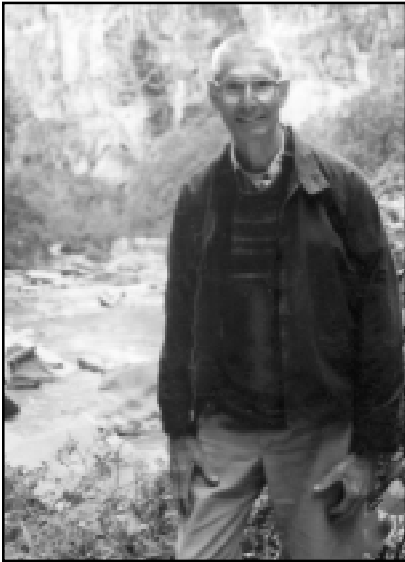


# Trends in Agriculture & Public Nutrition Have Created a Crisis

## The Fluoride Menace

Albert Burgstahler



**F**ew scientific blunders have exhibited the endurance of the fluoride controversy. To introduce both the topic and the interview subject, Dr. Albert Burgstahler, we will detain our readers long enough to quote an entry from Barry Forbes, *The Tribune*, Mesa, Arizona: “Why did you do it, Doc? Why did you toss the fluoride folks overboard?”

We had just tracked down Dr. Hardy Limeback, B.Sc., Ph.D. in biochemistry, D.D.S., head of the department of preventive dentistry for the University of Toronto, and president of the Canadian Association for Dental Research. Dr. Limeback is Canada’s leading fluoride authority and until recently, the country’s primary promoter of the controversial additive.

In a surprising newsmaker interview recently, Dr. Limeback announced a dramatic change of heart. Children under 3 years of age should never use fluoride toothpaste or drink fluoridated water, and baby formula must never be made using Toronto tap water.

What could have caused such a powerful paradigm shift?

The change in perception has been building up for several years, Limeback told the correspondent. But the crowning blow was the realization that we have been dumping contaminated fluoride into water reservoirs for half a century. Most fluoride additives come from Tampa Bay smokestack scrubbers. The additives are a toxic byproduct of the superphosphate industry. That means we are not just dumping toxic fluoride into our drinking water, we’re also exposing innocent, unsuspecting people to deadly elements of lead, arsenic and radium, all of them carcinogens.

Even an abstract in depth and almost solid quotation cannot relay the full story. Why would Canada’s leading dentist cross the line?

In order to gather added input, Acres U.S.A. turned to Dr. Albert Burgstahler. Our questions and his taped responses follow.

Burgstahler received his B.S. in chemistry magna cum laude from the University of Notre Dame in 1949, an M.A. in 1950, and a Ph.D. in 1953 in organic chemistry from Harvard University. After postdoctoral studies at the University of London,

a year as an instructor at Notre Dame, and additional research at the University of Wisconsin, he joined the faculty at the University of Kansas. He now has emeritus status.

He has also become recognized as a leading expert on the fluoride problem. He is an active researcher in organic syntheses and the chemistry and chiroptic properties of natural products. In addition to having authored or co-authored some 50 scientific papers, he is now editor of *Fluoride*, the journal of the International Society for Fluoride Research. His work on the synthesis and biological properties of amino acids has been recognized by his profession. Recently he has emphasized the connection between fluoride and Down’s syndrome.

Burgstahler is a former Alfred P. Sloan Research Fellow and a Notre Dame Centennial of Science Award winner.

**ACRES U.S.A.** What’s the argument for the use of fluoride in the water supply medicating the entire population, and what’s the argument against it?

