

# Dental Amalgam (Silver Fillings)

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## What is Dental Amalgam (Silver Fillings)?

Most people recognize dental amalgams as silver fillings. Dental amalgam is a mixture of mercury, silver, tin and copper. Mercury, which makes up about 50 percent of the compound, is used to bind the metals together and to provide a strong, hard, durable filling. After years of research, mercury has been found to be the only element that will bind these metals together in such a way that can be easily manipulated into a tooth cavity.

## Is mercury in dental amalgam safe?

Mercury in dental amalgam is not poisonous. When mercury is combined with other materials in dental amalgam, its chemical nature changes, so it is essentially harmless. The amount of mercury released in the mouth under the pressure of chewing and grinding is extremely small and no cause for alarm. In fact, it is less than what patients are exposed to in food, air and water.

Ongoing scientific studies conducted over the past 100 years continue to prove that amalgam is not harmful. Claims of diseases caused by mercury in amalgam are anecdotal, as are claims of miraculous cures achieved by removing amalgam. These claims have not been proven scientifically.

## Why do dentists use dental amalgam?

Dental amalgam has withstood the test of time, which is why it is the material of choice. It has a 150-year proven track record and is still one of the safest, most durable and least expensive materials used to fill a cavity. It is estimated that more than 1 billion amalgam restorations (fillings) are placed annually. Dentists use dental amalgam because it is easier to work with than other alternatives. Some patients prefer dental amalgam to other alternatives because of its safety, cost-effectiveness and ability to be placed in the tooth cavity quickly.

## Why don't dentists use alternatives to amalgam?

Alternatives to amalgam, such as cast gold restorations, porcelain and composite resins are more costly. Gold and porcelain restorations take longer to make and can require two dental appointments. Composite resins, or white fillings, are aesthetically appealing but require a longer time to place the restoration. It should also be known that these materials, with the exception of gold, are not as durable as amalgam.

## What about patients allergic to mercury?

The incidence of allergy to mercury is far less than one percent of the population. People suspected of having an allergy to mercury should be tested by qualified physicians, and, when necessary, seek appropriate alternatives. Should patients have amalgam removed? No. To do so,

without need, would result in unnecessary expense and potential injury to teeth.

## Are dental staff occupationally exposed?

Dentists use premixed capsules, which reduce the chance of mercury spills. And newer, more advanced dental amalgams are containing smaller amounts of mercury than before. An interesting factor can be brought into this: Because dental staff are exposed to mercury more often, one would expect dental personnel to have higher rates of neurological diseases, such as multiple sclerosis. They, in fact, do not.

## What are other sources of mercury?

Mercury can be found in air, food and water. We are exposed to higher levels of mercury from these sources than from a mouthful of amalgam.

Much of this information was received from Jack Mitchem, DMD, professor of dental materials at Oregon Health Sciences University Dental School and past chairman of the American Dental Association Council on Dental Materials, Instruments, and Equipment.

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