



CEDAR WALK
FAMILY AND COSMETIC
DENTISTRY

Safe Removal of Amalgam Fillings as Recommended by International Academy of Oral Medicine & Toxicology.

The mercury free dentists of the world have been acutely aware of the potential for excess exposure to mercury when removing amalgam fillings, and have devised a number of strategies for reducing the amount of mercury exposure to both patients and dental staff during amalgam removal.

Dentists all over the world remove millions of amalgam fillings every day, with no regard for the possible mercury exposure that can result from grinding them out. Much of the time, a new amalgam filling goes back in place of the old one. The dental establishment claims that amalgam is a stable material, that emits little or no mercury, but then turns around and blames the mercury-free dentists for “unnecessarily exposing patients to excess mercury” when removing amalgams electively. Well, which is it? Stable, or mercury emitting?

We know beyond any doubt that amalgam emits mercury, as elaborated in the related articles, [“The Scientific Case Against Mercury Amalgam”](#) and [“Understanding Risk Assessment for Mercury From Dental Amalgam.”](#) Finished amalgam on the bench at 37°C will emit as much as 43.5 µg of mercury vapor per square centimeter of surface area per day, for extended periods of time.¹ Samples of the leading brands of amalgam kept in water at 23° C released 4.5 to 21 µg per square centimeter per day.² Cutting the amalgam with a dental bur produces very small particles with vastly increased surface area, and vastly increased potential for subjecting the people present to a mercury exposure. In fact, in a recently published experiment, volunteers with no amalgam fillings swallowed capsules of milled amalgam particles, and, sure enough, their blood mercury levels increased.³ These authors concluded that “the GI uptake of mercury from amalgam particles is of quantitative importance.” Molin, et. al. demonstrated a three to four fold increase in plasma mercury the next day, and a 50% rise in urine mercury for a month following amalgam removal in ten subjects, after which their

mercury levels began to decline.⁴ Snapp, et. al.⁵ showed that efforts to reduce mercury exposure during amalgam removal resulted in less uptake of mercury than that cited in the Molin study.

Our Office Protocol for Amalgam removal:

When removing an old amalgam, we try to slice it across and dislodge big chunks, thus causing less contents to aerosolize, than if grinding it all away. We also keep it under a constant water spray while cutting, this keeps the temperature down, and reduce the vapor pressure within the mercury.

Our best tool for removing mercury vapor and amalgam particulates from the operating field is the high volume evacuation (HVE). We keep it going next to the patient's tooth until finished with the removal and clean-up process.

A rubber dam will help contain the majority of the debris of amalgam grinding, among its many other benefits.

Berglund and Molin⁹ demonstrated, as a follow-up to Molin's 1990 study, that the use of a rubber dam eliminated the spike in plasma mercury one day after amalgam removal, as well as the spike in urine mercury ten days afterward: evidence of its protective benefit. Of course both amalgam removal groups, dam or no dam, showed 50-75% reduction in blood mercury levels a year later. IAOMT sponsored research favors the use of rubber dam to protect patients from mercury exposure.

But you must know that some mercury vapor will diffuse right through the dam, and some of the particulates will often sneak past it, too.

So in our office we:

- Always use a saliva ejector behind the dam to evacuate air that may contain mercury vapor. We use **Nitrile** dams, which are better vapor barriers than latex.
- Rinse well as we go, especially under the rubber dam clamp, because amalgam particles left on the used dam will emit mercury. As soon as the amalgams are out, we remove the dam and thoroughly rinse the patient's mouth before placing the new restorations. It can take as much as sixty seconds of rinsing to fully remove the mercury vapor. We search for gray particles. If there are particles on the back of the tongue, we have the patient sit up and gargle them out.
- Post-removal rinses are often used to scavenge mercury from the patient's saliva. Some of the substances that can be suspended in water and used for this purpose in our office are activated charcoal, chlorella, or n-acetyl cysteine.
- Covering the patient's face with a barrier will prevent spattered amalgam particles from landing on the skin, or the eyes. We use protective goggles and wet cloth with essential oil on the face. During the procedure we often offer to provide the patient with oxygen through nasal cannula.



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Informed Consent for Amalgam Removal (And other restorative materials)

Please initial each item on the line provided.

I, _____, give my dentist Yelena Brikina, DDS/ Prashant Rao, DDS permission to remove dental amalgam fillings and other restorative materials from my teeth, and replace them with dental materials presently considered bio-compatible, based on the recommendation of my referring healthcare practitioner and/or my own choice.

_____ I understand that although the signs and symptoms of mercury toxicity outlined in the scientific literature may reflect signs and symptoms that I presently may have, there is not yet sufficient scientific evidence that removing amalgam fillings, gold, metals or composites from my teeth will cause any cure, or improvement in any of my health problems or conditions. Furthermore, Dr. Brikina and/or Dr. Rao has made no representation that replacing my amalgam fillings and/or other restorative materials will affect or cure any specific symptoms or medical problems I may have.

_____ I choose to replace my dental amalgam and/or other restorative materials. I have reviewed my treatment options, and the risks and benefits of the material chosen have been explained to me, including the fact that there has not been a sufficient number of years of use to scientifically prove wear characteristics.

_____ As might occur with the replacement of amalgam, gold, or any other dental material, I understand there are situations beyond the control of my dentist that may necessitate endodontic treatment and/or removal of an existing tooth despite precautions taken and proper procedures utilized.

_____ Before dental work is initiated, a treatment plan was presented to me and thoroughly discussed by Dr. Brikina or a member of her staff. I understand the treatment plan is only a guideline and may change as treatment begins.

Replacement Materials:

Please Initial:

_____ I understand that depending on the reasons I have ceramic/resin/hybrid restorations placed, alternatives may exist. I have asked my dentist about them and their respective expenses. My questions have been answered to my satisfaction regarding the procedures and their risks and costs.

_____ I understand that various types of testing are available (Muscle, blood, skin), at my expense, to help determine my specific material tolerance profile. These services are not performed by Dr. Brikina and/or Dr. Rao. I have had an opportunity to explore/complete these tests.

Please initial one of the following, as it applies to you:

_____ I elect not to have these tests performed and allow Dr. Brikina and/or Dr. Rao to determine the most appropriate materials for my treatment.

_____ I have completed these tests and provided Dr. Brikina and/or Dr. Rao with the results so that she may use the most appropriate materials for me specifically.

I have read and fully understand this statement. The risks, benefits and consequences of amalgam removal, and/or the removal of other restorative materials and their replacement have been thoroughly explained to me. No guarantee or assurance has been given to me by anyone that the proposed treatment or surgery will cure or improve any health conditions I may have.

Signature: _____ Date: _____