

Bombshell Study Confirms This Daily Drink Lowers IQ

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✓ Fact Checked

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STORY AT-A-GLANCE

- › A U.S. and Canadian government-funded observational study found that drinking fluoridated water during pregnancy lowers children's IQ; a 2022 study by the same team will assess the neurotoxicity of early-life exposure to fluoride
- › In the earlier study, a 1 milligram per liter increase in concentration of fluoride in mothers' urine was associated with a 4.49-point decrease in IQ among boys only, while a 1-mg higher daily intake of fluoride was associated with a 3.66 lower IQ score in both genders between ages 3 and 4
- › The findings were hotly criticized by pro-fluoride agents, including the American Council on Science and Health (ACSH) and the Science Media Centre (SMC), two well-known front groups for the chemical industry
- › As of January 2022, there are at least 74 studies showing fluoride exposure damages children's brains and lowers IQ; there are at least 60 that found that fluoride exposure impairs the learning and/or memory capacity of animals
- › There are also more than 2,000 other studies detailing other health effects
- › Research published in 2017 found that, compared to a mother who drinks fluoride-free water, a child of a mother who drinks water with 1 part per million of fluoride can be predicted to have an IQ that is 5 to 6 points lower. They also found there was no threshold below which fluoride did not affect IQ

This article was previously published September 3, 2019, and has been updated with new information.

The August 19, 2019, issue of JAMA Pediatrics¹ delivered an unexpected bombshell: A U.S. and Canadian government-funded observational study found that drinking fluoridated water during pregnancy lowers children's IQ.

The research, led by a Canadian team of researchers at York University in Ontario, looked at 512 mother-child pairs living in six Canadian cities. Fluoride levels were measured through urine samples collected during pregnancy.

They also estimated the women's fluoride consumption based on the level of fluoride in the local water supply and how much water and tea each woman drank. The children's IQ scores were then assessed between the ages of 3 and 4. As reported by the Fluoride Action Network (FAN):²

"They found that a 1 mg per liter increase in concentration of fluoride in mothers' urine was associated with a 4.5-point decrease in IQ among boys, though not girls.

When the researchers measured fluoride exposure by examining the women's fluid intake, they found lower IQ's in both boys and girls: A 1 mg increase per day was associated with a 3.7 point IQ deficit in both genders."

Support for the Importance of This Study

The findings were deemed so controversial, the study had to undergo additional peer-review and scrutiny before publication, making it one of the more important fluoride studies to date.

Its import is also demonstrated by the fact that it was accompanied by an editor's note³ explaining the journal's decision to publish the study, and a podcast⁴ featuring the chief editors of JAMA Pediatrics and JAMA Network Open, in which they discuss the study.

An additional editorial⁵ by David Bellinger, Ph.D., a world-renowned neurotoxicity expert, also pointed out that "The hypothesis that fluoride is a neurodevelopmental toxicant

must now be given serious consideration." Few studies ever receive all of this added treatment. According to the editor's note:⁶

"Publishing it serves as a testament to the fact that JAMA Pediatrics is committed to disseminating the best science based entirely on the rigor of the methods and the soundness of the hypotheses tested, regardless of how contentious the results may be."

Chemical Industry Front Groups Defend Fluoride

Surprisingly, the findings were widely reported by most major media outlets, including Reuters,⁷ The Washington Post,⁸ CNN, NPR, Daily Beast and others, effectively reigniting the scientific debate about whether water fluoridation is a good idea.

Not surprisingly, the findings were hotly criticized by pro-fluoride agents, including the American Dental Association (ADA),⁹ the American Council on Science and Health¹⁰ (ACSH) and the Science Media Centre¹¹ (SMC).

It's well worth noting that the ACSH and SMC are well-known front groups for the chemical industry, and they will defend all chemicals, regardless of what's under discussion, so seeing dismissive articles from these groups is more or less par for the course. You can learn more about these groups in the articles hyperlinked above.

