

What You Should Know About Heavy Metals

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Mercury, lead, arsenic, cadmium, cobalt, tin, nickel...what do all these substances have in common? They're all considered "heavy metals" – metals and metal compounds that can negatively affect people's health. And this is not the full list. Others, such as chromium, copper, silver, and even zinc – substances that we know to be either essential or helpful to our bodies – can also pose a significant threat to our wellbeing.

There are actually 35 metals that we need to be aware of because of occupational or residential exposure; 23 of these are the heavy elements or "heavy metals": antimony, arsenic, bismuth, cadmium, cerium, chromium, cobalt, copper, gallium, gold, iron, lead, manganese, mercury, nickel, platinum, silver, tellurium, thallium, tin, uranium, vanadium, and zinc. Interestingly, small amounts of these elements are common in our environment and diet and are actually necessary for good health, but large amounts of any of them may cause acute or chronic toxicity.¹

Heavy metals accumulate in the body, building up in fat cells, bones, glands, and hair, and inevitably lead to a dizzying array of symptoms and chronic diseases. Heavy metal toxicity can result in damaged or reduced mental and central nervous function, lower energy levels, and damage to blood composition, lungs, kidneys, liver, and other vital organs. Long-term exposure may result in slowly progressing physical, muscular, and neurological degenerative processes that mimic Alzheimer's disease, Parkinson's disease, muscular dystrophy, and multiple sclerosis. In addition, allergies to heavy metals are not uncommon and repeated long-term contact with some metals or their compounds may even cause cancer.

Over the last 20 – 25 years, scientists and environmentalists have been raising their voices in concern over the amount of environmental pollution to which we are exposed on a daily basis. Research has been steadily accumulating, pointing to the fact that we are surrounded by heavy-metal toxins. Indeed, heavy metals are associated with, produced, or used by just about every aspect of our modern culture: manufacturing, agriculture, the pharmaceutical industry, industrial facilities, the medical and dental industries, power plants, and residential areas. And the news gets worse. When multiple heavy metals are found together in the same system, a synergistic effect occurs, making the overall impact on your body more potent and destructive than each heavy metal would if taken separately.²

There has never been a better time to learn how to protect yourself and your loved ones from heavy metal toxicity.

Mercury, lead, and arsenic are three of the heavy metals that are most commonly found in toxic amounts in humans. Below, you will find valuable information on these heavy metals, including sources of contamination, associated symptoms of toxicity and what you can do to provide a measure of protection for yourself and your loved ones.

Mercury

Over the years, many companies have used mercury to manufacture a whole host of products such as thermometers, thermostats, light switches in automobiles, and those “silver” fillings you get at the dentist. An unfortunate and dangerous side effect of using mercury in these ways is that it has leaked into the air, settled into the oceans and other waterways, and as a result has accumulated in the fish that we eat. In fact, one of the most common ways that Americans are exposed to mercury is through tuna fish.³

When mercury makes its way into the world’s waters, bacteria convert it to a form called “methyl mercury,” and it is this form of mercury that humans absorb most easily and to which we are especially vulnerable.

Mercury doesn’t metabolize. That is, it doesn’t break down in the body, and as a result it accumulates. That means that as larger fish (such as tuna, swordfish and shark) eat

contaminated smaller fish, the mercury concentration in their bodies can be as much as 10,000 times higher than those of their surrounding habitat. When we eat these larger fish, we then ingest those high amounts of methyl mercury. Since the heavy metal is odorless and invisible it isn’t easily detected, and because it is stored in the very cells of the fish we eat, it can’t be avoided by trimming off the scales or other parts.

Mercury Calculator

Many kinds of seafood are known to carry high concentrations of mercury in their flesh. When you consume them, that mercury gets into your system and can cause all sorts of havoc. Are you consuming too much mercury? Find out here: <http://www.nrdc.org/health/effects/mercury/calculator/start.asp>

Chew on This

To get a really good idea of how the mercury in your “silver” dental fillings affects your body and your health, log on to http://www.iaomt.org/merc_release.swf where there is a very informative, easy-to-understand movie that explains it all.

