
FLUORIDATION OF WATER: A RETROGRADE STEP



PRECAUTIONARY PRINCIPLE?

As the US discusses the possibilities of removing fluoride from drinking water and the UK is still looking at increasing the fluoridation program to the North East a new report says "from the contemporary studies within the review, is that water fluoridation is only having a modest benefit on dental caries, and those benefits may take years to be realised," Professor Anne-Marie Glenny.

Dr Jerry Thompson advises caution.

The position regarding fluoridation of water has significantly changed in the USA. A recent court ruling by US judge Edward Chen declared that fluoridation could cause developmental damage and lower IQ in children at levels that the public are exposed to. He agreed that levels in the US presented an unreasonable risk. The Environmental Protection Agency (EPA) must now perform a risk assessment and strengthen fluoride regulations. This represents a landmark legal win for campaigners against fluoride. An end to fluoridation in the USA is in sight.

State Surgeon General Dr. Joseph A. Ladapo stated that "the previously considered benefit of community water fluoridation does not outweigh the current known risks, especially for special populations like pregnant women and children."

The State Surgeon General for Florida recommended against water fluoridation due to the neuropsychiatric risk associated with fluoride exposure, particularly in pregnant women and children, and the wide availability of alternative sources of fluoride for dental health.

More cities and counties across the U.S. are moving to ban fluoride in public drinking water after Utah became the first state in the country to do so.

In the US the maximum level of fluoride allowed in water has been 0.7mg/l since 2011. This is less than half that allowed in the UK (up to 1.5mg/l (ppm) of fluoride). At present, in the USA 70% of water is fluoridated compared to 10% in the UK.

How serious is the effect of fluoride on IQ? First consider that fluoride has increased four-fold since 1960s (from toothpastes, dentistry, pesticide residues, tea, medications).

Then consider that a rise in fluoride of 0.3 -3ppm has been found to found to reduce IQ by 5 points. Others suggest an increase in fluoride of 1mg/l would reduce IQ by 1.63 points. The data is robust with 64 out of 74 studies finding a correlation between lower IQ and fluoridation of water:

<https://fluoridealert.org/studies/brain01/>.

Children who have been bottle-fed have a greater drop in IQ than those breast-fed due to the extra fluoridated water ingested. Boys have a greater drop in IQ than girls in fluoridated areas for reasons not understood. What would a drop in IQ of 5 points mean to the UK as a country?

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The results are staggering. The number of people with an IQ of greater than 130 could decrease from 4 million to 1.6 million (a decrease of 2.4 million). We could lose over half of our most gifted individuals. And the number of people with an IQ of less than 70 (needing remedial care) would increase from 4 million to 6.4 million (an increase of 2.4 million). This is a 57% increase in people who would then need remedial care. How much would this all cost? An extra 2.4 million people needing remedial care at an average of £66,000 per annum would cost an extra £150 billion annually (close to the annual cost of the NHS). This is without even considering the added costs of neuropsychiatric patients, extra hip fractures and other issues caused by fluoride and the incalculable cost to the country's future of losing 2.4 million of its brightest minds.



WHAT DO WE KNOW?

UNETHICAL: NO INFORMED CONSENT

Discriminates against at risk groups (infants, elderly, those with renal disease).

Particularly at risk are bottle-fed babies with even the (pro-fluoride) American Dental Association (ADA) recommending that fluorinated water should not be used to reconstitute formula.

The type of fluoride used is a toxic waste product of fertilizer industry (sodium fluorosilicate and fluorosilicic acid: these often contain arsenic at 1.66 ppb which is high).

Fluoride is a potent enzyme poison. The FDA classifies it as an "unapproved new drug". Enough in a tube of toothpaste to kill a 20lb child.

No randomised controlled studies performed to show benefits of fluoridation (original studies from 1945-55 were flawed)

Benefits from fluoride thought to be due to its local effect (killing bacteria in mouth) so it makes no sense to ingest it.

No health agency monitors its adverse effects.

