



## **Did You Know That “Silver” Fillings Are 50% Mercury?**

Mercury, which has the symbol **Hg** on the Periodic Table of Elements, is a silver-colored, shiny metal that is highly toxic. Elemental mercury is the form used in dental fillings, which are a mixture of liquid mercury and a dry, powdered alloy consisting of silver, tin, copper and sometimes zinc. *About 50 to 54 percent of the filling is elemental mercury by weight.*

## **Why Be Concerned About Mercury In “Silver” Fillings?**

Here are five key points about Mercury-Amalgam fillings that everyone should know:

- You should not allow *any, or any more*, mercury in your mouth. Mercury is toxic — it releases toxic vapor inside the mouth. Disposal of dental mercury is hazardous to the environment.
- When having a mercury-amalgam filling removed (for any reason), it's essential to have this done *properly*, with state-of-the-art safety precautions, to minimize exposure to patient, dental staff, and avoid groundwater contamination.
- You have choices: a growing number of dentists are deciding *not* to use mercury in their practice. Functionally equivalent, affordable and cosmetically compatible restoration materials such as ceramic and composite have been available for a long time.
- The practice of using highly toxic mercury in dental fillings originated in 1820's. It is archaic, but still promoted by the association that controls dentistry in the U.S., largely for economic reasons. Uninformed dentists and patients are a major reason why mercury-amalgam fillings continue to be commonplace.
- *You* can help put an end to the use of mercury in dentistry! *You* don't have to wait for a United States professional association to change its position. *You* can set a new standard for what is acceptable dental care in *your* life. The Choice is yours!

## **Can Dental Practices Affect The Rest of My Body and My Overall Health?**

Yes. For example, mercury-amalgam fillings (popularly called “Silver fillings”) can directly or indirectly cause: chronic fatigue, memory loss, anxiety, irritability, panic attacks, depression, headaches and dizziness, kidney damage, gastrointestinal problems, hypothyroidism, Alzheimer's disease among other problems.

## **Why Are Mercury-Amalgam Fillings Still Used in The United States Today?**

Mercury-amalgam fillings are still used because the material is easy to shape, is solid enough to substitute for the missing dental tissue, and is relatively inexpensive. However, if the producers of mercury-amalgam actually had to prove with long-term studies that putting mercury into someone's mouth was not harmful — something, by the way, they have never done — the matter would be easily resolved, and mercury would no longer be considered an appropriate material to fill cavities.

As of 2012, three European countries — Norway, Denmark and Sweden -- ban the use of mercury in dentistry. Since the European Commission Study came out in 2013 that recommended a ban of dental amalgam due to the hazard to the environment, many other countries have restricted its use (Denmark, Finland, the Netherlands, Italy, Austria and Germany), and there is growing support in Europe to phase out and ban its use by dentists in the near future.

However, in the United States, the professional association that has been promoting mercury-amalgam fillings as “safe” for the past 150-plus years is changing its position quite slowly. Quiet acknowledgement of mercury's adverse health effects is the start of a gradual shift in practice ... with many younger dentists and more forward-thinking practitioners already eliminating mercury-amalgam. Meanwhile, many “traditionalists” continue to use it and some major insurance companies are resistant to changing the “standard of care” schedule of payments — unfairly denying newer, better options to those who rely solely on insurance to fund their dental treatment.

## What Are The Alternatives to “Silver” Fillings?

Conventional dentists routinely remove old mercury-amalgam fillings only to replace them with new mercury-amalgam fillings. But there are much healthier, alternative materials available, such as porcelain or ceramic inlays and onlays. These materials are not only free of toxic mercury, they also look much better. In fact, one reason many people give for choosing to have their amalgam fillings removed is “they’re ugly!”

## Who Decides Which Filling Materials Go In Your (or Your Child’s) Mouth?

You don’t have to wait for a United States professional association to change its position. You can set a new standard for what is acceptable dental care in *your* life. Please ask questions and understand the risks and benefits of any treatment you are considering.

## How Can A Solid Metal Filling Leach Mercury Into The Body?

Mercury is the only metal that is actually liquid at room temperature, and it also vaporizes into a poisonous gas at room temperature. Inhalation of invisible, odorless mercury vapor is the main source of elemental mercury poisoning. After it’s inhaled, the vapor is absorbed by the lungs and enters the bloodstream.

Mercury vapor is continually released from amalgam fillings, and activities such as chewing, brushing your teeth, grinding your teeth, and drinking hot beverages increase the amount of vapor that is released.

