

Heavy Metals

Sources, Symptoms, Testing and Treatment

Heavy metal poisoning has become an increasingly major health problem, especially since the industrial revolution. Heavy metals are in the water we drink, the foods we eat, the air we breathe, our daily household cleaners, our cookware and our other daily tools. A heavy metal has a density at least 5 times that of water and cannot be metabolized by the body, therefore accumulating in the body. Heavy metal toxicity can cause our mental functions, energy, nervous system, kidneys, lungs and other organ functions to decline. Learning where these metals can be found and decreasing one's exposure is vital to staying healthy. For the person who wonders if they have heavy metal poisoning, testing is essential.

<i>HEAVY METAL</i>	<i>SOURCES</i>	<i>SYMPTOMS AND DISEASES</i>
Aluminum	Aluminum foil, antacids, aspirin, dust, auto exhaust, treated water, vanilla powder, nasal spray, milk products, salt, commercially-raised beef, tobacco smoke, anti-prespirants, bleached flour, cans, animal feed, ceramics, commercial cheese	Flatulence, headaches, dry skin, weak and aching muscles, senility, spleen pain, stomach pain, liver dysfunction, kidney dysfunction, neuromuscular disorders, osteomalacia, colitis, anemia, Alzheimer's disease, amyotrophic lateral sclerosis, hemolysis, leukocytosis, porphyria, heartburn, memory loss, numbness, paralysis, Parkinson's disease, excessive perspiration, leg twitching, cavities, colds, behavioral problems, constipation.

How Aluminum affects health:

Nervous system - Aluminum inhibits Na-K-ATPase and hexokinase enzymes into the brain. It blocks the electrical discharge of nerve cells, which reduces nervous system activity.

Behavioral effects - Kidney dialysis related to aluminum toxicity causes memory loss, loss of coordination, confusion and disorientation.

Digestive system - Aluminum is used in many antacids, which reduces the intestinal activity.

Excess may cause colic.

<i>HEAVY METAL</i>	<i>SOURCES</i>	<i>SYMPTOMS AND DISEASES</i>
Arsenic	Coal combustion, paints, rat poisoning, beer, pesticides, table salt, seafood from coastal waters (oysters, shrimp, muscles), fungicides, drinking water, wood preservatives.	Enzyme inhibitor, anorexia, diarrhea, nausea, vomiting, chronic anemia, drowsiness, dermatitis, stomatitis, liver dysfunction, hair loss, headache, vertigo, fever, stupor, herpes, jaundice, fluid loss, throat constriction, spasms, respiratory tract infection, garlicky odor to breath or stool, keritosis, pallor, goiter.

How Arsenic affects health:

Skin - Arsenic is a carcinogen that accumulates in hair, nails, and skin causing depigmentation, rashes on palms and soles of feet.

Musculoskeletal system - Arsenic poisoning will retard the growth of limbs, resulting in deformities and birth defects.

Kidneys - Build up of arsenic in the kidneys will quickly cause kidney damage.

Nervous system - A decrease in mental ability due to damage of brain cells.

Digestive system - Arsenic will cause serious abdominal cramps accompanied by diarrhea and anemia.

<i>HEAVY METAL</i>	<i>SOURCES</i>	<i>SYMPTOMS AND DISEASES</i>
Beryllium	Coal burning, household cleaners, industrial dust, manufacturing	Disturbance of calcium and vitamin D metabolism, lung cancer or lung infections, rickets, magnesium depletion.

How Beryllium affects health:

Chronic Beryllium Disease (CBD) - A treatable but not curable disease primarily in the lungs. CBD can cause a persistent cough, fatigue, shortness of breath, chest and joint pain, blood in sputum, loss of appetite, rapid heart rate, fevers and night sweats.

<i>HEAVY METAL</i>	<i>SOURCES</i>	<i>SYMPTOMS AND DISEASES</i>
Cadmium	Tap water, fungicides, marijuana, processed meat, rubber, seafood (cod, haddock, oyster, tuna), sewage, tobacco, colas (especially from vending machines), tools, welding material, evaporated milk, airborne industrial contaminants, batteries, instant coffee, incineration of tires/rubber/plastic, refined grains, soft water, galvanized pipes, dental alloys, candy, ceramics, electroplating fertilizers, paints, motor oil and motor exhaust.	Alopecia, anemia, arthritis, cancer, lung disease, cerebral hemorrhage, cirrhosis of the liver, enlarged heart, diabetes, emphysema, hypoglycemia, hypertension, impotence, infertility, kidney disease, learning disorders, migraines, inflammation, renal disease, osteoporosis, schizophrenia, strokes, vascular disease, high cholesterol, growth is impaired, cardiovascular disease

How Cadmium affects health:

Energy - Cadmium inhibits essential enzymes in the Krebs energy cycle.

