

Noah Cooke  
October 29, 2019  
Address to City Council



Thank you for the opportunity to speak. Honourable Chair, Councillors, Panel of Experts, and Ladies and Gentlemen:

My name is Noah Cooke. I am pursuing a Masters in medical science at the University of Calgary. First, thank you for voting in favour of an O'Brien Report. As a science graduate student I am personally invested in a future Calgary that values evidence-based policy. Now the question is how that evidence, the benefits and risks, are balanced to best serve the well-being of all Calgarians—not only those only those privileged to speak here today, but those whom are unable to – children, the ill, and the socio-economically disadvantaged who could not afford the time off.

The report is definitive that community water fluoridation is both effective at preventing dental decay and is financially cost-effective at doing so. So, let me address question of whether water fluoridation is safe, the only section of the report that was equivocal. We know that the vast majority of research indicates that fluoride is safe, but that a few very recent studies report an association with small decreases in IQ in children.

I am not personally qualified to properly assess the validity of the studies in question. However, I would highlight serious concerns regarding the validity of these studies raised by scientific authorities—in terms of design and conduct. As the Canadian Agency for Drugs and Technologies in Health, the CADTH, a federal government agency stated, quote: The study by Green et al., 2019<sup>13</sup> concluded that "*maternal exposure to higher levels of fluoride during pregnancy was associated with lower IQ scores in children aged 3 to 4 years.*"(p. E1) This conclusion was not supported by the data." End quote. Critically, adjusted estimates with a limited number of covariates showed no significant difference in IQ measures—even at 1.0 mg/L, far above the 0.29 mg/L difference between fluoride exposure and non-exposure—yet, this data was never discussed. Why did the authors fail to discuss this data that contradicted their interpretation? Were they unbiased? And study's credibility is called into question because it did not account for important

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COVARIATES –socioeconomic status, parental IQ, post-natal fluoride exposure, post-natal diet and nutrition, and others. I appreciate that some of these covariates may be difficult and expensive to account for, but that does not diminish concerns that they compromised the findings of the study. These and numerous other limitations make the studies findings suspect, and I urge you to consider the CADTH review and the Green-Till study side by side.

I can appreciate why you are concerned about fluoride's safety. If I was in your position, I think I would feel rather overwhelmed by these dense studies, and think: "I'm really not sure whom to believe, but I don't want to do any harm." I don't envy your position.

Thankfully, you don't have to make this decision yourselves, or assume responsibility for weighing the evidence. The O'Brien report lays out the benefits and the potential risks, and one can argue over exactly how much risk there is. But in fact there are public health authorities whose job it is to weigh the potential risks against the benefits and issue recommendations. Those authorities are Health Canada; the Medical Officer of Health, Dr. Strong; and the Public Health Dentist of Alberta, Dr. Figueiredo; and they recommended fluoridation to you here today.

Why should we trust them? At some point we all reach the limits of our knowledge. I have a background in science but I don't claim for an instant to understand in full all of the epidemiological considerations of the studies in question. I work in an emerging field of health research, studying the microbiome and mental health, and I reach the limits of my knowledge every day. I am really fortunate to work with two accomplished researchers who are internationally respected. Yet despite their success, they are humble. They are quick to commend the contributions of others where it is due, and are the first to recognize the limits of their knowledge and engage the expertise of others. I admire them deeply, and it's for that combination of accomplishment and humility that I *trust* them. And so I ask you, who will you trust? In whom will we entrust the solemn duty to weight the benefits and potential risks?

If the most accomplished scientists embody this humility, I would ask all of us to have the humility to place our trust in the public health authorities who are invested with that responsibility *and burden*, and who are

eminently qualified.

Councilors, our City has done so much—you have done so much—to create a Calgary with high standard of life. A place that people, families, and business from around the world *choose*, not only for our innovative and skilled workforce but for our ethos of wellbeing and our commitment to equal opportunity—for which preventing dental decay is so essential. A place where children, the elderly, the less fortunate, and those with mental and physical disabilities can live their best every day, contribute to our dynamic community, be part of the energy. Today we place our trust in you to uphold those values, heed the advice of our public health authorities, and restore community water fluoridation.