

You have quoted the 2006 NRV document as authority for the claim that fluorine is a nutrient. This paper discusses (and negates) that claim.

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“The Nutrient Reference Values (NRVs) was a joint initiative of the Australian National Health and Medical Research Council (NHMRC) and the New Zealand Ministry of Health (MoH).

Fluoride is a normal constituent of the human body, involved in the mineralisation of both teeth and bones (Fairley et al 1983, Varughese & Moreno 1981). The fluoride concentration in bones and teeth is about 10,000 times that in body fluids and soft tissues (Bergmann & Bergmann 1991, 1995).

Because of its role in the prevention of dental caries, fluoride has been classified as essential to human health (Bergmann & Bergmann 1991, FNB:IOM 1997).

Ingestion of fluoride in the pre-eruptive development of teeth has the effect of reducing caries due to uptake of fluoride by enamel crystallites and formation of fluorohydroxyapatite which is less soluble than hydroxyapatite (Brown et al 1977, Chow 1990).

The post-eruptive effect on reducing caries is due to reduced acid production by bacteria and increased enamel remineralisation in acidogenic challenge (Bowden 1990, Hamilton 1990, Marquis 1995).

Fluoride also has a unique ability to stimulate new bone formation and as such has been used as an experimental drug for the treatment of osteoporosis (Kleerekoper & Mendlovic 1993) although results have been variable depending on site assessed and the outcome measured (Kroger et al 1994, Riggs et al 1990, Sowers et al 1986, 1991).”

Analysis

Definition of “Nutrient”

<http://www.reference.com/browse/nutrient>

nutrient

A **nutrient** is food or chemicals that an organism needs to live and grow; or

a substance used in an organism's metabolism which must be taken in from its environment.

metabolism

metabolism, sum of all biochemical processes involved in life.

Two subcategories of metabolism are anabolism, the building up of complex organic molecules from simpler precursors, ...

Is it possible for a nutrient to not be essential?

Under definition #1 – no.

Under definition #2, perhaps

To meet definition #1, fluoride would need to be essential to life and growth. Since no minimum required daily intake has ever been determined for fluoride, this is not met.

To meet definition #2, the substance must be “*taken in* from the environment”. That is, it must be ingested (“*taken in*”). Since we now know that fluoride does not work by being ingested, this definition is not met.

The NRV claim

The NRV document states:

“Because of its role in the prevention of dental caries, fluoride has been classified as essential to human health (Bergmann & Bergmann 1991, FNB:IOM 1997).”

Firstly, this statement does not say who classified fluoride as a nutrient. It certainly is contrary to the position of the US National Academy of Sciences. It essentially relies on the opinion of two writers, presumably funded by the pro-fluoridation community. As the quote is dated 1997, these writers (or whoever they are referring to) presumably still believed that fluoride needed to be ingested, as this theory was only finally discredited in 1999.

Secondly, this ignores the documented fact that many indigenous peoples – NZ Maori, Pacific Islanders, and Africans – experience no tooth decay when eating their traditional diets. If they have no tooth decay without fluoride (or at least with intakes well below the so-called “optimal level”) fluoride cannot be “essential”.

Thirdly, this assumes that (ingested) fluoride reduces tooth decay, and that fluoride must be ingested (or it cannot be a nutrient).

In fact the NRV document then states:

“Ingestion of fluoride in the pre-eruptive development of teeth has the effect of reducing caries due to uptake of fluoride by enamel crystallites and formation of fluorohydroxyapatite which is less soluble than hydroxyapatite (Brown et al 1977, Chow 1990).”

This pre-eruptive/ingestion theory was developed at the time fluoridation was being studied and promoted in the 1930s and 1940s. It was fully discredited by 1999/2000 (Featherstone, CDC, ADA). Yet in 2005, NHMRC is still relying on this discredited belief to support the claim that fluoride is an essential nutrient. It relies on outdated publications from 1977 and 1990 – well before the theory was discredited. One has to ask “why?”

Further, if ingestion of fluoride were essential, there would be a minimum required daily intake (RDI – Reference Daily Intake) below which clinical symptoms would appear. In fact there is no minimum level of fluoride intake below which clinical symptoms appear.

Fluoride is only given an AI – Adequate Intake – rating. “Adequate Intake” in this scientific context means “Where there is inadequate scientific evidence to establish requirements and reference intakes for a nutrient for which deficiency is rarely, if ever, seen, the observed levels of intake are assumed to be greater than requirements, and thus provide an estimate of intakes that are (more than) adequate to meet needs.” (Oxford Food and Nutrition Dictionary).

Finally, note the circular argument: Fluoridation promoters claim “We need fluoride to reduce tooth decay because it is an essential nutrient” Why, we ask, is it an essential nutrient? “Because it (allegedly) reduces tooth decay”, they reply.

Outside the community politically committed to fluoridation, the international scientific community is clear that fluoride is *not* a nutrient:

“These contradictory results do not justify a classification of fluorine as an essential element, according to accepted standards.”

SOURCE: National Academy of Sciences. (1989). Recommended Dietary Allowances: 10th Edition. Commission on Life Sciences, National Research Council, National Academy Press. p. 235.

“fluoride is no longer considered an essential factor for human growth and development.”

SOURCE: National Research Council (1993). Health Effects of Ingested Fluoride. National Academy Press, Washington DC. p. 30.

“First, let us reassure you with regard to one concern. Nowhere in the report is it stated that fluoride is an essential nutrient. If any speaker or panel member at the September 23rd workshop referred to fluoride as such, they misspoke. As was stated in Recommended Dietary Allowances 10th Edition, which we published in 1989:

‘These contradictory results do not justify a classification of fluoride as an essential element, according to accepted standards.’

SOURCE: Alberts B, Shine K. (1998). Letter from Bruce Alberts, President, National Academy of Sciences, and Kenneth Shine, President, Institute of Medicine to Dr. Albert Burgstahler. November 18, 1998