Basic Detox for Amalgam Replacement

We know that everyone with dental restorations receives a constant trace level exposure to all the metals and chemicals present in their restorative materials. Nothing we use to fix teeth can be considered "inert." This applies especially to silver–mercury amalgam fillings, which have been proven to continuously release measurable quantities of highly toxic mercury, and crowns made from non–precious metal alloys, which often release highly allergenic nickel. The important question then becomes how much impact do the dental materials, the mercury or other substances, have on your body?

The answer is different for each individual. We can measure mercury vapor in the mouth, total body load of mercury, antibody reactivity to dental substances, and even specific biochemical deficits caused by mercury. But we still can't diagnose a connection between these measurements and how you feel, or how you may feel in the future. A connection between your dental status and your overall health can only be suggested, by symptom surveys, or, less scientifically, by kinesiologic or electroacupuncture tests.

Nevertheless, there is a lot of experience accumulating with people whose health has improved when their mouths have been "cleaned up." If you have decided to pursue replacing your old dental work with more biocompatible materials, there are decisions to be made, and strategies to follow. These involve:

- **choosing replacement materials**
- **protecting you from excess exposure** when removing the old restorations
- **promoting the excretion of toxins**

Biocompatibility Testing

If you are going to go to the trouble of replacing toxic dental materials, you should be as sure as possible that the materials put back in are tolerable to your system. Although biocompatibility testing is not a perfected art, experience has shown that we can nearly always avoid replacing toxic materials with others equally problematic. The more sensitive or unwell a person is, the more critical this becomes. For such people, we like to use more than one method of testing and cross check the results, so as to use only materials that satisfy all available criteria.

The most scientific way of testing materials is the "serum compatibility test," which is basically an allergy test. A blood sample is sent to an immunology laboratory, where an assay is performed for the presence of antibodies to all of the chemicals and metals used in dental materials. The results of this test allow us to pick dental materials that you are less likely to react against. It is a bit costly, but it can be very helpful. We sometimes insist that this test be done, especially if the patient has multiple allergies, chemical sensitivities, or other chronic illness.

We frequently use applied kinesiology, or muscle testing, in our office, as a somewhat informal indicator of materials compatibility. This is a technique developed by the chiropractic profession that provides an indication of central nervous system tolerance, or intolerance. Some people also consult practitioners of electrodermal testing, a method based upon acupuncture, for materials testing. For the more sensitive patients, we often prepare samples of dental materials that 0tests indicate as likely to be acceptable, and have the patient hold them in the mouth, or tape them to the skin. If no reaction occurs, we feel confident that the new material will be tolerated.

Physical Barriers

When we remove amalgam fillings, a plume of mercury vapor and particulate–laden aerosol is sent into the air around your face. We use several physical barriers to protect you and the dental staff from ingesting and inhaling toxins from this source. A rubber dam is placed over the teeth to keep pieces of filling from dispersing in your mouth. The water spray keeps the amalgam cool, and high volume suction draws the debris away. A moist paper towel is placed over the face to keep particles from settling on your skin. A suction tube behind the rubber dam evacuates vapors that may penetrate the rubber dam, and oxygen delivered by a nose mask provides clean air to breathe.

Biochemical Protection

Nevertheless, some amount of mercury vapor and amalgam particles will be ingested. It also appears that removing amalgam fillings causes a redistribution of heavy metal toxins in the body, by some poorly understood process. These metals are potent oxidizers and free radical promoters, and they deplete the body of certain key nutrients. These events can be stressful, and cause people to undergo a worsening of their symptoms for a period of time. **Preparing yourself nutritionally** to resist the excess exposure will reduce such reactions, although they may not be entirely avoidable.

Many medical, herbal, homeopathic, and nutritional formulas have been suggested for cleansing and heavy metal detoxification. What follows is simply the basics, the minimal precautions that apply to everybody. Sicker or more sensitive people should have individualized detoxification plans made for them by a medical doctor, or other health professional experienced in these matters. This program should be started a week before amalgam removal is started, and continued until at least a month after it is completed.

1. **Vitamin C**, preferably buffered, **at least 3,000 mg per day**. This is the most important antioxidant, although any other antioxidants you take will contribute. Look also for alpha-lipoic acid and vitamin E.

   Intravenous Vitamin C, administered by a medical doctor on the day of the dental procedure, is a time-tested method of reducing the potential for toxic reactions when amalgam fillings are removed. People who are more symptomatic of mercury toxicity should consider this adjunctive procedure.

2. Minerals act as cofactors that help enzymes to perform their detoxification and antioxidant functions. All the trace minerals are important, but the most critical are zinc, selenium, and magnesium. Many trace mineral formulations will work, as long as they are easily absorbed. Look for zinc, 100 μg per day, selenium, 200 μg per day, and magnesium 500 mg per day.

3. Mercury binds tightly to sulfur. The body uses a sulfur peptide called **glutathione** in its natural heavy metal excretion processes. To absorb glutathione directly as a supplement, it must be in the "liposomal" form. Nutritional support for this process means providing yourself with adequate quantities of sulfur amino acids in high quality protein. Eggs are the most efficient food source of sulfur amino acids. For supplements, we recommend **d-l methionine, 500 mg, 3 per day**, with meals, or, alternatively, **NAC,** n-acetyl cysteine, 500mg, 3 per day. Some authors suggest that amino acids are better tolerated when they are taken in the form of a balanced protein formula, such as **hydrolyzed whey protein**, which can be found in many protein drink formulas. Although MSM is a valuable source of nutritional sulfur, it does not contribute to heavy metal excretion.

