

What is your environmental toxic burden?

There are currently over 80,000 chemicals used in North America. These chemicals and toxins accumulate in your body as a result of the food you eat, what you drink, the air you breathe, the products you use on our skin and in your home and garden. They also accumulate based on the products used in businesses and industry such as plastics of various kinds, fire retardants and industrial chemicals, herbicides, pesticides, and fungicides and bleaching materials and those that exist in the environment at large. Many of these chemicals and toxins have been designed for convenience and to improve profitability without thought of their long-term effects on human health and the environment.

Your environmental toxic load is affected by your exposure and your body's ability to assimilate and excrete the toxins. Excretion is highly variable and determined by an individual's genetics, nutritional status, antibiotic use, lifestyle and total toxic load. An environmental toxic burden is exhibited when the level of net retention exceeds physiological tolerance.

As the body is unable to remove many of the inorganic toxic chemicals and heavy metals on its own, the burden that these compounds are having on health is a major problem. It has been stated that 90% of all chronic and serious illness could be prevented if we were able to eliminate 600 of the most dangerous environmental toxins. (World Health Organization)

Common Environmental Contaminants:

PCBs (Polychlorinated Biphenyls)

PVC (Polyvinyl Chloride)

Bisphenol-A

Phthalates (DEHP, DINP, DIDP, DBP, DnOP, DnHP)

Dioxin

Furans

Brominated Fire Retardants (PBDEs)

Parabens (Methyl, Propyl, Butyl, and Ethyl Paraben)

Heavy Metals (Most commonly, but not limited to Arsenic, Mercury, Cadmium, Aluminum and Lead)

For a more expansive list of environmental contaminants, their common sources and the symptoms or conditions that they may cause check out our handout on *Environmental Contaminants* and *Heavy Metals*.

Indicator of High Environmental Toxic Burden:

It is likely that toxic chemicals and heavy metals are a concern for you if any of the following apply:

- Progressive immune problems (allergies, infections or autoimmunity) followed by neurological problems
- Symptoms that don't seem to resolve; such as nausea, difficulty breathing, change in mental thinking or senses (hearing and smell) and ongoing joint and muscle pain and weakness
- Adverse physical or mental reactions from exposure to ambient levels of chemicals (headaches, brain fog, fatigue, shortness of breath, asthma, muscle weakness, collapse)
- History of adverse reactions to medications
- Inability to handle caffeine: "Can't drink after noon without insomnia"
- Inability to handle medications "I'm very sensitive to any medication I've taken"
- Non-responsive to therapies that have a high degree of effectiveness for your diagnosis



- History of chemical exposure or obvious occupational, hobby related or residential exposures prior to illness

Common Symptoms Associated with Environmental Toxins

Environmental toxins can affect every organ and system of the body and contribute to a number of symptoms including:

- General
 - Fatigue, weakness and malaise
 - Insomnia and sleep disturbances
 - Sensory abnormalities including hearing loss, ringing in the ears, vision concerns, alterations in taste and touch
 - Skin conditions such as eczema, psoriasis, rosacea, dermatitis, alopecia, itchy skin, etc.
- Immune System
 - Food and environmental allergies followed by increase chemical reactivity
 - Chronic viral or fungal infections
 - Autoimmune conditions of various kinds; weakened immunity
 - Cancers, particularly of the blood
- Nervous System
 - Chronic or progressive neurological problems such as numbness and tingling
 - Alteration in cognitive abilities – “brain fog” (often you may indicate a specific spot on your head that feels abnormal) or neuro-cognitive difficulties (speech, reasoning, focus)
 - ADD, ADHD, concentration, focus and/or memory concerns
 - Dementia and delayed reaction and mental processing
 - Psychological problems and mood alterations (depression, anger, nervousness, emotional instability, etc)
- Endocrine System
 - Fibroids, cysts on reproductive organs
 - Changes in temperature perception, sweating or flushing
 - Hormone changes – PMS, menopausal symptoms, alternations in hormone levels
 - Reproductive concerns, premature births and birth defects
- Gastro-Intestinal and Renal System
 - Nausea, vomiting, diarrhea or bowel concerns
 - Intestinal dysbiosis and alterations in appetite, weight
 - Increase in food intolerances
 - Abdominal pain, stomach cramps, burning of the throat or mouth
 - Irritable bowel syndrome, Crohn’s disease, etc.
 - Liver or kidney disease or dysfunction
 - Cancers (colon, pancreatic, stomach, rectal, liver, kidney or bladder)
- Musculoskeletal System
 - Impaired motor function, loss of balance or coordination
 - Abnormal gait, posture, or movements
 - Muscle and joint pain
 - Osteoporosis and other bone disorders

- Cardiovascular and Respiratory Systems
 - Hypotension or hypertension
 - Cardiovascular disease, peripheral vascular disease and alterations in heart rate
 - Anemia, alterations in blood counts and blood vessel damage
 - Respiratory infections – laryngitis, pharyngitis, bronchitis, pneumonia
 - Difficulty breathing, asthma, restrictive airway disorders, pulmonary fibrosis
 - Cancers (lung, respiratory tract or blood)

The following is a look at the approach that naturopathic doctors at our clinic take to determine and address your environmental toxic burden.

