Unfortunately, the dental and medical professions have not given a great deal of attention to the toxic nature of many of their healing modalities. George Washington was given lead dentures. His physician gave him two doses of mercury the day before he died.1

Mercury has a long history of usage by the medical profession. It became the drug of choice for treatment of syphilis in the 16th century. This led to its adoption as a germicidal and antiseptic.2

Discovery of the toxic nature of mercury has resulted in a gradual restriction in its use. Merthiolate and Mercurochrome were widely used as antiseptics until the FDA concluded in 1982 that they were unsafe. The use of mercury to treat seeds has been restricted as a result of severe poisonings.3

Today mercury is used primarily for a preservative in vaccines and mercury amalgam fillings in teeth. Many vaccines contain thimerosal, the chemical name for Merthiolate—a mercury compound.3

As far back as 1845 the American Society of Dental Surgeons realized there were problems with mercury amalgams. They made members sign a pledge not to use amalgam. In 1859 the American Dental Association based on the advocacy of amalgam was founded. This organization supplanted the American Society of Dental surgeons.

There were compelling financial reasons for the promotion of amalgam. It made fillings much more economical than gold, lead or other materials used at that time. This made dental services available to a much greater segment of the population. Amalgam was also easier to work with than other materials. The amalgam mixture in widespread use today was developed around 1895. It is about 50% mercury, 35% silver, 9% tin, 6% copper with a little zinc thrown in.

Approximately 90% of U.S. dentists use mercury. About 150,000 pounds of mercury is used to fill teeth in the U.S. every year. In the 1980's it was learned that amalgam tooth fillings continuously release mercury into the mouth. Chewing food, gum, or tooth brushing increases the release. Electron microscopy has confirmed that amalgams corrode in the mouth. It has been estimated that mercury from amalgams may account for three or four times the mercury exposure of all other sources including food, air, and water intake.4

Dental amalgams release silver as well as mercury.5 Both mercury and silver have been shown to induce autoimmune activity.6

3. Hardy, p. 19.
Mercury and the Brain

During the 19th Century felt-hat makers were regularly exposed to mercuric nitrate. They became known as “Mad Hatters.” The symptoms included sudden anger, depression, delusions, drowsiness, poor memory, timidity, insomnia and mania. In 1941 mercury was identified as the cause of the problems.1

Subsequent episodes of serious mercury poisoning have taken place in Iraq and Japan. In Iraq, grain treated with mercury as a pesticide and fungicide was consumed as food. In Japan, Minimata Bay was contaminated with mercury and people eating the fish were mercury poisoned.

Study of these victims of mercury poisoning has shown serious changes in personality and mental function. Among the common symptoms were loss of short-term memory, poor concentration, and increases in anger.1

A study of women with and without mercury amalgams found that those with amalgam had a statistically higher tendency to express anger without provocation and had significantly more intense angry feelings. These women also scored lower in satisfaction, happiness, security, steadiness, and pleasantness. They had a more difficult time making decisions. Women with amalgams had more fatigue and insomnia.2 Adverse behavioral effects of mercury are associated with mercury exposure levels received by the general population.3

Mercury is being increasingly incriminated as a factor in Alzheimer’s disease. One study found blood mercury levels in victims to be two to three-fold higher than controls.4

A mechanism for the causation of Alzheimer’s by mercury has been proposed. This involves inhibition of tubulin formation. Tubulin is involved in maintaining the structure of nerves. Approximately 80 percent of Alzheimer patients evidence inhibition of tubulin formation.5

Mercury is selectively concentrated in certain areas of the brain. One of these areas is the hippocampus, an area associated with emotions.6

Mercury amalgams appear to be associated with much more than emotionality, however. Those with amalgams appear to crave and eat more sweets, are more likely to smoke, drink coffee, and consume alcohol. Those with mercury amalgams also appear more prone to fatigue and pre-menstrual syndrome.7

Mercury and Immune Function

One of the surprises about mercury has been its ability to promote the development of antibiotic resistant bacteria in the digestive tract of those who have amalgams. The same genetic mechanism that confers resistance to mercury upon bacteria also provides them with resistance to many antibiotics. This is obviously not a good idea if antibiotics are needed at some point by an individual.1

Mercury can also cause immune suppression. Mercury can inhibit the ability of white blood cells to migrate to the site of an infection.2 The immune suppression of mercury may not be as great of a problem as the potential for triggering autoimmune attack which can devastate immune function.3


Nutrition

Zinc has been shown to be helpful in prevention of Alzheimers. It may help counteract some of the damage that mercury or other toxic metals do to nerve tissue.1 Selenium is possibly the most protective nutrient against mercury poisoning. It also reduces risk of heart disease and cancer. Selenium has the ability to replace sulfur in chemical bonding. Mercury has a high affinity for sulfur so it is not surprising it would have an affinity for selenium.2 Vitamin C may be of great value in treating mercury accumulation. “Until the mid– to late-1960’s, ascorbic acid was often given as the antidote of choice for poisonings caused by fatal doses of mercury.” Vitamin C fell into disuse when vitamin C began to be promoted for the common cold.3

Beneficial bacterial cultures can be of value by competitively inhibiting the antibiotic resistant bacteria resulting from mercury exposures.4


3. Queen, pp. 91-105.

4. Queen, p. 48.

5. Queen, p. 50- 51.

Mercury Facts

Hepatitis-B vaccine, along with others, contains thimerosal, a preservative, which contains 49% organically-bound mercury. Some have suggested that administration of thimerosal-containing products may lead to mercury poisoning.1

Analysis of hair for mercury revealed that the one third with the highest mercury had twice the risk of a heart attack. The risk of death was almost three times higher. Mercury was associated with immune complexes containing oxidized LDL cholesterol.1


Mercury Tidbits

Dental Exposure

Numerous studies indicate that working with mercury in the dental office can have a negative effect on health. The dentist who places mercury amalgams in the mouth may be more at risk than the patient who receives them.

Exposure to mercury at levels that are lower than currently recommended thresholds can lead to neurologic impairment. Measurements of neurologic performance decreased as the exposure dose to mercury was increased.1

A study of dental personnel in Israel found that those exposed to mercury had higher levels.2 Mercury is related to increased risk of cerebral palsy and central nervous system defects in children of mothers exposed to the metal.3


The End of Mercury Amalgam

Sweden is leading the way in discontinuing use of mercury amalgam. Use in children was ended in 1993. In 1995 use in youths up to 19 ended. All use ended in 1997. Mercury use was ended not only for health benefits, but also to end environmental contamination as a result of cremation of corpses with amalgam fillings and other sources of pollution as an overflow of dental use of mercury.

Germany restricts use of mercury where kidney disease exists. Amalgams are also not recommended for children, and pregnant and lactating women. Amalgam is also not recommended when other metals are in the mouth. Mercury amalgams are also not recommended at the apex of teeth subject to greater wear. Degussa A.G., formerly the largest European manufacturer of dental amalgams, has ceased production of these materials to avoid product liability. It may be the liability issue that eventually ends use of mercury amalgam in the U.S. At the current time, it is hindering elimination and resulting in a vigorous denial that there is any safety risk in use of amalgam.1


Chewing Gum

Those who chewed gum in one experiment excreted 1.36 mcg of mercury in the urine while non-chewers excreted only .70 mcg of mercury in a 24 hour period of time. Chewing gum apparently increases release of mercury from fillings.1


Reduction of Mercury Levels

How long does it take after removal of mercury amalgams to reduce blood levels of mercury? In one study sixty days saw a 60% drop in blood, plasma and urine levels. Removal of amalgams can significantly decrease mercury exposure over the long term.1