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disciplinarian to humans when we fail to heed its lessons. Mercury toxicity in humans is a stark example of our inattentiveness. Mercury is the most toxic metal to the human nervous system. Its toxicity has been known for over 3,000 years, and yet the

wisdom of our congressional leaders has mandated the use of mercury light bulbs in place of the previous incandescent tungsten light bulb. Now, when your light bulb burns out, we are instructed to put it into a zip lock bag and bring it to Home Depot for proper disposal. That's going to work out really well for our environment and our health. We just don't learn, do we?

During the era of the Roman Empire, it was well known that workers exposed to toxic mercury fumes developed tremors, blindness, deafness and death in the mercury mines. Only slaves and convicts were permitted to work in mercury mines because of the soon to develop degenerative neurologic disorders followed shortly by death.





History is a relentless



described the plight of cinnabar miners in 1550. Cinnabar is the source of mercury from rock. The first occupational health physician, the Italian Bernardino Ramazzini, described the illness connected with the mirror making industry and its use of mercury in his treatise of 1713. To Quote his writings:

"Those who make mirrors become palsied and or asthmatic from handling mercury. Gazing with reluctance and scowling at the reflection of their own sufferings in their mirrors and cursing the trade they adopted."

More recently, President Zachary Taylor, old rough and ready, hero to the Mexican American War, developed nausea, vomiting and diarrhea after eating fruit and milk at the conclusion of his fourth of July speech in 1850. Several cabinet members became sick also, but it was the over exuberance of the president's physician that lead to his death five days later. President Taylor received large doses of calomel as a purgative. Calomel is mercury chloride. Forensic medical historians feel it was the cause of his death. None of the cabinet members received calomel and all survived. 100 years later, calomel struck again. In 1950, there was a terrible epidemic in infants called acrodynia or pinks disease. The infants developed severe painful neuropathy of the hands and feet, irritability, apathy and insomnia. The pink swelling of the hands and feet was the telltale sign. The babies then went into kidney failure and died. Analysis of the fingernails which became brittle, showed mercury chloride. Autopsies showed the cause of the illness to be mercury, its source was calomel teething powder.

Another outbreak epidemic of pinks disease occurred in infants in the 1980's. A diaper service advertised diaper rash free diapers. They sprayed the diapers with phenyl mercury. Phenyl mercury was absorbed through the skin from contaminated diapers.¹ Tom Clarkson, PHD, chairman of environmental health at Rochester University Medical Center, determined that 10,000 babies were exposed to these diapers, and 1,000 became very ill. This points out that the same exposure to mercury in a population will cause severe illness in a percentage of the people exposed.

Mercury exposure from broken fluorescent bulbs and injections of mercury containing gamma globulin have also been responsible for pink disease acrodynia.²

Minimatas disease was a decade long epidemic from mercury in Japan from 1950-1960. Much of the population of Minimata, a fishing village, became ill with tremors, blindness, paralysis and death. Babies conceived and born during this decade, had unspeakable birth defects. Therapeutic abortion became the rule for pregnant women in that region during that decade because of fetal abnormalities. The illness is nearly identical to what we would today diagnose as multiple sclerosis. Finally, the source of the illness was found to be mercury dumped into the Minimata Bay by a factory. A decade later, 6,000 cases of Minimatas paralysis was diagnosed in Iraq. This was from wheat seed that was sprayed with mercury to prevent mold. We don't learn our lessons, do we?

MERCURY AMALGAMS

Silver-mercury amalgams were the dominant restorative material in dentistry for a century or longer. In 1980, 80% of all single tooth fillings were mercury.^{3,4} Copper amalgams (60-70% mercury and 30-40% copper) were the predominant type used in children. Copper amalgams disintegrates quickly in the mouth. This was actually considered an advantage in that the release of mercury and copper ions were thought to have bactericidal effects, thus inhibiting secondary carries.⁵



Intense debates regarding the risks of mercury release from amalgams occurred after Stock's seminal publication in 1939. In the late 1970's-1980's, studies verified Stocks reports of continuous emission of considerable amounts of mercury vapor from dental amalgams.⁶⁻¹¹ Other studies showed significant retention from amalgams in human tissues.¹²⁻¹⁵

Mercury is directly absorbed in the mucosa of the oral cavity. Migration occurs through the dentin into the dental pulp and to the adjacent bones.¹⁶⁻¹⁹

Hot beverages, teeth brushing, and chewing enhances release of mercury.²⁰⁻²⁴

The estimated uptake of mercury using Tom Clarkson's model is 80 micrograms per day. ^{25,26}

Autopsy studies showed a direct correlation between the mercury concentration in the brain and the number of amalgam surfaces.²⁷ The mercury content of the kidney and pituitary gland correlated to the number of amalgam surfaces.²⁸ Animal Studies confirm the autopsy studies.²⁹ The conclusions of the scientific community of mercury researchers are that restorativetreatment with amalgam fillings results in substantial exposure to a highly toxic substance (inorganic mercury). This review of the history of amalgam research is presented because we are all reassured by our own regulatory agencies that there is no evidence of harm from mercury amalgams. In my own experience, I do not find a case of Parkinson's disease, Alzheimer's disease, fibromyalgia, ALS or chronic fatigue, that does not involve high levels of mercury if measured properly. **Please protect yourself and your patients.**



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