



TODD A. KINNEY, DDS  
AMY C. MADDEN KINNEY, DDS

*Health centered dentistry—guided by nature.*

## How Can I Safely Remove My Mercury Amalgam Fillings?

It is mandatory that you, rather than your doctor or dentist, make the decision for mercury amalgam replacement. The exceptions are if your dentist shows you there is clear indication that any of your existing mercury amalgam fillings are worn, damaged or failing and in need of being replaced, or if you are simply choosing to replace your mercury amalgam fillings for cosmetic reasons. In either case, before your amalgams can be replaced, this office will require that you provide us with a signed, written consent stating it is your decision to have your amalgams replaced with an alternative material, and that you fully understand the implications of your choice.

The following recommendations for safe removal of mercury amalgam fillings are based on that of the International Academy of Oral Medicine and Toxicology (IAOMT). The IAOMT is a membership organization of dental, medical and research professionals involved in peer-reviewed scientific research, education and promotion of biological dentistry. The IAOMT encourages the use of biocompatible materials and the development of appropriate protocols to ensure whole-body patient health. The IAOMT offers education and training in scientifically based principles and state of the art techniques to ensure its members are able to provide their patients with the safest and most effective dental care available.

Even though mercury amalgam removal procedures may vary from dentist to dentist, we feel it's important for you to be aware of the IAOMT protocol because it was designed to minimize your exposure to mercury vapor and particles.

### IAOMT Guidelines for the Patient, Dentist and Staff

1. **Take activated charcoal.** There's some evidence that activated charcoal taken 10-15 minutes prior to amalgam removal can bind smaller particles of swallowed mercury, allowing them to be harmlessly passed out of the intestine via the feces. We consider this to be optional, as very little elemental or inorganic mercury is absorbed through the intestine, but it can't hurt.
2. **Protective barriers for the patient, dentist and assistant.** Covering the patient's face and clothing with protective, water-repelling barriers will prevent mercury particles from landing on the skin, clothes or the eyes. In our office we use protective gloves, eyewear, headwear and drapes to protect the patient, dentist and staff from any direct skin contact with mercury particles. These barriers are properly disposed of or sterilized after their use.
3. **Use a dental dam.** A dental dam isolates the tooth or teeth being worked on. Some mercury free dentists don't believe this is absolutely necessary, but it's our opinion that a dental dam is essential for the safe removal of mercury amalgam fillings. Even though mercury vapor can pass through the dental dam, we believe that a dental dam makes it easier to evacuate the filling material and prevent amalgam particles from being swallowed. As long as the patient breathes through the nose, the dam can reduce the amount of mercury vapor inhaled through the mouth. A saliva ejector is also used behind the dam to evacuate any air or water that may contain mercury vapor.

Finally, it offers an isolated and dry field for placing dental restorations. Even though it takes a little extra time and patience to place and remove the rubber dam, anyone who is concerned about minimizing mercury exposure and safety during dental procedures should insist on its use.

4. **Keep the fillings cool during removal.** Removing amalgam fillings generates a tremendous amount of heat, which causes a dramatic increase in the release of mercury, both as a vapor and in amalgam particles, during the entire removal process. Cooling the filling with water and air during this process dramatically reduces the amount of mercury vapor the filling releases. Most mercury free dentists use a removal process that's commonly referred to as chunking. This requires less drilling as the dentist sections the filling into chunks, which can then be easily removed by a hand instrument or suction.
5. **High-volume evacuation (HVE).** We feel this is one of the most important tools in minimizing the patient's exposure to mercury vapor and amalgam particles. A special suction tip is used to reduce the amount of aerosol spray and also helps capture more of the mercury vapor and particles. An additional air filtering system and evacuation suction can

also be placed as close to the patient's mouth as possible. This device is especially helpful in removing mercury vapors from the dental field and minimizing exposure to the patient, dentist and staff.

A special mercury collection filter should be used in the vacuum lines, which removes 95% or more of the mercury particles from dental fillings. Although not yet required by state or federal law, we have installed this mercury separation and recycling process to prevent the release of unwanted dental mercury into the environment via community wastewater.

6. **Provide the patient with an alternative source of air.** We believe it's best to provide the dental patient with an alternative air source while their amalgam fillings are being removed. This isn't necessary after the removal process is completed, when the tooth is being prepared for the new filling, and while the new filling is being placed.

During the actual amalgam filling removal, the patient should be provided with a protective mask or nosepiece through which to breathe either compressed air from a tank, air from a source outside the office, or oxygen from a tank. The patient should breathe through the nose and avoid breathing through the mouth while the fillings are being removed. We think this is especially important for pregnant and nursing mothers, patients who have existing health issues related to mercury, allergies, or immune system problems.

7. **Additional air purification.** The office and dental operatory should be well ventilated. There are a number of effective ways to purify the air in the office. Most mercury free dental offices filter the office air, as they work in it all day and it's to their benefit to do so. Charcoal and HEPA filters in the central air system, and ceiling exhaust fans and ion generators in the dental treatment rooms enhance the removal of airborne particles and mercury vapors from the contaminated air. We feel reducing mercury exposure is just as important for the dentist and staff as it is for the patient. Although mercury free offices don't place amalgam fillings, they certainly are required to remove them. Removing mercury amalgam fillings releases significant amounts of mercury vapor, and any mercury free dentist would want to take the necessary precautions to protect the entire staff free from exposure to mercury.
8. **Respirators for the dentist and staff.** During amalgam removal the dentist and assistant are at more risk for mercury vapor exposure than the patient. Although the typical hygienic masks that are in everyday use effectively filter out bacteria and viruses, they are of little to no benefit in removing either amalgam particles or mercury vapor from the air. We feel the best protection for the dentist and assistant is a mercury vapor trapping mask or respirator with special mercury filters.
9. **Dentist and dental assistant working together.** While a dentist working alone can safely remove mercury amalgam fillings, it is easier and safer for everyone to have a dental assistant present throughout the entire procedure. This will ensure constant suction and a continuous flow of air and water.
10. **Remove gloves and dental dam and clean the patient's mouth.** Once the amalgam fillings have been safely removed, the dentist and the assistant should remove and dispose of their gloves and the dental dam, and thoroughly rinse and vacuum the patient's entire mouth for at least 30 seconds. It may take as much as sixty seconds of rinsing to fully remove the mercury vapor. The patient should make every effort not to swallow during this procedure. The dentist and assistant should then dispose of the patient's protective covering and thoroughly clean the face, neck, and any exposed skin, and disinfect any protective eyewear. We also suggest that after the rinsing procedure, the patient use a small amount of water to gargle and then spit it into a sink or cup. All instruments should be rinsed prior to the next step of the dental procedure to remove any possible collected mercury vapor and particles. A fresh dental dam is then placed to isolate and dry the teeth before proceeding with placing the new dental restorations.

**Note:** We recommend that anyone who has mercury related symptoms or diseases related to chronic mercury poisoning, allergies, or immune system dysfunction, should have a general health risk assessment and diagnostic testing for chronic mercury toxicity by a qualified medical physician before proceeding with the removal of their amalgam fillings.