

# The War on Fluoride Rages On

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## STORY AT-A-GLANCE

- › Attorney Michael Connett filed a lawsuit against the EPA in 2020 to stop the addition of fluoride in the water supply as it presented an "unreasonable risk"
- › Although some studies have demonstrated a reduction in dental cavities after water fluoridation programs, many others have also found that over exposure to fluoride leads to a reduction in IQ, bone demineralization and fracture, as well as sleep pattern disruption. It also is an endocrine disruptor, raising the risk of thyroid disease
- › Fluoride consumption comes from water, toothpaste and the food supply. The EPA tried to phase out the use of sulfuryl fluoride as a post-harvest insecticide but was stopped by an action in a House of Representatives committee
- › Fluoride is a hazardous waste byproduct of the phosphate industry that is used as a water additive so manufacturers in the industry aren't saddled with prohibitive costs of waste disposal

According to a commentary in the journal *Nature*, it is nearly impossible to get both sides of the fluoride issue to meet in the middle of anything.<sup>1</sup> On one side, fluoride treatment supporters say it prevents cavities and strengthens teeth.

On the other side, Michael Connett of the Fluoride Action Network (FAN) and others say the risks fluoride presents to children's overall health far outweigh any dental benefits.

Connett had been preparing his testimony to give before the Environmental Protection Agency for nearly four years when he gave his opening statement June 8, 2020, from his

office over a Zoom call. The bulk of his testimony and that of his witnesses argued that fluoride is a neurotoxin, the addition of which to the water supply is not necessary to lower the rate of oral cavities.

He and others provided scientific evidence of the damage that fluoride causes in infants. Proponents, including the American Dental Association (ADA) and the Oral Health Division of the CDC, have spent millions of dollars on promotion<sup>2</sup> and public relations<sup>3</sup> to sell fluoridation using half-truths, convincing talking points, and diversions.

To date fluoride is hailed by the CDC as "one of the 10 greatest public health achievements of the 20th century,"<sup>4,5</sup> with roughly 72.4% of the U.S. population drinking from a fluoridated public water supply.<sup>6</sup> The history of fluoridated water begins in the 1940s, when published studies supported the addition of fluoride to the drinking water to aid in the reduction of tooth decay.<sup>7</sup>

Yet, research since then paints a different picture. Despite a lack of fluoridated water in some communities, the rates of tooth decay have continued to decline in tandem with fluoridated communities.<sup>8</sup>

## **The High Cost of the War Over Fluoride**

The first fluoride community trials<sup>9</sup> were done in New York, Michigan and Ontario, Canada. In each area, the researchers compared a pair of cities, one with fluoridated water and one without. For example, they compared Newburgh and Kingston in New York state and Grand Rapids and Muskegon in Michigan.<sup>10</sup>

The researchers conducted surveys over 13 to 15 years and found in the communities where children drank fluoridated water, cavities were reduced by up to 70%. After the data were released, communities around the U.S. began adding fluoride to their water.

Since the initial studies looked at the difference between children and adults drinking fluoridated water and those who did not consume it, scientists theorized that the best benefit came from consumption. However, in the following years, it was discovered that

fluoride is most effective against tooth decay only after teeth have erupted from the gums.<sup>11</sup>

According to the article in Nature,<sup>12</sup> in the early years, researchers thought fluoride would benefit an infant growing in its mother's womb. But, they later found that while fluoride is incorporated into a fetus' developing teeth, it only works after the baby is born and the teeth have erupted.

Another discovery they made was that, when the mouth environment becomes acidic, fluoride ions move out of the plaque and pull minerals from saliva to raise mineral levels in the enamel surface and slow cavity development. When researchers showed that topical application was another way to ward off dental decay, dentists began using topical fluoride applications, fluoridated toothpaste flooded the market and children in primary schools were given fluoride tablets.

All the while, health officials continued to add fluoride to the water supply, right up until the present day. This is one of the reasons for Connett's charges against the EPA – that water fluoridation is no longer necessary when fluoride applications appear to have the same benefit.