**BURGSTAHLER.** The argument for fluoridation comes from surveys by the Public Health Service in the United States, beginning in the 1930s, in which it was supposedly seen that where there was some dental fluorosis traced to fluoride in the water, causing mottling of teeth, but there were lower rates of tooth decay among children. The first reports had only a few cities, and when you look at the data, it’s so scattered, you can’t believe there is any real correlation at all. Some of the higher fluoride cities had more tooth decay, and some of the lower ones had less. Further studies were based on selected cities, and that’s how it all came about, from use of selected data. The other side of the coin — how much harm might be associated with putting fluoride in the water at levels that were thought to be useful, at 1 ppm — the only sign the Public Health Service looked for and found was this dental mottling or dental fluorosis. They thought it was cosmetically objectionable, but not medically harmful. But there were other studies even at that time indicating that there were effects on the joints and the bones and some of the gastrointestinal system at this level in the drinking water.

**ACRES U.S.A.** Is this back in the days people read of “the town without a toothache”?

**BURGSTAHLER.** Yes, this is back in the ’30s and ’40s, exactly. It’s interesting historically that the American Waterworks Association, in 1938, in their official recommendations for maximum tolerance levels of contaminants in

the drinking water, set 1/10 th of a part per million as the recommended maximum for fluoride in drinking water, arguing that they needed a tenfold safety or risk factor, because at 1 ppm, we see enough dental fluorosis to make that water rejectable. Grounds for rejection of a water supply at 1 ppm; that’s

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what they had officially in 1938. After the Public Health Service came up with its finding of seeing dental benefits from fluoride, the Dental Division, under tremendous pressure to do something about rampant tooth decay in the United States during the Depression years, came up with the idea of trying to duplicate nature and propose some trial runs of adding fluoride to drinking water. Several cities were chosen for pilot experiments: Grand Rapids, Michigan, Newburgh, New York, Evanston, Illinois, and in Brantford, Ontario. This was 1945-1947, but the Public Health Service then stated that 1 ppm would be a recommended level for fluoride in the drinking water, and 1½ ppm would be the recommended point of rejection, or an intolerable level. So they arbitrarily changed the standard the American Waterworks Association had pushed for.

**ACRES U.S.A.** Is it the position of the dental associations that water is the only source of fluoride?

**BURGSTAHLER.** No, there are now many dentists quite worried on this score. In fact, over the last five or 10 years there have been reports in dental journals of other sources of fluoride causing an overdose for children. Swallowing toothpaste is one, getting too much fluoride from various kinds of fruit drinks is another, and there’s a report in the November 1999 issue of the *Journal of the American Dental Association* on the large amounts of fluoride in many carbonated beverages. A study in Iowa has shown that the average runs at least 8/10 ppm for most of these soft drinks, and certain fruit juices run as high as 2 ppm, from grapes for example, that are grown in vineyards where cryolite is used as a pesticide. There is so much dental mottling being seen by dentists today that many of them are finding that the costs of treating the dental fluorosis to make the teeth look more attractive, either by bleaching or actually capping them, is a much more expensive proposition than treating the smaller number of cavities they’re running into.

**ACRES U.S.A.** Is the problem merely aesthetic?

**BURGSTAHLER.** The problem with all this is that the Public Health Service in the United States has argued that fluoride is a major cause of reduction of tooth decay here and in other countries. But that is now vigorously disputed. Studies over the last 20 years have shown that whatever benefits you might see in teeth from fluoride must be brought about by topical application, and not by swallowing or going systematically into the body. That point

has been ignored by many pediatricians who still give fluoride tablets. The fact is, all the studies since the 1970s have indicated that whatever dental benefit there is from fluoride comes from a topical effect in influencing the enamel remineralization, although many deny there’s even that much benefit.

**ACRES U.S.A.** Why are the older studies so badly flawed?

**BURGSTAHLER.** First of all, as I mentioned, they are selective comparisons. When you take total populations or random samplings, you don’t see any benefit. Also, they were ignoring many effects of climate — like sunlight which creates more vitamin D and better mineralization — and the differences in dietary nutritional mineral intake, particularly calcium and other elements like magnesium and strontium and so on which have some beneficial effects on tooth formation, and more particularly for certain vitamin and protein components in the diet. Those have greatly improved since the Depression years, and we have a much better overall diet in the last 20 years compared to what we had 30 or 40 years ago, overall.

