

The IAOMT protocol recommendations for amalgam removal are known as the Safe Mercury Amalgam Removal Technique (SMART). These recommendations include the following measures, which are listed here with scientific research:

- An amalgam separator should be properly installed, utilized, and maintained to collect mercury amalgam waste so that it is not released into the effluent from the dental office.
- Each room where mercury fillings are removed should have adequate filtration in place, which requires a high-volume air filtration system (such as an at source oral aerosol vacuum) capable of removing mercury vapour and amalgam particles generated during the removal of one or more mercury fillings.
- If possible, windows should be opened to reduce the mercury concentration in the air.
- The patient should be given a slurry of charcoal, chlorella, or similar adsorbent to rinse and swallow before the procedure (unless the patient declines or there are other contraindications making this clinically inappropriate).
- Protective gowns and covers for the dentist, dental personnel, and the patient should be in place. All present in the room should be protected because substantial quantities of particles generated during the procedure will elude collection by suction devices. It has been demonstrated that these particles can be spread from the patient's mouth to the patient's knee, and to the chest, shoulder, and neck of the dentist and dental assistant.¹¹⁸
- Non-latex nitrile gloves should be utilized by the dentist and all dental personnel in the room.
- Face shields and hair/head coverings are to be utilized by the dentist and all dental personnel in the room.
- Either a properly-sealed, respiratory grade mask rated to capture mercury or a positive pressure, properly-sealed mask providing air or oxygen should be worn by the dentist and all dental personnel in the room.
- In order to protect the patient's skin and clothing, a full body, impermeable barrier, as well as a full head/face/neck barrier under/around the dam, should be utilized.
- External air or oxygen delivered via a nasal mask for the patient also should be utilized to assure the patient does not inhale any mercury vapour or amalgam particulate during the procedure. A nasal cannula is an acceptable alternative for this purpose as long as the patient's nose is completely covered with an impermeable barrier.
- A dental dam that is made with non-latex nitrile material should be placed and properly sealed in the patient's mouth.
- A saliva ejector should be placed under the dental dam to reduce mercury exposure to the patient.
- During amalgam filling removal, the dentist should utilize an at source oral aerosol vacuum in close proximity to the operating field (i.e., two to four inches from the patient's mouth) to mitigate mercury exposure.
- High speed evacuation produces better capture when fitted with a Clean Up device, which is preferred.
- Copious amounts of water to reduce heat and a conventional high speed evacuation device to capture mercury discharges should be used to reduce ambient mercury levels.
- The amalgam should be sectioned into chunks and removed in as large of pieces as possible, using a small diameter carbide drill.
- Once the removal process is complete, the patient's mouth should be thoroughly flushed with water and then rinsed out with a slurry of charcoal, chlorella or similar adsorbent.
- Dentists must comply with federal, state, and local regulations addressing the proper handling, cleaning, and/or disposal of mercury-contaminated components, clothing, equipment, surfaces of the room, and flooring in the dental office.
- During the opening and maintenance of suction traps in operatory or on the main suction unit, dental staff should utilize the appropriate personal protection equipment described above.

It is important to note that as a safety precaution, the IAOMT does not recommend amalgam filling removal for women who are pregnant or breast-feeding and that the IAOMT does not recommend that dental personnel who are pregnant or breast-feeding conduct work that disrupts amalgam fillings (including their removal).