

Heavy Metals: The Trump Card of Toxicity November 2007, Updated March 2011



Michael Cheikin MD
Holistic Medicine and Psychiatry
610-239-9901 drc@c4oh.org

Heavy metals are naturally occurring minerals that have been in the environment longer than man has been on the planet. Some, such as iron, zinc and cobalt are needed by the body in trace amounts, but are toxic in higher amounts. Others, such as mercury, lead, arsenic and aluminum have no purpose in our bodies. Since they have entered our bodies throughout evolution, we have mechanisms for their elimination.

However, many modern industries either utilize these metals or they are released as a byproduct. For example, China's increased burning of coal releases higher amounts of mercury into the air. These particles then settle in the Pacific ocean and accumulate in the muscle of fish such as salmon. As larger fish eat smaller fish, this mercury accumulates and becomes more concentrated.

In addition, this biologic form of mercury in muscle--called methyl mercury--is far more toxic than pure mercury, the silver liquid that used to be in thermometers.

The effect of mercury in tooth fillings and vaccinations remains a huge political issue. Though it is slowly and quietly being removed from biological products, there has still not been a governmental acknowledgment of the damage it has caused; and is still present in certain vaccines and other products.

While we can now detect heavy metals in a person, it is rare that we can determine when and where they were exposed, since we (usually) don't know the source of our water, the history of our soil, and the materials in our older homes.

Symptoms of Heavy Metal Toxicity

Heavy metals are toxic because they poison numerous chemical processes in the body. The most vulnerable sites are nerves, hormones, and energy production. Because of the magnitude and pervasiveness of their effects, heavy metal toxicity can manifest as a host of conditions. They can be the primary cause of a condition, such as autism, ADD, developmental delays, multiple sclerosis, chronic fatigue, neuropathy and dementia; and they can precipitate or exacerbate a co-existing condition, such as allergy, insomnia, depression and cancer. Symptoms can vary from week-to-week due to other factors such as stress, hormonal changes, diet, exposure to other toxins, and other illnesses.

Variability of Vulnerability

One major source of confusion about heavy metal toxicity is that some people are affected more than others. This variability is due to a number of factors--such as genetics, other toxins, and quantity of exposure over time. For example, a person may not be toxic if only eating a can of tuna fish a week; but if a few old metal fillings are replaced, it might overwhelm the body's detoxification mechanisms, producing various symptoms.

As discussed in prior articles on detoxification, while a single toxin or two might be adequately handled by the body, the sum of all the toxins in the body, acting in concert, called "the cocktail effect", may be excessive. When toxins are studied, they are studied one at a time, and therefore the effects of hundreds (most of us have at least 300 different modern toxins in our body) is virtually

immeasurable, and varies from person to person.

Therefore, when large populations are studied, such as the effect of mercury amalgam (silver fillings in the teeth) on health, the very toxic effects on a few people may be washed out by the relative health of the majority.

Heavy Metal Testing

Testing of heavy metals remains confusing and controversial. However, a standard is emerging in holistic medicine.

Blood testing remains the standard for the government and conventional medicine. Clearly, a blood test that finds heavy metals is meaningful. However, the nature of heavy metals, to bind to various tissues such as nerve and bone, will only allow the blood test to be positive if there has been a recent or overwhelming exposure. Also, while there are lower limits in the blood that are deemed "safe", many experts feel that any levels in the blood are signs of toxicity. Indeed, the levels deemed toxic continue to be lowered, even by governmental agencies such as the CDC.

Hair testing, while convenient and relatively inexpensive, when looked at logically, is not very helpful. This is because a positive test can mean that the body is appropriately excreting small amounts of heavy metals (such as after eating seafood) through the hair, defending against toxicity. A negative test does not rule out toxicity because the heavy metals tend to be sequestered in the body. The only value of the hair test, if positive, is to confirm heavy metal exposure; but it does not quantify exposure, toxicity, or timing.

Urine testing by itself has the same limitations as the blood and hair test. However, if done "with provocation", by using a chelating agent, a meaningful result can be obtained. "Chelate" means claw, and a chelating agent grabs onto heavy metals in the body and then passes out through the kidneys into the urine. In the provocative test, the patient takes a small amount of chelating agent, and the urine is collected for a certain period of time. If the chelating agent finds heavy metals in the body, it will carry them into the urine. If the test is positive and over a certain level, this is the most reliable validation of heavy metal toxicity and can quantify the problem.

If there are questions about the effect of the chelating agent itself, then the test can be performed twice, without and then with the chelating agent. If the test finds little without the agent, and then much more with the agent, then clearly the chelating agent found a deep source within the body. If the test finds significant levels without the chelating agent, this can mean that there is current exposure, or very high level of prior exposure. The difference between the two levels is called the "body burden", the level that came from deep within the body. Performing the urine test both with and without provocation is the most meaningful and valid method.

There are several technical and safety issues regarding this test that require the supervision of an experienced practitioner.

