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EXPOSURE TO HIGH FLUORIDE CONCENTRATIONS IN DRINKING WATER IS ASSOCIATED WITH DECREASED BIRTH RATES

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A review of fluoride toxicity showed decreased fertility in most animal species studied. The current study was to see whether fluoride would also affect human birth rates. A U.S. database of drinking water systems was used to identify index counties with water systems reporting fluoride levels of at least 3 ppm. These and adjacent counties were grouped in 30 regions spread over 9 states. For each county, two conceptionally different exposure measures were defined, and the annual total fertility rate (TFR) for women in the age range 10-49 yr was calculated for the period 1970-1988. For each region separately, the annual TFR was regressed on the fluoride measure and sociodemographic covariables. Most regions showed an association of decreasing TFR with increasing fluoride levels. Meta-analysis of the region-specific results confirmed that the combined result was a negative TFR/fluoride association with a consensus combined p value of .0002-.0004, depending on the analytical scenario. There is no evidence that this outcome resulted from selection bias, inaccurate data, or improper analytical methods. However, the study is one that used population means rather than data on individual women. Whether or not the fluoride effect on the fertility rate found at the county level also applies to individual women remains to be investigated.

When a bioassay showed that fluoride added to drinking water might be carcinogenic to rats (National Toxicology Program, 1990), the U.S. Public Health Service conducted a comprehensive review of the risks and benefits associated with water fluoridation (Committee to Coordinate Environmental Health and Related Programs, 1991). Among the consistent findings was that fluoride may affect reproduction in animals. Rats exposed to 430 ppm dietary fluoride showed anestrus with cumulative generational effect (Phillips et al., 1933). This was confirmed in a more recent study showing a smaller litter size in the second mating cycle of rats exposed to 460 ppm dietary fluoride (Marks et al., 1984). Mice exposed to 100-200 ppm fluoride in water showed reduced fertility (Messer et al., 1973).

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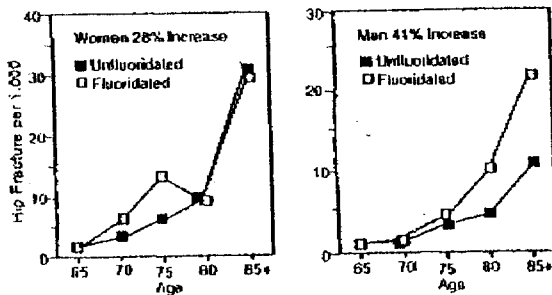
Important Fluoride Facts

Fluoride is cancer-causing in rats, mice and humans.

- 1) *Carcinogenesis*, volume 9, pages 2279-2284 (1988)
- 2) *Sodium Fluoride: individual animal tumor pathology table [rats]*, Battelle Memorial Institute, Feb. 23, 1989
- 3) *Sodium Fluoride: individual animal tumor pathology table [mice]*, Battelle Memorial Institute, April 11, 1989
- 4) *Lancet* 36, page 737 (1990)
- 5) *Review of Fluoride: Benefits and Risks*, U. S. Public Health Service, pages F1-F7 (1991)
- 6) *Fluoride* volume 26, pages 83-96 (1992)
- 7) *A Brief Report on the Association of Drinking Water Fluoridation and the Incidence of Osteosarcoma among Young Males*, New Jersey Department of Health, November 1992
- 8) *Fluoride, the Aging Factor*, Health Action Press, pages 72-90 (1993)

Hip fracture rates are much higher in people residing in fluoridated communities.

Graph from reference 7 below Daineilson et al.



- 1) *Journal of the American Medical Association* volume 264, pages 500-502 (1990)
- 2) *Journal of the American Medical Association* volume 266, pages 513-514 (1991)
- 3) *Journal of the American Medical Association* volume 268, pages 746-748 (1992)
- 4) *Journal of the American Medical Association* volume 273, pages 775-776 (1995)

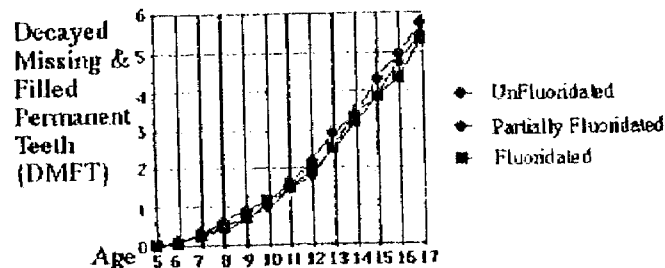
The U.S. National Research Council admits that dental fluorosis (fluoride poisoning of the teeth) affects from 8% to 51% of the children drinking fluoridated water.