It's also worth noting that Fox, which in 2014 made a similar study headline news,¹² wasn't satisfied with just presenting the latest study as news and, instead, invited its resident doctor, Marc Siegel, to comment¹³ — and that comment began by blaming tooth decay, not fluoride, on lower IQs. Siegel ended with a rambling diatribe against the study and a scathing criticism of JAMA Pediatrics for even having published it:

"I'm far more worried about tooth decay than I am about fluoride ... There's no way that fluoride would lower your IQ more than having tooth decay ... It's a ridiculous study ... complete poppycock ... The Journal of the American Medical Association Pediatrics should not have put this in."

As for the ADA, it's been promoting water fluoridation as a health benefit for over a century and a half. To change its stance would clearly result in a loss of face, and might even expose the association to liability. The loss of scientific credibility alone is likely enough to encourage the ADA to hold on to the status quo.

The same goes for the U.S. Centers for Disease Control and Prevention which, despite the more than 2,700 studies¹⁴ against it, maintains water fluoridation is one of the top 10 great public health achievements of the 20th century.¹⁵

AAP Support of Water Fluoridation Is Hypocritical

A bit tougher to explain is the American Academy of Pediatrics' continued support of water fluoridation, despite a study linking fluoride intake among pregnant women with a “small dip” in their children’s IQ.¹⁶

Of any group, the AAP really should reconsider its stance on this issue, seeing how it has officially recognized the hazardous influence of hormone-disrupting chemicals on child development. Of course, the American Dental Association and American College of Obstetricians and Gynecologists went right along with the AAP, are apparently unconcerned about that “small” dip in IQ.

What’s hypocritical is that in 2018, the AAP issued a policy statement¹⁷ warning parents to avoid endocrine-disrupting chemicals — commonly found in processed food, fast food wrappers and plastics, for example — and while fluoride was not specified as an example of a chemical to be avoided, research shows fluoride has hormone disrupting potential placing it in the exact same category. As noted by FAN:¹⁸

"Fluoride was definitively identified as an endocrine disruptor in a 2006 report^{19,20} by the U.S. National Research Council of the National Academies (NRC). This report states:

'In summary, evidence of several types indicates that fluoride affects normal endocrine function or response ... Fluoride is therefore an endocrine disruptor in the broad sense of altering normal endocrine function or response ... The

mechanisms of action ... appear to include both direct and indirect mechanisms ..."

Fluoride Action Network Addresses Study Critique

In the featured video, Paul Connett, Ph.D., founder and current director of the FAN, addresses some of the criticism and why this particular study is such an important wake-up call for health care practitioners and pregnant women.

"[Fluoride exposure] during pregnancy will lower the IQ of their children. Only if you think a child's tooth is more important than a child's brain would you not be disturbed by that," Connett says. "You can repair a child's tooth. You cannot repair a child's brain once it's been impacted during fetal development."

One pro-fluoride critique against the JAMA Pediatric study is that it doesn't show cause and effect. "Well, no epidemiological study proves cause and effect," Connett says. "That's a given! To say it doesn't show cause and effect is a redundant statement." Other pro-fluoride voices argue the effect size is small – only 4.49 IQ points²¹ for boys, on average. However, as Connett points out:

"If you shift the entire population over by 3 or 4 IQ points, you would almost halve the number of geniuses in your society ... and you would increase by about 50% the number of mentally handicapped children. So, on a population [basis] such shifts are highly, highly significant."

A third manufactured controversy revolves around the fact that only boys were impacted by maternal urine levels of fluoride. Some hitch their critique of the study on this simple gender difference.

However, it should come as no surprise that boys and girls can be affected in different ways by the same toxic compound, as their development is affected by various hormones, including sex hormones, and toxins affect various hormones in different ways. We've seen this type of gender difference in many other instances as well.

"However you cut it, you have to be so wedded to fluoridation not to take this incredibly seriously," Connett says. "Remember, there is absolutely no evidence whatsoever – no scientific evidence – that a fetus exposed to fluoride has lowered dental decay.

There's no evidence you're protecting the baby from future decay during pregnancy. So, ANY evidence suggesting it may be damaging the brain has to be taken seriously ...

We have potential harm [on the one side] ... and on the other side you have something that is totally unnecessary. Why on earth would any doctor hesitate to advise pregnant women: 'Don't drink fluoridated water during pregnancy'?"

