Information and Consent
For Elective Removal of Amalgam Fillings

Amalgam is the commonly used “silver” filling material. Its actual composition is approximately 50% silver alloy (containing silver, copper, tin, zinc and other metals), and 50% liquid mercury. Most of the controversy surrounding amalgam concerns the mercury content.

When existing fillings are mechanically intact, it must be the patient’s exclusive, personal choice to have them replaced with other materials. A dentist is not legally entitled to suggest or diagnose a connection between the presence of these fillings and any medical condition or symptoms.

Nevertheless, mercury is one of the most toxic substances known, and its presence in dental fillings has been said to cause toxic illnesses in some people. Many people have reported improvements in their health when their fillings have been removed and replaced, although many other people have not experienced such results. It is not possible to predict, given our present knowledge, who would noticeably benefit from having existing amalgams replaced. There is a large body of scientific information on the subject, and an equally large body of unscientific, anecdotal information. This paper will describe what we know about mercury and amalgam, what we don’t know, and what we surmise.

Amalgam has been dentistry’s main filling material since the early 19th century, and many dentists still use it routinely, although its use has been declining as the reliability of newer materials has become accepted. It is very effective for restoring teeth, and the dental establishment strongly proclaims its record of safety and effectiveness. However, there has never been any positive proof of safety, and surprisingly little scientific research to investigate the level of risk posed by the mercury content. The American Dental Association and allied authorities have consistently claimed that mercury is stable within amalgam, and if it is released at all, it is in quantities too small to cause any harm. The dental establishment condemns the practice of removing intact fillings to reduce a person’s exposure to mercury, in order to affect their overall health. Other researchers have shown that mercury is, in fact, released in significant amounts.

The whole field is full of contradictions. Despite all the claims of safety, the ADA recommends that dentists’ and assistants’ bare hands never touch the freshly mixed amalgam, and scraps must be kept in tightly sealed containers to prevent the escape of mercury vapor. Dental amalgam has never been formally approved by the FDA, and the Environmental Protection Agency considers discarded amalgam to be toxic waste. In our office, we have decided that there is no longer any justification for using amalgam fillings.
What We Know about Amalgam and Mercury  
(based on scientific research, references available)

1. Mercury, whether in the elemental, organic, or ionic form, is one of the most toxic substances known. It is a strong oxidant and free–radical forming catalyst. It is a neurotoxin, kidney toxin, and potent enzyme poison.

2. Amalgam fillings release mercury vapor continuously, without any provocation. Chewing, drinking hot liquids, or eating acidic foods increases the release. An average person with five fillings will be exposed to 60-70 micrograms per week, exceeding the 50 micrograms allowed for occupational exposure by OSHA. The World Health Organization has concluded that the largest source of mercury, for people not occupationally exposed, is their amalgam fillings.

3. Mercury vapor is absorbed by the body in many ways. It passes through the cheek lining, and is absorbed by the lungs. It is taken up by the olfactory (smell) nerves in the nose, which conduct it directly to the brain. Mercury from fillings is converted by oral bacteria into organic methyl-mercury, which is absorbed more rapidly, and crosses the blood-brain barrier.

4. Blood and urine tests do not correlate well with total body load of mercury, or exposure from amalgam fillings. Animal studies have confirmed this, and have shown that the mercury goes instead to many other organs. The brain, kidneys, liver, large intestine, endocrine glands, gums and jawbone concentrate the mercury released from fillings. However, people with amalgam fillings, given chelating drugs to extract mercury from internal tissues, show huge increases in urine mercury levels. Those without fillings show only slight increases, due to all the other possible sources of mercury.

5. Numerous human autopsy studies have shown a direct correlation between the number of amalgam fillings and mercury levels in the brain. Mercury levels in the tissues of infants correlate with the number of fillings the mother has.

6. No specific diseases have been directly linked to mercury from fillings. Still, chronic exposure to low levels of mercury has been shown to produce dysfunction in the nervous system, kidneys, heart, liver, endocrine glands, digestive tract, and immune system in humans. Trace quantities of mercury in preparations of brain tissue produces the precise biochemical pathology found in Alzheimer’s Disease. Mercury from fillings gets into the large intestine in humans and experimental animals. It induces resistance in the intestinal bacteria, not only to the mercury, but to a broad range of antibiotics as well.

7. Dentists who use or who are exposed to mercury in their practices have more mercury in their bodies than those who are not exposed, as confirmed by chelation–stimulated urine tests. They also score worse on tests of fine motor coordination, memory and irritability.

8. Methyl mercury exposure has caused large scale outbreaks of poisoning, in Minamata Bay, Japan, and in rural Iraq. Neurological and neuromuscular damage, ranging in severity from chronic illness to death, and severe birth defects, were the result. The “Mad Hatter” syndrome among felt industry workers in the 19th century was caused by their use of mercury in felt processing.

9. Animal studies have shown that mercury causes immune suppression, autoimmune reactions, and alteration in white and red blood cell function. Placement of amalgam fillings in sheep and monkeys has been shown to damage kidney function, and removal of the fillings allowed the kidneys to heal.

