

Talking with Patients

Dental Amalgam

André V. Ritter, DDS, MS

WHAT IS IT?

Dental amalgam, also known as “silver fillings,” is a restorative material of blended silver, copper, and mercury. Once mixed these components produce a solid silver-colored material that is used to fill cavities. Dental amalgam has been used in dentistry for more than 150 years, and its application has been extremely well documented. It is estimated that more than 100 million Americans have a tooth restored with amalgam.

Recently, there has been considerable public awareness regarding the safety of dental amalgam because of its mercury content. However, once bound to the amalgam alloy by an irreversible chemical reaction and placed in the tooth, the mercury becomes biologically inactive. Many scientific studies have investigated the safety of dental amalgam, and no credible study has demonstrated that dental amalgam is unsafe. Health agencies such as the National Institutes of Health, the Food and Drug Administration (FDA), the Centers for Disease Control and Prevention, the American Dental Association, the American Association for Dental Research, the Environmental Protection Agency, and the World Health Organization have all concluded that dental amalgam has not been demonstrated to

ADVANTAGES

Strength and durability
Ease of use
Low cost

DISADVANTAGES

Poor esthetics
Does not strengthen the tooth
Not as conservative of tooth structure as are resin composites

cause clinical harm and that removing dental amalgam fillings does not prevent adverse health effects or reverse the course of existing diseases. An excellent summary regarding the safety of dental amalgam can be found on the FDA's Web site (<<http://www.fda.gov/cdrh/consumer/amalgams.html>>).

Even though the safety of dental amalgam has been established with regard to individuals, concern still exists over its disposal from dental offices. These substances can become environmental contaminants if not disposed of properly.

WHEN IS IT NEEDED?

Dental amalgam is used as a filling material in moderate to large cavities in back teeth. Tooth-colored resin composites and ceramics have become alternatives to dental amal-

gam in many cases, particularly when esthetics is a primary concern. Those procedures have been discussed in previous segments of Talking with Patients (Volume 13, Numbers 2 and 3).

CONCLUSIONS

Dental amalgam is a durable and safe filling material that results from the amalgamation of a metal alloy with mercury. Dental amalgam is still a very good filling material, although it is not as esthetic or conservative of tooth structure as are resin composites. According to the US Public Health Service, there is no persuasive reason to believe that amalgam fillings should be avoided or that having them removed will be beneficial to one's health.

The following photograph contains examples of amalgam restorations.



Figure courtesy of Dr. Al Wilder, University of North Carolina, Chapel Hill, NC, USA.