Getting Rid of Heavy Metals

The body has many natural ways to capture or chelate

these metals and excrete them. Natural chelators include vitamin C, cilantro, chlorella, garlic, alfalfa and others. In addition, EPA/DHA (fish oils), anti-oxidants and other supplements help displace the heavy metals from the tissues. There are known cases of autism that began after vaccination (due to mercury preservatives) that have been greatly improved with the addition of such supplements. Again, depending upon the totality of toxic load of the body, these gentle agents can be effective or not. Certain metals, such as cadmium, are difficult to chelate.

Chelating agents are used by conventional medicine when there are positive blood tests, such as when children eat lead paint chips or are exposed to dust from remodeling of an old home. In this case, intravenous ("IV") chelation is performed until the blood levels come down to "acceptable" levels.

However, using chelation when blood tests are negative, or for other medical conditions remains controversial (and will be discussed in future articles).

There are essentially three ways to perform chelation: IV, oral and others methods. In IV chelation, the chelating agent is dripped into the bloodstream over an hour or so. The frequency and duration of treatments is determined by the treating physician. It is the quickest, most expensive, and most controversial of treatments. Also, if the heavy metals are mobilized too quickly, they can re-deposit in the body rather than being excreted, causing increased toxicity. Also, getting to deep deposits, such as lead in bone, may require a slower steadier strategy.

In oral chelation, agents are taken by mouth. This technique takes longer, but is more gentle, and can be supported with other nutritional measures. A downside may exist if there are problems with absorption or constipation.

Other techniques for chelation include clay foot baths, sweating, energy techniques (acupuncture and NMT) and other detoxification measures. While even more controversial than traditional chelating agents, these methods have their place when there is sensitivity to chelating agents or other issues.

Since all chelating agents bind all metals (with different "affinities") taking a multi-mineral supplement is important during a chelation process. Most protocols give the body specific recovery periods between treatments

As with testing, the treatment of heavy metal toxicity should be done with the guidance of an experienced practitioner.

Concurrent Conditions

Heavy metals, by impairing the immune system, can enable chronic infection such as Yeast (Candida), Lyme, Herpes and recurrent sinusitis. In turn, chronic infection and related dysfunctions (such as leaky gut) can so overload natural detoxification systems that the body can not eliminate heavy metals that it could otherwise handle. This circular situation should be explored before embarking on a course of action. Treatment of one condition can provoke the other. Coordinating and sequencing strategies is sometimes very challenging and requires a combination of science and art^{5,6}.

Ongoing Toxicity

The reason we all should take a multi-vitamin (even recommended by the conservative AMA) is because we can't get all we need from our foods. We are assuming that we all have low-level deficiencies.

Applying the same logic to heavy metals and other toxins, it is reasonable to assume that they are getting into our body every day, through the air, food, water, and perhaps electromagnetic media. Even when completing a chelation/detox process, there remain toxins in the body and in the environment. Adding chelation/detox support to our daily nutritional program is a reasonable plan. Moving toward organic foods, verified clean water, air filters, and daily yoga practice (to clear our minds, bodies and spirits) is a goal that we need to establish, not only for ourselves, but to increase the chances of our progeny being healthy (through epi-genetics, see above).

Because of the pervasiveness of heavy metals, and their continued use due to political issues, we must take a proactive stance. Compared with all the other things we can or should do to protect the health of ourselves, our families and our children, investing the time and energy to satisfy the heavy metal question is extremely cost effective.

IMPORTANT NOTE: This educational material may not be used to make decisions about medical care without the help of an experienced practitioner.

For More Information

- 1 See Dr. Cheikin's related articles on: Detoxification, Hormone Havoc, Adrenal Fatigue, Thyroid Disease as well as related topics
- 2 Dr. Cheikin offers workshops on various holistic health topics and classes in yoga, meditation and other wellness methods. Please call to be placed on his contact list or if you wish to host a Workshop.
- 3 www.ewg.org, environmental working group, is the premier organization for information about toxins in food and the environment
- 4 <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5608a1.htm>
- 5 McCandless, Jaquelyn: *Children with Starving Brains: A Medical Treatment Guide...* 4th Ed. Bramble, 2009. 1883-647-177.
- 6 Moritz, Andreas: *Timeless Secrets of Health and Rejuvenation*. 2007. 9780-9792-75753
- 7 Pizzorno, Joseph: *Total Wellness: Improve Your Health by Understanding...* Prima, 1997, ISBN 0761-510-94X.
- 8 Sivananda Center: *The Sivananda Companion to Yoga*. New York: Simon & Schuster, 1983. ISBN: 0684-87000-2.

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Michael Cheikin MD is a holistic physician, Board Certified in Physical Medicine and Rehabilitation ("Physiatry"), Pain Management, Spinal Cord Medicine and Electrodiagnostic Medicine and licensed in Medical Acupuncture. He provides leadership to several medical institutions. Dr. Cheikin has extensively studied yoga, diet and metabolism, Ayurvedic, Chinese and energy medicine and other alternative modalities for over 30 years. He designs balanced, natural, individualized health programs for adults and children utilizing a combination of education and counseling, medical yoga, whole foods and supplements, detoxification programs and medical acupuncture. He specializes in obscure, chronic and severe problems that have not responded satisfactorily to other methods of healing. 610-239-9901 or www.cheikin.com