We are already getting too much. Exposure to fluoride has increased four-fold since 1960s (toothpaste, dentistry, pesticide residues, tea, medications).

The largest-ever study showed minimal difference in tooth decay between fluoridated and non-fluoridated areas (<1% of 100 tooth surfaces show less decay in fluoridated areas). (Hileman 1989).

The multi-million dollar National Institute of Health (NIH) funded study showed **no relationship between fluoride intake and tooth decay in children** (Warren JJ. J Public Health Dentistry, 2009;69(2):111-5)

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Fluoridation has been stopped in the majority of European countries and tooth decay has continued to decline in those countries after stopping

It is neurotoxic : 33 studies show a decline in IQ.

It can aggravate the effects of low iodine (which also lowers IQ)

The Environmental Protection Agency (EPA) listed fluoride as one of a hundred chemicals for which there is **substantial evidence of neurotoxicity**: over 100 animal studies showed it could damage the brain and impact learning and behaviour.

Danger to the foetus: four studies have linked prenatal fluoride exposure with foetal brain damage.

Fluoride bioaccumulates, particularly in bones and the pineal gland. Animal and human studies found an association with early puberty. Also reduces melatonin secretion.

Increases hip fractures and is associated with reduced cortical bone density (JAMA,1992,268:6.Am J Epidemiol, 1991;133:649-60).

Fluoride binds with magnesium making magnesium unavailable. This binding produces magnesium fluoride which is almost insoluble and replaces magnesium in bone and cartilage making it brittle and susceptible to fracture. This bound magnesium cannot be used.

This will push more people into **magnesium deficiency**, a condition which is already common and typically under-diagnosed.

Causes genetic changes in sperm and increases infertility

Damages the thyroid and worsens the effects of low iodine; (fluoride was used to treat hyperthyroidism in Ukraine and the amount was similar to that added to water in fluoridated areas). It competes with iodine.

Some studies show **increase in osteosarcoma in boys**. Cohn found a six-fold increase and Bassin later found a seven-fold increase (Cohn PD. An Epidemiological Report on Drinking Water and Fluoridation, New Jersey Department of Health, Environmental Health Service,1992) and Bassin EB et al. Cancer Causes and Control,2006; 17(4):421-28)

Mottling of teeth (**fluorosis**) **increasing**. This correlates with skeletal fluorosis.

Can cause **hyperparathyroidism**.

Makes **aluminium more bioavailable and more able to cross the blood-brain barrier**. Aluminium in the brain is linked with dementia. (Mold, Matthew et al. 'Aluminum and Amyloid- β in Familial Alzheimer's Disease'. 1 Jan. 2020 : 1627 – 1635.

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Who will be the losers?

When it comes to toxicity children, and in particular the foetus, are always at the sharp end. They are uniquely vulnerable. It is they that risk a drop in their IQ and hence of their potential; it is they that risk adverse behavioural changes and hence a less certain future.

Who will be the winners?

"Above all do no harm" said Hippocrates. Could fluoride do harm? We have evidence for this.

The precautionary principle asks if we have limited but credible evidence of likely harm. Again, the answer is yes. That should be more than enough to stop fluoridation in any society that cares about its future generations.

References / Further Reading

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6195894/> <https://fluoridealert.org/>

Additionally

Dr William Marcus was the senior toxicologist at the Office of Drinking Water at the Environmental Investigation Agency.

In 1992 he denounced a cover-up showing higher rates of cancer, birth defects and osteoporosis (especially hip fractures) in fluoridated areas.

He was fired but sued. The judge ordered the EPA to give him his job back. The trial showed the EPA had shredded evidence and threatened others who supported him.

Winners and Losers

The precautionary principle suggests that we **should act in the face of uncertain knowledge about risks from environmental exposures.**

We should aim to reduce toxicity in an increasingly toxic world.

The question here is: who gains and who loses should we put fluoride into our water? The gains in terms of teeth are minimal and perhaps non-existent.