## Why Did Dentists Start Using Mercury To Fill Cavities In The Early 1800’s?

Back in the first half of the 19th century, dentists first started using mercury amalgam because it was easy to work with, as well as cheap and durable, and it did the job better than other filling materials that were *available at that time*. Since dentists who used mercury amalgam had more profitable practices than dentists who didn’t use it, they formed their own trade association to justify and promote its use.

## Are There Exposure Limits Or Other Regulations Of Dental Mercury?

There is no limit to the number of mercury-amalgam fillings that a dentist can put into someone’s (even a child’s) teeth, even though mercury is one of the most regulated substances in the United States. There are strict rules on how it can be transported, handled and used in manufacturing consumer products.

The Environmental Protection Agency has classified mercury as a hazardous waste and regulates the discharge levels of elemental mercury and mercury compounds into the air, water and landfills. The Food and Drug Administration is responsible for regulating mercury levels in food, drugs, cosmetics and medical devices. The Occupational Safety and Health Administration issues regulations on mercury in the workplace and worker exposure to substances containing mercury. State and local governments, as well as boards of health and industries that *actually use* mercury can also regulate its use and any emissions it produces. *Yet, no regulatory steps have been taken to reduce a dental patient’s exposure to mercury from dental fillings!*

## Is Dental Mercury Harmful To The Environment?

Yes. In fact, when a dentist is working with a mercury-amalgam filling and the mercury is *outside* of the mouth it is regulated as a *hazardous material*. Dentists are taught not to touch mercury amalgam while they are preparing it or while they are packing it into a patient’s tooth. Any waste mercury amalgam that comes from dental treatments is required by law to be stored in a tightly closed container filled with an appropriate liquid to prevent mercury vapors from escaping because *mercury vapors are hazardous to our health*. And according to the Environmental Protection Agency and the American Dental Association, when disposing of dental material containing mercury, a dentist is NOT permitted to toss it in a garbage can, flush it down a drain or toilet, or dispose of it in a landfill because the mercury would create an *environmental hazard*.

## Why Weren't The Problems With Mercury Found Out Earlier?

The hazards of mercury were widely suspected based on clinical experience even at the time it was first used in dental fillings. For instance, in the mid-19th century, there was an organization called the American Society of Dental Surgeons that required its members to sign a pledge that they would not use mercury- amalgam fillings. But since mercury amalgam was so easy to use, did a better job of filling cavities (than other materials available at that time) and was also inexpensive, more and more dentists decided to use it anyway.

Unfortunately, the American Society of Dental Surgeons lasted only from 1840 to 1856. The dentists who used mercury amalgam had a better business model and more customers, so when they formed the American Dental Association in 1859—they then gained control over the practice of dentistry in the United States.

The fact that fillings containing mercury are still being used by a large (but declining) percentage of dentists means there is still a need to educate practitioners and the public about the danger of using these fillings. So, with the fundamental understanding that a “silver-colored” dental filling is actually about 50 to 54 percent elemental mercury, here are some important points to keep in mind:

- There is no doubt that elemental mercury is hazardous to the environment and human health.
- After many years of denying that mercury leeches out of amalgam fillings, supporters of their use finally acknowledged, relatively recently and quietly, that mercury does come out of these fillings.

## Why Is Proper Removal Of Mercury-Amalgam So Important?

When you decide to have your mercury-amalgam fillings removed — even if it's only for cosmetic reasons — it is critically important to find a dentist who is aware of the dangers of mercury exposure and is well trained in using the equipment and procedures necessary to protect everyone present.

Every day, there are dentists, all over the world, who drill on mercury-amalgam fillings with no regard for the possibility of exposure that can result from this procedure. Consequently, the patient, as well as the dentist and dental staff, can become ill. However, if the procedure is done correctly, there is minimal exposure to mercury vapor.

## What's Required For Proper Removal?

- A well-ventilated office (with cleansing house plants)
- Constant water spray on tooth
- Extra vacuum pumps to suction mercury particles
- Removal in chunks rather than grinding
- Use of covering for a patient's eyes and nose
- Use of a rubber dam over patient's tooth
- Respirators or masks for staff (in addition to the usual protective gear such as gloves and eye protection)

After the filling is removed, the dentist must dispose of the waste amalgam so it does not harm people or the environment. Amalgam waste cannot simply be tossed in the trash, washed down a drain, flushed down a toilet or disposed of in a landfill. Mercury is, after all, a hazardous material. Therefore, the EPA requires that it be handled as a toxic-waste disposal hazard, so all the amalgam particles must be placed in special, air-tight containers and taken to an approved waste carrier for recycling or disposal.