Other Studies Support Link Between Fluoride and IQ Loss

What's more, as Connett so strongly points out, while this particular study has received a great deal of media attention, it's not the only one raising a red flag. There are at least 74 studies listed in FAN's scientific database showing that fluoride exposure damages children's brains and lowers IQ.²² There are at least 60 that found that fluoride exposure impairs the learning and/or memory capacity of animals.²³

There are also a couple of thousand other studies detailing other adverse health effects. When you add in animal research, there are more than 300 studies demonstrating fluoride can cause:²⁴

- Brain damage, especially when coupled with iodine deficiency
- Reduced IQ
- Impaired ability to learn and remember
- Neurobehavioral deficits such as impaired visual-spatial organization
- Impaired fetal brain development

In his video commentary, Connett briefly mentions the importance of the 2017 "Bashash study." This was an international study effort led by professor Howard Hu, who at the time of the study's publication was at the University of Toronto. The study is known as the "Bashash study" after the lead author, Morteza Bashash, Ph.D. The team also includes researchers from McGill, Harvard, Mount Sinai, Michigan, Indiana and the National Institute of Public Health of Mexico.

Funding for this research came from the U.S. National Institutes of Health, National Institute of Environmental Health Sciences and the U.S. Environmental Protection Agency. The finalized study^{25,26} was published in the September 2017 issue of Environmental Health Perspectives.

This study was remarkable for the fact that it followed participants for 12 years, involved several well-respected researchers, employed rigorous methodology and controlled for virtually all conceivable factors.

Here too, they found a strong relationship between the urinary level of fluoride in pregnant women and the subsequent IQ in their children. They also found a dose-dependent relationship, so the higher the mother's urine level of fluoride, the lower the IQ in the offspring.

According to the Bashash study, compared to a mother who drinks fluoride-free water, a child of a mother who drinks water with 1 part per million of fluoride can be predicted to have an IQ that is 5 to 6 points lower. What's more, they found there was no threshold below which fluoride did not affect IQ.

A New Study Will Assess Neurotoxicity on the Brain

In January 2022, York University announced that the same research team that found the connection between fluoride and children's IQs has obtained close to \$2 million from the National Institutes of Health to assess both the neurotoxicity of early-life exposure to fluoride and the thyroid-disrupting effects of fluoride in pregnancy.²⁷

The researchers will use baby tooth dentin – tissue beneath the enamel – to measure fluoride “ring” markers on the dentin.

“Sampling tooth layers that correspond to specific life stages will provide critical information for when exposure occurred and how much reached the developing brain,” lead researcher Christine Till said in a press release.

“Our earlier research measured urinary fluoride levels in pregnant women, which does not tell us how much fluoride reached the fetus and when ... The tooth dentin is an optimal biomarker because it will provide evidence that fluoride crosses the placenta. This will give a better understanding of the critical window of when exposure becomes harmful to the developing brain.”

Your Contributions Are Making a Difference

FAN is part of the Mercola Health Liberty Coalition, founded in 2011 – the mission of which is to inform and educate about the fraud and deceptions created by the junk food, chemical and pharmaceutical industries. Other Health Liberty partners include the National Vaccine Information Center, the Organic Consumers Association and Consumers for Dental Choice.

Not only has your support been helpful to catalyze the removal of fluoride but you have been able to help us make massive changes with two other health issues as well:

- **GMOs** – When we first started, the average person in the U.S. did not know what GMOS were. Now, not only do they know but they are also aware how dangerous they are. Your support has allowed FOIA requests to be filed that produced critical evidence resulting in juries awarding plaintiffs billions of dollars from Bayer/Monsanto, with another 13,000 cases pending and a possibility of bankrupting this evil giant.
- **Dental mercury** – Charlie Brown has coordinated worldwide bans on the use of mercury in dentistry that has already resulted in banning mercury in dentistry in

many countries, with the likely complete elimination of amalgam within the next few years.

Again and again, we see "controversial" and "contentious" stances proven prudent and correct given enough time for sufficient science to accumulate. It's important for you to recognize that your donations to these organizations through the years have allowed these successes to manifest. The latest JAMA Pediatrics study brings us another major step forward in the process to eliminate water fluoridation.

