'TIL DEATH DO US PART:
DENTAL MERCURY POLLUTION FROM CREMATORIUMS
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For nearly a century, health concerns have been raised about the mercury vapors emitted from dental amalgam fillings during a patient's lifetime; however, the issue of what happens to mercury stored in the mouth of a patient with amalgam fillings after death is quickly becoming the subject of a new controversy due to a growing number of lawsuits and environmental concerns.

The United States Environmental Protection Agency (EPA) estimates there are currently over 1,000 tons of mercury in the mouths of Americans, which is more than half of all the mercury being used in the U.S. today.[1] Unfortunately, given current funeral practices, almost all of the mercury still in the teeth of an individual at the time of death is eventually released back into the environment, where it can cause serious harm. In fact, according to the United Nations Environment Programme, 3.6 tons of mercury are released into the environment each year due to cremation.[2]

In order to understand how mercury pollution relates to cremation, one must understand several basic qualities of this toxic heavy metal. First, when mercury is heated up, it vaporizes. While in this gaseous form, it is tasteless and odorless, but this airborne mercury can be taken in by other sources, such as soil, water, plants, and animals. There, certain types of bacteria can transform it into methylmercury, which is regarded as a "deadly neurotoxin to humans and wildlife from its ability to cross the blood-brain barrier."[3] Methylmercury accumulates as it moves up the food chain, often from microorganisms to fish and then to humans. For this reason, pregnant women and children are advised not to eat certain types of seafood.[4]

When a person with amalgam fillings is cremated, the dental mercury is obviously heated up and released as vapor from the crematorium. This mercury is released into the air, as well as the rest of the environment. As a result, lawsuits filed by citizens fighting crematoriums in their neighborhoods are becoming more and more commonplace in the United States and other countries as well.[5] [6] [7] [8]

A variety of trends suggest that controversy over mercury releases from amalgam fillings in crematoriums will continue to grow. An 2006 article by dental hygienists Christiansen and Larson indicated that the number of cremations is increasing, and the elderly population is growing. They also noted that the number of amalgam fillings in the teeth of older Americans is likewise on the rise: "With the growing elderly population and better oral health measures, many people die with heavily restored mouths."[9] Citing statistics from the Minnesota Department of Health, they stated that the "mouth of an elderly person has an average of 8.6 amalgam restorations."[10]

One alternative to cremation with amalgam fillings is to recommend a traditional burial, but due to prices and religious practices, this is not a viable option for many people. Furthermore, burying an individual with amalgam fillings results in the mercury being deposited directly into

the soil. This means that whether a person is cremated or buried, the mercury is released back to the environment. A 2006 study by Hylander and Goodsite succinctly warned: "Amalgam fillings not replaced before death will cause emissions to air, soil, and water upon cremation or burial."[11] The same study also outlined the issue with suggesting that flue gas cleaning technology can reduce the amounts of mercury released from crematoriums: "The technology cannot recover all Hg [mercury] in the flue gases, and a certain pollution level of Hg [mercury] will still occur, contrary to if the fillings are removed before cremation."[12]

The option of removing the amalgam fillings from corpses before the burial or cremation could significantly reduce emissions. However, questions have been raised over who would perform this task, who would pay for it, and if safety measures would be applied to protect others from vapor releases that occur during the removal process.

It is quite interesting that the option of safely removing amalgam fillings from patients that are still alive has not been seriously considered as a solution to this problem. First, such an action (as long as safety protocols are followed to limit mercury releases during removal) means that the mercury could be collected and accounted for at dental offices, where safe measures for handling waste could be enacted and applied. Second, since some patients report the reduction of adverse health symptoms after the removal of amalgam fillings,[13] [14] [15] [16] [17] [18] [19] [20] [21] [22] [23] [24] [25] [26] it means that many people might enjoy a healthier life. In this regard, the IAOMT's Safe Mercury Amalgam Removal Technique (SMART) was designed specifically to reduce mercury exposures generated during amalgam removal and serves as a viable option for protecting patients, dentists and their staff, and our environment—during our own lifetimes and after our deaths.

Ending the use of dental amalgam would also certainly help solve this problem in the future. However, given the 1,000 tons of mercury currently implanted in the mouths of Americans, methods for removing dental amalgam fillings and handling mercury waste from cremations will be required for at least another century. This means that dental amalgam poses a threat to the environment and future generations long after we are gone and likewise, long after we stop using it.

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