

# Mercury

The occurrence of toxic metals in our environment has received great attention in recent years. Metals comprise a complex group of elements with a broad range of toxic effects, including cancer, neurotoxicity, immunotoxicity, reproductive toxicity and genotoxicity. Some metals are toxic at very low levels. Their accumulation in the environment is of concern because they are not biodegradable, eventually finding their way into our food, water, air and body.

The heightened concern for decrease of environmental pollution that has been occurring over the past 20-25 years has been stimulated by the continuing research and literature on the toxicology of certain metals. While the toxic effects of these substances are of widespread concern in the modern industrial context, humans have succeeded in poisoning themselves repeatedly throughout recorded history.

The usage of lead dates back to 2000 BC and arsenic was used as a decoration in Egyptian tombs. Historians contend that the fall of the Roman Empire was hastened by the chronic lead poisoning experienced by the ruling classes who had water conducted through lead plumbing and drank wine from goblets which had lead/alloy composition. Recently a report was published stating that criminals have been found to have higher mercury and lead levels in their brains than the general population, linking mercury and lead as a contributing factor in criminal behavior.

All metals can produce toxicity when ingested in sufficient quantities, and there are several which are especially important because either they are so invasive or produce toxicity at very low concentrations. There are many toxic metals we could focus on and without doubt Mercury and Lead are perhaps the most insidious within our modern society. Over twenty thousand tons of mercury is released into the environment each year by human activities, including byproducts from the combustion of fossil fuels and regular dumping of industrial waste. Over the last three decades numerous articles have appeared on the toxic effect of mercury on humans. I would find it hard to believe that there is anyone left who feels that mercury is ok for humans to be exposed to, yet there are still dentist using it for filling cavities.

Back in 1988 the Environmental Protection Agency declared dental mercury amalgam to be a toxic material to be deposited of at toxic waste sites. In 1990 the World Health Organization stated that there is zero tolerance to mercury in humans. They further stated that the greatest source of mercury contamination in all populations was from dental amalgam fillings. Mercury comprises approximately fifty percent of an amalgam filling. When chewing or eating hot or acidic foods, mercury vapors are given off for up to an hour and a half within the skull. These vapors are inhaled and particles are absorbed by tooth-roots, the mucous membranes of the mouth and gums. These small particles of mercury are released into the rest of the body and concentrate in the esophagus; kidneys, adrenals and the stomach lining which directly absorb mercury into the lymphatic system and or blood stream.

The American Dental Association (ADA) mandates that dentists alert all dental personnel to the potential hazards of inhaling mercury vapors. The EPA goes even further, instructing dentists to treat mercury amalgam as a toxic material while handling before insertion, and as toxic waste after removal. So the ADA says if you're a dentist protect yourself and employees from mercury exposure and the EPA says treat it as a toxic material and toxic waste, yet in the same breath it is ok to put this into a persons mouth where it may stay for years and years leaching vapor and partials into the body. It just does not make sense does it?

Next time you sit in the dentist chair ask him or her, how many mercury fillings do you have and would you fill your kids' cavity with it? If the answers yes, just get up and run away. It is dangerous in the environment, it's dangerous to handle if you're a dentist, but it's perfectly safe to have it in your mouth.