Fluoride and Amalgam: An Introduction to the Debate

By ACSH Staff — June 13, 2002

By Todd Seavey

It is ironic that some greens and leftists are now promoting fear of fluoride and believe in a government/dental establishment conspiracy to foist fluoride on an unwilling populace since fear of a fluoride conspiracy was considered right-wing paranoia back in the days when Dr. Strangelove was filmed. Recall the brilliantly-acted scene in which a nervous-looking Peter Sellers smiles and nods politely while a deranged military man tells him about the Communist plot to corrupt our precious bodily fluids. Luckily, some opponents of fluoride are far more rational than that, including the writer of the letter below, a response to an earlier, pro-fluoride piece on HealthFactsAndFears.com. The letter gives some indication of the vehemence of the anti-fluoride movement and a somewhat more articulate than usual summary of that position, with links for the curious. Dr. Dodes defends his assertions in that earlier article regarding the safety and efficacy not only of fluoridation but also of amalgam fillings, which have lately come under renewed attacks by activists who blame them for a variety of illnesses.

Against the Dental Establishment

By Carl Hays

Dr. Dodes:

I commend you on a very interesting, Goebbels-worthy piece extolling the merits of fluoride. For the WWII history-challenged, Goebbels was Hitler's chief propaganda officer, whose philosophy embodied the familiar maxim, "If you tell a lie often enough, people will start to believe it's true." In the case of fluoride, its alleged safety and effectiveness has been promulgated in the popular media so long and so often that the general public is now convinced that not only is fluoridated water and toothpaste safe, but that it actually leads to stronger bones and whiter teeth. (Actually, the exact opposite is true: Over time, it results in weaker bones and mottled teeth.) However, like lead and arsenic, fluorides, due to their inherent cytotoxic, enzyme-destroying properties, are not safe and will never be safe, even in small amounts, no matter how many uninformed dentists and government flaks state otherwise.

As a former chemistry major and science reviewer for Booklist magazine, I've spent hundreds of hours researching the controversy surrounding fluoride and am now convinced that both fluoridated water and fluoridated toothpaste are not only unsafe but were bad ideas from the very beginning. Like you, I once believed those wacky anti-fluoridationists were just a bunch of misinformed conspiracy theorists, in league with the UFO enthusiasts or crop circle fanatics, making their case on the basis of flimsy anecdotal evidence or sheer pseudo-science. But then I actually started looking at their evidence, instead of naively trusting our government health
officials. (How many times has that trust been violated? Does anyone still remember the sustained and vociferous denials of the dangers associated with leaded gasoline?)

Contrary to my expectations, I discovered a wealth of solid, scientifically-grounded information on the hazards associated with fluorides, collected and reviewed by reasonable and objective scientists with impeccable credentials, some of them Nobel prize winners in medicine, and some of them former pro-fluoride health officials (see, for instance, Dr. Hardy Limeback of Canada). Also, contrary to my expectations, I discovered that almost none of the pro-fluoridationists (mostly dentists such as yourself) even made an attempt to rebut the anti-fluoridationists' criticisms, beyond lame ad hominem "fearmonger" attacks (see, for instance, Stephen Barrett's embarrassingly flimsy pro-fluoride diatribe at his Quackwatch [1] website, or the "35,000 studies can't be wrong" argument.

By the way, just a few notes on your supposed "35,000 studies": 1. That number appears to be somewhat inflated and pulled out of a hat, as most dentists cite "hundreds," not "tens of thousands." I would appreciate it if you would post a database or an Internet resource on your site where all those 35,000 studies are listed so they can be fairly evaluated. 2. Not a single one of the studies used to promote fluoride safety and effectiveness is a randomized, controlled, double-blind study most are epidemiological studies nor do any account for the now well-recognized fact that fluoride delays primary tooth eruption in children, hence grossly skewing the data toward cavity-free effectiveness.

In any case, lest you've temporarily forgotten the fundamentals of the scientific method, true science is performed not by launching "conspiracy theorist" attacks against one's opponents, but by dispassionately reviewing the opponents' criticisms, and either finding the flaws in their arguments or humbly admitting one's mistakes. Once ego, reputation, and money get involved in the process (as it so often does in the pro-fluoride camp), science is no longer science but corporate and professional self-interest.

Frankly, your knowledge about the true effects of fluoride on the human organism appears to be sadly lacking and personally I would find it embarrassing to have it displayed publicly on an Internet site such as HealthFactsAndFears.com. However, in the interests of educating my fellow man, as well as admitting that I, too, was once in the same arrogant and misinformed position that you are now, I am happy to share what I've learned, and most of my resources are readily available on the internet.

Probably the best and most up to date introductory material on the dangers of fluoride can be found at the following web addresses:


Now, I'll have to say that hard-won experience has taught me a bitter lesson about trying to educate someone who holds an opposing point of view: Rarely will a person even look at an opponent's arguments when his or her mind is made up on a particular issue. The assumption is usually that one has studied the issue enough already or that one's opponent's point of view "sounds silly," so it can't be true (I'd be a millionaire if I had a dollar for everything that "sounded silly" in science that has later proven to be true such as the Wright Brothers' first flight, which some deemed a hoax for years). In the case of doctors and dentists, the issue is usually one of time. The daily grind of patients, reviews, research, etc. already consumes so much time that one can do very little extra reading outside the profession and, regarding any new health controversy, it is easier just to accept the "conventional wisdom" or the word of a colleague rather than investigate an issue oneself. However, if you were to discover that a substance you are enthusiastically recommending as a health measure is in fact unhealthy and dangerous, even carcinogenic, wouldn't you want to know about it as soon as possible to avoid hurting any more people?