1. Assessment of Environmental Toxins

- ☐ Complete *Initial Intake Questionnaire* which identifies the symptoms that may be associated with environmental toxins and addresses a number of dietary, lifestyle, external and environmental factors that might be contributing to an increase in exposure to environmental toxins.
- ☐ In-house heavy metal testing. Our clinic provides a quick and cost-effective means of identifying the presence of heavy metals. This test provides qualitative information on whether or not heavy metals are present and is a good initial step.
- ☐ Hair Analysis of Heavy Metals which provides information on your chronic exposure to heavy metals.
- ☐ Urinary Toxic Element Profile provides a look at the body burden of heavy metals and the kidney's ability to secrete heavy metals unaided and supported by specific chelators.
- ☐ Environmental Pollutants Profile assesses the metabolites of environmental chemicals and your body burden of chemical toxins.

2. Assessment of Physiological Response to Environmental Toxins

- ☐ Urinary Metabolic Profile assesses a number of metabolic pathways are functioning and identifies the physiological impact of the environmental toxins.
- ☐ Hepatic Detox Profile provides an overview of the liver's ability to handle the detoxification of chemicals and toxins.
- ☐ Urine Porphyrins are a sensitive biomarker for the presence of heavy metals and environmental chemicals that are impacting health.

3. Addressing Underlying Concerns

- ☐ Test Results. The results from the first 2 steps of the assessment process provide a guide as to what heavy metals and chemicals are concerns and to what degree. The next step is to identify and address any potential sources in your food, home, lifestyle and environment. The most effective way to decrease the ongoing total body burden is to reduce your exposure.

- ☐ Intestinal Permeability - The small intestine has the paradoxical dual function of being an absorptive organ as well as a barrier to the permeation of toxic compounds and macromolecules. 'Leaky gut' refers to abnormally increased permeability and compromised barrier function and is a common feature in disorders such as inflammatory bowel disease, food allergy, autoimmune disease, chronic skin disorders, and joint inflammation and is best healed before starting any program designed to chelate heavy metals.
- ☐ Candida - Candida is a yeast infestation that begins in the digestive system. It is a strong, invasive fungus that attaches to the intestinal wall and can spread to other areas of the body (sinuses, ears, reproductive tract). Candida is hardy and aggressive and it disrupts many activities within the body. It contributes highly to a host of physical and mental conditions and diseases simply because it starts the process of a weakening immune system. When heavy metal detoxification proceeds the treatment of Candida, the Candida infection is often aggravated.

4. Ensure Alkalinity

The excretion of heavy metals and chemicals typically only occurs when the body is in an alkaline state. Part of any detoxification or chelating program involves ensuring that your food and lifestyle is alkaline and that you choose alkaline personal care products. It also involves supporting the removal of acids from the body using alkaline bath salts. Your naturopathic doctor will provide you with additional information on each of these aspects of alkalinity.

- ☐ Alkaline diet
- ☐ Alkaline lifestyle
- ☐ AlkaBaths

5. Drink Adequate Water

Toxins and chemicals require water to be transported out of the body. During any detoxification or chelation program it is necessary to drink more water than you usually would and ensure the following:

- ☐ Consume at least ½ your body weight in ounces per day, or as directed by your naturopathic doctor
- ☐ Choose reverse osmosis water

6. Lifestyle Recommendations

There are many things that you can do to support the body's detoxification and chelation process. They include:

- ☐ Ensure adequate rest and sleep
- ☐ Decrease the amount of stress in your life
- ☐ Spend time outside, enjoying the fresh air and soaking up the natural Vitamin D
- ☐ Engage in regular moderate exercise, with an emphasis on walking and stretching to increase circulation and aid in detoxification. Rebounding and vibration therapy are also very beneficial.
- ☐ Avoid or reduce detrimental habits such as smoking, caffeine, sugar and alcohol intake.

