

Fluoride's Hidden Danger – Lower IQ in Children Exposed

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STORY AT-A-GLANCE

- › Recent studies indicate that fluoride exposure is linked to lower IQ scores in children, with prenatal exposure being particularly harmful. This has led to recommendations against water fluoridation due to neurotoxic risks
- › Florida's Surgeon General has advised against water fluoridation, citing neuropsychiatric risks, especially for pregnant women and children, aligning with recent scientific findings
- › A robust body of literature consistently shows an inverse relationship between fluoride levels and IQ in children, with high-quality studies using improved methodologies supporting these findings
- › Diverse international studies from Mexico, Canada and the U.S. demonstrate evidence of fluoride's neurotoxic effects across different populations, suggesting a global public health concern that transcends geographic and socioeconomic boundaries
- › To proactively reduce fluoride exposure, install a comprehensive reverse osmosis water filtration system, use fluoride-free water for infant formula, avoid processed foods prepared with fluoridated water and advocate for fluoride-free community water policies

Fluoride has been widely used since the 1930s to prevent dental caries, a significant global health issue affecting millions, especially children. Fluoride is introduced into public water supplies to bolster dental health, a practice endorsed by numerous health authorities as both safe and cost-effective. However, research raises serious concerns about the neurotoxic effects of fluoride, particularly its impact on children's cognitive development.

Studies suggest a troubling link between fluoride exposure and lower intelligence quotient (IQ) scores in children. Published in *Environmental Research*, a systematic review and meta-analysis examined data from 12,263 children across seven countries.¹ The findings indicate that higher fluoride exposure is consistently associated with reduced IQ levels, even at concentrations previously deemed safe.

This revelation challenges long-held beliefs about fluoride's safety in promoting dental health. The statistics are alarming. The meta-analysis revealed an average IQ score difference of nearly five points between children exposed to high levels of fluoride and those with minimal exposure.

Specifically, drinking water fluoride at concentrations above 1 mg/L was linked to a significant decline in IQ, with the effect intensifying beyond 2 mg/L. Additionally, urinary fluoride levels showed a linear decrease in IQ scores starting at just 0.28 mg/L.

These numbers underscore the risks fluoride poses to children's neurodevelopment.² Such evidence calls into question the continued use of fluoride in public water systems without thorough reconsideration of its broader health implications.

Fluoride Exposure Linked to Significant Health Risks

Beyond cognitive decline, excessive fluoride exposure contributes to other health problems. Chronic overexposure has been associated with dental and skeletal fluorosis, conditions characterized by the mottling of teeth and the calcification of bones, respectively. Furthermore, fluoride's ability to accumulate in brain regions responsible for memory and learning suggests it **exacerbates neurodevelopmental disorders**.

This accumulation interferes with neurotransmitter systems, which are important for cognitive processes. The neurotoxic effects of fluoride are becoming a focal point of debate, with many experts questioning whether its purported dental benefits outweigh its health risks. Prenatal exposure to fluoride is particularly concerning, as it affects the developing brain.

Even low levels of fluoride exposure during critical developmental periods have lasting impacts on cognitive function. Additionally, fluoride's interaction with thyroid hormones further exacerbate developmental issues, as these hormones play a key role in brain development.

Diagnosing the cognitive effects of fluoride exposure is challenging due to the subtlety and variability of symptoms. Many of the neurodevelopmental issues associated with fluoride exposure, such as reduced IQ or attention deficits, are attributed to a range of environmental and genetic factors. This makes it difficult to isolate fluoride as the sole cause.

Further, many studies rely on indirect measures of fluoride exposure, such as water fluoride levels, which doesn't always capture individual variations in exposure. Additionally, the long latency period between exposure and the manifestation of cognitive effects further obscures the connection.

Research Undermines Fluoridation Practices

Florida's top health official, Surgeon General Joseph A. Ladapo, has taken a strong stance against water fluoridation. He stated, "It is public health malpractice, with the information we have now, to continue adding fluoride to water."³ This bold declaration emphasizes the urgent need to reassess existing fluoridation policies in light of emerging scientific evidence.