It might surprise you to know that the predominant source of human exposure to mercury is actually your dental fillings!⁴ The research behind the long and frightening list of symptoms associated with these “silver” amalgam fillings is formidable, yet statements from dental trade organizations have duped the public into thinking that placing mercury in the teeth and mouth is safe. Yet, “studies in both

animals and humans have confirmed the presence of mercury from amalgam fillings in tissue specimens, blood, amniotic fluid, [and] urine.”⁵ It isn’t intended, of course, to leak from the teeth into the rest of the body, but it happens. Mercury can even be passed from mother to child in the womb and through breast milk. Don’t be fooled: mercury amalgams are toxic. Why else would the metallic mercury used by dentists to manufacture dental amalgam be shipped as a hazardous material to dental offices?⁶

When mercury enters the human body, it acts as a neurotoxin, interfering with the brain and nervous system and can also harm the gastrointestinal tract. Symptoms related to mercury poisoning include: loss of fluids and electrolytes, edema, lethargy, tremors, hyper-excitability, loosening of the teeth, etc. In young children, mercury can cause even more serious problems, such as mental retardation, cerebral palsy, deafness, and blindness.

Lead

Used in pipes, drains, and soldering material for many years, exposure to the heavy metal lead is all too common. Millions of homes built before 1940 still contain lead – especially in painted surfaces – leading to chronic exposure from weathering, flaking, chalking, and dust. Most of the lead used today is in batteries, but it is also used in cable coverings, plumbing, ammunition, fuel additives, pencils, x-ray shielding, PVC piping, and pesticides. Lead, it seems, is fairly ubiquitous in our culture.

Lead absorption rates vary considerably. Adults typically absorb 10 – 15 percent of lead that is ingested, while pregnant women and children (again, at the most risk), can absorb up to 50 percent.⁷ In most individuals there is a “lead balance,” which means that a person excretes as much lead as they take in. An increase in the intake, however, will cause an accumulation or “positive lead balance.” Lead is similar in chemical make up to calcium, so the body treats it as if it is calcium, transporting it to the plasma and membranes of soft tissues. From there, it travels into the teeth and bones. For developing children, this can be very harmful.⁸

To the human body, lead is devastating. In toxic amounts, it inhibits oxygen and calcium transport and alters nerve transmissions in the brain. Studies show that even low concentrations of lead in the body can cause permanent damage including reduced IQ, learning disabilities, and shortened attention span. New research indicates that no amount of lead is safe for a child, and yet, according to the Centers for Disease Control and Prevention, “almost one million American children under the age of six have elevated levels of lead in their blood.”⁹ Unfortunately, because children’s symptoms (ranging from irritability to stomach upset) may not be immediately recognizable as lead-related, the majority of cases often go undetected.

The symptoms of acute lead poisoning include: abdominal pain, convulsions, hypertension, renal dysfunction, loss of appetite, fatigue, sleeplessness, hallucinations, headache, numbness, arthritis, and vertigo. Chronic exposure can result in birth defects, autism, psychosis, allergies, dyslexia, mental retardation, and paralysis.

Arsenic

Perhaps the most infamous heavy metal, arsenic is released into the environment by the smelting process of copper, zinc, and lead, as well as by the manufacturing of chemicals, glasses, paints, rodent poisons, fungicides, and wood preservatives.¹⁰ Arsenic may also be found in water supplies, especially in private wells that are not routinely tested by the Environmental Protection Agency (EPA). For example, in New Hampshire, “40 percent of the population consumes water from private wells, and 25 percent of those wells have high arsenic levels.”¹¹

The Leaden Demise of Rome

While the toxic effects of heavy metals are something we are very concerned about today, some historians and theorists suggest that this is an age-old problem. Indeed, one historian/toxicologist contends that the fall of the great Roman Empire was actually 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.

Arsenic is the most common cause of acute heavy metal poisoning in adults. Odorless, tasteless, and resembling sugar, it is perhaps best known as the “classic poison” of times past. Today, exposure to higher-than-average levels of arsenic occurs mainly in workplaces, near or in hazardous waste sites, and areas with high levels naturally occurring in soil, rocks, and water.

