

Why Test for Heavy Metals?

First of all, how do we end up with concentrated amounts of heavy metals in our bodies? There are various sources...mercury amalgams (tooth fillings-silver), fumes like gasoline, other petrochemicals, air pollution, our food and water, excessive use of aluminum (pots and pans, deodorant, canned foods) and paints containing lead and or mercury. Strange that as children in school, we were allowed to play with mercury. That was a while ago and it isn't happening now but most of us were fascinated with it and handled it regularly. I remember having a little vile of it in my desk!!

So what are the symptoms of heavy metal toxicity?

- Chronic pain throughout the muscles and tendons or any soft tissues of the body
- Chronic malaise – general feeling of discomfort, fatigue, and illness
- Brain fog – state of forgetfulness and confusion
- Chronic infections such as Candida
- Gastrointestinal complaints, such as diarrhea, constipation, bloating, gas, heartburn, and indigestion
- Food allergies
- Dizziness
- Migraines and/or headaches
- Visual disturbances
- Mood swings, depression, and/or anxiety
- Nervous system malfunctions – burning extremities, numbness, tingling, paralysis, and/or an electrifying feeling throughout the body

Note: *Heavy metal toxicity can produce vague symptoms that sometimes are mistaken for other chronic conditions such as Autism, Chronic Fatigue Syndrome, depression, Multiple Sclerosis, and a host of other serious disorders. Discuss heavy metal toxicity with your healthcare professional before receiving any diagnosis or treatment for a serious chronic condition.*

Something many people don't know is that chronic or reoccurring infections, parasites, fungus (candida) can occur due to heavy metals. The organisms bind to the metals and make them impossible to get rid of. This causes a host of other issues and can damage the gut lining and throw the gut balance off. So in order to deal with this properly we not only need to detox the metals but restore health and balance to the gut.

So to test for heavy metals, there is only one accurate method although there are people testing through blood, hair and urine. It is done by using a provocative challenge and then taking a fecal sample that we send to the lab. This means that we use Chela-Zyme for 7 days. 6 - 2 x a day on an empty stomach, starting on a Monday and then the following Monday the sample is taken and you call FedEx to pick up the test kit. So essentially, the Chela-Zyme chelates the metals into the feces and when we take the sample, the metals can be measured properly. The cost is \$130 + GST. Shipping by FedEx is included.

What happens if you have heavy metal toxicity?

Well, fortunately Biotics Research have a very specific product for this problem, which is the same Chela-Zyme you used to do the provocative challenge along with some other products to support the detoxification process. See the protocols at the end of this document. Remember, we also need to heal your gut and balance it so those protocols are there too.

Here is the story of how Biotics developed Chela-Zyme...

In 1980, Biotics Research Corporation began investigating the use and production of Spirulina plankton. A leading expert from the University of Texas provided insight into methods of production, as well as pure Spirulina cultures that were the starting culture for their research and production.

Production was halted when scientists at Biotics isolated what they considered the "active" principal of Spirulina the porphyrin ring of chlorophyll. While many claims for the nutritional value of Spirulina have been made, the consensus was the most significant value in Spirulina was chlorophyll. However, the chlorophyll content in Spirulina is low (typically less than 1%).

Chela-Zyme™ - A Concentrated Porphyrin Product

Unlike traditional chlorophyll products, **Chela-Zyme™** is a concentrated porphyrin supplement. By increasing the porphyrin content, the heavy metal binding capability is also increased, providing clinicians with a natural, effective "chelating" tool.

Porphyrins have the ability to bind divalent metal ions due to the nitrogen atoms of the tetrapyrrole nucleus. The central ion in chlorophyll is magnesium, which is freed from chlorophyll under acidic conditions, permitting other metals to bind in its place. Toxic metals, such as mercury, lead and arsenic, are complexed first. Then excess amounts of other divalent metals, such as calcium, can be complexed by porphyrins.