**ACRES U.S.A.** It seems impossible to argue with most people about the effect of fluoride on cavities, or caries.

**BURGSTAHLER.** In 1945, Newburgh, New York, was chosen for a dental and medical study, and Kingston, also on the Hudson River, was to be the control city. At the time, the argument was that the tooth decay rates were comparable in the two cities — actually that wasn’t quite true — but in the event, they collected data for 10 years following the fluoridation of Newburgh. Proponents claimed there was a 50 to 60 percent lower tooth decay rate in the children they examined. The same was argued for Grand Rapids, Michigan, and Brantford, Ontario, and Evanston, Illinois, and so forth. But following that 1955-60 period, tooth decay rates in Kingston were also going down, and in the mid-’90s tooth decay rates in the non-fluoridated control city of Kingston were actually a little lower than in fluoridated Newburgh, but the dental fluorosis rates in Newburgh are twice as high. On the medical side, in Newburgh, blood samples were sent to the University of Rochester, where atomic bomb research was going on. Scientists there were concerned because they had seen some toxic effects in the uranium workers handling uranium hexafluoride for the isotope separation. They were looking to see what kinds of biochemical parameters would be found in that general blood sampling. That was all suppressed. We don’t really know what they did find, but some things did leak out: cervical bone abnormalities in the boys in Newburgh were twice what they were in Kingston. The onset of puberty was advanced by some five months for girls in Newburgh, so there were some suspicious things that they should have looked into more closely. Later studies, confirmed in male rats, have shown higher osteosarcoma (bone cancer) rates in boys and young men in fluoridated communities compared to nonfluoridated ones.

**ACRES U.S.A.** You made a reference to radiochemistry, specifically uranium hexafluoride.

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**BURGSTAHLER.** Uranium hexafluoride is a compound of uranium that's volatile. It can be passed, by diffusion, through fine barriers with the heavier isotope, uranium 238, slower to move than the lighter 235 isotope. Uranium 235 is needed for atomic energy and to make nuclear weapons. After about a thousand passes, it's practically 100 percent uranium-235 hexafluoride at one end, and the heavier uranium-238 hexafluoride is left behind.

**ACRES U.S.A.** And this affected the workers?

**BURGSTAHLER.** The workers were exposed to this volatile material, and many of them were having problems with memory lapses, confusion, inability to concentrate, and so forth. Such concerns came to the attention of Dr. Phyllis Mullenix through Dr. Harold Hodge, who had been in charge of that work at the University of Rochester during the '40s and '50s. When he was a dental research consultant at the Forsyth Dental Research Center in Boston around 1985, he suggested that Dr. Mullenix look into the possible effects of fluoride in her animal studies. She had developed a very powerful tool called computer recognition patterns in which she was able to use two cameras at one-second intervals of picture-taking to see how rats would behave in different situations — after radiation or certain treatments of drugs, whether they became hyperactive or hypoactive, and whether their movements and movement patterns were altered appreciably. This is a very sensitive technique, and she found that certain radiation treatments which were being used for leukemic children had these hypoactive effects of making the animals more passive and less alert. Certain steroid drugs that had fluorine in them had the same effects. When she tested sodium fluoride separately, she used newborn and adult rats and found an interesting difference. She discovered that the prenatal injections led to hyperactivity in newborns, and the older rats showed a depressive effect. As a result of that research, she became very concerned and prepared a paper for publication, but she was told that in order to publish, she should clear her findings with the Public Health Service. She went to Washington to give a presentation, where they were rather shocked and wanted to know what her publishing plans were. She knew at this point that they were trying to suppress publication, but she went ahead and published anyway in *Neurotoxicology and Teratology Journal* in 1995. As soon as that happened, the lid blew off. She was then informed that her services were no longer required. Forsyth admitted bluntly that if she were to continue there, their funding, practically the entire source of support for the research institute, would be cut off by the Public Health Service in retaliation.