- 1) *Science* volume 217, pages 26-30 (1982)
- 2) *Journal of the American Dental Association* volume 108, pages 56-59 (1984)
- 3) *Journal of Public Health Dentistry* volume 46, pages 184-187 (1986)
- 4) *Health Effects of Ingested Fluoride*, National Research Council, page 37 (1993)

Recent large-scale studies show no difference in decay rates of permanent teeth in fluoridated and non fluoridated areas.

- 1) *Community Health Studies* volume 11, pages 85-90 (1987)
- 2) *Journal of the Canadian Dental Association* volume 53, pages 763-765 (1987)
- 3) *Fluoride* volume 23, pages 55-67 (1990)

United States 1987 Fluoridation Survey found NO DIFFERENCE in Tooth Decay



Fluoride tablets and drops are not approved by the U.S. Food and Drug Administration as safe or effective.

- 1) Letter from Frank R. Fazzari, Chief, Prescription Drug Compliance, Food and Drug Administration to New Jersey Assemblyman John Kelly (June 8, 1993)
- 2) *Preventing Tooth Decay: Results from a Four-Year National Study*, Robert Wood-Johnson Foundation, Special Report number 2/1983, 18p
- 3) *Community Dentistry and Oral Epidemiology*, volume 19, pages 88-92 (1991)

Fluoride is more toxic than lead, and even in minute doses, accumulates in and is damaging to brain/mind development of children; i.e. produces abnormal behavior in animals and reduces IQ in humans.

- 1) Mullenix, Phyllis et. al Neurotoxicity of Sodium Fluoride in Rats, *Neurotoxicology and Teratology*, Vol. 17, No. 3, pp. 169-177, 1995
- 2) Li, XS; Zhi, JL; Gao, RO Effects of fluoride exposure on intelligence in children, *Fluoride* 28:4, pp. 189-192 (1995)
- 3) Zhao, LB; Liang, D; W Wu Lu-Liang Effects of a high fluoride water supply on children's intelligence. *Fluoride* vol. 29:4 pp. 190-192 1996

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Local 2050

July 2, 1997

Mr. Jeff Green
Citizens for Safe Drinking Water
3243 Madrid Street
San Diego, CA 92110

Dear Mr. Green:

I am pleased to report that our union, Local 2050, National Federation of Federal Employees, has voted to co-sponsor the California citizens' petition to prohibit fluoridation of which your organization is the sponsor. Our union represents, and is comprised of, the scientists, lawyers, engineers and other professionals at the headquarters of the U.S. Environmental Protection Agency here in Washington, D.C..

A vote of the membership was taken at a meeting during which Professor Paul Connett and Dr. Robert Carton made presentations, respectively, on the recent toxicological and epidemiological evidence developed on fluoride and past actions (and their bases) of Local 2050 with respect to fluoride in drinking water. The membership vote was unanimous in favor of co-sponsorship.

It is our hope that our co-sponsorship will have a beneficial effect on the health and welfare of all Californians by helping to keep their drinking water free of a chemical substance for which there is substantial evidence of adverse health effects and, contrary to public perception, virtually no evidence of significant benefits.


These judgements are based, in part, on animal studies of the toxicity of fluoride coupled with the human epidemiology studies which corroborate them, and the studies of rates of decayed, missing and filled teeth in the United States (fluoridated and non-fluoridated communities) versus non-fluoridated European countries.

Our members review of the body of evidence over the last eleven years, including animal and human epidemiology studies, indicate a causal link between fluoride/fluoridation and cancer, genetic damage, neurological impairment and bone pathology. Of particular concern are recent epidemiology studies linking fluoride exposures to lower I.Q. in children.

As professionals who are charged with assessing the safety of drinking water, we conclude that the health and welfare of the public is not served by the addition of this substance to the public water supply.

Best wishes to you and your organization for success in keeping what would otherwise be a hazardous waste of the fertilizer industry from being disposed of in California's drinking water supplies.

Sincerely,

A handwritten signature in cursive script that reads "Bill Hirzy". The signature is written in dark ink and is positioned above the typed name.

Dr. William Hirzy, Ph.D.
Senior Vice-President

NEWS RELEASE

For immediate release

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U. S. EPA Scientists Take Stand Against Fluoridation

The EPA scientists, engineers and attorneys who assess the scientific data for Safe Drinking Water Act standards and other EPA regulations have gone on record against the practice of adding fluoride to public drinking water.

On Wednesday, July 2, 1997, National Federation of Federal Employees, Local 2050, which consists of toxicologists, chemists, biologists and other professionals at EPA headquarters in Washington, D.C., voted unanimously to co-sponsor the California Safe Drinking Water Initiative that would reverse the State Legislature's 1995 law mandating fluoridation.

