



WHAT LIES Beneath

>>> Dr. Bret Davis

MERCURY AMALGAM FILLINGS VS. COMPOSITE FILLINGS

It seems almost anyone who is at least thirty years old has or has had an amalgam filling. When I was younger, I had most of my back teeth filled with them and in my years as a dentist, I rarely come across a patient who doesn't have one. Amalgam fillings were the standard filling material and treatment option to "fix" cavities for over a hundred years. In fact, I was taught in dental school to use amalgam as my primary restorative material to fix cavities on back teeth. Most dentists were taught exactly the same thing.

Obviously, we now know there are alternative options. These alternative fillings or restorative choices are: gold, porcelain, composite (white adhesive bonded filling material), compomer (a hybrid of resin and ionomer materials), zirconia (technically a metal, but porcelain-looking), and base metals (e.g., stainless steel, nickel chromium, etc.).

While there are many choices in how to have your cavities fixed, and some are rarely used due to esthetic and other downfalls. For the purpose of this article I will discuss the two most common types of "fillings" used today: Amalgam and Composite.

Amalgam is the term used to describe mercury silver fillings. Amalgam means any metal that can bind with mercury to form an alloy (mix of metal). Composite is the term we use to describe white or

tooth-colored fillings. The word composite means to have differing material engineered to work together. In the case of composite fillings, resins or adhesives are combined with glass particles. This gives the material the ability to be sculpted and then set hard, while binding to the tooth structure.

So, what does this really mean? Besides the way they look, why should you really care about what material goes in your tooth? To answer this question, let me explain the differences in how these materials act once they're in your tooth. After knowing the pros and cons of both, you can decide which to ask for when seeing your dentist.

AMALGAM FILLINGS:

1. MERCURY. This is a topic of hot debate. It has been the subject of congressional hearings to ban the use of mercury entirely. We know that mercury is a toxic element and yet it is still allowed to be placed in someone's mouth. The argument for the use of mercury is that once the mercury binds with the silver (and there are usually other trace amounts of metal in amalgam as well such as tin and copper), then it is rendered inactive. However, scientific evidence shows that during the chewing process trace amounts of mercury are leached into the body. Now, whether this causes any harm is unknown. There is no current data showing a direct correlation between

mercury from amalgam fillings and disease.

2. AMALGAM IS INCREDIBLY EASY TO PLACE. The technique for doing this type of filling is not very difficult. That could be one of the reasons it's taught in dental school. Basically, the cavity is removed, the area for the filling to be placed is refined, and the amalgam is packed into the void. That's about it... after a few hours the amalgam becomes hard and the patient can chew on it.

3. AMALGAMS TEND TO CORRODE. IS THIS GOOD OR BAD? We've all seen silver fillings get dark over the years. When they're first placed they are silver in color. After time they turn black due to the sulfur in our saliva. Sulfur reacts to the amalgam and tarnishes it. This corrosion causes it to turn dark. This may actually help some because this corrosion helps close the space between the filling and the remaining tooth.

However, because of the mixing of saliva with the amalgam and the resultant corrosion, the filling expands or "creeps". This puts stress on the tooth and can inherently weaken it.

4. LACK OF SEAL. Amalgams DO NOT SEAL the tooth. Once the cavity is removed, the traditional method is to place the amalgam in the cavity, shape it, and let it harden. Therefore, there is no inherent seal and nerve protection. The inside of the tooth needs protection be-

Pre-Amalgam



Composite Filling



Amalgam Filling



cause it's an organic living structure. Bacteria can penetrate between the gap of the tooth and amalgam and re-infect the tooth. It is my observation that well over 80% of all amalgam fillings that show NO cavity on the X-ray will still have a cavity under the fillings. The X-rays are blocked by the metal filling and therefore it's difficult to diagnose whether the tooth has a new cavity in it or not. It's like turning over a log in the forest. It looks good on the surface, but what's lying beneath it once it's uncovered?

