

# **Overview of Reasons to Oppose Water Fluoridation**

There are a number of significant reasons to oppose water fluoridation. We have categorized these reasons along the lines of ethics/choice, need, effectiveness, safety, equity, efficiency/cost, and scientific evidence, each of which is enough to generate serious questions about mandatory fluoridation legislation:

## **ETHICS/CHOICE**

For those for whom ethical concerns are paramount, the issue of water fluoridation is very simple to resolve. It is simply not ethical; we simply shouldn't be forcing medication on people without their "informed consent."

**Fluoridation is UNETHICAL and REMOVES CHOICE because:**

- 1) It violates the individual's right to informed consent to medication.
- 2) The municipality cannot control the dose of the patient or track each individual's response.
- 3) Some people are more vulnerable to fluoride's toxic effects than others. Some will suffer while others may benefit.
- 4) It removes people's ability to make informed choices about their drinking water, and removes alternative choices.
- 5) It violates the Nuremberg code for human experimentation.

As stated by Dr. Peter Mansfield, a physician from the UK and advisory board member of the recent government review of fluoridation (McDonagh et al 2000):

"No physician in his right senses would prescribe for a person he has never met, whose medical history he does not know, a substance which is intended to create bodily change, with the advice: 'Take as much as you like, but you will take it for the rest of your life because some children suffer from tooth decay.' It is a preposterous notion."

## **NEED**

**Fluoridation is UNNECESSARY because:**

- 1) Children can have perfectly good teeth without being exposed to fluoride. The vast majority of western Europe has rejected water fluoridation, but has been equally successful as the US, if not more so, in tackling tooth decay.
- 2) Fluoridated toothpaste, which is universally available, is a more rational approach to delivering fluoride to the target organ (teeth) while minimizing exposure to the rest of the body.

- 3) If fluoride was necessary for strong teeth one would expect to find it in breast milk, but the level there is 0.01 ppm , which is 100 times LESS than in fluoridated tap water (IOM, 1997).
- 4) Children in non-fluoridated communities are already getting the so-called “optimal” doses from other sources (Heller et al, 1997). In fact, many are already being over-exposed to fluoride.

## **EFFECTIVENESS**

**Fluoridation is INEFFECTIVE because:**

- 1) Major dental researchers concede that fluoride’s benefits are topical not systemic (Fejerskov 1981; Carlos 1983; CDC 1999, 2001; Limeback 1999; Locker 1999; Featherstone 2000).
- 2) Major dental researchers also concede that fluoride is ineffective at preventing pit and fissure tooth decay, which is 85% of the tooth decay experienced by children (JADA 1984; Gray 1987; White 1993; Pinkham 1999).
- 3) Several studies indicate that dental decay is coming down just as fast, if not faster, in non-fluoridated industrialized countries as fluoridated ones (Diesendorf, 1986; Colquhoun, 1994; World Health Organization, Online).
- 4) The largest survey conducted in the US showed no significant statistical relationship between water fluoridation and tooth decay (Brunelle & Carlos, 1990).
- 5) The worst tooth decay in the United States occurs in the poor neighborhoods of our largest cities, the vast majority of which have been fluoridated for decades (including Philadelphia and Pittsburgh).
- 6) When fluoridation has been halted in communities in Finland, former East Germany, Cuba and Canada, tooth decay continued to decrease (Maupome et al, 2001; Kunzel and Fischer, 1997, 2000; Kunzel et al, 2000 and Seppa et al, 2000).

## **SAFETY**

**Fluoridation is UNSAFE because:**

- 1) Overwhelming evidence from animal studies, clinical studies, and epidemiological studies shows that fluoride accumulates in our bones and makes them more brittle and prone to fracture. Lifetime exposure to fluoride will contribute to higher rates of hip fracture in the elderly.
- 2) It accumulates in our pineal gland, possibly lowering the production of melatonin, a very important regulatory hormone (Luke, 1997, 2001).
- 3) It damages the enamel (dental fluorosis) of a high percentage of children. Between 30 and 50% of children have dental fluorosis on at least two teeth in optimally fluoridated communities (Heller et al, 1997 and McDonagh et al, 2000).
- 4) The EPA Headquarters Professionals Union, representing the majority of EPA employees, has called for a national moratorium on water fluoridation in response to

