

Fluoride and Cancer

“The biggest current debate is over osteosarcoma—the most common form of bone cancer and the sixth most prevalent cancer in children.” Scientific American Jan 2008, p 79.

Evidence now suggests young males, under the age of 20, are 5 to 7 times more likely to develop osteosarcoma when they drink fluoridated water.



Osteosarcoma (Bone Cancer) is a type of bone cancer that affects **mostly adolescent boys**. It is biologically plausible that fluoride affects the incidence rate of osteosarcoma, and that this effect would be strongest during periods of growth, particularly in males.

First, approximately 99% of fluoride in the human body is contained in the skeleton with about 50% of the daily ingested fluoride being deposited directly into calcified tissue (bone or dentition) [Whitford 1996].

Second, fluoride acts as a mitogen, increasing the proliferation of osteoblasts [Gruber 1991, Kleerekoper 1996] and its uptake in bone increases during periods of rapid skeletal growth [Whitford 1996].

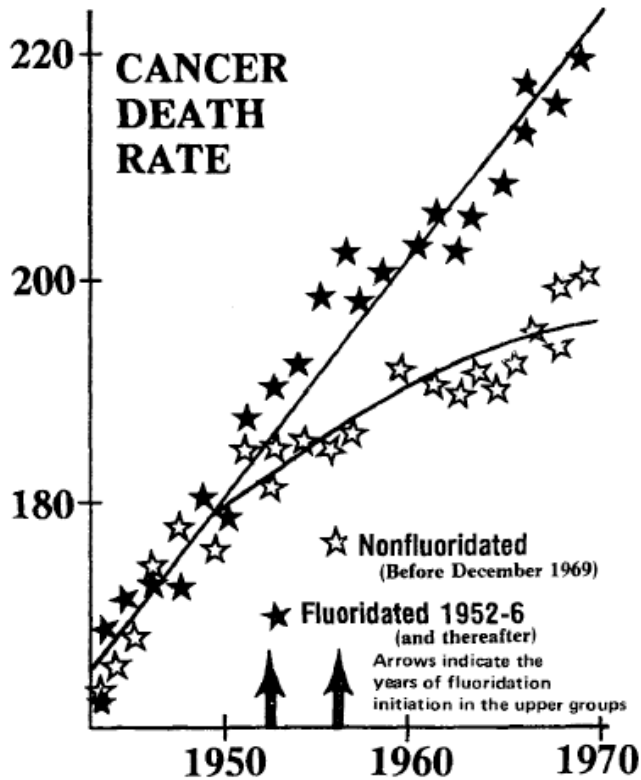
Lastly, the amount of fluoride present in bone depends on gender and intake [WHO 1984] and intake, on average, is greater for males than females for all **ages** over 1 year [Ershow].

Bassin 2006 study demonstrated an age [before the age of 20 years] and gender-specific [males only] relationship between fluoride level in drinking water. “All of our models were remarkably robust in showing this effect, which coincides with the mid-childhood growth spurt [Bogin 1998, Molinari 1980, Tanner 1980, Berkey 1983].”

Dr. Victor Cecilioni, a Canadian physician from Hamilton, Ontario examined cancer death rates in various Canadian cities and found that the cancer death rate in fluoridated areas was 15-25% higher in fluoridated areas than in nonfluoridated areas.

1975, Burk and Yiamonyiannis compared the cancer death rate of the ten largest fluoridated cities in the United States with the ten largest non-fluoridated cities that had comparable cancer death rates from 1940 to 1950, a period of time during which neither group of cities was fluoridated.

As shown in the illustration below, the cancer death rates of both groups rose in a virtually identical fashion between 1940 and 1950. However, following fluoridation of one group, the cancer death rate increased drastically in comparison to the other group. By 1969, the fluoridated cities had an average cancer death rate of about 220-225 cancer deaths per 100,000 people, while the other group had about 195-200, showing a fluoride-linked increase of approximately 10% in only 13-17 years.



**Yiamouyiannis
& Burk 1977**

**The graph that
started it all**

Overall cancer death rates continued climbing in fluoridated cities after fluoridation but started leveling off in never-fluoridated cities.

Dr. John David Erickson of the Center for Disease Control

Examined the cancer death rates of all U.S. cities with a population of 250,000 or more and found that in the year 1970 people in fluoridated areas experienced a cancer death rate 15-25% higher than that of people in nonfluoridated cities.

Dr. Donald Austin of the California Tumor Registry

Examined cancer death rates in California and found that people living in fluoridated areas had a cancer death rate 40% higher than those living in nonfluoridated areas.

1962, Dr. John Knutson of the U.S. Public Health Service

Examined cancer death rates following fluoridation of Grand Rapids, Michigan (one of the first 4 water fluoridation trials) and found a 22% increase in cancer death rate following fluoridation - in contrast to the control city of Muskegon, Michigan.

The U.S. government's National Toxicology Program found increased incidence of bone cancer, liver cancer, sympathetic nervous system/adrenal medulla in a 1990, due to fluoride exposure from water.