### Scientific Facts on the Biological Effects of Fluorides

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"Fluoridation is the greatest case of scientific fraud of this century"

Robert Carlton, Ph.D., former U.S. EPA scientist on "Marketplace" Canadian Broadcast Company Nov 24, 1992

"Regarding fluoridation, the EPA should act immediately to protect the public, not just on the cancer data, but on the evidence of bone fractures, arthritis, mutagenicity and other effects"

William Marcus, Ph.D., senior EPA toxicologist, Covert Action, Fall 1992, p.66

- 1. Fluoride exposure disrupts the synthesis of collagen and leads to the breakdown of collagen in bone, tendon, muscle, skin, cartilage, lungs, kidney and trachea.
- A.K. Susheela and Mohan Jha, "Effects of Fluoride on Cortical and Cancellous Bone Composition", IRCS Medical Sciences: Library Compendium, Vol 9, No.11, pp.1021- 1022 (1981);
- Y.D. Sharma, "Effect of Sodium Fluoride on Collagen Cross-Link Precursors", Toxicological Letters, Vol.10, pp97-100 (1982);
- A.K. Susheela and D. Mukerjee, "Fluoride poisoning and the Effect of Collagen Biosynthesis of Osseous and Nonosseous Tissue", Toxicological European Research, Vol 3, No.2, pp. 99-104 (1981);
- Y.D. Sharma,"Variations in the Metabolism and Maturation of Collagen after Fluoride Ingestion", Biochemica et Biophysica Acta, Vol 715, pp.137-141 (1982);

Marian Drozdz et al., "Studies on the Influence of Fluoride Compounds upon Connective Tissue metabolism in Growing Rats" and "Effect of Sodium Fluoride With and Without Simultaneous Exposure to Hydrogen Fluoride on Collagen Metabolism", Journal of Toxicological Medicine, Vol. 4, pp.151-157 (1984).

2. Fluoride stimulates granule formation and oxygen consumption in white blood cells, but inhibits these processes when the white blood cell is challenged by a foreign agent in the blood.

Robert A. Clark, "Neutrophil Iodintion Reaction Induced by Fluoride: Implications for Degranulation and Metabolic Activation," Blood, Vol 57, pp.913-921 (1981).

3. Fluoride depletes the energy reserves and the ability of white blood cells to properly destroy foreign agents by the process of phagocytosis. As little as 0.2 ppm fluoride stimulates superoxide production in resting white blood cells, virtually abolishing phagocytosis. Even micro-molar amounts of fluoride, below 1ppm, may seriously depress the ability of white blood cells to destroy pathogenic agents.

John Curnette, et al, "Fluoride-mediated Activation of the Respiratory Burst in Human Neutrophils", Journal of Clinical Investigation, Vol 63, pp.637-647 (1979);

- W.L. Gabler and P.A. Leong, "Fluoride Inhibition of Polymorphonumclear Leukocytes", Journal of Dental Research, Vo. 48, No. 9, pp.1933-1939 (1979);
- W.L. Gabler, et al., "Effect of Fluoride on the Kinetics of Superoxide Generation by Fluoride", Journal of Dental Research, Vol. 64, p.281 (1985);
- A.S. Kozlyuk, et al., "Immune Status of Children in Chemically Contaminated Environments", Zdravookhranenie, Issue 3, pp.6-9 (1987)

# 4. Fluoride confuses the immune system and causes it to attack the body's own tissues, and increases the tumor growth rate in cancer prone individuals.

Alfred Taylor and Nell C. Taylor, "Effect of Sodium Fluoride on Tumor Growth", Proceedings of the Society for Experimental Biology and Medicine, Vol 119,p.252(1965)

Sheila Gibson, "Effects of Fluoride on Immune System Function", Complementary Medical Research, Vol 6, pp.111-113 (1992);

Peter Wilkinson, "Inhibition of the Immune System With Low Levels of Fluorides", Testimony before the Scottish High Court in Edinburgh in the Case of McColl vs. Strathclyde Regional Council, pp. 17723-18150, 19328-19492, and Exhibit 636, (1982);

D.W.Allman and M.Benac, "Effect of Inorganic Fluoride Salts on Urine and Cyclic AMP Concentration in Vivo", Journal of Dental Research, Vol 55 (Supplement B), p.523 (1976);

S. Jaouni and D.W. Allman, "Effect of Sodium Fluoride and Aluminum on Adenylate Cyclase and Phosphodiesterase Activity", Journal of Dental Research, Vol.64, p.201 (1985)

### 5. Fluoride inhibits antibody formation in the blood.

S.K. Jain and A.K. Susheela, "Effect of Sodium Fluoride on Antibody Formation in Rabbits", Environmental Research, Vol.44, pp.117-125 (1987).