**ACRES U.S.A.** But the debate continues.

**BURGSTAHLER.** Recent studies in Tucson, Arizona, showed that there was less tooth decay in those areas with the least fluoride, and the areas with the most fluoride had the most tooth decay. So that's a complete reversal of what the claims are. The same thing has shown up in large-scale studies in the country of India. In New Zealand, a total population survey takes place when children reach the age of 13 or so, and they go from a public

*“Yes, it is a byproduct, a waste product which would cost the industry many millions of dollars, probably 10 times as much, if they had to take care of it in the proper way, rather than to sell it to communities and get money for it.”*

health dental system to private care, with an examination of every child at that time, regardless of whether they need service. So they have a complete national database, which they've had for quite a number of years in New Zealand. In 1980, when Dr. John Colquhoun, Principal Dental Officer of Auckland, was asked by the New Zealand public health authorities to do a world study tour, he found that reports about fluoridation were not too favorable when he talked to the inside promoters — the top dental scientists in the United States and Britain, various parts of Europe, and Australia and so forth. He then looked at the data in New Zealand for every health district and every city, collected for a number of years. He saw that the better teeth were in the nonfluoridated cities, and the percentage of teeth without cavities was also greater in those cities. You might invoke socioeconomic arguments to explain some of the differences, but generally, the higher socioeconomic classes in New Zealand are in the fluoridated cities. The same data showed up in Australia in a study by Mark Diesendorf, and in Canada, the least fluoridated provinces have the lowest tooth decay rate. In Canada, Professor Hardy Limeback at the University of Toronto has come out recently against fluoridation, just as John Colquhoun changed his mind in the 1980s. A year ago, Dr. Limeback started to express grave doubts about the benefits he thought existed, and he has now concluded from his further studies that children under age 3 should not be using fluoridated water, beverages, baby formulas or any fluoride in any form. Because it's causing so much dental fluorosis in the tooth-forming stages.

**ACRES U.S.A.** You are making the case that sound science is not the driving force, so what is?

**BURGSTAHLER.** What Limeback points out is that it has been the neat trick of the phosphate fertilizer industries to have an outlet for a waste product or a byproduct from their industry. When they make phosphate fertilizer, they start with rock phosphate — which is an apatite material — a material that is mostly calcium phosphate, but very insoluble and not very available biologically. To make it more immediately available, it is treated with concentrated sulphuric acid to get it into a form of a hydrogen phosphate. This is more soluble and therefore faster to see the phosphate uptake. But there is about 2 percent calcium fluoride in the apatite, and when you treat the apatite with sulphuric acid or even with phosphoric acid to make a superphosphate, hydrogen fluoride is eliminated, and that gas is too toxic to let go into the atmosphere, so it's put into holding ponds with silica, sand, and that converts it into fluoro-silicic acid, which may be neutralized to get sodium fluoro-

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*“We are poisoning our fields with something of the order of maybe several hundred parts per million of fluoride from those fertilizers, and that enriches the soils gradually from their natural levels. Some of these soils now have two or three times the fluoride levels they had without the use of that kind of fertilizer.”*

silicate, and those are the two main chemicals sold for water fluoridation. Sodium fluorosilicate is a solid, powdery, poisonous material, and the hydrofluorosilicic acid is sold in rubber-lined tank cars at concentrations of around 26 percent and metered into water systems to get 1 ppm fluoride.

**ACRES U.S.A.** So it truly is a waste product.

**BURGSTAHLER.** Yes, it is a byproduct, a waste product which would cost the industry many millions of dollars, probably 10 times as much, if they had to take care of it in the proper way, rather than to sell it to communities and get money for it.

**ACRES U.S.A.** How much fluoride comes through with the phosphate fertilizer that goes down on the wheat field?

**BURGSTAHLER.** There’s still quite a bit left, and that’s another problem. We are poisoning our fields with something of the order of maybe several hundred parts per million of fluoride from those fertilizers, and that enriches the soils gradually from their natural levels. Some of these soils now have two or three times the fluoride levels they had without the use of that kind of fertilizer.