Adding to the mounting concerns, Judge Edward Chen ruled that the current levels of fluoride in U.S. drinking water pose an "unreasonable risk" to children's health.⁴ This landmark decision mandates the U.S. Environmental Protection Agency (EPA) to initiate regulatory actions addressing [fluoride exposure](#).

The National Toxicology Program (NTP), a branch of the U.S. Department of Health and Human Services, published a comprehensive report in August 2024 analyzing the neurotoxicity of fluoride.⁵ This systematic review included 72 studies, of which 18 high-

quality studies consistently found an inverse association between **fluoride exposure and IQ** scores in children.⁶

The NTP concluded with moderate confidence that higher fluoride levels are linked to lower cognitive performance, even at concentrations just twice the currently recommended level of 0.7 mg/L.⁷

Ashley Malin, Ph.D., an assistant professor at the University of Florida's Department of Epidemiology, highlighted the severity of these findings, pointing out "high quality, rigorously conducted, prospective pregnancy and birth cohort studies in North America."

According to The Defender, "These studies showed that chronic, relatively low prenatal fluoride exposure levels are associated with poorer neurodevelopmental outcomes – including reduced IQ, more symptoms of ADHD and declines in executive functioning."⁸ Moreover, the NTP report revealed that there is insufficient margin of safety between the toxic levels of fluoride and the current exposure levels in U.S. water supplies.

As The Defender reported, "[Judge] Chen said there is not a sufficient margin of safety between the level at which fluoride is known to be toxic, or the hazard level, and the currently recommended exposure level."⁹ This lack of a safety buffer raises significant public health concerns, particularly for vulnerable populations like pregnant women and young children.

Fluoride Is an 'Equal-Opportunity Neurotoxicant'

Further supporting these concerns, multiple studies from Mexico and Canada have found similar links between fluoride exposure and cognitive deficits. For instance, a 2017 study in Mexico associated prenatal fluoride exposure with lower IQ scores in children aged 6 to 12.¹⁰

Similarly, a 2019 Canadian study found a correlation between fluoridated water consumption and higher rates of attention-deficit hyperactivity disorder (ADHD) among children and adolescents aged 6 to 17.¹¹ These studies collectively suggest that

fluoride's neurotoxic effects are not isolated incidents but part of a broader, concerning trend.¹²

Fluoride's role as an "equal-opportunity neurotoxicant" means its harmful effects do not discriminate based on socioeconomic status, location or demographics.¹³ The pervasive nature of fluoride exposure amplifies the public health crisis.¹⁴

Ladapo's office has issued written guidance that consolidates the latest research findings, reinforcing the message that continued water fluoridation poses significant neurodevelopmental risks to children.¹⁵ He recommended against community water fluoridation, advocating for the protection of public health based on the accumulating scientific evidence.¹⁶

Stuart Cooper, executive director of the Fluoride Action Network (FAN), emphasized the serious nature of these findings. He stated, "Dr. Ladapo's response is exactly how leaders ought to be reacting to this urgent public health crisis affecting over 200 million Americans, including 2 million pregnant women and over 300,000 exclusively bottle-fed infants who rely on fluoridated tap water for most of their nutrition."¹⁷

Extensive Research Confirms Fluoride Lowers Children's IQ

All three prospective cohort studies within the NTP's systematic review found that higher fluoride exposure in either the mother or the child was linked to lower IQ scores in the offspring.¹⁸ Prospective cohort studies follow participants over a period of time, which adds strength to the evidence by showing how fluoride exposure affects children as they grow.