Both proponents of fluoridation and the sponsors of this initiative consider the result of the fluoridation battle in California to be crucial to the federal government's plan to fluoridate the entire United States by the year 2000.

Citizens for Safe Drinking Water and their sponsors are circulating petitions to gather 500,000 signatures by October to place the initiative prohibiting fluoridation in California on the June 1998 statewide ballot.

In its endorsement of the initiative, the EPA professional's union states, "It is our hope that our co-sponsorship of the Safe Drinking Water Initiative to prohibit fluoridation will have a beneficial effect on the health and welfare of all Californians by helping to keep their water free of a chemical substance for which **there is substantial evidence of adverse health effects and, contrary to public perception, virtually no evidence of significant benefits.**"

The statement from NFFE Local 2050 continues, "Our members' review of the body of evidence over the last eleven years, including animal and human epidemiology studies, indicate a causal link between fluoride/fluoridation and **cancer, genetic damage, neurological impairment, and bone pathology.** Of particular concern are recent epidemiology studies linking fluoride exposure to **lowered IQ in children.**

"As the professionals who are charged with assessing the safety of drinking water, **we conclude that the health and welfare of the public is not served by the addition of this substance to the public water supply.**"

dollars for veneers and crowns to repair permanently fluoride-poisoned teeth so that we can save what amounts to less than one filling if the nonexistent benefits were true, which studies show they are not, is criminal.

All of the large scale blinded studies show no difference in decay rates between fluoridated communities and unfluoridated communities. People are getting too much fluoride now, whether its from toothpaste or all the foods that contain fluoride. With 3% to 26% of all children in non-fluoridated areas in the U.S. already suffering from dental fluorosis, putting more fluoride in the water does not appear to be too intelligent."

Not being too intelligent is exactly how Dr. Phyllis Mullenix described the rats she studied after exposing them to fluoride concentrations comparable to a fluoride rinse performed in a dental office, and longer-term low doses comparable to drinking fluoridated water.

In both cases Dr. Mullenix, who founded the first dental toxicology department in the U.S at Forsyth (dental) Research Institute of Harvard Medical School, and currently a toxicologist at Children's Hospital in Boston, found that fluoride did not just accumulate in the bones but actually accumulated in the brain, with a result that the test subjects displayed what could best be described as the rat version of "couch potato", with a diminishment of IQ.

The Mullenix study also dovetails with reports from China whose population suffers extensively from skeletal fluorosis caused primarily from the use of coal for domestic heating, cooking and grain drying.

In two separate studies comparing Chinese children living in areas which differed in the amount of fluoride present in the environment, one study found that there is an approximate 5 to 19 IQ point decrease for the children ages 8 to 13 living in the severe fluorosis area compared to the non-fluorosis area; and the second study found a 6 to 12 IQ point decrease in the children consuming higher fluoride levels (4.12 ppm, just above the EPA's maximum contaminant level of 4 ppm) compared to the children consuming lower levels of fluoride in their drinking water.

The fact that the central nervous system is vulnerable to fluoride poisoning and that dental fluorosis is a visible sign that an individual has been exposed to too much fluoride should not be news to us.

According to recently declassified documents shared at an October 24th forum on fluoridation at Clark University, prior to the almost 2 to 1 defeat of fluoridation for Worcester, Massachusetts, scientists were aware in 1944 that exposure to fluoride caused confusion, drowsiness and listlessness.

That the discovery was made by toxicologists working on the Manhattan Project, where large quantities of fluorine were used in the separation of uranium isotopes, will surely stand as the reason for keeping this information classified "secret" from the American public for fifty years while at the same time being told of fluoride's safety; but these same declassified documents show that further study of these effects were requested and authorized, with funds appropriated, before an abrupt command six months later, "Not to start (or to discontinue if it has been started)".

Other declassified government documents revealed at the Clark University forum offer more insight. Upon being confronted with the problem of the windows of school classrooms being etched from fluorine gases emitted from nearby factories, the declassified memo does not address the safety of the children in the school, but instead asks, "Would there be any use in making attempts to counteract the local fear of fluoride on the part of residents of Salem and Gloucester counties through lectures on fluoride toxicology and perhaps the usefulness of fluoride in tooth health?"

Worcester residents were not alone in their educated decision to reject fluoridation this fall. The residents of Kelowna, the first city in Canada to agree to fluoridate its water after a 1954 referendum, voted against continued fluoridation of the city's water system.