**ACRES U.S.A.** Would it then have an uptake into the bran of the grain?

**BURGSTAHLER.** Different plants will have a greater uptake. We know, for example, that various kinds of tea have an enormous ability to take up fluoride, and that’s why many tea products will contain 300-400 ppm in the dry tea leaf. When you make tea to drink from it, you will get anywhere from 1 to 2 ppm fluoride in the extraction.

**ACRES U.S.A.** Which is what they called “tea-ism” in the old days.

**BURGSTAHLER.** In passing, you mentioned Yiamouyiannis and Burke. John Yiamouyiannis also studied data from a survey taken in 1986 by the Public Health Service at a cost of around \$3.6 million which surveyed 84 communities. He got hold of the data using the Freedom of Information Act and had to hand enter it into a computer because the PHS would not share the computer tapes with him. After this enormous amount of work, he then studied the cities one by one, and looked at all age groups, from age 5 to 17. The net result of all this was that there was no difference statisti-

cally between the tooth decay rates of the permanent teeth in the fluoridated and nonfluoridated cities, even looking at life-long residency, and this amounted to around 39,000 children in the overall survey, and over 17,000 for the lifelong residents. But he did see an effect in the baby teeth. Apparently these temporary teeth showed less tooth decay at around age 5 or 6, but that was lost by age 7. His argument is that probably much of that is due to the fact that the eruption rates are delayed with fluoridation, so that the teeth weren’t even in the mouth as much in the fluoridated cities as they are in the non-fluoridated ones.

**ACRES U.S.A.** Other than teeth and bones, what is the effect of fluoride, say, in the thyroid?

**BURGSTAHLER.** That’s a new one. There have been quite a number of studies arguing back and forth on this. Originally, Gorlitzer and Mundy in Austria used a fluoride bath, weak dilutions of hydrofluoric acid, to cause people with high thyroid to have a lowering of their hyperactive thyroid. Fluoride was absorbing through the skin, and this would then give a slow absorption of fluoride to depress the thyroid function. They had great claims about how successful this was to take care of hyperthyroid people, not necessarily safely, but that was a study way back in the ‘40s and ‘50s. In Switzerland, there were some other studies showing that anything over 4 or 5 mg a day would generally cause depression of thyroid function in many adult people. It would cause them to feel tired in the morning, to experience abnormally low body temperatures, and just not have the muscular strength and energy that they would like to have.

**ACRES U.S.A.** What about production of thyroxin?

**BURGSTAHLER.** Thyroid function is not always going to show up with many laboratory blood tests, but you can see it in a basal metabolism test. I actually had this done on me; that’s one reason I’m such a converted antifluoridationist. Back in the 1960s, I was feeling very tired, and I asked my physician, “Doctor, what’s wrong with me? I wake up feeling tired, and my joints ache, and I just don’t feel good.” He immediately thought of checking my basal metabolism, and came back with a long look on his face and said, “Well, you’ve got a minus 22.” And I asked what that meant, and he said that was pretty negative. I asked what do we do about it and what’s causing it? He didn’t know the cause, but he prescribed some thyroid extract, which I took faithfully for about three years and didn’t see much difference. Meanwhile, I was finding myself waking up very thirsty with a parched throat. I was having headaches, and my joints had a lot of aches in them until I got moving. Well, about 1964, in my research I came across some reports of the depression of thyroid function by fluoride.