## **First, Do No Harm**

Findings from a fluoride study published in JAMA Pediatrics<sup>13</sup> in 2019 and another published in Environmental Health<sup>14</sup> in 2017 have garnered the most attention in fluoride research in recent years.

Researchers in the JAMA study compared the IQ of children who were born in areas using fluoridated water against those in areas using non-fluoridated water. The data demonstrated there was as much as a five-point drop in IQ when an infant is exposed to fluoride in utero. Christine Till is a neuropsychologist from Toronto, Canada, and lead scientist on the study. She told Nature:

*"It's not disputed that fluoride is toxic at high levels. You have some weaker studies saying there's no effect. And then you have our study, and the Mexico*

*study [which found a correlation between a pregnant woman's ingestion of fluoridated water and reduced IQ in their children], that are high quality, saying there is an effect."*

Following these two studies, Philippe Grandjean, environmental medicine researcher from Denmark, developed a benchmark dose study on fluoride to determine when there would be detectable adverse effects on IQ.<sup>15</sup> His June 2021 paper showed levels as low as 0.2 mg per liter had a distinct effect on IQ.

This is less than one-third of the level recommended for water supplementation and one-20th of the maximum allowable level in the U.S.<sup>16</sup> In other words, Grandjean determined that the levels of fluoride currently being used for U.S. water supplementation are much higher than the lowest level at which fluoride consumption negatively affects an infant's IQ.

Added to this is a 2015 meta-analysis of 107 studies published by the Cochrane Library,<sup>17</sup> which found there was "insufficient information to determine whether initiation of a water fluoridation program results in a change in disparities in caries across socioeconomic status levels."<sup>18</sup>

This conclusion is important since many who argue for a fluoridated water supply believe it's necessary for cavity prevention in communities where people cannot afford dental care and not all children can be given topical fluoride.

E. Angeles Martinez Mier studies dental public health at Indiana University. Despite poor evidence that consuming fluoride can reduce the development of caries, Martinez Mier told the Nature reporter,<sup>19</sup> "A lot of public-health dentists are adamant that fluoridated water is the only thing we have that reaches the public, regardless of access to care, regardless of public health."

## **Atomic Bomb and Section 21 of the Toxic Substances Act**

What is sometimes forgotten is that fluoride was added to the water supply not because scientists originally believed that it would help reduce cavities in children's teeth, but

because they had an abundance of the key chemical used in making the atomic bomb. Unfortunately, it was also one of the most toxic chemicals for the workers and nearby communities.<sup>20</sup>

Investigative reporters Chris Bryson and Joel Griffiths wrote an article in 1997 which was originally commissioned by the Christian Science Monitor. The story was fully documented but remained unpublished until the FAN published it in September 1997.<sup>21</sup>

It is a fascinating story of how science and the military joined forces in the name of national security. In a race to build the atomic bomb, documented evidence that fluoride was a neurotoxin was classified and buried with information about the Manhattan Project, the code name for the atomic bomb.<sup>22</sup>

Declassified documents revealed a body of evidence that fluoride had significantly negative health effects. Without a way to adequately dispose of the toxin, scientists and the military developed “Program F” in an effort to find evidence that could help defeat litigation against fluoride’s effect on human injury.<sup>23</sup>

This has allowed manufacturers to make hundreds of millions of dollars<sup>24</sup> a year selling a hazardous industrial waste for use as a water additive rather than having to pay for toxic waste disposal.

“Toxic Treatment: Fluoride’s Transformation from Industrial Waste to Public Health Miracle” in the March 2018 issue of *Origins*,<sup>25</sup> a joint publication by the history departments at The Ohio State University and Miami University, notes:

*“Without the phosphate industry’s effluent, water fluoridation would be prohibitively expensive. And without fluoridation, the phosphate industry would be stuck with an expensive waste disposal problem.”*

Today, Section 21 of the Toxic Substances Control Act allows citizens and nongovernmental organizations to petition the EPA to remove toxic substances found to pose an “unreasonable risk”<sup>26</sup> either to the population or a subset of that population.

