

Safely Removing Mercury Amalgam Fillings

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Note: *This protocol is given to educate the client about the safety issues involved with removing mercury amalgam fillings and other toxic metal restorations from the mouth. While each client is unique, presenting circumstances that must be addressed, the protocol outlines the procedures we follow to ensure client health and safety.*

MERCURY IS A HIGHLY TOXIC HEAVY METAL. DUE TO its devastating effects on the *autonomic nervous system* – the one that controls your body’s unconscious actions such as breathing, digestion, sweating and so on – mercury can wreak havoc in almost any organ. It is also easily oxidized, generating *free radicals*. These are molecules that lack one or more electrons, and thus are prone to bind with a wide range of organic and inorganic compounds. As a result, the biological terrain, or *milieu*, is impaired. Enzymes and cellular membranes work less effectively. Cross-linking proteins are damaged. The body loses its ability to rid itself of toxins.

Of course, mercury is not the only metal of concern to integrative dental physicians. Along with mercury, so-called “amalgam” fillings typically contain silver, copper, zinc and tin. Cadmium, nickel, aluminum, palladium, beryllium, arsenic and cobalt may be found in other types of dental restorations, as well as in the general environment via industrial pollution. Over time, such toxins accumulate in a body’s tissues. But simple detoxification is not enough to restore health. In the case of mercury, this metal must be removed from the teeth. Otherwise, any *chelators* – heavy metal detox agents – used will only pull more mercury from the teeth and redistribute it throughout the body. Not only will there be no net gain; symptoms may change or even increase.

In removing mercury-amalgam fillings, safety is key – that of the client as well as of the dentist and assistants. There should be procedures to protect all concerned from as much exposure to the metal as possible. Some will occur, of course, despite all best practices. In part, this is because the mercury in fillings is in the elemental form, which easily penetrates all mucous membranes in the mouth, GI tract and lungs, as well as the rubber used in dental dams and gloves. Mercury – the only

metal that is liquid at room temperature – is also highly volatile when heated. A dental drill running at more than 100,000 RPMs can generate a lot of mercury vapor during removal.

Pre-Mercury Removal Treatment

PROTECTION FROM MERCURY EXPOSURE ACTUALLY begins long before any fillings are removed. And like any successful action, it begins with creating a well thought-out plan.

In doing so, a thorough clinical biological dental evaluation and digital x-rays are needed. Functional assessments (FAs) are taken to determine the individual’s health issues. Although a complete FA is most desirable, three tools in particular are good for initial screenings for most clients we see:

1. *Urine Porphyrin Analysis* to determine the impact of mercury on the bodily tissues
2. *Biological Terrain Analysis (BTA)* to gauge the state of the client’s internal milieu
3. *Electro-dermal screening* to evaluate the subtle energy package of the acupuncture meridians

The client is encouraged to read Keith Scott-Mumby’s *Virtual Medicine*, which discusses the important tool of Functional Assessments.

FAs are followed by treatment planning and sequencing, and client education to ensure full understanding and truly *informed* consent.

The client is next placed on a pre-surgical protection plan, tailored to his or her unique biochemistry. Compatibility testing is done to ensure that the replacement restorations are nontoxic. We use both the Clifford cytological challenge blood test and EAV energetic assessment. The latter is strongly suggested for clients with multiple hyperactive and allergy problems.

The length of time between pre-treatment and mercury removal varies from person to person. Some are ready almost from the get go, needing only large amounts of *chlorella* – a type of algae that is an excellent natural chelator – before surgery. Others need months to prepare. On average, though, most people need about two to four weeks to open the channels of elimination and establish drainage. We also confront allergic responses to the mercury and other nutrients during this phase.

Oral chelation and drainage protocols should continue after mercury removal. For although removing the fillings eliminates a major source of tissue contamination, there is still the matter of accumulated mercury in the tissues. Consider: if you had water running into an overflowing sink, you'd need to shut off the water *and* pull the plug to solve the problem. Each action alone wouldn't suffice. So, too, with mercury. It's not enough to "turn off the tap" (i.e. remove the fillings). You've also got to "pull the plug" via post-operative chelation and drainage.

Protocols for Mercury Removal

THOUGH SOME HOLISTIC DENTISTS RECOMMEND removing the fillings in order of their electrical charge, others find no advantage, as amperage readings can vary greatly over time. We find that the best strategy is to remove amalgams by quadrant, based on the client's occlusion, tooth alignment and the size and location of each filling.

To protect their clothes from exposure to mercury, the client is covered with a disposable gown, and their hair is protected with a disposable cap. Their eyes are protected with wetted gauze, and the face and head are wrapped with a towel. The teeth and gums in the quadrant to be worked on are coated with a chlorella-based slurry, as is the rubber dam used to isolate the area. A special suction device is placed as close as possible to catch the pulverized amalgam and harmful mercury vapor. It runs continuously, throughout the procedure, protecting both the client and the dental team.

To ensure that the client breathes clean air, the nose is covered with a mask delivering either oxygen or an oxygen-nitrous oxide mix. The client is reminded to breathe only through the nose, to reduce the risk of mercury vapor entering the lungs via the mouth. A

room air filter and mercury vapor ionizer further purify the air for all.

It's important to remember that how the dental team protects itself also affects your health and safety. After all, if they show little understanding or concern for their own health and safety, how much will they show for you?