Investigational Data on Chela-Zyme™

Scientists at Biotics Research Corporation studied the ability of **Chela-Zyme™** to bind heavy metals *in vitro*. **Chela-Zyme™** was dialyzed against aqueous solutions of heavy metal ions. Afterward, the concentration of heavy metal ion remaining in the dialysis medium was determined. As can be seen by the Investigational Data chart, **Chela-Zyme™** proved to be very effective in binding heavy metals. Using dialysis, the following exchange range for toxic metals was established:

Initial Concentration	After Dialysis against a solution of Chela-Zyme™	Amount Complexed	Percent
Lead 20 ppm	4.8 ppm	15.2 ppm	76 %
Mercury 10 ppm	0.8 ppm	9.2 ppm	95 %
Cobalt 30 ppm	3.4 ppm	26.6 ppm	88 %
Cadmium 15 ppm	3.8 ppm	11.4 ppm	76 %

Arsenic 10 ppm	1.4 ppm	8.6 ppm	86 %
Aluminum 20 ppm	7.0 ppm	13.0 ppm	65 %
Nickel 10 ppm	3.3 ppm	6.7 ppm	76 %

Measurements were made using atomic absorption techniques (flame, furnace and hydride methods), using a Perkin-Elmer 603 spectrophotometer.

Protocols

Generally once we know we are dealing with metals, we heal the gut, then balance it and then detox.

Healing the Gut Protocol

Product	Mechanism	Dosage	Food/Empty
Gastrazyme	gut healing/intestinal support	3 tabs 3 x a day	Empty
IPS	gut healing/intestinal support	3 cap 2 x a day	Empty
L-Glutamine Pwd	gut healing/intestinal support	1 TBSP 2 x a day	Empty
ADP	If leaky gut is present	3 tabs 3 x a day	Food/Empty
Bio HPF	If h-Pylori present	2 cap 3 x a day	Empty

Note that after using ADP, Bio Doph 7 should be used for one month. 1 cap in the am and one before bed. One bottle will take care of this. Bio Doph 7 is a pre and pro biotic with 7 strains.

Gastrazyme contains Gamma Oryzanol, Methionine Ferulic acid and Chlorophyllins for gastric distress, inflammation, healing gut wall, hiatal hernia, acid reflux, heartburn and protecting DNA.

IPS-intestinal permeability support. Prevents food from leaking though gut.

L-Glutamine caps or powder-Gastric inflammation, peptic ulcer and supports metabolism to reduce sugar cravings. Aids in formation of Glutathione.

This is a 2 week program and then follow with Balancing Digestion Protocol.

Balancing the Digestion Protocol (this is also a sugar balancing program)

Product	Mechanism	Dosage	Food/Empty
Hydrozyme	HCl and enzymes	2 tabs with meals	Food
HCl+	acidity for gut	2 tabs with meals	Food
Betaine Plus HP	Acidity for gut	2 caps with meals	Food
Intenzyme Forte	Enzymes for healthy	2 tabs 3 x a day	During meals

	digestion and assimilation		
Secondary Support			
GlucoBalance	Balances blood sugar-limits cravings	3 cap 2 x a day	Food
Bio-Immunozyme Forte	Immune Support	2 tabs daily with meals	Food
Aqueous Zinc	Digestive support	2-4 tsp with meals	Food
Mo-Zyme Forte	Digestive support	2 tabs with meals	Food

HCl+ is used for people up to 40 years of age. Betaine Plus HP for people over 50. For a vegetarian formula instead of Intenzyme use Bromelaine Plus CLA.

Toxic Metal Detox Protocol

Product	Mechanism	Dosage	Food/Empty
Chela-Zyme	Chelates metals	2-6 tabs, 2 x day	Empty
Bio Detox pks or MCS 2	General liver detox	1 pk daily or 2 cap 2 x a day	Food
Renal+ or Nephrazyme	Kidney support	3 tabs 2 x day	Empty
Mixed Ascorbate Pwd	Buffered Vit C chelates copper	½ to 1 tsp a day	Food
Mixed EFAs	Binds to metals	2 tsp a day	Food

*Nitrogreens may be added to NutriClear (1 TBSP) to speed up metals detox.

This can be done safely pre, during and post amalgam removal for 3 months then re-test for metals. This can be used for children but a different format is followed. Please ask.

Once we have completed all the steps, we can give you an affordable maintenance program.

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