

# Silver Fillings in Modern Dentistry: Understanding Amalgam Use and Relevance

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## DESCRIPTION

Dental amalgam has been used for many decades as a restorative material to repair teeth affected by decay. Its long history reflects both its practicality and its ability to withstand the forces of chewing over extended periods. This material is a mixture of metals, typically including silver, tin, copper and mercury, combined to form a durable compound that can be placed into cavities and shaped to restore tooth function. Despite the development of newer materials, amalgam continues to hold a place in clinical care due to its reliability, affordability and ease of use. One of the main reasons amalgam gained wide acceptance is its strength. Teeth located at the back of the mouth are exposed to high pressure during chewing and not all materials can tolerate such forces over time. Amalgam demonstrates a capacity to endure repeated stress without fracturing easily, making it suitable for molars and premolars. Its ability to adapt well to cavity walls during placement also contributes to its effectiveness, as it helps create a tight seal that reduces the chance of food particles and bacteria entering the restored area.

Another factor contributing to the continued use of amalgam is its cost-effectiveness. In many regions, especially where access to dental care may be limited by financial constraints, this material provides a practical option for restoring teeth without placing a heavy burden on patients. The procedure itself is generally straightforward and requires less time compared to some alternative materials, which may involve additional steps such as bonding and layering. While amalgam has many advantages, it has also been the subject of discussion due to the presence of mercury in its composition. Mercury in dental amalgam is bound within the alloy, which limits its release under normal conditions. Extensive studies conducted over many years have indicated that the material is safe for most individuals when used appropriately. Health authorities in various countries have reviewed scientific data and have generally supported its use, although some recommendations suggest limiting its application

in certain groups such as pregnant individuals or very young children as a precaution.

Aesthetic considerations have influenced the popularity of alternative materials in recent years. Amalgam has a metallic appearance that contrasts with the natural color of teeth, which can be a concern for patients who prefer a more discreet restoration. Tooth-colored materials such as composite resins have become more widely used in visible areas of the mouth because they can be matched to the shade of natural enamel. Even so, amalgam remains a valuable choice in situations where strength and longevity are prioritized over appearance. The placement of an amalgam filling involves several steps. First, the decayed portion of the tooth is removed, creating a clean space for the restoration. The dentist then prepares the cavity in a way that helps retain the material securely. The amalgam is mixed into a pliable form and inserted into the cavity, where it is packed and shaped to fit the contours of the tooth. Over time, the material hardens, forming a solid restoration that can function effectively for many years. Patients are often advised to avoid chewing on the treated side for a short period after the procedure to allow the material to set fully.

Longevity is another important aspect of amalgam restorations. With proper care, these fillings can last for a decade or more and in some cases even longer. Their resistance to wear and their ability to maintain structural integrity make them suitable for individuals who may not be able to attend frequent dental visits. Regular oral hygiene practices, including brushing and flossing, play a significant role in extending the life of any dental restoration, including amalgam. Environmental concerns have also been raised regarding the disposal and management of mercury-containing materials. Dental practices often use specialized equipment to capture and safely handle amalgam waste, reducing the potential impact on the environment. Regulations and guidelines have been introduced in many regions to ensure that the use of amalgam is conducted responsibly, balancing patient care with environmental considerations.

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In recent years, there has been a gradual shift toward alternative materials in some settings, driven by patient preference and advancements in dental technology. However, it is important to recognize that no single material is ideal for every situation. The choice of restoration depends on various factors, including the location and size of the cavity, the patient's oral health status and economic considerations. Dentists assess these factors carefully before recommending the most suitable option for each individual. Education and awareness are essential in helping patients make informed decisions about their dental care. Understanding the benefits and limitations of amalgam allows individuals to weigh their options and choose treatments that align with their needs and expectations. Open communication between patients and dental professionals

ensures that concerns are addressed and that decisions are made based on accurate information rather than misconceptions.

In summary, dental amalgam continues to serve as a dependable restorative material with a long track record of clinical success. Its durability, affordability and ease of placement make it a practical choice in many situations, even as newer materials gain popularity. Ongoing research and responsible use contribute to maintaining its role in dentistry while addressing concerns related to health and the environment. The continued presence of amalgam in dental practice reflects its value as one of several options available for restoring oral function and maintaining overall dental health.