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# *Fluoride and Thyroid Cancer*

NEWSLETTER #7 - "Fluoride & Thyroid Cancer"  
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[NOTE: The following is a part of the material appearing the PFPC newsletter. For detailed information, please visit their website.]

## **INTRODUCTION**

"A report in the 1955 New England Journal of Medicine shows a 400 percent increase in thyroid cancer in San Francisco during the period that the city has had fluoridated drinking water", so report Gladys Caldwell and Philip Zanfagna, MD, in their 1974 book "Fluoridation and Truth Decay"(1).

***New England Journal of Medicine shows a 400 percent increase in thyroid cancer in San Francisco during the period that the city has had fluoridated drinking water"***

In 1974 Leo Kinlen of Oxford compared the occurrence of cancers in fluoridated and non-fluoridated areas (2, 2a). 100 thyroid cancer cases were observed compared to 81 expected ones, an 18% increase. Unbelievably, the authors then contradicted their own findings and stated that "there is no significant excess of cancer of any site in fluoridated areas as compared with nearby fluoridated areas." Those familiar with the recent York Review might remember similar words.

In China fluoride is openly acknowledged as cause of thyroid cancer and government programs have resettled many thousands of farmers living in fluoride-contaminated areas (3).

In 1997 the US Federal Register published the petition of Bayer to establish new residue tolerance levels for products imported into the US for a pesticide called Tolyfluanid, a pesticide which is illegal in the US but applied almost everywhere else in the world - and therefore therefore makes its way into North America in many foods, i.e. tomato products from Italy, grape juices from from Africa, or apple juice from South America. The apple juice issue is of particular and urgent concern as apple juice is the first juice beverage for most infants, and 60% of all apple juice is imported (4, 5).

Tolyfluanid had been banned for use in the US largely because it had caused thyroid tumors (adenomas) in rats, in a non-linear fashion (-> not dose/concentration-related). Kidney damage occurred "probably attributable to the effects of fluoride on renal tubules." Regarding the thyroid adenomas the Bayer petition further stated that, ".Mechanistic studies with tolyfluanid have shown that these tumors are

induced through a nonlinear threshold mechanism similar to that discussed in EPA's thyroid policy document."(6)

[NOTE: For an updated and downloadable version of this most interesting EPA Thyroid Policy Statement, see: <http://www.epa.gov/ncea/thyroid.htm> . All should know that IF this thyroid policy were to be properly applied to the vast data available on fluoride compounds and thyroid function, fluoride in all forms would be immediately banned! Repeated efforts have been made by the PFPC within the last two years to have the fluoride issue assessed according to this thyroid policy, and we have asked the EPA, and also the NTEU to investigate this vital issue, but to no avail to date.]

In 1998 the late great John Yiamouyiannis sent us the results of the National Toxicology Program cancer bioassay on sodium fluoride (7). Again, the data showed incidences of thyroid adenomas, as well as the same "nonlinear" mechanism as had been observed with tolylfluorid. However - as is well-known by now - the final published version of the NTP report downgraded the "clear evidence of carcinogenicity " to "equivocal evidence of carcinogenicity". It was this change in classification which prompted Dr. William Marcus, who was then Senior Science Adviser and Toxicologist in the Office of Drinking Water, to blow the whistle about the issue, which led to his firing by the U.S. Environmental Protection Agency (EPA). Dr. Marcus sued the EPA, won his case and was reinstated with back pay, benefits and compensatory damages.(8) However, the issue itself - fluoride CAUSING cancers as identified by Dr. Marcus and others - remains denied to this date.

Between 1975 and 1996 the incidence of thyroid cancer rose 42.1% in the United States, and incidence of diagnosed thyroid cancer has now climbed up to 8.0 per 100,000. Canada reports a yearly 6% increase in thyroid cancer.

The most prevalent carcinomas in US children and adolescents younger than 20 years are now thyroid carcinomas (35.5%); more prevalent than the more publicized melanomas (30.9%). Approximately 75% of the thyroid carcinomas occurred in adolescents aged 15 -19 years of age (9).

Thyroid cancer in most cases is a slow-progressing cancer - in children average time from onset to diagnosis is thought to be 15 years. It is therefore clear that onset occurs during infancy and early childhood.

In the elderly, thyroid disease is very common. Upon autopsy, the find of a "normal thyroid gland" is rare, testifying to the incredible high prevalence of thyroid disorders among the elderly. Fleischman in 1999 reviewed over 800 autopsies and only found 25% of thyroids to be "normal".

Fluorides cause thyroid cancer. All common anti-thyroid agents are thought to be cancer causing, as they influence the natural feedback mechanism which regulates the thyroid-pituitary axis and cause increased levels of thyrotropin, the thyroid-stimulating-hormone (TSH), which then in turn activates cancer cells by activating an enzyme system called adenyl cyclase.

Propylthiouracil (PTU), which replaced fluoride compounds in the treatment of hyperthyroidism in the early 1940s, is now considered a carcinogenic for the same reason (10).

PTU administered in the drinking water induced increased incidences of thyroid carcinomas and adenomas in rats of both sexes, identical to the findings by the NTP regarding fluoride (7).

The FDA regulates the use of propylthiouracil as a pharmaceutical to treat hyperthyroidism under the Food, Drug, and Cosmetic Act (FD&CA).

Why NOT fluoride?