Editors Compare Anti-Fluoridation to Anti-Vaccine Sentiments

As noted by JAMA Pediatrics editor-in-chief, Dr. Dimitri Christakis, in the JAMA podcast (embedded above):

"Before there were anti-vaxxers there were anti-fluoriders, and the traditional teaching when I was going through residency in my early professional career was, 'fluoride is completely safe and all of these people trying to take it out of the water are nuts. It's the best thing that's ever happened for children's dental health and we need to push back and get it into every water system' ...

So, when I first saw this title ['Association Between Maternal Fluoride Exposure During Fetal Development and IQ Scores in Offspring in Canada'], my initial inclination was, 'What the hell?'"

Christakis goes on to express shock at the discovery that only 3% of European residents, while 66% of Americans and 38% of Canadians drink fluoridated water (statistics noted in the JAMA Pediatrics paper²⁸), as he was under the assumption that all developed countries fluoridated all their water supplies. This just goes to show the general ignorance that still exists even among well-educated health professionals.

Christakis and JAMA Network Open editor-in-chief Dr. Frederick Rivara also express mutual surprise that the effect of water fluoridation on IQ was so great. They point out that a 5-point reduction is significant indeed, as it's "on par with lead."

Christakis goes on to discuss the fact that there have been other studies suggesting fluoride may be a neurotoxin. "Which, again, was totally news to me. I thought it was junk science," he says. Rivara agrees, saying such studies have in the past been likened to "junk" anti-vaccine science.

Christakis admits he struggled with the findings – basically because of his preconceptions of the science. He certainly did not want to be the one putting out "junk science" that might lead to a deterioration of children's dental health. This is precisely why the study was put through additional reviews to make sure the methodology and findings were sound. In the end, the research was solid enough to pass the tests.

It's interesting to hear Christakis and Rivara talk about their struggle to accept the idea that water fluoridation may be harmful – at the very least until the child starts developing teeth. But even toddlers may be harmed, the pair admit, as toddlers and young children's brains are still developing.

It's even more interesting to hear them equate their struggles to that of the vaccine safety question for, indeed, the very same struggle to accept the idea that vaccines can cause harm is identical to the struggle to accept that water fluoridation may be damaging our children.

Both are considered unassailable public health victories, and no one wants to entertain the idea that we may inadvertently be causing grave harm on a populationwide basis. Yet that's a very real probability, as this study shows (and many others as well).

Fluoride Is an Environmental Pollutant as Well

Overall, it makes absolutely no sense to fluoridate municipal water supplies. First of all, it's forced medication without oversight – there's no way to ascertain the dosage any given person is getting, or what effect it's having on their health.

When it comes to fetuses and infants, water fluoridation is useless, as there's no scientific evidence to even remotely suggest it has a beneficial impact on future dental health, and it certainly does not make sense to "prevent cavities" in those without teeth.

Furthermore, the vast majority of the fluoride in the water never ever touches a tooth. It's simply flushed down the drain, becoming an environmental pollutant. As noted by Edward Groth III, a staff officer on the Environmental Studies Board, Commission on Natural Resources, with the National Research Council back in 1975:²⁹

"Environmental contamination by fluorides exposes many organisms to potentially toxic effects and may exert some stress on the ecological interrelationships among plant and animal populations ... [T]he available evidence does support the view that fluorides are pollutants with considerable potential for producing ecological damage."

Groth's article, "Fluoride Pollution,"³⁰ which appeared in the journal *Environment: Science and Policy for Sustainable Development*, summarizes the ecological impacts of low-level fluoride pollution, pointing out fluoride has been found to accumulate in the bodies of insects, birds and mammals, in some cases to potentially toxic levels, thus increasing fluoride levels in the food chain as a whole.

There are also reports of toxic effects in algae and freshwater vertebrates, and "indications that aquatic vegetation may also concentrate the element." Substantial amounts of fluoride are also entering farmland, where it's taken up by soil organisms.

