Appendix C

EXCESS TOTAL FLUORIDE EXPOSURE/DOSAGE

Mother’s milk is 0.004 ppm (NRC 2006) and is a good indication of nature’s protection of the infant from fluoride. To protect our most vulnerable, the American Dental Association, Centers for Disease Control, and many state health departments recommend fluoridated water should not be used to make formula. Without question, fluoridating communities are exposing infants to too much fluoride. Even the highest breast feeding state, Oregon, has three out of four infants receiving water and formula made with water.

When fluoridation was first considered, fluoridated toothpaste, fluoride dental products and treatments, fluoride medical products and treatments, fluoride pesticides, fluoride post-harvest fumigants, and many other fluoride products were not in use or known. There has never been an authorized agency or organization responsible for evaluating the total exposure or dosage people are getting.

I. TOTAL FLUORIDE EXPOSURE:

“Some subpopulations consume much greater quantities of water... outdoor workers, athletes, ... diabetes insipidus... infants and young children.”

1. There have been recent significant increases in fluoride exposure and dosage from sources other than water, such as EPA increases in fluoride in food products from pesticide residues and post-harvest fumigant residues now permitted in most food products (2004 and 2005). See label and warning below for an example of Profume, a Dow Agro post-harvest fumigant of SF.

Medications and dental products containing fluoride are additional sources of fluoride exposure.

   a. “It was found that 42% of the (fruit juice) samples had more than 1 ppm of fluoride.”

   b. “Fluoride concentrations ranged from 0.01 to 8.38 micrograms of fluoride per gram, (ppm) with the highest fluoride concentrations found in infant foods containing chicken.”
c. “Fluoride levels (in carbonated soft drinks) exceeded 0.60 ppm for 71 percent of the products."16

d. “The water-extractable F content of five brands of California raisins varied from 0.83 to 5.20 ppm (mean 2.71 ppm). Elevated F levels in these wines and raisins appear to result from pesticide use of cryolite (Na3AlF6) in the vineyards."17

2. The CDC in one place reports the incidence of dental fluorosis has increased from 22 to 32% in children18 and more recently suggested approximately 41% of adolescents aged 12 to 15 and 36% aged 16 to 19 years had enamel fluorosis. Moderate and severe fluorosis was observed in less than 4% in both age groups.19 “On a per-body-weight basis, infants and young children have approximately three to four times greater exposure than do adults,"20 a significant sign many are ingesting too much fluoride.

3. NO practical method of removing fluoride from water is available to households, placing everyone at risk. Neither boiling nor home water filters remove fluoride. Bottled water is not labeled for fluoride content, and all contain some fluoride with some exceeding EPA MCL (maximum contaminant level) limits even for adults.

4. The lowest socioeconomic group in fluoridated communities suffer the greatest financial burden as well as the greatest barriers to purchasing, supplying, or transporting non-fluoridated water. In practical terms this represents an unreasonable requirement for low income parents without a car, using public transportation or walking, carrying babies, groceries, and now adding bottled water.

5. Fluoride accumulates over a lifetime, and better lifetime exposure estimates as well as average daily exposure estimates have not been and must be determined.

6. “Fluorosis (fluoride damage to teeth) prevalence increased significantly with higher water fluoride levels; however, caries prevalence did not decline significantly."21

II. RECOMMENDED TARGET POPULATION AND DOSAGE:

The target population for fluoridation is highly confusing. In theory, children up to eight years of age (but not infants) when teeth are developing are the target population for fluoridation.22 In reality, 100% of the population is administered fluoridated water in an attempt to reach 9% of the population.

There are other methods for dispensing fluoride for ingestion which provide pharmaceutical grade fluoride rather than a contaminated commercial grade product as found in fluoridation water substances.23 Although violating FDA recommendations, simply swallowing a pea size or two of toothpaste would provide a similar amount of fluoride as water fluoridation.
Table below presents percentages (standard errors) and prevalence of fluorosis, including very mild or higher severity.


Fluoride levels and fluorides contamination of fruit juices. Journal of Clinical Pediatric Dentistry. 16:38-40, 1991. “Forty-three ready-to-drink fruit juices were examined for fluoride ion concentration. The fluoride levels of the juices ranged from 0.15 to 6.80 (Gerber White Grape juice). It was found that 42% of the samples had more than 1 ppm of fluoride. Given that increasing numbers of people are consuming beverages instead of water, fluoride supplementation should not be based solely upon the concentration of the drinking water, but should also consider the amount of different beverages consumed and their fluoride content.”

Kiritcy, MC et al. Assessing fluoride concentrations of juices and juice-flavored drinks. Journal American Dental Association; 127: 895-901, 1996. “In this study, the authors analyzed 532 juices and juice drinks for fluoride. Fluoride ion concentration ranged from 0.02 to 2.80 parts permillion. Children.s ingestion of fluoride from juices and juice-flavored drinks can be substantial and a factor in the development of fluorosis.”

Heilman, JR et al. Fluoride concentrations of infant foods. Journal American Dental Association; 126: 857-63, 1997. In this study, the authors analyzed the fluoride concentration of 236 commercially available infant foods. Fluoride concentrations ranged from 0.01 to 8.36 microgram/s of fluoride per gram, (ppm) with the highest fluoride concentrations found in infant foods containing chicken.

Heilman, JR et al. Assessing fluoride levels of carbonated soft drinks. Journal American Dental Association; 130: 1593-99, 1999. The authors examined the fluoride concentrations of 332 soft drinks. The fluoride levels of the products ranged from 0.02 to 1.28 ppm, with a mean level of 0.72. Fluoride levels exceeded 0.60 ppm for 71 percent of the products.


http://www.cdc.gov/fluoridation/safety/infant_formula.htm


Table below presents percentages (standard errors) and prevalence of fluorosis, including very mild or higher severity.

Cycle: 1999-2000 2001-2002 2003-2004 1999-2004 Age: 12-15 16-19 12-15 16-19 12-15 16-19 12-15 16-19 Unaffected & questionable 60.63 (4.66) 66.25 (4.32) 65.95 (3.18) 70.75 (3.33) 51.58 (3.78) 55.10 (4.59) 60.12 (2.28) 64.55 (2.40) Very Mild 26.17 (2.99) 21.16 (2.94) 24.82 (2.62) 20.63 (2.32) 34.58 (2.65) 31.96 (3.75) 27.98 (1.61) 24.10 (1.76) Mild 8.67 (1.49) 6.98 (0.84) 6.57 (1.14) 6.47 (1.05) 10.31 (1.57) 9.67 (0.88) 8.34 (0.81) 7.58 (0.53) Moderate & severe 4.53 (1.22) 5.81 (1.44) 2.66 (0.40) 2.33 (0.61) 3.52 (0.85) 3.27 (0.94) 3.56 (0.51) 3.78 (0.64) Prevalence 39.37 (4.66) 33.75 (4.32) 34.05 (3.18) 29.43 (3.33) 46.42 (3.78) 44.50 (4.59) 40.60 (2.23) 36.29 (2.45)