Nervous system - Cadmium directly damages nerve cells. It inhibits the release of acetylcholine and activates cholinesterase, resulting in a tendency for hyperactivity of the nervous system.

Bones and Joints - by altering calcium and phosphorus metabolism, a toxic level of cadmium can contribute to arthritis, osteoporosis, and neuromuscular diseases.

Cardiovascular system - Cadmium replaces zinc in the arteries, which contributes to arteries being brittle and inflexible.

Excretory system - Cadmium accumulates in the kidneys, resulting in high blood pressure and kidney disease.

Dental - Cadmium toxicity can alter calcium and vitamin D activity, resulting in cavities and tooth deformities.

<i>HEAVY METAL</i>	<i>SOURCES</i>	<i>SYMPTOMS AND DISEASES</i>
Copper	Copper cookware, copper pipes, dental alloys, fungicides, ice makers, industrial emissions, swimming pools, shellfish, perch, bluefish, lobster, walnuts, almonds, soybeans, wheat germ, yeast, beer, chocolate, corn oil, gelatin, liver, lamb, mushrooms, avocado, birth control pills.	Acne, allergies, alopecia, insomnia, nausea, spaciness, tooth decay, strokes, PMS, yeast infections, urinary tract infections, mood swings, kidney disorders, depression, cystic fibrosis, arthritis, anxiety, anorexia, multiple sclerosis, inflammation, pancreatic dysfunction, vitamin deficiencies, paranoia, migraines, libido decreased, nervousness, osteoporosis, senility, stuttering, phobias, diabetes, autism, estrogen dominance.

How Copper affects health:

Nervous System: Copper buildup can result in a tendency for hyperactivity in autistic children. It can cause stuttering, insomnia, and hypertension.

Skin: An excess of copper can cause oily skin, loss of skin tone (due to its ability to block vitamin c), and can cause a dark pigmentation of the skin, usually around the face.

Hair and Nails: Copper can cause nails to be brittle and thin. It can contribute to hair loss, especially in women.

<i>HEAVY METAL</i>	<i>SOURCES</i>	<i>SYMPTOMS AND DISEASES</i>
Iron	Iron cookware, iron pipes, drinking water, welding, shellfish, soybeans, liver, kidneys, beef, nuts, legumes, sunflower seeds, bran, bone meal, wheat germ, whole grain, molasses, yeast.	Anger and other emotional disorders, birth defects, constipation, diabetes, insomnia, high blood pressure, arthritis, cancer, cirrhosis of the liver, schizophrenia, myasthenia gravis, nausea, pancreas damage, headaches, Parkinson's disease, scurvy, shortness of breath, hepatitis, dizziness, heart failure.

How Iron affects health:

Hemochromatosis (iron overload) - A disease with the ability to be passed on hereditarily or acquired. It can cause hair loss and skin discoloration. It can increase the possibility for stroke and memory loss. Serious heart problems can erupt from hemochromatosis by clinging on to the arteries and in time causing them to become blocked, and also damaging the electrical nerves causing an irregular heart beat. The liver may also become enlarged and lead to cirrhosis. Hemochromatosis also messes with the digestive system, in that bleeding ulcers may develop. Severe arthritis can also develop because an iron overload causes a precipitation of calcium pyrophosphates in the joint spaces, the cartilage of the joint and the surrounding tissues of the joint. As if that weren't enough, the susceptibility to infections is significantly increased.

<i>HEAVY METAL</i>	<i>SOURCES</i>	<i>SYMPTOMS AND DISEASES</i>
Lead	Ash, auto exhaust, cigarette smoke, coal combustion, colored inks, pesticides, rainwater, food cans with lead solder sealing, toothpaste, wine, manufacturing batteries, cosmetics, hair dyes, lead pipes, liver, glazed ceramics, pencils, lead-based paint, industrial emissions.	Abdominal pain, ADD, adrenal insufficiency, allergies, anemia, anxiety, arthritis, blindness, cardiovascular disease, autism, colic, constipation, convulsions, depression, dyslexia, epilepsy, fatigue, gout, hallucinations, headaches, hostility, hyperactivity, hypertension, hypothyroidism, impotence, liver dysfunction, hyperkinesis, mental retardation, mood swings, menstrual problems, muscular dystrophy, multiple sclerosis, nephritis, nightmares, nausea, numbness, Parkinson's disease, poor concentration, psychosis, renal dysfunction, restlessness, schizophrenia, seizures, stillbirths, SIDS, tooth decay, vertigo, weight loss.