Granted, dentistry can be a very lucrative profession, but don't you have at least some modicum of interest in your patients' well-being?

Carl Hays

**Fluoridationists Not Fiendish, Amalgam No Atrocity**

John E. Dodes, D.D.S., P.C.

Mr. Hays' letter is predominantly an *ad hominem* attack on me. As one who lost many relatives to Nazi atrocities, I take great exception at being compared to Goebbels. I never lumped anti-fluoridationists with UFO enthusiasts nor did I accuse them of being unfamiliar with the literature. I find it interesting that Hays is so busy calling me names that he can't see the weaknesses in his own arguments. I ask the readers to re-examine my previous short article and see if they can find any of the statements Hays accuses me of.
Hays is correct that it is the quality, not quantity of evidence that counts. The American Oral Health Institute published *Abuse of the Scientific Literature in an Antifluoridation Pamphlet*. It describes the false interpretations, lies, half-truths, innuendo, and other unacceptable techniques that were used to produce the most widely quoted anti-fluoridationist publication, Dr. John Yiamouyiannis' *Lifesavers Guide to Fluoridation*.

Hays criticizes the epidemiological research that supports the use of fluoride yet it is this same type of research that has informed us of the dangers of smoking. Indeed the evidence of fluoride's safety and efficacy is stronger than the evidence of smoking's danger. But, in addition, there are many extremely fine studies of the effects of fluoridation on laboratory animals and cell cultures. Hays' statement that fluoride delays primary tooth eruption is simply wrong. Additionally, the delayed eruption of the primary teeth would not effect the statistical evidence of a marked reduction in decay in those groups, such as adolescents, who historically have had the highest rates of decay.

The Centers for Disease Control and Prevention proclaimed fluoridation one of the ten greatest public health achievements in the twentieth century. Fluoridation is endorsed by every major medical organization including the National Academy of Sciences, yet Hays proclaims all of us wrong (and sinister in our ignorance) and himself correct. I recently spent several months doing research on fluoridation so that I could write about it for the upcoming Wiley and Son publication, *The Encyclopedia of Water*. Mr. Hays, just because I disagree with your conclusions does not mean that I'm ignorant of the literature.

In conclusion, I'd like to quote *Consumer Reports* (published by Consumers' Union, the well-respected group famous for its independence and fearless criticism): "The simple truth is that there's no 'scientific controversy' over the safety of fluoridation. The practice is safe, economical, and beneficial. The survival of this fake controversy represents, in CU's opinion, one of the major triumphs of quackery over science in our generation."

As for amalgam: It would be impossible to counter every claim made by those opposed to silver-amalgam fillings. I suggest those who are interested contact the American Dental Association (ADA: 1-800-621-8099) and request some of the research.

The American Dental Association is suing an anti-amalgam attorney for "false, defamatory, and malicious accusations" that the ADA is "defrauding and endangering the lives of the American public" by supporting the use of amalgam restorations. In its lawsuit, the ADA cites statements from many prestigious scientific, government, and consumer organizations confirming the safety of amalgam fillings. These groups include the U.S. Food and Drug Administration (FDA), the National Institutes of Health, the World Health Organization, the FDI World Dental Federation, the U.S. Public Health Service, and Consumers' Union. As recently as February, 2002 the FDA reaffirmed the safety of amalgam, concluding: "no valid scientific evidence has ever shown that amalgams cause harm to patients with dental restorations."

There are large statistical studies that support the use of amalgam as well as studies on lab animals and cell cultures. Mackert and colleagues measured the levels of three major populations of lymphocytes (white blood cells) in people with and without amalgam fillings. The study showed
no differences between the two groups. Saxe and colleagues did an excellent and compelling statistical study of a population of nuns who had lived together for many years in a relatively homogeneous environment. The nuns with amalgam restorations did not score lower than the nuns without amalgam fillings on the eight tests of cognitive function.

The ADA collects data on the health, types of diseases and disorders, and causes of death of American dentists. The ADA also runs voluntary mercury-level tests at dental meetings. On-site screenings were done at the 1985 and 1986 annual meetings (mercury levels among dentists have fallen due to lower use of amalgam and widespread use of pre-capsulated amalgam), and the results showed that American dentists have a much higher body burden of mercury than does the general public. It makes sense that dentists who drill out and place amalgams would have a higher mercury level. It also makes sense to see if dentists have higher levels of any disease or premature death rates. It is compelling evidence of the safety of amalgam fillings that dentists exhibit no higher levels of morbidity or mortality. Amalgam opponents rarely address these well-established findings.

Because those who are opposed to amalgam haven't been able to produce convincing scientific evidence, they have turned to the courts and legislatures attempting to make it a crime for dentists not to inform patients of the alleged dangers of mercury in amalgams. A few state legislatures have thus introduced resolutions that promote the mercury scare under the guise of "informed consent." This is inappropriate because the doctrine of informed consent implies a proven danger, which is not the case with amalgam. Two groups behind this misguided effort are Defense Against the Mercury Syndrome and the Foundation for Toxic Free Dentistry.

The loss of such a useful and low-cost method of tooth repair would lead to a dental public health crisis. It is my hope that fair-minded people will be able to separate the wheat from the chaff and find my conclusions that both amalgam and fluoride are safe logical and reasonable.

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