The Kelowna Daily Courier (November 20) cited a recent study showing minimal difference between children's dental health on Kelowna (fluoridated) water compared to those drinking unfluoridated Vernon water.

Peter Chataway, a key player in Kelowna Citizens Against Fluoride explained Kelowna's trend setting 1954 acceptance of fluoridation. "That's because Alcan Aluminum was putting a smelter in Kitimat and fluoridating water was cheaper than disposing of the waste," he said. "They chose Kelowna because it was the premier's home riding and if it went here, people would think it was safe."

British Columbia is already the least fluoridated province in Canada, with the Lower Mainland and Vancouver Island already fluoride-free.

Despite the U.S. Public Health Service and American Dental Association claims of fluoride's complete safety and their aggressive goal of forcing all of America into fluoridation (now 62% fluoridated), the rest of the world remains unconvinced.

Europe is currently only 2% fluoridated, and The Sunday Telegram reports that Sir Ivan Lawrence, Tory MP for Burton who heads a group of MPs campaigning against fluoride in England said, "I think the evidence will continue to mount and there will be a ban in five or 10 years."

Meanwhile lawyers observing the Colgate-Palmolive payout said that the fluorosis settlement was a significant breakthrough, even though the manufacturer has denied any liability and is refusing to discuss the case. More than 200 parents in England are already attempting to sue toothpaste manufacturers.

Julian Middleton, a Nottingham based solicitor acting for more than 200 children with fluorosis, said the payment could help families in their battle for legal aid. "We regard it as extremely significant ___ albeit it has been made without liability. Fluoride is one of the most poisonous substances known to man. Experts say it is the cause of fluorosis. Yet there is nothing to say what is a safe dose for children.

Preventive Dental Health Association, a non-profit educational organization has 3/4 inch public-access-quality tapes of the Clark University forum presenting more of these details. Ask your public access station to play them . 1/2 inch VCR-viewable tapes are also available.

HIP FRACTURE

RATES ARE HIGHER IN FLUORIDATED AREAS!

"Each year in the U.S. about 250,000 people over age 65 suffer hip fractures and 25% die within three months."

-- *Chemical & Engineering News*, July 30, 1990

Women in fluoride communities had much earlier and much worse osteoporosis. There was "no protective effect (on bone mass or fracture) with higher fluoride" but MORE fractures were reported.

-- *American Journal of Clinical Nutrition*, 44:889-898, 1986

"There is a weak **positive association between the percent of county residents who receive fluoridated water and hip fracture incidence** in the unadjusted analysis that is strengthened after adjustment . . . The results suggest . . . that **soft and fluoridated water . . . all increase the risk of hip fractures.**"

-- *Journal of the American Medical Association*, July 25, 1990

". . . we recently reported the ecological association of (hospital) discharge rates for hip fracture and water fluoride levels in 39 county districts in England. . . . there appears to be a positive association between fluoride levels of county water supplies and (hospital) fracture discharge rates. This ecologic association is consistent with a recently published study and others in progress."

-- *Journal of the American Medical Association*, July 24, 1991

"This report is the latest of many studies demonstrating adverse effects to bone caused by fluoride levels to which the majority of the U.S. population are exposed. . . . the Agency (EPA) needs to take immediate action to prevent further injury from occurring to our aging population that result in fluoride induced hip fractures."

-- William Marcus, Ph.D., EPA scientist, statement to EPA Office of Drinking Water, July 29, 1991

The average increase of hip fractures for women aged 65 to 85 was 26%. However, at age 75, **the increase was 100% as a result of fluoride ingestion** during the bone remodeling years of menopause. The average increase for men aged 65 to 85 was 41%. The subjects were "exposed to artificial fluoridation at 1 ppm, suggesting that **low levels of fluoride may increase the risk of hip fracture in the elderly.**"

-- *Journal of the American Medical Association*, Aug. 12, 1992 ("Hip Fractures and Fluoridation In Utah's Elderly Population")

A large study, of 3777 subjects, of a relationship of fluoride in water to hip fractures was reported to the *Journal of the American Medical Association*. "Thus, adjusting for major individual risk factors, **this study suggests a deleterious effect of fluorine in drinking water on the risk of hip fractures, even for moderate concentrations of fluorine . . .**"

-- Helene Jacqmin-Gadda, Ph.D., et al, *Journal of the American Medical Association*, March 8, 1995

FLUORIDATION OF WATER PLACES A SIZEABLE PERCENTAGE OF THE POPULATION AT GREAT RISK FROM INCREASED HIP FRACTURE.

VOTE NO ON FLUORIDATION

For further information contact: WALTER MILLER, P. O. BOX 700335, SAN JOSE, CA 95170 (3/95)