Thus, in addition to the measures already mentioned, both dentist and assistant wear special filtration masks during the procedure to further reduce the risk of breathing mercury vapor. They wear protective, disposable clothing or lab coats to keep particulate matter from clinging to their street clothes. And because elemental mercury can penetrate surgical gloves, both protect their skin by using powdered chlorella or creams inside their gloves.

To reduce the pulverization of amalgam (and thus the vaporization of mercury), the client's fillings can sometimes be removed in large chunks. The dentist first sections the filling with a high-speed drill, then pries the pieces loose with a small hand instrument to remove them from the mouth. When possible, a slow-speed hand piece is used to remove any traces of amalgam left behind. (The fewer RPMs, the less heat and vapor generated.)

During drilling, large amounts of water are used to cool the drill and reduce amalgam dust. A high-speed suction tool is placed next to the filling to remove the mercury-laden water and further suction the vapor.

Throughout the procedures, the client will periodically be asked their mouth with a mix of water and Denta-Chelate, a solution that binds toxic-free heavy metal ions. By blocking the absorption of mercury ions into the tissue membranes, this product adds an extra level of protection. Clients with amalgam fillings are encouraged to use this product each time they brush their teeth, as brushing has been shown to release mercury ions from amalgam fillings. (This is why we never polish a client's amalgams.)

Once all fillings have been taken out, the rubber dam is removed carefully. The client will rinse once again with the water/Denta-Chelate.

Before replacing the fillings, we treat them with a mercury chelator called DMPS, as well as procaine, homeopathic isodes and ophthalmic solutions. We then apply a cold laser for three minutes to penetrate the solution deeper into the dentinal tubules for better chelation. If indirect (lab-created) restorations are to

be done, we'll repeat this procedure before placing them at the next visit.

The drills and the air/water syringe are wiped to remove any mercury residue. The client's protective gown and face coverings are removed and disposed as hazardous medical waste, as are the gloves and gowns of the dental team. The contaminated hand-pieces, instruments and air/water syringes are rinsed and the suction tips are replaced. The room air filter and mercury vapor ionizer are left to run, to fully decontaminate the room.

The amalgam removal process can be traumatic to the teeth, jaw, TMJ and cranial structures for a number of reasons: the mechanical forces of surgery; holding the jaw open for a long time; the change in galvanic

charges from the teeth (and the way in which the body adjusts to the change). Because of this, physical medicine and cranial-sacral therapy – including releasing physical stresses in the teeth – can be very helpful after the surgery. We likewise recommend repolarization of the intra-oral acupuncture points to support healing. You can read more about this in Dr. Verigin's article "Protecting and Preserving the Dental Pulp During Restorative Procedures," available in our office.

After the dental procedure is finished, an IV of vitamin C, glutathione and other vitamins and minerals can be a good help for chelation. For those clients with especially elevated levels of mercury, this procedure is necessary and may be sought at an integrative medical office.

Summary of Procedures

I. Dental and Functional Medicine Assessment

a. Comprehensive dental evaluation

i. Initial client education about the dental protocol, integrative medicine, functional assessment and other pertinent information

ii. Integrative medical histories taken

1. Dental history, including root canals, extractions and their potential relationship to the client's health problems
2. Present health status with ratings of main medical complaints
3. Medical history
4. Chronological health history
5. Family history (optional)

iii. Dental records obtained

1. Images, sometimes including a panorex but always a full set of digital dental x-rays (usually 16, with bite wings) and intra- and extra-oral photographs
2. Charting of oral tissues (hard and soft), pharyngeal tissues including tonsils, and swallowing habits and patterns; airway patency evaluation; periodontal screening; TMJ screening (Note: more extensive evaluations can be done for cavitations, toxic root canal teeth and other issues)
3. Electro-galvanic charting
4. Dental pulpal complex vitality measurements
5. Study models and face bow transfer (to study alignment and occlusion issues)

- iv. Dental materials evaluation (optional EXCEPT when the hyper-reactive allergy response predominates)
 - 1. Clifford blood test
 - 2. Electro-dermal screening
 - b. Functional Assessment
 - i. Urine Porphyrin Analysis
 - ii. Biological Terrain Analysis
 - iii. Electro-dermal screening
 - c. Treatment Plan Development
 - i. Treatment sequencing
 - ii. Cost estimate
 - iii. Giving informed consent
- II. Dental Amalgam Removal Precautions
 - a. Pre-Removal
 - i. Extensive client protection with disposable gown, cap and wraps
 - ii. Provide the client an alternate source of air
 - iii. Coat the mouth with chlorella and isolate the teeth with a rubber dam
 - iv. Administer Denta-Chelate
 - b. Removal Procedures
 - i. Continuously run room air filter and mercury vapor ionizer
 - ii. Remove the amalgam by sectioning with a small burr
 - iii. With a small instrument, pry the sections loose from the tooth
 - iv. Use generous amounts of water during drilling
 - v. Keep the high-speed suction very close to the drilling site
 - vi. Position the saliva ejector under the dam and next to the drilling area
 - vii. Remove all amalgam traces with a slow-speed hand-piece
 - c. Post-Removal Procedures
 - i. Remove the rubber dam carefully
 - ii. Thoroughly inspect and rinse the mouth of trace amalgam
 - iii. Rinse with a heavy metal chelator solution
 - iv. Wipe or replace the instruments
 - v. Properly discard the disposable instruments and barriers
 - vi. Continue to run the air filter and ionizer to decontaminate the dental treatment room