"Possible conversion of fluoride into fluoracetate (more toxic than fluoride itself and related organic forms), and the likelihood that fluoride may enter into synergistic actions with other contaminants, greatly expand the potential for ecological damage by low-level fluoride contamination," Groth writes.³¹

Water Fluoridation Is a Clear Form of Water Contamination

It's also important to realize that the fluoride added to our water is an untreated industrial waste product from the fertilizer industry — not a pharmaceutical grade product — that is suddenly deemed a health product once it's purposely added to water.

As long as the chemical is on the premises of a fertilizer company, it's actually classified as hazardous waste, requiring costly disposal measures to comply with hazardous

waste regulations.

This fluorosilicic acid is frequently contaminated with lead, arsenic, uranium, radium, aluminum and other industrial contaminants. In other words, water fluoridation can be likened to a legal water contamination scheme.

For a review of the oft-neglected history of water fluoridation, read through "Toxic Treatment: Fluoride's Transformation from Industrial Waste to Public Health Miracle" in the March 2018 issue of *Origins*,³² a joint publication by the history departments at The Ohio State University and Miami University. As noted in "Toxic Treatment:"

"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."

There's also very little evidence to suggest water fluoridation actually has a beneficial impact on tooth decay, while there's unequivocal evidence of harm, as it causes dental fluorosis. *Origins* writes:³³

"Only a handful of countries fluoridate their water – such as Australia, Ireland, Singapore, and Brazil, in addition to the United States. Western European nations have largely rejected the practice. Nonetheless, dental decay in Western Europe has declined at the same rate as in the United States over the past half century ..."

This is not to vilify the early fluoridationists, who had legitimate reason to believe that they had found an easy and affordable way to counter a significant public health problem.

However, the arguments and data used to justify fluoridation in the mid-20th century – as well as the fierce commitment to the practice – remain largely unchanged, failing to take into account a shifting environmental context that may well have rendered it unnecessary or worse."

Sources and References

- ¹ JAMA Pediatrics August 19, 2019 [Epub ahead of print]
- ² Fluoride Alert August 19, 2019
- ^{3, 6} JAMA Pediatrics Editor's Note August 19, 2019, Decision to Publish Study on Maternal Fluoride Exposure During Pregnancy
- ⁴ JAMA Pediatrics October 7, 2019 Podcast, Association Between Maternal Fluoride Exposure During Pregnancy and IQ Scores in Offspring in Canada
- ⁵ JAMA Pediatrics Editorial by David C. Bellinger August 19, 2019
- ⁷ Reuters August 19, 2019
- ^{8, 9} The Washington Post August 19, 2019
- ¹⁰ ACSH.org August 19, 2019
- ¹¹ Science Media Centre August 19, 2019
- ¹² Fox News, Fluoride Levels in Water Could Be Lowering Our IQs, Study Says. August 25, 2014
- ¹³ Fox News, Tucker: New Study Results Fluoride Lowers IQ, Dr. Marc Siegel Calls It BS. August 27, 2019
- ^{14, 23} FAN Study Tracker
- ¹⁵ CDC.gov Community Water Fluoridation
- ¹⁶ AAP. AAP Continues to Recommend Fluoride. August 19, 2019
- ¹⁷ American Academy of Pediatrics, July 23, 2018
- ¹⁸ FAN Fluoride and the Endocrine System
- ¹⁹ National Research Council 2006 Report, Fluoride in Drinking Water, A Scientific Review of EPA's Standards
- ²⁰ FAN National Research Council 2006 Report Summary
- ²¹ JAMA Pediatrics August 19, 2019, Results [Epub ahead of print]
- ²² FAN. Fluoride IQ: 74 Studies. December 2, 2021
- ²⁴ Fluoride Action Network, Effects of Fluoride on Brain
- ²⁵ Environmental Health Perspectives September 2017; 125(9)
- ²⁶ Fluoride Alert September 19, 2017
- ²⁷ York U. Research Will Help Determine the Safety of Chronic Fluoride Exposure in Developing Brains. January 13, 2022
- ²⁸ JAMA Pediatrics August 19, 2019, Introduction [Epub ahead of print]
- ^{29, 31} FAN Fluoride Pollution by Edward Groth III, April/May 1975
- ³⁰ Environment: Science and Policy for Sustainable Development 1975; 17(3): 29-38
- ^{32, 33} Origins March 2018; 11(6)