Getting the Excretory Systems Going

Once the amalgam fillings are removed from the teeth, your body will begin to discharge the mercury and other related toxins it had stored up, a process that can take a long time, perhaps years. Any changes in how you feel in the long run will depend upon efficient excretion, as well as adequate nutrition for rebuilding. Again, what follows is just the bare-bones basics. For more details, and for sicker individuals, consult your physician.

1. **Perspiration**. Break a sweat every day, and **shower it off** so that your skin does not reabsorb what it has just excreted. Exercise is the preferred method, although many detoxification methods use saunas or mineral baths to promote excretion from the skin. The **infrared sauna** may be especially effective at promoting excretion in sweat, and mobilizing all kinds of toxins from subcutaneous tissues.

2. **Bowel movement**. Most of the heavy metals that are removed from cells of the body by physiological mechanisms are excreted through the liver, and dumped, via the bile, into the intestines. They must make their way through the intestinal tract before ultimately being voided. If the bowels are working inefficiently, the toxins can be reabsorbed to poison you all over again. There are libraries of information and centuries of experience on the subject of bowel cleansing, so I will only mention two tips. A **high fiber diet**, from fibrous foods or fiber supplements, will speed up the transit time, and provide a cleaning, scrubbing action in the gut. **Active heavy metal scrubbers** can hold on to toxic metals, prevent them from being reabsorbed, and make sure they are excreted in the stool. We are currently recommending **IMD** (Intestinal Metals Detox, from Quicksilver Scientific), a highly efficient adsorbent of mercury in the bowels (see page 4). Other products that are commonly used are **cracked-cell chlorella**, or **activated charcoal capsules**, to be taken between meals.

3. **Kidney function**. This is the second greatest route of exit for heavy metal toxins. The kidneys are among the organs most susceptible to damage by mercury. Drinking **lots of water**, clean and chlorine–free, is extremely helpful for both kidney and intestinal excretion. Most sources recommend two quarts of water per day.

Medical Referrals

Consulting with other health practitioners who are experienced in detoxification methods is essential for those in need of further progress. We would be happy to provide referrals to medical doctors qualified to supervise these procedures.

New Methods for Mercury Detection and Detox

Mercury can accumulate in tissues all over the body. The main sources of exposure are mercury dental fillings, and seafood. A person's ability to excrete it seems to be a primary factor in determining who becomes symptomatic from those exposures. Traditionally, the body load of mercury has been measured by a urine "challenge test." Treatment has been done by nutritional support for natural excretory functions, and chelation with drugs such as DMPS and DMSA, that have been on the market a long time, and are not very efficient at removing mercury from the body. These methods are still valid, but are being supplanted by new methods that can actually amplify the body's ability to excrete mercury.

Effective detox is best done under the supervision of an experienced practitioner who can monitor your progress with appropriate testing and individualized biological support.

Detection – A new method of measuring mercury in the body, and getting a measure of how efficiently one can excrete it, is available from Quicksilver Scientific Laboratory. (www.quicksilverscientific.com) It measures organic and inorganic mercury separately in hair, blood and urine. The test detects mercury at concentrations well below previous methods, and eliminates the need for challenge testing and hours-long urine collection.

Excretion – Intestinal Metal Detox (**IMD**) from Quicksilver Scientific is a new material for cleaning mercury and other toxic metals from the intestines, where much of the body burden is stored. It is made of tiny insoluble silica particles, engineered with sulfur side chains to efficiently grab toxic metal atoms and carry them out in the stool. Testing results have shown dramatic reductions in blood mercury in many people, after a few months of using IMD. Reducing the levels of toxic metals in the intestines may also reduce intestinal inflammation, which promotes better excretion of all kinds of toxins, especially from the liver.

To use **IMD**, take one 100mg spoon of powder per day with vitamin C or juice. Higher doses will produce faster results. There are very few side effects reported. A helpful adjunct is **Clearway Cofactors**, from Quicksilver, a formula of phytonutrients that are known to promote the cellular processes of heavy metal detox and excretion.

Internal toxic metal scavenger – **OSR#1** from CTI Science (WWW.ctiscience.com) is a molecule, based on amino acid chemistry, designed specifically to bind mercury in internal spaces. It is absorbed like a fat-soluble vitamin. It crosses cell membranes and enters mitochondria, and crosses the blood-brain barrier. The company that supplies it will only claim its extreme anti-oxidant properties and its ability to raise blood glutathione levels, both valuable results for a food supplement. But the function it was originally designed for is to tightly bind mercury wherever it finds it. **OSR#1** does not seem to either promote or inhibit mercury excretion.

To use **OSR#1**, take one 100mg capsule per day. People who are sensitive to sulfites (e.g. in wine) should take 1-2 mg per day of the trace element molybdenum along with it. People who are symptomatic of mercury toxicity, as determined by a medical doctor, have reported relief from many complex symptoms taking doses of 2-300 mg per day, under medical supervision.

Taking **IMD** and **OSR#1** together, along with good nutritional support, will provide the most effective mercury detox program we've ever had, with the fewest side effects.