Additionally, the cross-sectional studies, which assess data at a single point in time, also consistently reported that higher fluoride levels were associated with lower IQ scores.¹⁹ Further analysis revealed that 15 out of 16 low-risk-of-bias cross-sectional studies supported the same conclusion: increased fluoride exposure is linked to reduced IQ in children.²⁰

This high level of consistency across various study designs reinforces the reliability of the findings. The inverse association remained strong despite differences in study locations, populations and the methods used to measure fluoride exposure and IQ outcomes.²¹

Importantly, the consistency of these results across different types of studies and diverse populations suggests that the relationship between fluoride exposure and lowered IQ is not influenced by external factors or confounding variables.²²

Confounding factors are other elements that could distort the true relationship between fluoride and IQ, but the uniformity of the results indicates that fluoride itself is the primary factor affecting cognitive development. Moreover, the studies included in the review utilized improved methodologies and larger sample sizes compared to earlier research.²³

Many of these high-quality studies measured fluoride levels through individual assessments of urine or water samples, providing accurate and reliable data on fluoride exposure. This methodological rigor enhances confidence in the evidence, demonstrating that the inverse relationship between fluoride and IQ is both consistent and significant across different settings and measurement techniques.²⁴

Cognitive Effects in Adults from Fluoride Exposure

The NTP systematic review also explored the relationship between fluoride exposure and cognitive impairment in adults. Researchers analyzed 10 different studies, including two with a low risk of bias and eight with a high risk of bias, encompassing various populations.²⁵ The goal was to assess whether higher levels of fluoride exposure are consistently associated with declines in cognitive function among adults.

The study population included adults from diverse backgrounds, such as residents in high-fluoride areas, aluminum factory workers and individuals from fluorosis-endemic regions. The findings were varied: while some studies did not find a significant

connection between fluoride intake and cognitive decline, others reported noticeable impairments in individuals with elevated fluoride levels.²⁶

For example, aluminum factory workers exhibited significant decreases in IQ scores and reduced performance on neurobehavioral tests, indicating cognitive harm from high fluoride exposure. Further, five out of eight high-risk-of-bias studies provided evidence that higher fluoride exposure is linked to cognitive impairment in adults.²⁷

A study conducted in Scotland found that the risk of dementia increased significantly with higher fluoride exposure, with the highest exposure group experiencing more than double the risk compared to the lowest group.²⁸ Additionally, two high-risk-of-bias studies reported impaired motor and sensory functions in adults exposed to higher fluoride levels, along with a higher prevalence of self-reported headaches, insomnia and lethargy.²⁹

Protecting Your Family from Fluoride's Neurotoxic Effects

Research reveals alarming impacts of fluoride exposure, especially during pregnancy and early childhood. Studies indicate significant risks, including lowered IQ scores and increased behavioral issues in children exposed to fluoride. Taking proactive measures now is key to protect your family's cognitive health. Follow these essential steps to minimize fluoride exposure:

- 1. Install a comprehensive water filtration system** — Utilize a high-quality reverse osmosis or advanced carbon filtration system to remove fluoride from your drinking and cooking water. For optimal fluoride removal, consider combining a granular-activated carbon filter with bone char, which has shown excellent results in studies.³⁰ Common carbon filters like PUR and Brita, as well as water softeners, do not filter out fluoride.

Additionally, install filters on showerheads and other bathing water sources.

Position filters at multiple points throughout your home to ensure total reduction of toxin exposure from both consumption and external contact.

- 2. Use fluoride-free water for infant formula** – Never mix infant formula with fluoridated tap water. Infants consuming formula prepared with fluoridated water ingest significantly more fluoride than breastfed babies, posing risks to their developing brains. If breastfeeding isn't an option, opt for filtered, fluoride-free water to ensure your baby's neurological development remains protected.
- 3. Check hidden sources of fluoride** – Be aware that many processed foods and beverages are prepared with fluoridated water. Tea leaves also naturally accumulate fluoride. When possible, choose white tea, which typically contains lower fluoride levels, to reduce overall fluoride intake.
- 4. Advocate for fluoride-free communities** – Engage in local water policy discussions and advocate for the removal of fluoride from community water supplies. Share credible research on fluoride's neurotoxic effects with neighbors and local officials to raise awareness. Support initiatives aimed at ending water fluoridation, ensuring that the over 200 million Americans currently receiving fluoridated water can opt out of this unconsented exposure.

Sources and References

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