FLUORIDE
Quarterly Journal of the International Society for Fluoride Research

Publication of *NTP Monograph on the state of the science concerning fluoride exposure and neurodevelopment and cognition: a systematic review*

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Accepted: 2024 Sept 12
Published as e286: 2024 Sept 12

ABSTRACT

The *NTP monograph on the state of science concerning fluoride exposure and neurodevelopment and cognition: a systematic review* by the National Toxicology Program, Public Health Service, U.S. Department of Health and Human Services was published in August 2024. The review found, with moderate confidence, that higher estimated fluoride exposures (e.g. as in approximations of exposure such as drinking water fluoride concentrations that exceed the World Health Organization guidelines for drinking-water quality of 1.5 mg/L of fluoride) are consistently associated with lower IQ in children. The editorial concludes that the current guideline of 0.7 mg/L needs to be lowered now, rather than after further research, to prevent foetal and infant IQ loss.

Key-words: *Fluoride exposure; IQ in children; Neurodevelopment; NTP monograph.*

Unique digital address (Digital object identifier [DOI] equivalent): https://www.fluorideresearch.online/epub/files/286.pdf

The *NTP monograph on the state of science concerning fluoride exposure and neurodevelopment and cognition: a systematic review* by the National Toxicology Program, Public Health Service, U.S. Department of Health and Human Services was published in August 2024.[1] The monograph was a systematic review of human, experimental animal, and mechanistic studies but focused on human data because it was the most informative from the available studies. The monograph and addendum did not address whether the sole exposure to fluoride added to drinking water in some countries (i.e. fluoridation, at 0.7 mg/L in the United States and Canada) was associated with a measurable effect on IQ.

The review found, with moderate confidence, that higher estimated fluoride exposures (e.g. as in approximations of exposure such as drinking water fluoride concentrations that exceed the World Health Organization guidelines for drinking-water quality of 1.5 mg/L of fluoride) are consistently associated with a lower IQ in children.

The monograph and addendum did not assess the benefits of the use of fluorides in oral health or provide a risk/benefit analysis.The monograph concludes that more studies are needed to fully understand the potential for fluoride exposure at levels below 1.5 mg/L of fluoride to affect children's IQ.

In my assessment of the evidence, it is clear that fluoride at the level of 0.7 mg/L in drinking water is unsafe for use by pregnant women or in making infant formula because of the risk of developmental neurotoxicity.[2] The current guideline of 0.7 mg/L needs to be lowered now, rather than after further research, to prevent foetal and infant IQ loss.

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REFERENCES

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