Heavy Metals

We are all exposed to many heavy metal toxins each day, some of us better at eliminating them than others. In general, the more exposure we have, the more we hold onto, and our bodies become overwhelmed. Even when not exposed to the obvious exposures like smoking, and toxic work surroundings, its important to understand we are all exposed to some degree. For example, dentistry, food sources, and body care products may lead us to toxic exposure to heavy metals.

Through this environmental exposure, metals tend to accumulate in the body, specifically in the brain and other fatty tissues. Studies also show that mercury and lead are inherited from mom to baby in utero. The Environmental Working Group (EWG) examined the cord blood of newborns and found the following troubling numbers:

- They began life exposed to as many as 287 of 413 toxic chemicals in the study
- 180 chemicals found are known to cause cancer

The Drasch Study showed the number of silver fillings (each filling contains 50% mercury) in a mother's mouth is proportional to how much mercury ends up in the baby's brain. The number one source of lead is also from our mothers. Most of the lead is stored in our bones, and during pregnancy, it is normal to lose bone, but the lead is passed into the baby in utero. These are some of the most common heavy metals for you to be aware of, so you can check your products, water source, cookware, and food sources so you can start to eliminate your own exposures:

- Lead
- Cadmium
- Thallium
- Nickel
- Palladium
- Arsenic
- Aluminum
- Titanium And many others

Continued

Mercury

Mercury is one of the most toxic substances on the earth - the second most dangerous element known to man, largely due to an affinity for our brains and organs. Unfortunately, it is also the most common of the heavy metals. The most common offenders for mercury exposure are:

- 80's – Early 90's: Eye care products (for contact lens care)
- Today: Dental amalgams (silver fillings)
- Children: Vaccinations + mother-to-baby
- Fish

Dentistry has been found to be the #1 source of mercury, according to the World Health Organization (WHO) study in 1991. Studies indicate that the more amalgam fillings present in a person's mouth, the more mercury they will have in their organs, including the brain, kidneys, heart, and liver. If you are doing everything right, yet still feeling unwell, and symptomatic, take a look inside of their mouth!

A study testing over 17,000 participants from the University Tübingen Health Clinic, Cologne, Germany, showed that, without chewing, the average-to-median mercury level in saliva was 11.6 mcg. This would easily be reached with four amalgam fillings. After chewing, which produces more saliva, the levels rose three times this amount, making it 34.8 mcg. If a person was chewing gum or drinking hot liquids, the levels of mercury would result in 10-100 times higher than the 11.6 mcg exposure.

Majority of countries now have extensive bands and health warnings regarding the use of amalgam fillings. This includes Countries such as Austria, Australia, Canada, France, Great Britain, Japan, New Zealand, Norway, Sweden, and Switzerland.

Nearly all fish and shellfish contain at least trace amounts of mercury, but some are much higher in mercury than others, depending on their diet (16,17,18). Mercury from environmental toxins falls into our oceans and streams where fish absorb it as methylmercury. Women who are pregnant or breastfeeding, along with babies and small children, are more vulnerable to mercury poisoning. This group is advised to avoid consuming fish that contain high levels of mercury as the exposure can interfere with the development of a child's nervous system. Larger fish, including swordfish, shark, king mackerel, fresh tuna, marlin, northern pike, and tilefish, pose the greatest risk for mercury exposure.

Continued

Mercury

While seawater itself may not contain toxic amounts of methylmercury, the plants like algae gobble it up. Fish eat the algae in large amounts, absorbing and retaining the mercury in amounts that are toxic to the human body. The larger predatory fish like those mentioned above contain the most mercury because of the algae-eating fish that they consume.

Mercury levels in fish are measured in parts per million (ppm). The following lists the average amount of mercury in fish and shellfish, from highest to lowest:

- Swordfish: 0.995 ppm.
- Shark: 0.979 ppm.
- King mackerel: 0.730 ppm.
- Bigeye tuna: 0.689 ppm.
- Marlin: 0.485 ppm.
- Canned tuna: 0.128 ppm.
- Cod: 0.111 ppm.
- American lobster: 0.107 ppm.
- Whitefish: 0.089 ppm.
- Herring: 0.084 ppm.
- Hake: 0.079 ppm.
- Trout: 0.071 ppm.
- Crab: 0.065 ppm.
- Haddock: 0.055 ppm.
- Whiting: 0.051 ppm.
- Atlantic mackerel: 0.050 ppm.
- Crayfish: 0.035 ppm.
- Pollock: 0.031 ppm.
- Catfish: 0.025 ppm.
- Squid: 0.023 ppm.
- Salmon: 0.022 ppm.
- Anchovies: 0.017 ppm.
- Sardines: 0.013 ppm.
- Oysters: 0.012 ppm.
- Scallops: 0.003 ppm.
- Shrimp: 0.001 ppm.