This is the law that FAN used to bring litigation against the EPA to ban the deliberate addition of fluoride chemicals to the U.S. drinking water supply. The petition included a large body of research demonstrating fluoride is neurotoxic and included over 2,500 pages of scientific evidence detailing the health risks.<sup>27</sup>

Based on current evidence that fluoride consumption is a neurotoxin to developing infants and young children, it would seem reasonable that it represents an unreasonable risk.

## **Is Your Food Supply an Environmental Factor Lowering IQ?**

One of the neurotoxic effects scientists have demonstrated is reduction in IQ. Interestingly, scientists have also found that IQ scores have been falling since the 1970s.<sup>28,29</sup> Researchers from Norway published their data in 2018, which showed that scores declined in individuals born after 1975.

Other studies have found similar results in Britain, France, Denmark and Finland. Ole Rogeberg was one of the researchers who told CNN<sup>30</sup> that the cause of the decline is likely due to environmental factors. Although access to education is one environmental factor being considered, the team acknowledges that more research is needed to understand what else may be linked to intelligence.

Coincidentally, sulfuryl fluoride has been a registered pesticide in the U.S. since 1959.<sup>31</sup> The product is a colorless and odorless gas that's used to fumigate for bed bugs, termites, mice and rats.

It's also used on some agricultural products and was approved as a food fumigant on post-harvest food in 2004.<sup>32</sup> Since it breaks down into fluoride after it's applied, it can leave fluoride residues on the grains, fruits, tree nuts and other foods to which it's applied.<sup>33</sup> This approval raised the level of fluoride residue on food to its highest level in history. In 2005 the EPA gave an additional approval to sulfuryl fluoride for direct treatment of coffee and cocoa.

Recognizing the neurotoxicity effect that this could have in reducing IQ and because it's a highly potent greenhouse gas,<sup>34</sup> the EPA drafted a risk assessment in 2011 recommending that the aggregate exposure from water, toothpaste and food was too high for infants and children.

They proposed canceling acceptable pesticide residue levels on food to phase out sulfuryl fluoride over a three-year period. However, in 2013,<sup>35</sup> the House of Representatives Appropriations Interior and Environmental subcommittee voted to cut the budget of the EPA and prevent the agency from enforcing the decision to phase out sulfuryl fluoride from the food supply.

In other words, with full knowledge of declassified early studies that fluoride has a neurotoxic effect, and data demonstrating the effect it has on IQ of all infants, the House of Representatives chose to protect the financial interests of the industry, rather than the health and brains of the children.

## **Fluoridation Is Neurotoxic to Developing Infants and Children**

One of the arguments for maintaining the status quo is that fluoride now reaches children and adults of all socioeconomic statuses. Even those who are unable to get routine dental care are now exposed to fluoride on a regular basis.<sup>36</sup>

What is not considered is exposure to the same individuals through toothpaste, mouthwash and their food supply. It also doesn't appear that any governmental agency or legislative body is interested in reducing your exposure.

During that June 2020 testimony, Connett spoke of the 2019 National Toxicology Program (NTP) draft report that reached the same conclusion — fluoride is a developmental neurotoxin.<sup>37</sup> The report was not entered as evidence and the case remains open as the judge waits for the 2022 NTP conclusion.

If you need further proof of fluoride's neurotoxicity, in addition to slowly dumbing down the next generation to protect teeth and gums, scientists have revealed that fluoride

acts as an endocrine disruptor<sup>38</sup> and has been linked to thyroid disease.<sup>39</sup> This in turn can contribute to obesity, heart disease, Type 2 diabetes and depression.

Exposure to fluoridated water also increases the number of children diagnosed with attention deficit hyperactivity disorder.<sup>40</sup> But, the effects of fluoride do not end in infants and children. One 2019 study<sup>41</sup> demonstrated that chronic low-level fluoride exposure alters sleep patterns of adolescents aged 16 to 19.

