a full and FREE preview through August 13th in celebration of Fluoride Awareness Week (Aug 7 - 13)! You can support Fluoride Action Network by purchasing the Professional Perspectives DVD at a special price of \$10 during Fluoride Awareness Week.

What You Can Do TODAY!

The Fluoride Action Network has a game plan to END water fluoridation in both Canada and the United States, and this Fluoride Awareness Week will hopefully bring us a lot closer to that goal by spreading mass awareness. Our fluoride initiative will primarily focus on Canada since 60 percent of Canada is already non-fluoridated. If we can get the rest of Canada to stop fluoridating their water, we believe the U.S. will be forced to follow.

Please, join the anti-fluoride movement in Canada, New Zealand and the United States by contacting the representative for your area below.

Contact Information for Canadian Communities:

- 1.If you live in Ontario, Canada, please join the ongoing effort by contacting Diane Sprules at diane.sprules@cogeco.ca.
- 2.The point-of-contact for Toronto, Canada is Aliss Terpstra. You may email her at aliss@nutrimom.ca.

Contact Information for American Communities:

We're also going to address three US communities: New York City, Austin, and San Diego:

- 1.New York City, NY: With the recent victory in Calgary, New York City is the next big emphasis. The anti-fluoridation movement has a great champion

in New York City councilor Peter Vallone, Jr. who introduced legislation on January 18 "prohibiting the addition of fluoride to the water supply."

A victory there could signal the beginning of the end of fluoridation in the U.S.

If you live in the New York area I beg you to participate in this effort as your contribution could have a MAJOR difference. Remember that one person can make a difference.

The point person for this area is Carol Kopf, at the New York Coalition Opposed to Fluoridation (NYSCOF). Email her at NYSCOF@aol.com . Please contact her if you're interested in helping with this effort.

2.Austin, Texas: Join the effort by contacting Rae Nadler-Olenick at either: info@fluoridefreeaustin.com or fluoride.info@yahoo.com, or by regular mail or telephone:

POB 7486

Austin, Texas 78713

Phone: (512) 371-3786

3.San Diego, California: Contact Patty Ducey-Brooks, publisher of the Presidio Sentinel at pbrooks936@aol.com.

Contact Information for New Zealand Communities:

1.New Zealand: Contact Mary Byrne if you live in Hastings, New Plymouth, Hamilton or Wellington. Mary would like to hear from you! Email her at: mbyrne64@yahoo.co.nz

In addition, you can:

- Tell the EPA you expect them to uphold their duty to protect you and your children from this toxic food fumigant.
- Make a generous tax-deductible donation to the Fluoride Action Network, to help them fight for your rights to fluoride-free food and water.
- Check out FAN's Action Page, as they are working on multiple fronts to rid our food and water supplies of fluoride.
- For timely updates, join the Fluoride Action Network Facebook page.

REFERENCES:

1 Chachra 2010

2 Levy 2010

3 Levy et al 2009

4 Li et al 2001

Related Links:

[The Bone Destroying Daily Drink Fooling Millions of Americans](#)

[41% of American Teenagers Have Inherited This Disease](#)

[Professional Perspectives Film on Water Fluoridation](#)