

# Concepts of Dental Amalgam Filling: Benefits and Possible Risks of Dental Amalgam

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## DESCRIPTION

Dental amalgam is a kind of filling material which is used to repair cavities caused by tooth decay. Dental amalgam is a metal mixture made up of liquid (elemental) mercury and a powdered silver, tin, and copper alloy. On composition, dental amalgam contains about half (50%) elemental mercury. The chemical characteristics of elemental mercury allow it to react with silver/copper/tin alloy particles and bind them together to form an amalgam. Because of their silver-like appearance, dental amalgam fillings are commonly referred to as "silver fillings," however this term is not encouraged because it does not accurately describe the components in amalgam.

When inserting a dental amalgam, the dentist first drills the tooth to remove the caries, then forms a tooth cavity and inserts the amalgam filling. Then, under appropriate safety conditions, the dentist mixes the encapsulated powder alloy with liquid mercury to form amalgam putty. This softened amalgam putty is placed in a prepared cavity and moulded, where it quickly hardens to form a solid filling. It's durable and long lasting, so it's harder to break than other types of padding. It is useful for patients at high risk of caries, large tooth preparation, and patients who have difficulty establishing a bond with the tooth due to other materials such as resin due to moisture. Least expensive type of filing material, it is used by hundreds of millions of patients worldwide for over 150 years.

## Possible risks of dental amalgam

Contains elemental mercury, releases small amounts of mercury in the form of vapours that can be inhaled and absorbed by the lungs. Exposure to high concentrations of mercury vapour that can occur in some occupational environments is associated with adverse effects on the brain and kidneys.

The development of the nervous system of the fetus and infant may be more sensitive to the neurotoxic effects of mercury vapour. Clinical data on long-term health outcomes in pregnant women and their developing fetuses, and children under 6 years

of age, including breast-fed infants, are very limited. Pregnant women and parents of children under the age of 6 who are concerned about the lack of clinical data on long-term health outcomes should consult a dentist. Although available evidence does not show that exposure to mercury from dental amalgam has adverse health effects on the general population, exposure to mercury can be potentially vulnerable. The following groups of people are commonly associated with mercury, which can pose a significant health risk.

The FDA does not recommend anyone removing or replacing existing amalgam fillings in good condition unless deemed medically necessary by a medical professional. Removing the intact amalgam filling unnecessarily loses the structure of healthy teeth and temporarily increases exposure to the additional mercury vapour released during the removal process. The durability of tooth restorations depends on many factors in addition to the tooth filler. To ensure that your teeth and fillings last as long as possible, you should ensure a healthy diet, proper oral hygiene and regular dental examinations.

About half of the amalgam filling is made up of liquid mercury and the other half is made up of powder alloys of silver, tin and copper. Mercury is used to bind alloy particles into a strong, durable solid filling. Mercury's unique properties, which are liquids at room temperature that bind well with alloy powders, make it an important ingredient in dental amalgam and contribute to its durability. Dentists have used dental amalgam. It is a safe, strong, and long-lasting cloth that prices much less than different substances. Even though dental amalgam may be an excellent choice, dentists would really like to apply it much less often. They might favour to save you enamel decay and accordingly lessen worries approximately the surroundings due to the fact no decay approach no filling cloth of any type might be needed. Research is underway to broaden substances which are as clean to apply, inexpensive, and durable as amalgam. Until a few equal materials are created, the excellent manner to apply much less dental amalgam is to lessen the improvement of cavities.

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