- increasing evidence indicating a connection between fluoride and bone cancer and links between fluoride and increased levels of lead in drinking water.
- 5) In animal studies, fluoride at 1 ppm in drinking water increases the uptake of aluminum into the brain (Varner et al, 1998).
  - 6) Counties with 3 ppm or more of fluoride in their water have lower fertility rates (Freni, 1994).
  - 7) In human studies the fluoridating agents most commonly used in the US not only increase the uptake of lead into children's blood (Masters and Coplan, 1999, 2000) but are also associated with an increase in violent behavior (a result of the effects of increased lead uptake in the brain on dopamine levels).
  - 8) The National Academy of Sciences report "Fluoride in Drinking Water: A Scientific Review of EPA's Standards" recently found that the EPA's recommended safety threshold for fluoride exposure is not protective of public health.
  - 9) About 90% of the chemicals used to fluoridate water are hydrofluosilicic acid, a non-pharmaceutical grade chemical that is laden with a list of contaminants, including arsenic, lead, and mercury. This industrial chemical is a byproduct of Florida's phosphate industry, and is considered hazardous waste if dumped in rivers, lakes, or oceans.
  - 10) People with lifestyles and health conditions that cause them to drink excess water (athletes, diabetics, people with kidney problems) are exposed to excessive amounts of fluoride. Additionally, those who do this because of health conditions may be predisposed to the health problems related to water fluoridation, even at normal levels of consumption.

## **EQUITY**

### **Fluoridation is INEQUITABLE, because:**

- 1) It will go to all households, and the poor cannot afford to avoid it, if they want to, because they will not be able to purchase bottled water or expensive removal equipment (reverse osmosis filters or distillers are necessary to filter out fluoride; common charcoal filters like Brita can not).
- 2) The poor are more likely to suffer poor nutrition which is known to make children more vulnerable to fluoride's toxic effects (Massler & Schour 1952; Marier & Rose 1977; ATSDR 1993; Teotia et al, 1998).
- 3) Very rarely, if ever, do governments offer to pay the costs of those who are unfortunate enough to get dental fluorosis severe enough to require expensive treatment.
- 4) African-Americans and Hispanics are more vulnerable to the effects of fluoride on lead absorption into the body. This increased lead exposure has been associated with decreased dopamine and serotonin levels in the brain – chemicals which suppress violent behavior. Due to the neurochemistry of lead exposure, fluoride has been implicated in explaining racial patterns of educational achievement, violence and cocaine addiction (Masters and Coplan, 1999, 2001, 2003, 2005).

## **EFFICIENCY AND COST**

**Fluoridation is INEFFICIENT and NOT COST-EFFECTIVE because:**

- 1) Only a small fraction of the water fluoridated actually reaches the target. Most of it ends up being used to wash the dishes, to flush the toilet or to water lawns and gardens.
- 2) It would be totally cost-prohibitive to use pharmaceutical grade sodium fluoride (the substance which has been tested) as a fluoridating agent for the public water supply. Water fluoridation is artificially cheap because, unknown to most people, the fluoridating agent is an unpurified hazardous waste product from the phosphate fertilizer industry.
- 3) If it was deemed appropriate to swallow fluoride (even though its major benefits are topical not systemic) a safer and more cost-effective approach would be to provide fluoridated bottle water in supermarkets free of charge.
- 4) 528 water systems in Pennsylvania would be forced to install costly equipment, which may turn out to be a wasted investment as soon as EPA's lowers their Maximum Contaminant Level for fluoride. This level must be lowered in response to the National Academy of Sciences' March 2006 report, showing that their current "safe exposure" level is unsafe. A lowering of this level (4 parts per million) would likely end the practice of water fluoridation, since fluoridation at 1 part per million is already a very small margin of safety.
- 5) Projected fluoridation costs are likely to be underestimated. In other states, the real costs of building new facilities and installing fluoridation equipment turned out to be 2-5 times higher than projected by fluoridation proponents.

## **SCIENTIFIC EVIDENCE**

**Fluoridation is UNSCIENTIFICALLY PROMOTED. For example:**

- 1) In 1950, the US Public Health Service enthusiastically endorsed fluoridation before one single trial had been completed.
- 2) Even though we are getting many more sources of fluoride today than we were in 1945, the so called "optimal concentration" of 1 ppm has remained unchanged.
- 3) The US Public health Service has never felt obliged to monitor the fluoride levels in our bones even though they have known for years that 50% of the fluoride we swallow each day accumulates there.
- 4) Officials that promote fluoridation never check to see what the levels of dental fluorosis are in the communities before they fluoridate, even though they know that this level indicates whether children are being overdosed or not.
- 5) No US agency has yet to respond to Dr. Jennifer Luke's finding that fluoride accumulates in the human pineal gland, even though her finding was published in 1994 (abstract), 1997 (Ph. D. thesis), 1998 (paper presented at conference of the International Society for Fluoride Research), and 2001 (published in Caries Research).

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All references cited can be found at <http://www.slweb.org/bibliography.html>

The latest research by Masters and Copland can be found here:  
<http://www.dartmouth.edu/~rmasters/AHABS/summary.html>