How Lead affects Health:

Bones - Instead of calcium, lead is incorporated into bone.

Brain - Lead can inhibit copper-dependent enzymes needed for neurotransmitters, causing hyperactivity.

Energy - Fatigue is triggered by increasing rate of destruction of red blood cells. Also, lead inhibits copper and iron-dependent enzymes in the Krebs cycle.

Kidneys - Gout can occur from lead toxicity raising uric acid levels and impairing kidney functions.

Minerals - Lead inhibits calcium, zinc, manganese, copper, and iron causing deficiencies.

Thyroid gland - Lead can inactivate the thyroid hormone thyroxin because it interferes with the iodine uptake to the thyroid gland.

<i>HEAVY METAL</i>	<i>SOURCES</i>	<i>SYMPTOMS AND DISEASES</i>
Mercury	Dental amalgam, tuna fish, swordfish, felt, algacides, floor waxes, adhesives, fabric softeners, chlorine production, contact lens solution, preparation H, diuretics, Mercurochrome, Merthiolate, childhood vaccines.	Adrenal gland dysfunction, anorexia, birth defects, brain damage, depression, dermatitis, dizziness, fatigue, hearing loss, hyperactivity, insomnia, kidney damage, memory loss, migraines, mood swings, nervousness, pain in limbs, skin rashes, schizophrenia, thyroid dysfunction, peripheral vision loss.

How Mercury affects health:

Kidneys - mercury accumulates in the kidneys causing kidney damage

Energy - mercury compounds inhibit the enzyme ATPase, which impairs energy production in all body cells.

Nervous system - degeneration of nerve fibers and reduced motor conduction speed.

<i>HEAVY METAL</i>	<i>SOURCES</i>	<i>SYMPTOMS AND DISEASES</i>
Nickel	Peanut butter, hydrogenated vegetable oils, margarine, imitation whip creams, kelp, oysters, herring, nickel plating, cigarette smoking, tea, batteries, wire and electrical parts.	Hemorrhages, malaise, low blood pressure, kidney dysfunction, nausea, vomiting, heart attack, oral cancer, intestinal cancer.

How Nickel affects health:

Kidneys - nickel tends to accumulate in the kidneys causing kidney damage

Hormone, lipid and membrane metabolism - nickel can play some physiological role related to these functions.

Skin - A common ingredient in fashion jewelry is nickel, which can cause allergic reactions on some wearers. Eczema may develop and even asthma attacks.

Respiratory system - a steady exposure to nickel can cause cancer of the lungs and nasal sinus.

<i>HEAVY METAL</i>	<i>SOURCES</i>	<i>SYMPTOMS AND DISEASES</i>
Tin	Tin coated cans of fruits and vegetables, processed foods, industrial waste.	Headaches, vomiting, diarrhea, abdominal cramping, abdominal bloating, nausea, fever, hyperglycemia, vision changes, liver pain, ataxia.

How Tin affects health:

Brain - tin accumulates in the brain and can cause brain damage and headaches.

Liver - tin accumulates in the liver and can cause liver damage and liver pain.

Digestive system - tin irritates the gastrointestinal tract and cause vomiting and diarrhea.

Testing for Heavy Metals

The most sensitive test for heavy metal load according to various natural medicine specialists is the provocative urine test. A person is infused with a chelating agent such as DMPS (specific for mercury) or EDTA (for other metals) and then the urine is collected for 24 hours. The chelating agent after being infused intravenously will go into the tissues of the body and then bind the various heavy metals including cadmium, lead, and mercury. It is then excreted out into the urine where the heavy metal levels are measured. This is often the best way a person can tell what types of heavy metal exposure they have had.

Treatment for Heavy Metal Toxicity

Once the type and level of the Heavy Metal(s) is identified, the proper chelating agent (EDTA, DMPS, DMSA, Desferrioxamine, etc.) is used in several treatment sessions to extract the heavy metals.