**ACRES U.S.A.** What did you do next?

**BURGSTAHLER.** Of course that immediately rang a bell. Our research direction was in the field of organic chemistry, making some fluorinated amino acids for studies of the difference between

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forms of isomers. We were looking at one that's called "cis," with the fluorine and the carboxyl group on the same side of the molecule, and the "trans" isomer, where they're on opposite sides of the ring. Dr. Seymour Bakerman at the medical center found that the cis-proline would interfere with the synthesis of the hydroxyproline collagen pathway in the body, but we did not do much more with that. Meanwhile, in my own thinking and reading, I came across the work of Dr. George Waldbott, whose clinical findings showed that there are some preskeletal effects of fluoride, before you get the full involvement of joints. These involve gastrointestinal symptoms, muscular aches, fatigue, and so forth. I decided I would switch to a non-fluoride water to see what would happen, and being in a laboratory, I could get distilled water easily. I found that within a few days, the parched throat had disappeared, and I was feeling better, as far as the digestion was concerned, and I thought, well, this is interesting. So I kept a careful record of all this, and then after about a week or so, I noticed that the joints weren't aching and I was waking up feeling refreshed. After a couple months, I decided to call the doctor to see what I could find out. About three months after I made the switch, I rescheduled another basal metabolism test. He ran the test and said, "Your basal metabolism rate is zero, where it belongs. You're perfectly fine."

**ACRES U.S.A.** That one change made the difference?

**BURGSTAHLER.** Yes. Then I told him I had stopped taking the thyroxin for the past three months but had been on nonfluoridated water. I think he was convinced at that point, because apparently he had seen other patients with similar situations and was quite impressed with what I was able to tell him. Another symptom I saw was with a type of fluoridated toothpaste available at that time. I was having mouth sores in different parts of the mouth. I had believed the propaganda at that time that fluoridated toothpaste would help prevent tooth decay, but when I switched over to a non-fluoridated toothpaste, those mouth sores immediately ceased. I then found that there are clinical reports of this sensitivity in some people to fluoridated toothpaste. I think the newer preparations are less prone to do that, but nevertheless, it was a very real record during the 1960s and '70s for some of those early versions of fluoridated toothpaste.

**ACRES U.S.A.** The argument was made in Hereford, Texas, that the apatite crystal had more fluoride, and therefore there was more in the water. Was this what was turned up in the "town without a toothache"? Is that entirely bogus?

**BURGSTAHLER.** In a large measure it was, because the diet in that community had relatively high levels of protective minerals, particularly magnesium and phosphate. In this respect, those people had excellent diets, and so the side effects of the fluoride were kept at a minimum, but to attribute the low tooth decay rates to the fluoride was a big mistake, because when they imported modern diets into that same area, tooth decay rates shot up, even when they didn't change the fluoride levels right away.

**ACRES U.S.A.** What is calcium's role related to fluoride?

*"He added about 2 grams of calcium per day in each serving. Now, that's a pretty healthy dose of calcium in anybody's diet, but the teeth that were decaying started to self-heal. He didn't even have to fill some of them."*

**BURGSTAHLER.** Weston Price, as you may know, had a clinic during the Depression in Cleveland. In his book *Nutrition and Physical Degeneration*, originally published in 1938, he said that in a survey of Cleveland at the height of the Depression, many children were subsisting on spaghetti, and they had rampant tooth decay. So he decided he would enrich their regular school lunches with many extra minerals. He added about 2 grams of calcium per day in each serving. Now, that's a pretty healthy dose of calcium in anybody's diet, but the teeth that were decaying started to self-heal. He didn't even have to fill some of them. There was a self-healing process going on in the tooth decay. Then the teachers started coming around and remarking that children were appearing to have less difficulty with their studies. We've seen further confirmation of that from Australia, in boarding schools that would raise their own food and use proper agriculture methods, natural processes and fertilization. Their diets were so good that athletically, these schools were outdoing all their competitors, and there was a lot of objection that they had an unfair advantage because of their diets.

**ACRES U.S.A.** You mentioned the presence of fluoride in soft drinks and fruit juices. What about wines? Do you have any information on that?