Symptoms of acute arsenic poisoning include: sore throat from breathing, red skin at contact point, severe abdominal pain, vomiting, diarrhea, anorexia, fever, and arrhythmia. Low-level and long-term exposure to arsenic may manifest from symptoms such as a darkening of the skin and the appearance of small “corns” or “warts” on the palms, soles, and torso, to decreased production of red and white blood cells, damage to blood vessels, and lung and skin cancers.¹²

What You Can Do

Obviously, the first step to overcoming heavy metal toxicity is to remove the offending materials from which toxic exposure is imminent. For example, where mercury is concerned, this may mean choosing seafood wisely and avoiding the use of mercury amalgam fillings. Beyond taking precautionary measures to insure that you are not exposed to toxic heavy metals, it is also possible – and advisable – to flush your body of any toxins that may already be inside you. Cleansing the body of heavy metals can be an important step toward achieving optimal health. This process is easy and can be relatively inexpensive, especially when weighed against the costs incurred through medical treatments that result from years of toxic heavy metal build up in the body.

Among the most effective and simple techniques use for this purpose – and yet one of the least well known – is *chelation therapy*, wherein a substance is introduced to the body which has the ability to “chelate” (or bind) to harmful heavy metal particles and other toxins and then carry them to the kidneys, from which they are safely excreted. There are two forms of chelation available today: intravenous and oral.

Intravenous chelation involves the injection of certain minerals and binding compounds into the bloodstream through an intravenous solution. Because this is an invasive procedure, it is only performed by trained medical professionals. As a result, you will likely have to visit a naturopathic clinic or some kind of alternative health clinic in order to receive this kind of treatment. Because the IV solution directly enters the bloodstream, this kind of chelation is especially effective at reducing the amount of lead and other toxins that are found in the blood supply.

Oral chelation is a safe and effective measure that is readily available to most people. Taken in the form of a pill or capsule on a daily basis, it is a highly efficient treatment that assists the body in the removal of dangerous heavy metals and toxins, and it can be performed at home. Because the chelating agents are ingested and must therefore go through the process of digestion in the body, oral chelation takes longer to be of equal effect as intravenous chelation. However, the fact that it is digested also means that the beneficial chemicals and compounds in an oral chelation product disperse to and positively affect the tissues and cells of the various body systems, rather than simply purifying the blood. This is one advantage of oral chelation over intravenous.

Oral chelation is not as expensive as its intravenous counterpart, but it is imperative to find a good oral chelation supplement in order to get the most out of such a detoxification effort. The best chelation supplements will contain a variety of ingredients, including vitamins, minerals, and enzymes, which act synergistically to aid the body in the process of detoxifying all its systems. One of the most helpful elements in chelation therapy is an ingredient called EDTA (ethylenediaminetetraacetic acid). EDTA is a naturally safe chemical – less toxic to the system than aspirin – that passes through the body, taking toxins and heavy metals out with it.

Is oral chelation for you? Well, that depends on whether you like to save money, improve your health and be proactive when it comes to your own wellbeing. In reality, completing an oral chelation program is an inexpensive way to improve your overall health. Providing the body with nutrients and compounds that are essential to its own detoxification capabilities allows you to super-charge the entire process. The result? Increased energy, more efficient metabolism, improved immune function and memory, relief from aches and pains, improved disposition...the list of benefits goes on and on. As with all alternative therapies, the choice is yours. Hopefully, what you've read here will help you choose wisely.

¹ <http://www.lef.org/protocols/prtcl-156.shtml>

² http://www.iaomt.org/merc_release.swf

³ <http://www.nrdc.org/health/effects/mercury/sources.asp>

⁴ <http://www.iaomt.org>

⁵ Life Extension Foundation, *Disease Prevention and Treatment*, 4th ed., ©2003, pg. 847.

⁶ Ibid.

⁷ <http://www.nrdc.org/health/effects/flead.asp>

⁸ <http://www.luminet.net/~wenonah/hydro/heavmet.htm>

⁹ <http://www.nrdc.org/health/effects/flead.asp>

¹⁰ Life Extension Foundation, *Disease Prevention and Treatment*, 4th ed., ©2003, pg. 844.

¹¹ <http://www.mindfully.org/Pesticide/Arsenic-ED-Heavy-Metal.htm>

¹² http://www.ewaste.ch/facts_and_figures/technical/health_risks/