

EVERYONE MAY BENEFIT FROM CHELATION

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No one is exempt. That is right. From babies to preschoolers, students, young people, adults, baby boomers and grandparents, all of us have been exposed to toxic metals such as lead, arsenic, cadmium, and mercury. The top 20 Hazardous Substances in the US 2005 according to the CERCLA Priority List of CDC/ATSDR/NEHC Hazardous Substances name as # 1 Arsenic, # 2 Lead, # 3 Mercury and # 7 Cadmium. Toxic metals, if not identified and treated, can lead to heart disease, hypertension, cancer, neurological problems, allergies, chronic fatigue, diabetes, arthritis, asthma, kidney problems, auto-immune diseases and even death. An article found in Townsend Letter for Doctors and Patients June 2003 written by Morton Walker, DPM states that “toxic metal pollution is the most frequent reason for the onset of chronic degenerative diseases and loss of life among North Americans.” Metal poisons are ubiquitous on the continent, ranging from highly populated cities to the most isolated of rural communities, even in pristine Alaska. Let’s look at each of these metals examining their sources and how they might affect one’s health.

Mercury is a naturally occurring metal found throughout the environment and can travel by wind, rain or rivers. Some question the dramatic increase in the incidence of autism to its presence as a preservative and an anti-microbial agent in vaccines. The World Health Organization stated that the number one source of mercury poisoning among humans is dental fillings. Mercury is also used in alkaline batteries and in the ballast of fluorescent light bulbs. Although fish are an excellent source of essential fatty acids, most large fish contain significant amounts of methylmercury. Since methylmercury is fat soluble, it might also contaminate supplements derived from fish oils. Mercury was used as an anti-fungal agent in paint prior to 1992. Those living in older homes should be aware that peeling paint or sanding off existing paint might lead to mercury exposure. Mercury dental fillings in pregnant women can be a significant source to

developing infants in utero. In July of 2005 CNN.com reported finding mercury along with 287 other contaminants of umbilical cord blood of 10 infants taken by the American Red Cross. Preservatives in certain contact lens solutions or nasal sprays can also be a source of mercury. Other sources include exhaust fumes, insecticide sprays, organo-mercurial pesticides and fungicides, felt, hemorrhoid suppositories, fabric softeners, chemical fertilizers, tattooing, certain cosmetics, skin lightening creams, coal burning, sewage disposal, floor waxes and polishes, adhesives, antiseptic facial products and camera film.

Mercury affects every organ in the body and can be attributed to a myriad of diseases. It is particularly neurotoxic (poisons the brain and nervous system) manifesting symptoms such as tremors, loss of memory, depression, irritability, numbness and tingling, difficulty walking and maintaining balance, headaches, metallic taste, vision disturbances, impaired hearing/smell/taste, fatigue and dysfunctional thinking. Mercury dramatically impairs the immune system making us more vulnerable to infections and cancer. It is also nephrotoxic (poisons the kidney) resulting in many conditions that hinder the body from being able to detoxify other toxins, including both over the counter and prescribed medications and chemicals found in our environment, and can eventually lead to complete kidney failure requiring either transplant or dialysis. Mercury has been found in high concentrations in heart muscle and the endothelial wall of arteries. It is present in high concentrations in the intestinal wall of those suffering from Colitis and in the spinal fluid of many labeled with diagnosis of Multiple Sclerosis. Evidence exists that mercury can induce auto-immune disease. There is not a cell in the body that is immune to the devastation caused by mercury!

Everyone is aware that arsenic is a poison, but most people are unaware of its prevalence in the environment. One source is drinking water. The EPA has decided to lower the allowable level of arsenic in drinking water from 50 ppb (the standard since 1943) to 10 ppb by 2006. Delays continue due to political and economic reasons. Both the European Union (EU) and the World Health

Organization (WHO) have standards for arsenic in drinking water at 10 ppb. Arsenic is introduced into the environment in pesticides along with glass and electronics industries. Naturally occurring in the earth's crust results in high levels in drinking water, especially wells, throughout the US and the world. Bangladesh and West Bengal, India have significant problems from high levels in the drinking water. Researchers at University of California, Berkeley call this situation "the highest cancer risk ever found!" Other sources of arsenic are certain wood preservatives (pressure treated wood) found in decks of homes and playgrounds for children. Insecticides, rodenticides, and fungicides along with ore smelting/refining/processing factories, galvanizing, etching and plating processes also contribute to the exposure.

Symptoms consistent with mild or moderate arsenic exposure include: fatigue, malaise, eczema or allergic-like dermatitis and increased salivation. Arsenic poisoning has been associated with bladder, skin and lung cancers and has caused a number of different blood disorders.

Lead has been around since the beginning, but has dramatically increased since the Industrial Age. Eliminating lead from gasoline and the removal of indoor lead paint has definitely lowered the exposure, but it is a persistent metal. It is still present in water, brass plumbing fixtures, brass keys (babies love to put keys in their mouths), soil, dust, and imported products manufactured with lead. Lead-based paint covers five billion square feet of nonresidential surface area in the United States and almost 90% of the nation's bridges. The Center for Disease Control (CDC) currently lists lead poisoning as the leading environmental health threat to children in the United States. Drinking water is a major source of lead exposure contributing to approximately 20% of the total daily exposure experienced by the majority of the US population. Even though a 1986 amendment to the federal Safe Drinking Water Act banned the use of lead solder and leaded pipes from public water supply systems and plumbing, and limited faucets and other brass plumbing components to no more than 8% lead; leaded