- Consume a balanced diet with an emphasis on healthy fats (olive oil and plant-based oils); quality protein (beans, chicken, quinoa, eggs, whey, tofu and nuts and seeds); eat at least 5 cups of vegetables a day of various colours and textures; limit your fruit to 3 servings a day.
- Eliminate all known food intolerances, processed and refined or fried foods.
- Increase those foods that support the removal of chemicals and toxins such as:
 - brazil nuts and golgi berries as they are high in zinc and selenium
 - parsley and cruciferous vegetables as they support hepatic detoxification
 - onions, garlic and leeks as they contain sulphur and assist in the removal of heavy metals and toxins

7. Ensure Routes of Elimination are Functioning

Mobilizing the toxins and chemicals from where they are stored in the body is only part of the process. An essential part is that those toxins must be eliminated out of the body. As such, ensuring that all routes of elimination are functioning optimally and providing additional support to bowel, kidney and skin functions are essential and involve the following:

- Bowel movements – minimum of 2 per day. If there is a problem your options include:
 - Increasing fiber and fruit in your diet
 - Ensuring adequate water
 - Fiber supplementation
 - Colon hydrotherapy: Colon Hydrotherapy is a gentle irrigation of the colon, cleansing it of waste material by repeated, gentle flushing of warm, filtered water. It is the placement of water inside the colon for the removal of impacted fecal debris and waste water. By cleansing the colon of toxic chemicals, colonics may offer relief from a variety of disturbances. Fatigue, gas, bloating, headaches, irritability, skin problems, cold hands and feet, and lethargy are among the many symptoms relieved by colon cleansing.
- Urination – many toxins are eliminated through the kidneys. If the urine is too concentrated (i.e., your not drinking enough water or the kidney function is impaired) the removal of toxins and chemicals can actually cause kidney problems. Hence drinking adequate water is a must! During the detoxification process expect the frequency of urination to increase. Kidney function is supported through the following means:
 - Homeopathic drainage
 - Herbal support
 - Chlorophyll drops assist in making the urine more alkaline. It can itself support the gentle removal of toxins, chemicals and heavy metals.
- Skin is the overflow route of elimination. It is able to support all other routes of elimination and when any specific route is unable to handle the load the excess is often routed to the skin. Skin is also one of the safest routes to eliminate toxins and as many toxins reside within the fat or lymphatic tissues, sweating is often the most effective route of elimination. Ways that you can increase the ability of the skin to support detoxification and chelation therapies include:

- Infrared sauna – use emissions of light in the infrared wavelength to create a heat source that goes beyond the surface of the skin to the lymphatic tissue and organs beneath. As you sit in the sauna, the infrared wavelengths emitted meet the skin surface and heat up the skin and underlying tissues to a depth of 3.5-4 inches. This creates an increase in lymphatic drainage via sweating, as the majority of the lymphatic system is located underneath the skin's surface. As you begin to sweat, the lymphatic system eliminates any toxins via the skin pores, greatly enhancing the circulation of lymphatic fluid and furthering the toxin elimination. Your naturopathic doctor will outline a protocol for you to follow for this treatment.
- Hydrotherapy. Constitutional hydrotherapy involves the alternating of hot and cold towels over the torso – front and back – to stimulate circulatory and lymphatic flow. It is often used a long with a chemical / heavy metal detox as it helps to eliminate metals that were mobilized during the process and it reduces the symptoms of heavy metal cleaning.
- Alkaline foot and body baths. AlkaBath® is a specialized form of alkaline salts, similar to Epsom salts that designed to support the skin's ability to excrete toxins, chemicals and built up acids within the body. Ask for our handout on AlkaBath®.
- Dry skin brushing. Brushing the skin prior to a bath or shower is a beneficial way to increase lymphatic drainage and to aid the skin's ability to detox.

8. Supplementation Support

The body often requires support from specific nutrients, herbs or homeopaths to assist in the elimination of heavy metals and toxic chemicals. Your naturopathic doctor will provide you with the recommendations that are best suited for you.



9. Chelation Support

Chelators are compounds that are used to remove heavy metals from the body. They can be taken orally, rectally or by intravenously. There are three common chelators: EDTA, DMSA and DMPS. Each chelator has a specific affinity for different heavy metals. Your naturopathic doctor will discuss whether or not the addition of chelators is required based on your symptoms, health status and the total body burden of heavy metals.

10. Intravenous Support

Intravenous support is beneficial for those individuals whose health is being severely or acutely affected by the presence of heavy metals or toxins. It is also beneficial to decrease any adverse reactions or symptoms that an individual may have during the chelation of heavy metals. Check out our information on IV Therapies.