



## Fluoride Report Walks Back Its Original Findings

American Fluoridation Society comments on the report

WASHINGTON // The National Toxicology Program (NTP) [released a report about fluoride](#) on August 21 that backtracks significantly from its original draft, which failed to complete the peer review process. The final report has removed NTP's original assertion that fluoride is a "presumed" neurodevelopmental hazard. NTP concludes that exposures to fluoride in drinking water above 1.5 milligrams per liter are associated with lower IQ scores. This level is more than double the fluoride level that is used for water fluoridation in North America.

Several years ago, NTP asked the National Academies of Sciences to serve as peer reviewer for its draft report. The National Academies reviewed the report twice and raised numerous concerns — many of which were not addressed. The National Academies [advised NTP](#) to "make it clear that the monograph cannot be used to draw any conclusions" about low fluoride exposures, such as "those typically associated with drinking-water fluoridation."

NTP states that its final report "was not designed to evaluate" the health effects of fluoridated tap water nor did it collect enough data to perform that task. In addition, [NTP itself said](#) it has only "moderate confidence" in the fluoride-IQ association that it found. And public health experts point out that [association does not equal causation](#).

Although the NTP report does not reach any conclusions about water fluoridation, the American Fluoridation Society urges the public to be aware of the report's weaknesses. For example:

- Research quality is a key concern because 62% of the studies reviewed by NTP were published in less reputable journals. In fact, these studies came from journals that the National Library of Medicine does not index, meaning it doesn't consider them worthy of including in its enormous research collection.
- Many of the studies reviewed by NTP relied on spot urine samples, which are [not a reliable way to measure](#) an individual's exposure to fluoride. NTP's report justifies this method of measuring exposure by citing and *misinterpreting* a 2010 research paper. [This paper explains](#) that spot urinary fluoride samples can offer "reasonably good estimations of community-based" exposure but are not "a precise estimator" of daily fluoride intake "on an individual basis."
- Many studies in NTP's report suffered from errors or weaknesses in their methodology. For example, in some studies, the IQ tests were administered in ways that weaken the reliability of the scores. NTP cited [a 2012 research review](#) (Choi, et al.) as "showing the precision of the association between fluoride exposure and IQ" but overlooked the fact that the review's authors reported that each of the 27 studies they analyzed "had deficiencies, in some cases rather serious ones, that limit the conclusions that can be drawn."

Communities should not be misled by people who try to use the NTP report to push for an end to water fluoridation. The only concerns raised by the report apply when the level of fluoride in water is more than double the level used for water fluoridation.

The public should know that researchers in a variety of countries have examined the safety of fluoride in drinking water and found no link to cognitive deficits:

- Studies from [Australia](#), [New Zealand](#) and [Spain](#) (each of which has water fluoridation programs) show no link between fluoride exposure and cognitive deficits. In fact, the study from Spain showed that fluoride exposure was associated with *better* cognitive performance by boys. The New Zealand study tested IQs multiple times over a 31-year period, enhancing the strength of its findings.
- 31 European experts in toxicology and food safety examined numerous fluoride-IQ studies and [concluded that](#) the overall evidence “does not support the presumption that fluoride should be considered as a human developmental neurotoxicant” at typical exposure levels in fluoridated water.
- A research review in 2023 examined [the quality of 30 fluoride-IQ studies](#). All but one of the 30 studies were assessed as having a moderate or high risk of bias. The only study with a low risk of bias found no link between fluoride exposure and IQ scores. A former NTP director co-authored this review.
- Steven Novella, a clinical neurologist at the Yale University School of Medicine, has reviewed many fluoride studies. In [a 2023 article](#), Novella called water fluoridation “safe.” He added that there is “a potential of neurotoxicity from fluoride at high levels, significantly higher than in the drinking water. But the same data shows, if anything, the managed drinking water levels are safe. Further, the best quality evidence does not show any clinical effect.”

Dr. Johnny Johnson, president of the American Fluoridation Society said health officials and parents should take care in interpreting the NTP report. “Even the NTP report states that its finding does not apply to water fluoridation.”

The safety of fluoridated water is backed by more than 75 years of research and experience. Fluoridation is recommended by [the leading health, dental and medical experts](#), including the American Academy of Pediatrics, American Dental Association, and the American Academy of Family Physicians.

Tooth decay is [the most common chronic disease](#) for U.S. children and adults. Drinking fluoridated water [reduces tooth decay by 25%](#). Research shows that when a city ends fluoridation, [tooth decay goes up](#). This is what happened in Calgary and Windsor, Canada — and why city councils in both cities voted to resume fluoridation.

Dr. Johnson welcomed new research in this field. “I’d like to see a well-designed prospective study to measure and compare cognition between areas with high and low levels of naturally occurring fluoride. Some areas in the U.S. have naturally occurring fluoride above 2 milligrams per liter,” he said. “The National Institutes of Health has funded cognitive studies in other countries, but these studies have suffered from various deficiencies. Let’s use our U.S. taxpayer dollars to fund a study here.”

Learn more about fluoride and fluoridation by visiting [AmericanFluoridationSociety.org](http://AmericanFluoridationSociety.org).

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