**BURGSTAHLER.** I myself, with a student, did a study on that a few years ago, fluoride in California wines. We examined some 20 or so wines, and found that certain wines were above the recommended maximum of 1 ppm. To ship wine outside of the United States, they're supposed to stay below 1 ppm fluoride, and Europe has banned the import of wines exceeding that level, but they have made a concession to let it go higher. I understand that Denmark and Sweden still hold fast and won't allow it. I asked why this happened to the wines and was told that all the existing pesticides had lost their effectiveness on the leaf-eating insect larvae of the vineyards, so they've had to turn to cryolite, or sodium hexafluoroaluminate, which is also used in the aluminum industry to make the molten bath for the electrolysis of aluminum oxide. I asked why the larvae didn't develop a resistance to cryolite, and I was told that when the chemical gets into their stomachs, it releases hydrofluoric acid and chews the daylight out of the stomach. He was pretty candid about this. Washing the grapes thoroughly would be a difficult problem. We also looked at raisins and found that certain varieties were high in fluoride.

**ACRES U.S.A.** Has anyone ever done any research on the uptake in the bran, like in cornflakes or in wheat?

**BURGSTAHLER.** Soluble fluoride would be pretty well ab-

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*“There were disturbances in the brain cells at microscopic levels, and in the kidneys and the liver, and the damage was worse when the aluminum was present, compared to when sodium fluoride alone was used in distilled water.”*

sorbed, and a good deal of it in such products is soluble. Probably about half of it is absorbable, and depending how good your digestion is and what you're eating, there's anywhere from 40 to 80 percent of the food fluoride that does get absorbed. In water, it's probably better than 95 percent that gets absorbed. So we're running a risk when 1 part per million is added to the water supply.

**ACRES U.S.A.** Am I correct in assuming that if you use fluoridated water, you're making a combination drug with everything in the medicine cabinet?

**BURGSTAHLER.** That's a good point. We've been using fluorosilicic acid and sodium fluorosilicate for fluoridation in this country, and on top of that, water systems are treated with alum or aluminum sulphate combinations to take away turbidity. An interesting point arises chemically. When you have small amounts of aluminum in the water, it hangs on to fluoride very tightly and will enter your system as an aluminofluoride complex, which is also much more readily absorbed into the bloodstream and across the blood-brain barrier. Studies have been done by at New York University in Binghamton using levels of 1 ppm of fluoride in the drinking water of rats with aluminum and fluoride levels present that correspond to what we would have in a water supply. They ran these experiments on a continuing basis for 48 weeks or more so the rats were being exposed to a low level of fluoride and aluminum for a longer period rather than a high level for a short period. What they found is very revealing. There were disturbances in the brain cells at microscopic levels, and in the kidneys and the liver, and the damage was worse when the aluminum was present, compared to when sodium fluoride alone was used in distilled water. So they see a combination effect with aluminum. Silicon as well as aluminum levels are also elevated in their studies of the brain tissue. The association that they're pointing out — the possibility of getting nerve entanglements and things leading to dementia and Alzheimer's disease — is another connection that needs to be explored more fully.

**ACRES U.S.A.** Without getting into totally degenerative metabolic disease conditions, could it be that this fluoride is having an effect on children to the extent that they have to be given Zocor and drugs

like that?

**BURGSTAHLER.** I mentioned the work of Dr. Mullenix on newborn rats that had prenatal exposure to fluoride, and how they showed increased hyperactivity. What we lack is a comparison of children with a low fluoride intake versus those with a high fluoride intake. I can give you one anecdotal story that's very relevant. A woman called some years ago about her 16-year-old boy who was experiencing real problems in school. He couldn't concentrate, he was always jumping around, and was generally unmanageable. I met with her and her child and suggested they try distilled water for a few weeks and see what happened. She called back and said, “Dr. Burgstahler, this is amazing . . .” He had become a normal child.

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*The third edition of Fluoride, the Aging Factor, by Dr. John Yiamoiyiannis, is probably the best available book on fluoride. The book is published by Health Action Press, 6439 Taggart Rd., Delaware, Ohio 43015; list price \$14.95.*

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