### 6. Fluoride depresses Thyroid activity.

Viktor Gorlitzer Von Mundy, "Influence of Fluorine and Iodine on the Metabolism, Particularly on the Thyroid Gland," Muenchener Medicische Wochenschrift, Vol 105, pp182-186 (1963);

Benagiano, "The Effect of Sodium Fluoride on Thyroid Enzymes and Basal Metabolism in the Rat", Annali Di Stomatologia, Vol 14, pp.601-619n (1965);

Donald Hillman, et al., "Hypothyroidism and Anemia Related to Fluoride in Dairy Cattle," Journal of Dairy Science, Vol 62, No.3, pp.416-423 (1979);

V. Stole and J. Podoba, "Effect of Fluoride on the Biogenesis of Thrroid Hormones", Nature, Vol 188, No.4753, pp.855-856 (1960);

Pierre Galleti and Gustave Joyet, "Effect of Fluorine on Thyroid Iodine Metabolism and hyperthyroidism", Journal of Clinical Endocrinology and Metabolism, Vol. 18, pp.1102-1110 (1958).

#### 7. Fluorides have a disruptive effect on various tissues in the body.

T.Takamorim "The Heart Changes in Growing Albino Rats Fed on Varied Contents oif Fluorine," The Toxicology of Fluorine, Symposium, Bern, Switzerland, Oct 1962, pp.125-129; Vilber A.O. Bello and Hillel J. Gitelman, "High Fluoride Exposure in Hemodialysis Patients", American Journal of Kidney Diseases, Vol. 15, pp.320-324 (1990);

Y.Yoshisa, "Experimental Studies on Chronic Fluorine Poisoning", Japaneses Journal of Industrial Health, Vol 1, pp.683-690 (1959).

### 8. Flouride promotes development of bone cancer.

J.K. Mauer, et al., "Two-year carcinogenicity study of sodium fluoride in rats", Journal of the National Cancer Institute, Vol 82, pp1118-1126 (1990);

Proctor and Gamble "Carcinogenicity studies with Sodium Fluoride in rats" National Institute of Environmental Health Sciences Presentation, July 27, 1985;

S.E. Hrudley et al., "Drinking Water Fluoridation and Osteocarcinoma" Canadian Journal of Public Health, Vol 81, pp.415-416 (1990);

P.D. Cohn, "A Brief Report on the Association of Drinking Water Fluoridation and Incidence of Osteosarcoma in Young Males", New Jersey Department of Health, Trenton, New Jersey, Nov 1992; M.C. Mahoney et al., "Bone Cancer Incidence Rates in New York", American Journal of Public Health, Vol 81, pp.81, 475 (1991);

Irwin Herskowitz and Isabel Norton, "Increased Incidence of Melanotic Tumors Following Treatment with Sodium Fluoride", Genetics Vol 48, pp.307-310 (1963);

- J.A. Disney, et al., " A Case Study in Testing the Conventional Wisdom; School-Based Fluoride Mouth rinse Programs in the USA" Community Dentistry and Oral Epidemiology, Vol 18, pp.46-56 (1990);
- D.J. Newell, "Fluoridation of Water Supplies and Cancer an association?", Applied Statistics, Vol 26, No.2, pp.125-135 (1977)

### 9. Fluorides cause premature aging of the human body.

Nicholas Leone, et al., "Medical Aspects of Excessive Fluoride in a Water Supply", Public Health Reports, Vol 69, pp.925-936 (1954);

J. David Erikson, "Mortality of Selected Cities with Fluoridated and Non-Fluoridated Water Supplies", New England Journal of Medicine, Vol. 298, pp.1112-1116 (1978);

"The Village Where People are Old Before their Time", Stern Magazine, Vol 30, pp.107-108,111-112 (1978);

## 10. Fluoride ingestion from mouthrinses and dentifrices in children is extremely hazardous to biological development, life span and general health.