plumbing components continue to be used in schools and daycare centers. In January 2004 it was reported that in the District of Columbia a decontamination chemical added to the water supply resulted in so much corrosion of lead inside the lead service pipes that 163 homes had levels of 300ppb (20 times higher than the EPA action level). It is further suspected that lead contamination of municipal water supplies may be an under-reported problem. Lead is also found in lead-glazed ceramics, food stored in lead glazed containers, crystal, cigarette smoke, some supplements, children's toys, and vinyl mini-blinds. Other products manufactured with soft vinyl, specifically children's lunchboxes, have been found to contain more than 90 times the legal limit for lead in paint. Workers in certain occupations are exposed to high levels of lead. Lead exposure occurs during the manufacture of ammunition, batteries, sheet lead, solder, some brass and bronze plumbing, ceramic glazes, caulking, radiation shields, circuit boards, military equipment (jet turbine engines, military tracking systems), intravenous pumps, fetal monitors, and some surgical equipment. Construction workers and electricians are known to have a high risk for lead exposure

Lead exposure occurs mainly through inhalation, skin and the digestive tract. Low levels of lead can cause impaired vitamin D metabolism, decreased nerve conduction resulting in neuropathy (numbness loss of or abnormal sensation), developmental disorders including loss of IQ, hearing impairment, delayed growth and behavior disorders. Lead interferes with production of nitric oxide at the endothelial surface of arteries resulting in hypertension and other forms of circulatory problems. Lead can also lead to kidney/bladder problems and can be a cause of erectile dysfunction in men.

Cadmium is a toxic metal used in industry and mining. Cigarette smoke is a potent source of cadmium. Other sources include refined grains, soft water, evaporated milk, solder in cans, canned soft drinks from vending machines, pesticides, oysters, and black rubber. Cadmium can cause lung damage similar

to emphysema, kidney damage, fatigue, hypertension, iron deficiency anemia, arthritis and even cancer.

One thing that is extremely important to remember about toxic metal poisoning is that one unit of one metal (such as mercury) plus one unit of another (such as lead) does not equal 2 units of heavy metal. It usually equals 100 units because they are synergistic with each other; the effects are not additive but rather multiplied. Another thing to remember about toxic heavy metals is that they don't just evaporate or disappear, even when the source of exposure is removed. They stay in your system forever, unless actively removed through a process such as chelation.

Now here is the good news. There is a safe and effective treatment for detoxifying heavy metal toxicity: chelation. Chelation agents bind to heavy metals in the blood or tissues and escort them out of the body through the urine or stool. These beneficial substances detoxify the body and brain to reduce symptoms and/or (in some instances) reverse the disease process itself.

Chelation therapy has been used in the United States since 1950 when it was first used in treating patients with lead toxicity who had been working in a battery factory in Michigan. It was also used to treat lead toxicity in sailors who had been exposed to lead by cleaning paint/barnacles from ships. Some of these patients also had coronary artery disease and during treatment with Intravenous EDTA (a synthetic amino acid, Ethylene diamine tetraacidic acid) reported that their symptoms of chest pain disappeared. Other practitioners began to notice similar findings documenting improvements in blood flow, lowering of blood pressure, increased memory, less pain with walking. All of these impressive results were seemingly without side effects! Over a period of time doctors began researching and recording treatment protocols that would maximize results and yet be safe at the same time.

For the first few years all of these treatments were intravenous. In fact, initially we were taught that oral chelation was relatively ineffective as only 5% of oral EDTA was absorbed through the intestinal tract. Over the past 6-8 years however, that sentiment appears to be changing thanks to the efforts of Dr. Gary Gordon, one of the pioneers in the field of Chelation Therapy. He was one of the doctors who helped establish the organization that trains doctors today and worked on the original protocol recommendations with numerous revisions. He reports that absorption levels now appear to approach 15-20% and over a period of time results mimicking intravenous administration are being seen. There is still a need for intravenous therapy; but there are times that it is not available or there may be financial limitations that prohibit the use of intravenous treatments. I have used oral chelation agents as an adjunct to intravenous or as a sole treatment now for several years with very good results. Earlier fears about the depletion of good minerals by the chelating agents have not been realized by most practitioners. There are several oral chelating agents available, but EDTA has the longest safety track record to date. There may be certain indications for specific agents or even a combination of agents. Research continues in this area.

Calcium EDTA seems to be safer than aspirin. Oral chelating agents should be taken for months to years considering the extremely high levels found in most people tested and the fact that exposure is ongoing. There is no place on the planet that is safe from exposure to heavy metals.

Women with osteoporosis are receiving an ongoing exposure to lead as their bones remodel and release stored lead. Oral chelation along with adequate vitamin D supplementation and the right kind of calcium/magnesium can be life saving in this instance as well as possibly reversing the osteoporosis.

Provocative testing at different intervals of treating patients who had significantly elevated levels of these toxic metals; (sometimes all of them) has shown that oral

chelation does indeed work, not only to improve symptoms, but to reduce the levels as well.

I believe that oral chelation should be a part of our daily supplementation because of the ongoing exposure in our environment and the deadly effect of these metals on our immune system, mental well being, and the devastating degenerative diseases they can cause. In my opinion, **everyone may benefit from chelation.**

Dr. Sandra Denton is a practicing medical doctor who founded and serves as the Medical Director for the Alaska Alternative Medicine Clinic. She served for over 13 years as an emergency room physician and has over 21 years of experience in the field of alternative medicine. She received a diplomate in chelation therapy from the American Board of Clinical Metal Toxicology and she is Board Certified in Heavy Metal Toxicology. She is an expert in using natural therapies, including chelation therapy, to improve the health and well-being of her patients.