WHY is fluoride, although it had been used as most-effective anti-thyroid medication for more than three decades - either alone or with PTU - NOT declared a carcinogenic?

### **FINAL COMMENT**

Thyroid cancer cells are not the only ones activated by fluoride. All hormone-related cancers such as

breast, ovary, uterine, prostate, testis, thyroid and osteosarcoma, etc. share a unique mechanism of carcinogenesis. These cancerous cells are activated by adenyl cyclase. These cancerous cells are activated by fluoride. This is why there is an increase in osteosarcomas observed in fluoridated areas (50), as is uterine cancer (51), etc..

"Everything causes cancer? Perhaps. Conceivably even a single electron at the other side of the universe. The real question is, how likely is any one particular cause? In point of fact, fluoride causes more human cancer, and causes it faster, than any other chemical."

- Dean Burk, Chief Chemist Emeritus, U.S. National Cancer Institute

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## REFERENCES

1) Caldwell G, Zanfagna PE - "Fluoridation and Truth Decay" Top-Ecol Press, Library of Congress No. 74-80847 (1974) also, see: Gotzsche A-L - "The Fluoride Question: Panacea or Poison?" Stein & Day (New York) ISBN 0-8128-1974-X (1975)

2) Kinlen L - " Cancer incidence in relation to fluoride level in water supplies" Community Health 6:69 (1974) [1.09 to 0.91 -> Observed to expected ratios in fluoridated and non-fluoridated cities respectively. This means an increase of 18 to 19 percent.] data also in:

2a) Kinlen L - " Cancer incidence in relation to fluoride level in water supplies" Br Dent J 138(6):221-4 (1975)

3) MA LIE, China Daily staff, 12/08/1999 Copyright© by China Daily  
"Shaanxi to move poorest of the poor from hills"

XI'AN -- Shaanxi, an inland province in Northwest China, plans to move its poor farmers from high mountainous slopes within the next three years as part of a poverty eradication drive here. Zhang Wei, deputy governor in charge of the programme, said Shaanxi still has nearly 2 million people living below the poverty line. About 244,700 people are kept poor by geography, as they live in areas that prevent them from having basic living amenities, as farmland and water. "In southern Shaanxi's Qinba Mountains, some farmers are living on high mountainside where crops cannot be planted in the extreme cold weather," Zhang said.

In some other places farmers suffer from Kaschin-Beck's disease and thyroid tumours because of fluoridated underground water, Zhang said. "In the past these farmers got relief from the local government every year, but in such poor geographical conditions, they could not lift themselves out of poverty, so the government decided to move them to better places," the deputy governor said. The poorest farmers live mostly in northern Shaanxi's Baiyu Mountains and southern Shaanxi's Qinba Mountains, will be moved to rural plains areas in the county and resettled in newly built villages.

The provincial and county-level governments will invest 489.4 million yuan (US\$59 million) in the resettlement programme over three years, at an average of 2,000 yuan (\$241) per farmer, the deputy governor said. Farmers will be allowed to decide whether or not to move, or given the option to move elsewhere. The local government will also sign contracts with farmers to safeguard their rights, Zhang said.

The resettlement programme, which has already been put into place on a trial basis, has already relocated more than 20,000 people. The province plans to resettle another 70,000 this year. In order to ensure success, the provincial government also signed agreements with county-level officials, Zhang said. Neighbouring Gansu Province and the Ningxia Hui Autonomous Region, which have the same problems, have relocated at least 700,000 people through similar efforts.

"The central government desires that poverty-stricken farmers be lifted out of poverty by 2000, and we can meet the goal in Shaanxi if we are successful in the resettlement programme, because the 244,700 farmers are the hardest cases," Zhang said.

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4) FEDERAL REGISTER AUGUST 11, 1997 Fungicide Tolyfluanid  
<http://www.epa.gov/fedrgstr/EPA-PEST/1997/August/Day-11/p21147.htm>

5) PFPC Special Edition: Pesticides <http://poisonfluoride.com>

SIDENOTE: South African grapes were found to contain residues of 8 mg of tolyfluanid - AFTER normal washing! [Tests carried out by Planteforsk Pesticidlaboratoriet, Norway, April 1998]

6) ASSESSMENT OF THYROID FOLLICULAR CELL TUMORS EPA/630/R-97/002 March 1998  
<http://www.epa.gov/ncea/pdfs/thyroid.pdf>

7) National Toxicology Program - "Toxicology and carcinogenesis studies of sodium fluoride (CAS No. 7681- 49) in F344/N rats and B6C3f, mice (Drinking Water Studies)" US DHHS, NIH Publication no. 91- 2848. Technical Report 393 (1990) also see: <http://www.fluoridation.com/calgaryh.htm>

8) STATEMENT OF Dr. J. WILLIAM HIRZY, NATIONAL TREASURY EMPLOYEES UNION CHAPTER 280 BEFORE THE SUBCOMMITTEE ON WILDLIFE, FISHERIES AND DRINKING WATER UNITED STATES SENATE JUNE 29, 2000

9) [PROPYLTHIOURACIL, CAS No. 51-52-5, First Listed in the Fourth Annual Report on Carcinogens <http://ntp.niehs.nih.gov:8080/query.html?qt=Propylthiouracil&col=005main>

10) NCI - Cancer Incidence and Survival among Children and Adolescents: United States SEER Program (1975-1995), SEER Homepage: <http://www.seer.cancer.gov/>

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