Yngve Ericsson and Britta Forsman, "Fluoride retained from mouthrinses and dentifrices in preschool children", Caries Research, Vol.3, pp.290-299 (1969);

W.L. Augenstein, et al., "Fluoride ingestion in children: a review of 87 cases", Pediatrics, Vol 88, pp.907-912, (1991);

Charles Wax, "Field Investigation report", State of Maryland Department of Health and Mental Hygiene, March 19, 1980, 67pp;

George Waldbott, "Mass Intoxication from Over-Fluoridation in Drinking Water", Clinical Toxicology, Vol 18, No.5, pp.531-541 (1981)

### 11. Fluorides diminish the intelligence capability of the human brain.

X.S.Li et al, Fluoride, Vol 26, No.4, pp.189-192, 1995, "Effect of Fluoride Exposure on Intelligence In Children". Presented to the 20th Conference of the International Society for Fluoride Research, Beijing, China, September 5-9, 1994.

12. Fluoride studies in rats can be indicative of a potential for motor disruption, intelligence deficits and learning disabilities in humans. Humans are exposed to plasma levels of fluoride as high as those in rat studies. Fluoride involves interruption of normal brain development. Fluoride affects the hippocampus in the brain, which integrates inputs from the environment, memory, and motivational stimuli, to produce behavioral decisions and modify memory. Experience with other developmental neurotoxicants prompts expectations that changes in behavioral functions will be comparable across species, especially humans and rats.

Neurotoxicology and Teratology, Vol 17, No,2, p.176, "Neurotoxicity of Sodium Fluoride in Rats", Muellenix, Denbesten, Schunior, Kernan, 1995.

### 13. Fluorides accumulate in the brain over time to reach neurologically harmful levels.

Neurotoxicology and Teratology, Vol 17, No,2, p.176, "Neurotoxicity of Sodium Fluoride in Rats", Muellenix, Denbesten, Schunior, Kernan, 1995.

14. "Fluorides are general protoplasma poisons, with the capacity to modify the metabolism of cells by inhibting certain enzymes. Sources of fluoride intoxication include drinking water containing 1ppm or more of fluorine."

Journal of the American Medical Association, September 18, 1943.

15. "Drinking water containing as little as 1.2 ppm fluoride will cause developmental disturbances. We cannot run the risk of producing such serious systemic disturbances. The potentialities for harm outweigh those for good."

Journal of the American Dental Association, Editorial, October 1, 1944.

### Other Facts about Fluoride

The contents of a family-size tube of fluoridated toothpaste is enough to kill a 25-pound child.

In 1991, the Akron (Ohio) Regional Poison Centre reported that "death has been reported following ingestion of 16mg/kg of fluoride. Only 1/10 of an ounce of fluoride could kill a 100 pound adult. According to the Centre, "fluoride toothpaste contains up to 1mg/gram of fluoride."

Even Proctor and Gamble, the makers of Crest, acknowledge that a family-sized tube "theoretically contains enough fluoride to kill a small child."

#### Fluorides have been used to modify behavior and mood of human beings.

It is a little known fact that fluoride compounds were added to the drinking water of prisoners to keep them docile and inhibit questioning of authority, both in Nazi prison camps in World War II and in the Soviet gulags in Siberia.

Fluorides are medically categorized as protoplasmic poisons, which is why they are used to kill rodents.

1943 The Journal of the American Medical Association on September 18, 1943, states, "fluorides are general protoplasmic poisons, changing the permeability of the cell membrane by inhibiting certain enzymes. The exact mechanism of such actions are obscure."

### Fluoride consumption by human beings increases the general cancer death rate.

1975 Dr. John Yiamouyiannis published a preliminary survey which shows that people in fluoridated areas have a higher cancer death rate than those in non-fluoridated areas. The National Cancer Institute attempts to refute the studies. Later in 1975, Yiamouyiannis joins with Dr. Dean Burk, chief chemist of the National Cancer Institute (1939-1974) in performing other studies which are then included in the Congressional Record by Congressman Delaney, who was the original author of the Delaney Amendment, which prohibited the addition of cancer-causing substances to food used for human consumption.

Both reports confirmed the existence of a link between fluoridation and cancer.

(Note: Obviously Dr. Burk felt free to agree with scientific truth only after his tenure at NCI ended, since his job depended on towing the party line).