The study used data from the 2015-2016 National Health and Nutrition Examination Survey that included plasma fluoride and water fluoride measurements. An analysis of the data revealed that for every 0.52 milligram per liter increase in water fluoride, there were 197% higher odds of symptoms that suggested sleep apnea, a 24-minute later bedtime and a 26-minute later waking time.<sup>42</sup>

Exposure to too much fluoride also causes dental fluorosis. This condition changes the appearance of the tooth enamel so there are white spots and sometimes pitting. While the CDC<sup>43</sup> says a mild condition does not affect dental function, a study published in Sweden in 2021<sup>44</sup> found there was as much as a 50% higher rate of hip fractures in postmenopausal women in areas with up to 1 mg per liter of fluoride in the drinking water.

The level of evidence that fluoride is neurotoxic far exceeds the evidence that was in place when lead was banned from gasoline. During an interview with me in June 2021, Connett, who holds a degree in chemistry and specializes in environmental toxicology, said:<sup>45</sup>

*“Fluoride is following the same trajectory as lead because basically, whether or not you found a neurotoxic effect for lead was simply a function of how well designed your study was. The better your study was designed, the more likely you were to find that lead was lowering IQ. The same thing is happening with fluoride.”*

## Sources and References

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- <sup>2</sup> Fluoride Action Network, December 21, 2014
- <sup>3</sup> ADA News (archived), December 8, 2014
- <sup>5, 6</sup> CDC, August 2, 2016
- <sup>7</sup> CDC March 18, 2021
- <sup>9, 10</sup> MMWR CDC, 1999;48(41)
- <sup>11</sup> Journal of Dental Research, 1990; doi.org/10.1177/00220345900690S144
- <sup>13</sup> JAMA Pediatrics, 2019;173(10)
- <sup>14</sup> Environmental Health, 2017; doi.org/10.1289/EHP655
- <sup>15</sup> Risk Analysis, 2021; 00(0)
- <sup>17, 18</sup> Cochrane Library, 2015; doi.org/10.1002/14651858.CD010856.pub2
- <sup>19</sup> Nature, October 27, 2021, Hard benefits para 3
- <sup>20, 21</sup> Fluoride Action Network, September 1997
- <sup>22</sup> Fluoride Action Network, September 1997, intro
- <sup>23</sup> Fluoride Action Network, September 1997, Fluoride and the Cold War
- <sup>24</sup> Global Newswire, April 22, 2019
- <sup>25</sup> Origins, 2018;11(6)
- <sup>26</sup> Federal Register, October 29, 2021, Supplementary information C, 2
- <sup>27</sup> Fluoride Action Network, November 30, 2016
- <sup>28</sup> PNAS, 2018; 115(26)
- <sup>29</sup> CNN Health, June 14, 2018
- <sup>30</sup> CNN Health, June 14, 2018 para 4, 5, 16
- <sup>31</sup> National Pesticide Information Center, Sulfuryl Fluoride
- <sup>32</sup> Fluoride Action Network, Pesticides, Sulfuryl Fluoride
- <sup>33</sup> EPA Archive February 20, 2016
- <sup>34</sup> Beyond Pesticides, July 26, 2013, Background
- <sup>35</sup> Beyond Pesticides, August 1, 2013
- <sup>38</sup> Research Gate, December 2015
- <sup>39</sup> Scientific Reports, 2018;8(2674)
- <sup>40</sup> Environmental Health, 2015;14(17)
- <sup>41</sup> AJMC, January 1, 2020
- <sup>42</sup> Environmental Health 2019; 18:106
- <sup>43</sup> CDC, Dental Fluorosis, What is dental fluorosis
- <sup>44</sup> Environmental Health Perspectives April 6, 2021
- <sup>45</sup> Bitchute, June 29, 2021, Minute 14:50