5. AMALGAMS WEAKEN THE TOOTH. This is my biggest issue with amalgam fillings. I can't tell you how many hundreds, possibly thousands of teeth I've seen that are cracking, fractured, split down the middle, or chipped as result of having an amalgam filling. Obviously, the patient's chewing habits, grinding, and types of food he eats all play in to this as well, but the fact of simply having an amalgam filling in one's tooth weakens it substantially. It's the same as driving a large wedge into a piece of wood. Eventually that wood will split.

6. AMALGAMS ARE CHEAP. Most insurance companies pay a benefit toward amalgam fillings. Why wouldn't they? It's a very inexpensive way for them to pay to have your cavity "fixed".

COMPOSITE FILLINGS:

1. THESE ARE MUCH MORE TECHNIQUE SENSITIVE. In fact, many dentists don't like doing them because they require absolute isolation of the tooth. This means that no blood, saliva, or other contaminants may be present while placing the composite, or else the likelihood of failure increases substantially. Many patients complain of having sensitivity after a composite filling which could be due to the lack of precise technique that's involved when placing these.

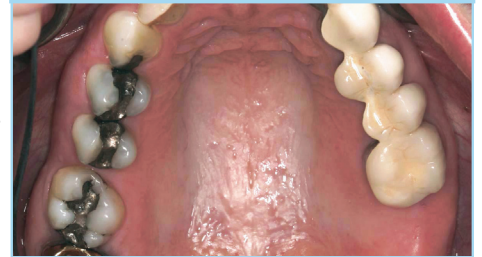
2. HERMETIC SEAL. This is one of my favorite things about a composite filling... and my least favorite thing. Have you ever had an amalgam filling replaced by a composite filling because your dentist told you that it had a new cavity even though it didn't bother you? And after the new filling was done did the new one cause sensitivity or even hurt? Rest assured, this may not be the dentist's fault. Let me explain: Because the amalgam filling has no inherent seal, bacteria can get it. However, even if there is a bacterial contamination, no pressure or pain builds up because not only can things get in, but THINGS CAN GET OUT! In other words, pressures due to the contamination and the gases produced from the bacteria are escaping through the very gaps that let them in! That's why it doesn't hurt. Now, when the dentist removes the cavity and seals the tooth, everything becomes trapped in or trapped out. Any bacteria that may have been left behind and close to the nerve will build up gases and because there's no escape route or vent, the tooth suddenly hurts. All this means is that you'll need a root canal. You would have needed one anyway, but the dentist will do it today instead of letting it get more contaminated and weaker.

3. TOOTH REINFORCEMENT. Because the composite is also part adhesive, the filling will bind to the remaining tooth and therefore strengthen it. Any micro-cracks will stop from spreading and the tooth is much more resistant to fracture and has the ability to withstand normal chewing. Because of these resins and the chemistry of the composite, one of the drawbacks is that it shrinks slightly

when it is set up. This is an inherent drawback that can and is overcome with proper placement technique. However, that is a discussion beyond the scope of this article.

4. ESTHETICS. ENOUGH SAID.

Before



After



So, which is best for you? Should you have your mercury silver fillings replaced? Do you see gaps, leaking, and cracks around your mercury silver amalgam fillings?

All these questions can only be answered by you. It is your body. Personally, I've had all my amalgam fillings replaced with composite due to its ability to seal and protect the nerve, reinforce my teeth, and look more natural. I didn't want to have one break and need a root canal, crown, or worse yet, have it removed all together. Do you? ■



Dr. Bret Davis is a local neuro-muscular, cosmetic, and general dentist located in Pocatello, Id. He is one of the youngest dentists to achieve completion of the complex LVI curriculum and earn fellowship status. Dr. Davis received his fellowship with the Academy of General Dentistry and is now prestigiously dual-fellowshipped. He is ranked in the top 1% of dentists nationwide by the Consumer Research Council.