

The Dental Amalgam Debate

Many patients are confronted with advice from their dentist regarding the safety of “silver” amalgam fillings. Usually the dental opinions express the standard teaching of the ADA. I am absolutely certain that every dentist that reassures a patient regarding the safety of this material does so with absolute conviction and with the best interests of their patient at heart. Unfortunately that does not make it right.

The mercury-silver amalgam entered into dentistry around 1850. Prior to this time all dental care was delivered by medical doctors. Most severe cavities were dealt with by pulling the painful tooth. If you were wealthy enough, you might be able to afford a gold filling, but the general public was not so lucky. In 1850 some dental technicians realized that if they mixed silver and mercury together they could produce “quicksilver,” also called “quack silver,” a material that was soft enough to mold into the cavity where it would harden into a filling. But the thought of intentionally putting a known poison like mercury into a person’s mouth was so ludicrous that the medical community absolutely refused to get involved and scoffed at the technicians as “Quacks” referring to the material they promoted. These dental technicians formed a new organization to counter the medical community and to promote their use of this new mercury amalgam. That organization was the beginnings of the American Dental Association, which still holds patents and collects royalties on dental amalgams, and still insists that the material is safe. Today the ADA’s Code of Ethics states that any dentist who suggests that mercury amalgam should be replaced because it may cause health problems would be unethical and subject to loss of licensure.

Dentists are well trained in their profession but they receive no training in toxicology and unfortunately have no idea that they might be harming the patients that they serve. They are taught that before it is placed in the mouth, when it is being prepared, the mercury-silver amalgam (which is 25-30% silver and 50-55% mercury, the rest being made up mostly of nickel, tin and zinc) is very toxic and must be prepared in well-ventilated areas. It is not to be handled except when wearing gloves and protection for the eyes and mucous membranes. Once the amalgam is removed from an old filling, it is again considered unsafe and must be handled as a toxic waste. How can it be then that amalgam is unsafe before and after, but is safe while it is in your mouth? The explanation offered by the ADA is that this amalgam is a “stable alloy” that does not release free mercury once it hardens. But this flies in the face of studies that have demonstrated a 25% loss of mercury from the amalgams within the first 5 years. Where does it go? A study published in the Journal of Dental Research showed a 15-fold increase in the amount of mercury vapor in the mouths of people with dental amalgam compared to people without such fillings. These vapors are released during chewing, brushing, and when we drink hot liquids. They are also released during dental drilling and dental cleaning. In many people with amalgams, the concentration of mercury in their mouth after chewing will exceed the limits set by the US Environmental Agency for occupational exposure. In 1991 the World Health Organization stated, “The general population is primarily exposed to mercury through diet and dental amalgam, with dental amalgam providing the greatest degree of exposure.” By their estimates, up to 84% of an individual’s exposure to mercury may come from their amalgams.

Mercury is probably the most toxic non-radioactive metal on this planet. When it gets into the body it gets incorporated into every tissue of the body and is removed only very slowly. Scientific estimates predict that it would take 30 years for a brain to lose half of its mercury load and about 90 years to clear it completely. Mercury is known to damage brain, kidney, lung, heart and blood vessels. There are 60,000 birth defects annually in this country alone that the EPA and Union of Concerned Scientists attribute directly to mercury. Studies have demonstrated that the amount of mercury in fetuses and infants directly correlate with the number of dental amalgams in mothers. Studies have demonstrated a 10,000-

fold increase level of mercury in heart muscles of people with congestive heart failure of “undetermined cause” and 10-15,000-fold concentration of mercury and arsenic in the arteries of people with coronary artery disease.

Published studies link mercury to immune system dysfunction, autoimmune disorders, brain damage, nerve cell damage, periodontal disease, lichen planus of the mouth, chronic fatigue, muscle and joint pains, endocrine problems and infertility. There have been suspicions of a relationship between mercury and multiple sclerosis and other neurodegenerative disorders. In one study, a tiny drop of water that had been exposed to amalgam was added to a nerve cell culture. The nerve cells were rapidly damaged and formed a mass of “neurofibrillary tangles” that was identical to those seen in Alzheimer's disease. Another study by the NIH followed over 400 women who had delivered healthy children prior to becoming dental assistants. These assistants were subsequently found to have a 50% decrease in their ability to conceive after they began working in the dental office.

The FDA has never evaluated the safety of dental amalgam, deferring that to the ADA. In 1983 the journal “Neurotoxicology” stated, “It is generally agreed that if amalgam was introduced today as a restorative material, it would never pass FDA approval.” In May, 2003, Maths Berlin, PhD, one of the world's foremost mercury toxicologists and Chairman of the WHO committee that established WHO standards for inorganic mercury, testified before Congress. He stated that there is clear evidence that mercury vapor passes into the brain and crosses the placenta into a fetus. He went on to state that there was a clear correlation between the presence of dental amalgam and the amount of mercury in an individual's brain. He concluded that dental amalgam is unsuitable as a dental filling material and he has already called for a ban of its use in all European countries.

In contrast to the massive volumes of studies on the toxic effects of mercury, there has never been a single reliable study demonstrating the safety of dental amalgam. An average amalgam contains 1 gram of mercury. If this amount of mercury were released into a 100-acre lake, that lake would have to be closed to fishing, drinking and even swimming for several years. We know that the release of metals is increased by exposure to an acid environment, like the mouth, and we know that the presence of more than one metal in an acid solution increases the rate of metal release. This principle of the common battery explains the greater risk to people with both amalgam and gold or any other metal in their mouth.

This country alone releases 200 metric tons of mercury into the environment each year. Much of that comes from coal burning and other industrial sources but fully one third of it comes from medical/dental sources. The entire planet shares what is released into the environment. It pollutes our air and rains down into our waterways, raising the level of mercury in every fish, even those from pristine mountain lakes. This is a travesty in itself, but only one person consumes what is placed into a mouth. If that person is unfortunate enough to lack adequate amounts of glutathione or metallothionein, a group of molecules that act as a natural defense against heavy metals, or has a kind of ApoE that fails to adequately protect the brain from toxic metals, and is therefore at higher risk of Alzheimer's disease, then that person will, unwittingly, be seriously harmed by even the most well meaning dentist.

While I do not believe that every person that has amalgams is destined to get sick and I certainly do not believe that every person should rush off to have their amalgams removed and their mercury chelated, there is no question but that the use of amalgams should cease immediately and in the meantime, we should not allow “silver” amalgams to be used in ourselves or our children. There is no non-toxic form of mercury and there is no level of mercury that toxicologists can determine to be safe. Today there are many, many people who have been and are being harmed by this toxin. Most sufferers will never know the cause of their illnesses, having been told, “all your tests are normal,” or that “it is all in your head.” Well that last statement may be more prophetic than realized.

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