10. Mercury from fillings concentrates in breast milk. Placement of amalgam fillings in sheep caused mercury to concentrate in fetal tissues in amounts greater than in maternal tissues. Infants and fetuses are much more susceptible to the toxic effects of mercury than adults. Prenatal exposure of fetal animals with trace quantities of mercury caused defects in neurological development, in several studies.

11. As with many metals, mercury is allergenic. About 5% of the population has a true allergy to it, although as much as 85% show some type of antibody reactivity.
Some Thoughts About Amalgam and Mercury
(based on clinical observation, subjective anecdotes, and extrapolation)

1. Because the toxicity of mercury is so well recognized, it seems evident that amalgam fillings cannot possibly be safe. Still, the common observation is that most people tolerate their amalgam fillings without noticeable harmful effect. Also, there is no firm proof in the current scientific literature of a link between amalgam fillings and any specific human disease. Some authors have suggested that the relevant disease is really “chronic mercury toxicity.” There are tests that can suggest this diagnosis, but scientifically valid tests are still being developed.

2. On the other hand, there is a great deal of clinical experience with people who have had their amalgam fillings replaced for one reason or another, and who claim improvements in their health.

3. Mercury from amalgam has been blamed for causing, or helping to cause a great number of diseases, including arthritis, lupus, multiple sclerosis, ALS, kidney disease, cardiovascular diseases, environmental illness, allergic disorders, seizures, behavioral disorders, skin lesions, chronic fatigue syndrome, depression, Alzheimer’s disease, digestive disorders, and more. These diseases can all be theoretically linked to mercury on the basis of its known toxic effects. Potential links to cancer are less clear.

4. There are many people who claim to have recovered from all of these various illnesses after amalgam replacement and mercury detoxification, when other forms of treatment did not avail. There are also many people whose condition did not change.

5. On the less dramatic side, many people who have noticed metallic taste in the mouth, facial muscle tension, headache, burning tongue, sores on their cheek and gums, or other, more vague, uncomfortable sensations, have said that these symptoms disappeared when the amalgam fillings were replaced.

6. The literature lists bleeding and damaged gums as a symptom of acute mercury poisoning. Combining this fact with the known immunosuppressive effects of low level mercury, and the fact that mercury from fillings concentrates in the gums and jawbone, some authors think that mercury from fillings may contribute to the cause of periodontal disease.

7. The other metals present in amalgam fillings – silver, copper, tin, zinc, and others – can also be toxic or allergenic to some people. All the constituents of dental materials are released into the body, so they are all potentially of concern.

8. Because we don’t yet have adequate medical tests to measure the actual toxicity of low level mercury exposure, or an individual’s susceptibility to it, the known exposure to mercury from amalgam fillings must be considered a risk factor only, not a cause of any specific health problem. We have no scientific basis for predicting in advance whether a person will feel any different with amalgam fillings replaced. (Evaluation by muscle testing or electrodermal diagnostics can be helpful, but may be considered more suggestive than definitive.)

9. Therefore, the choice to proceed with amalgam replacement is a gamble, and must be made with the knowledge that no specific health result can be guaranteed. Any health benefit that may come from removing this constant source of mercury in the body will depend upon unpredictable individual factors.
Risks of Replacing Amalgam Fillings

1. Removing and replacing any filling material, for whatever reason, involves drilling it out, washing, drying, and placing new materials. All of this can be traumatic to a tooth. It is possible that a tooth that starts out comfortable can be rendered sensitive, or even painful, by this process. Occasionally, root canal therapy is necessary to relieve such pain. Rarely, a tooth must ultimately be extracted as a result of the trauma from replacing a filling.

2. Removing amalgam fillings will produce a transient increase in the person’s exposure to mercury. Although we take great care with physical barriers to reduce this exposure for patients and dental staff, a person who is mercury toxic or sensitive may experience an increase in their symptoms (both physical and emotional) for some time following an amalgam removal procedure. Other nutritional and metabolic precautions can be taken to minimize this effect.

Treatment Options

1. It is always your option to do nothing, to undergo no treatment.

2. Replacement of amalgam fillings can be performed as they break down in the normal course of events, as a matter of routine dentistry.

3. A treatment program to deliberately remove and replace amalgam fillings can be designed for you, including:
   • A comprehensive examination and treatment plan, to assure you the best dental outcome.
   • An effort to determine which new dental materials would be the most biologically compatible for you.

Consent for Treatment

I, _____________________________, having read and understood this entire four page document, and understanding the risks involved, give permission to Dr. Koral and his staff to remove and replace my existing amalgam fillings, according to a treatment plan I have reviewed and approved. I declare that the purpose of this treatment is my voluntary and exclusive decision to eliminate a potential health hazard from my mouth, in the form of amalgam fillings. For actual diagnosis and treatment of mercury or other heavy metal toxicity and other systemic conditions, Dr. Koral has advised me to consult the physician of my choice. I acknowledge that no claims of general or specific health benefits for this procedure have been made by Dr. Koral. I understand that I always have the option not to undergo treatment, and that I may stop treatment and withdraw this consent at any time.

______________________________  ______________
Signed                          Date

Witness