

## PATIENT PROTECTION

First in every concerned doctor's mind is the protection of the patient from additional exposure to mercury. This is especially true of the mercury toxic patient. The mercury toxic patient may have been exposed to varying amounts of mercury from diet, environment, employment or from mercury/silver dental fillings. All forms are cumulative and can contribute to the body burden. The goal of this preferred procedure is to minimize any additional exposure of the patient, ourselves, or staff to mercury.

During chewing the patient is exposed to intraoral levels which are several times the EPA allowable air concentration.<sup>2</sup> During the removal or placement of amalgam the patient can be exposed to amounts which are a thousand times greater than the EPA allowable concentration.<sup>3</sup> Once the drill touches the filling temperature increases immediately vaporizing the mercury component of the alloy. There are 8 steps to greatly reducing everyone's exposure.

### 1. Keep the fillings cool

All removal must be done under cold water spray with copious amounts of water. Once the removal has begun, the mercury vapor will be continuously released from the tooth.

### 2. Use a high volume evacuator

Therefore, a high volume evacuator tip should be kept near the tooth (1/2 inch) at all times to evacuate this vapor from the area of the patient. Polishing amalgam can create very dangerous levels of mercury and should be avoided especially for the mercury toxic patient.

### 3. Provide an alternative air source

All patients having amalgam removed or placed should be provided with an alternative air source and instructed to not breathe through their mouth during treatment. A nasal hood such as is used with the nitrous oxide analgesia equipment is excellent. Air is best and oxygen is acceptable although not required. If just air is used it should be clean and free of mercury vapor preferably from outside the dental office.

### 4. Immediately dispose of the mercury alloy

Particles of mercury alloy should be washed and vacuumed away as soon as they are generated. The filling should be sectioned and removed in large pieces to reduce exposure.

At present the International Academy of Oral Medicine and Toxicology (IAOMT) has approved removal both with and without the use of a rubber dam. Some evidence exist to support both views since high levels of mercury and amalgam particles can be found

under the dam. All members are agreed that whether or not a rubber dam is used the patient should be instructed to not breathe through their mouth or swallow the particles. Some experts feel that it is better to remove the amalgam first and then apply the dam if needed for restorative procedures.

#### 5. Lavage, and change gloves

After the fillings have been removed, take off the rubber dam if one was used and lavage the patients mouth for at least 30 seconds with cold water and vacuum. Remove your gloves and replace them with a new pair. If a restorative procedure is next then reapply a new dam and proceed.

#### 6. Immediately clean patient

Immediately change patient's protective wear and clean their face.

#### 7. Consider nutritional support

#### 8. Keep room air pure