(Source (Links to an external site.)Links to an external site.)

Continued

Mercury

Now that you are aware of the dangers of mercury exposure, let's look at the symptoms of mercury poisoning (19):

- Obesity
- Increase in visceral fat
- Depression
- Mild
- fatigue
- Anxiety
- Forgetfulness
- Eyelid, face, or muscle twitching
- Digestive issues
- Constipation and/or diarrhea
- Frequent bad breath
- Constant body odor
- Dizziness
- Irritability
- Sensitivity to sound
- Inability to concentrate (brain fog)
- Abnormal menstruation
- Low body temperature
- Cold hands and feet
- Tender teeth
- Tinnitus (ringing in the ears)
- Insomnia
- Metallic taste in the mouth
- Nail fungus
- Unexplained anger
- Autoimmune triggered

Lead

From gasoline to paint, lead is everywhere, and it's said it would take four generations to be bred out of our bodies and environment. The number one exposure of lead is actually our mothers in utero.

The primary sources of lead exposure are:
- Parents - # 1 source
- Old homes (paint and pipes)
- Painted dishes
- Toys from China
- Canned foods (leaded solder)
- Children's jewelry
- Contaminated candy imported from Mexico (from processing)

Lead exposure turns on bad genes associated with many diseases - even obesity - for four generations until it is bred out. Just like most toxins, however, most people will not exhibit any signs or symptoms. When triggered to overflow, the toxic bucket will tip over, leaving you fatigued, irritable, and in pain.

We know that many chronic diseases are metabolic, originating in the gut. Since lead toxicity changes the gut's microbiome, it should not come as a surprise that increased exposure is associated with many other issues. Lead exposure is also known to cause damage to the nervous system, resulting in high blood pressure, heart disease, and kidney failure. Lead is also linked to brain defects, infertility, and some forms of cancer.

The following are all signs of lead poisoning:
- Decreased cognitive abilities, especially reduced ability to focus on, learn and remember new things
- Fatigue
- Irritability
- Abdominal pain or "stomach aches"
- Headache
- Constipation
- Loss of appetite
- Tingling in the hands or feet
- Constipation
- Tremors
- Unintentional weight loss
- Vomiting
- Severe abdominal cramping
- Loss of consciousness
- Nerve damage, including muscle weakness and paralysis
- Brain injury, which can cause seizures or loss of consciousness

Heavy Metal Testing

Environmental metals tend to accumulate in the body, specifically in the brain and other fatty tissues. Use of these potential toxins is increasing because of their growing commercial, industrial, and medical applications.

The major heavy metals present are mercury, arsenic, antimony, aluminum, lead and cadmium.Evidence suggests that chronic heavy metal exposure can adversely affect energy levels, reproductive function, cancer risk, degenerative conditions, neurological development and function, respiratory, cardiac, hepatic and immune functions, as well as cognitive and emotional health.

Metal toxicity depends upon the absorbed dose, the route of exposure and duration of exposure, i.e. acute or chronic. This can lead to various disorders and can also result in excessive damage due to oxidative stress induced by free radical formation.

Heavy metals in the body sometimes acts as a pseudo element of the body while at certain times they may even interfere with metabolic processes especially when it comes to cancer growth.

The report from this test not only shows you your levels for 20 different toxic metals but it also discusses possible sources of how they entered your body. Once you know the root causes you are able to eliminate these sources from your lifestyle in order to decrease overall toxicity.

TOXIC METALS		RESULT µg/g creat	REFERENCE INTERVAL	WITHIN REFERENCE / OUTSIDE REFERENCE
Aluminum	(Al)	120	< 35	
Antimony	(Sb)	0.1	< 0.4	
Arsenic	(As)	49	< 117	
Barium	(Ba)	8.3	< 7	
Beryllium	(Be)	< dl	< 1	
Bismuth	(Bi)	0.6	< 15	
Cadmium	(Cd)	0.8	< 1	
Cesium	(Cs)	5.3	< 10	
Gadolinium	(Gd)	0.2	< 0.4	
Lead	(Pb)	7.3	< 2	
Mercury	(Hg)	21	< 4	
Nickel	(Ni)	12	< 12	
Palladium	(Pd)	< dl	< 0.3	
Platinum	(Pt)	< dl	< 1	
Tellurium	(Te)	< dl	< 0.8	
Thallium	(Tl)	0.4	< 0.5	
Thorium	(Th)	< dl	< 0.03	
Tin	(Sn)	0.4	< 10	
Tungsten	(W)	< dl	< 0.4	
Uranium	(U)	0.1	< 0.04	