

# FLUORIDATION'S NEUROTOXICITY

There is **no question** that fluoride is neurotoxic - it damages the brain, as documented by hundreds of recent human and animal studies. ***It can not*** be declared safe.



2006: The National Research Council published Fluoride in Drinking Water,<sup>1</sup> the most authoritative review of fluoride's toxicity. It stated unequivocally that **"fluorides have the ability to interfere with the functions of the brain and the body."**

2012: A Harvard-funded meta-analysis<sup>2</sup> found that children ingesting higher levels of fluoride tested an average 7 IQ points lower in **26 out of 27 studies**. Most had higher fluoride concentrations than in U.S. water, but many had total exposures to fluoride no more than what millions of Americans receive.

*"Fluoride seems to fit in with lead, mercury, and other poisons that cause chemical brain drain."*

Philippe Grandjean, MD, PhD, Harvard study co-author, Danish National Board of Health consultant, co-editor of Environmental Health, author of over 500 scientific papers

2017: A National Institutes of Health (NIH) - funded study<sup>3</sup> found that every milligram per liter (1 mg/L) increase in fluoride in pregnant women's urine – about the difference caused by ingestion of fluoridated water<sup>4</sup> - was linked to a reduction of their children's IQ by an average 5-6 points. Leonardo Trasande, MD, a leading physician unaffiliated with the study, said it **"raises serious concerns about fluoride supplementation in water."**<sup>5</sup>

2018: A Canadian study<sup>6</sup> found iodine-deficient adults (nearly 18% of the population) with higher fluoride levels had a greater risk of hypothyroidism (known to be linked to lower IQs). Author Ashley Malin, PhD, said **"I have grave concerns about the health effects of fluoride exposure."**<sup>7</sup>

2019: Another NIH-funded study<sup>8</sup> in the Journal of the American Medical Association Pediatrics found every 1 mg/L increase in fluoride in pregnant women's urine linked to a 4.5 decrease in IQ in their male children. JAMA Pediatrics' physician editor said **"I would not have my wife drink fluoridated water"**<sup>9</sup> if she was pregnant.

2019: A Canadian study<sup>10</sup> found a nearly **300% higher risk of ADHD** for children living in fluoridated areas. This reinforced earlier studies linking fluoride to ADHD in Mexico (2018)<sup>11</sup> and the U.S. (2015).<sup>12</sup>

2019: Another NIH-funded study<sup>13</sup> in Canada found that **babies fed formula mixed with fluoridated water averaged 6 IQ points less** than those mixed with non-fluoridated water. Losses of non-verbal IQ were even more serious, an average of **13 points**.

2023: The National Toxicology Program's draft scientific review<sup>14</sup> documented **52 out of 55 studies** linked higher fluoride levels with lower IQs. Of the highest quality studies, **18 out of 19** found this link. **"Several of the highest quality studies showing lower IQs in children were done in optimally fluoridated (0.7 mg/L) areas."**

## REFERENCES FOR FLUORIDATION'S NEUROTOXICITY

1. National Research Council, *Fluoride in Drinking Water*, 2006, p. 222 <https://www.nap.edu/catalog/11571/fluoride-in-drinking-water-a-scientific-review-of-epas-standards>
2. Choi et al, Developmental Fluoride Neurotoxicity: A Systematic Review and Meta-Analysis, *Environmental Health Perspectives*, July 20, 2012 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3491930/>
3. Bashash et al, Prenatal Fluoride Exposure and Cognitive Outcomes in Children at 4 and 6-12 Years of Age in Mexico, *Environmental Health Perspectives*, Sept. 19, 2017 <https://ehp.niehs.nih.gov/ehp655/>
4. Till et al, Community Water Fluoridation and Urinary Fluoride Concentrations in a National Sample of Pregnant Women in Canada, *Environmental Health Perspectives*, Oct. 10, 2018 <https://ehp.niehs.nih.gov/doi/10.1289/EHP3546>
5. Dana Dovey, "Children's IQ Could be Lowered by Mothers Drinking Tap Water While Pregnant," *Newsweek*, Sept. 19, 2017 <https://www.newsweek.com/childrens-iq-could-be-lowered-drinking-tap-water-while-pregnant-667660>
6. Malin et al, Fluoride Exposure and Thyroid Function Among Adults Living in Canada: Effect Modification by Iodine Status, *Environment International*, Dec. 2018 <https://www.ncbi.nlm.nih.gov/pubmed/?term=till+malin+fluoride+thyroid>
7. Brian Bienkowski, "We Add It to Drinking Water for Our Teeth – But is Fluoride Hurting Us?" *Environmental Health News*, Oct. 10, 2018 <https://www.ehn.org/we-add-it-to-drinking-water-for-our-teeth-but-is-fluoride-hurting-us-2611193177.html>
8. Green et al, Association Between Maternal Fluoride Exposure During Pregnancy and IQ Scores in Offspring in Canada, *Journal of the American Medical Association Pediatrics*, Aug. 19, 2019 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6704756/>
9. Ben Guarino, "Study Raises Questions About Fluoride and Children's IQ," *Washington Post*, Aug. 20, 2019 <https://www.washingtonpost.com/science/2019/08/19/study-raises-questions-about-fluoride-childrens-iq/>
10. Riddell et al, Association of Water Fluoride and Urinary Fluoride Concentrations with Attention Deficit Hyperactivity Disorder in Canadian Youth, *Environment International*, Dec. 2019 <https://www.sciencedirect.com/science/article/pii/S0160412019315971?via%3DiHub>
11. Bashash et al, Prenatal Fluoride Exposure and Attention Deficit Hyperactivity Disorder (ADHD) Symptoms in Children at 6-12 Years of Age in Mexico City, *Environment International*, Dec. 2018 <https://www.sciencedirect.com/science/article/pii/S0160412018311814?via%3DiHub>
12. Malin et al, Exposure to Fluoridated Water and Attention Deficit Hyperactivity Disorder Prevalence Among Children and Adolescents in the United States: An Ecological Association, *Environmental Health*, Feb. 27, 2015 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4389999/>
13. Till et al, Fluoride Exposure From Infant Formula and Child IQ in a Canadian Birth Cohort, *Environment International*, Jan. 2020 (originally issued online in 2019) <https://www.sciencedirect.com/science/article/pii/S0160412019326145?via%3DiHub>
14. National Toxicology Program, Draft NTP Monograph on the Systematic Review of the Fluoride Exposure and Neurodevelopmental and Cognitive Health Effects, Sept. 6, 2019 [http://fluoridealert.org/wp-content/uploads/2019.ntp\\_draft-fluoride-systematic-review.online-Oct-22.pdf](http://fluoridealert.org/wp-content/uploads/2019.ntp_draft-fluoride-systematic-review.online-Oct-22.pdf)