

Part of living in a health-promoting way is to be aware of toxins to which you are exposed on a daily basis and helping your body to process toxins from past exposures. Being able to identify toxins is the first step in minimizing exposure to them for yourself and your family. We can't control *everything* that we come in contact with, but we can try to minimize it. This month, we'll discuss minimizing toxin exposure, the "I'm full of what?!?!?" part of the discussion. Next month: the "GET IT OUT!!!" part.

Blood, urine, bones, nervous system tissue, fat cells, brain... Test on all areas of the body have found countless man made chemicals. In a 2004 Environmental Working Group (EWG) study, 10 cord blood samples from newborn infants were tested for environmental toxins.

- 287/ 413 toxic chemicals were detected; average of 20 detected/ baby; 101 chemicals were found in ALL babies
- Childhood cancer increasing 67.1% since 1950; U.S. has 4th highest cancer rates in the world

In a 1992, another EWG study was done with Mount Sinai School of Medicine with 9 adults, including an organic-farming activist & journalist Bill Moyers

- 210 contaminants were tested, 9 classes of toxins were found with the 167 compounds, with an average of 91/ person
- 53 linked to cancer, 62 central nervous system toxins, 58 endocrine toxins, 55 immune toxins (leading to auto-immunity)

Industrial Chemicals are hard to completely eliminate in our modern life.

- 80,000 chemicals registered by EPA; 79,750 registered chemicals not fully tested for complete environmental impact
- \$635,000,000,000 – size of chemical industry (yes, \$635 billion)
- 450,000,000,000 – pounds per year (yes, 450 billion)

Some areas to focus on when trying to minimize exposure:

In our home,

- Solvents with proven high levels of toxicity can be found in air 'fresheners', carpeting, new cabinetry, new paint, cleaning supplies, dry-cleaned clothes, perfumes...
- Phthalates known to cause endocrine and hormone disruption can be found in shower curtains, vinyl upholstery, adhesives, floor tiles, food containers and wrappers, cleaning materials, perfume, eye shadow, moisturizer, nail polish, liquid soap, hair spray...
- PBDE which causes thyroid disruption is a commonly used flame retardant can be found in children's sleep ware, textiles...

In our food,

- Chlorinated pesticides cause numerous issues from childhood development and cancers to insulin resistance and fat metabolism and can be found in nonorganic beef, nonorganic dairy products, butter, and farm raised fish (esp. salmon and catfish which have 4 times higher levels than their wild counterparts)...
- Hexachlorobenzene, HCB, cause cancer; mitochondrial, liver, and nervous system toxicity; skin lesions; ulcers; photosensitivity; and hair loss... Used as fungicidal seed treatment.
- Organophosphate pesticides (the most commonly used pesticides) are potent mitochondrial, brain cell, and nervous system toxins. Children who live in homes where these pesticides are used have a higher incidence of brain tumors

- Tuna, swordfish, and halibut are tested to be the fish with the highest mercury levels. Mercury enters our water supply by coal-fired power suppliers and the improper disposal of contaminated products (auto parts, fluorescent light bulbs). Find a listing of mercury in fish at <http://www.nrdc.org/health/effects/mercury/guide.asp>.

In our environment,

- Naphthalenes and polyaromatic hydrocarbons are inhaled from tailpipes, cigarettes, and smokestacks. They inhibit fat breakdown (lipolysis), which may lead to fatigue and obesity.
- Metals can disrupt physiology by being toxic themselves (displacing 'normal' bone minerals and increased risk of osteoporosis, causing nervous system toxicity, birth defects, kidney disease, cancer) or by stimulating hypersensitivities.
 - Lead in trinket jewelry, hair color products
 - Tin in cosmetics
 - Aluminum in baking powder, antacids
 - Cadmium in cigarette smoke
 - Titanium in orthopedic implants, medications, supplements, cosmetics
 - Arsenic in groundwater naturally, but also in cigarette smoke, lipstick, hair color, antiperspirant, *antibiotic in chicken feed!*
 - Nickel in orthopedic implants, jewelry, eyeglasses, cosmetics, cigarette smoke, bananas, cocoa, oats

Now, consider toxicity as it relates to obesity. Environmental toxins are mostly fat soluble; they need fat for storage. If the body allowed the toxins to remain in circulation after exposure, damage would continually be done. By storing them in fat cells, the body is protected. If a person struggles with the inability to lose weight or a sickness (headaches, nausea, etc.) that increases with weight loss, consider that it may be the body's protective wisdom that prevents the release of toxins as fat cells are opened. When the body is supported in its detoxification pathways, only then does the body know it can release these toxic fat cells safely and achieve weight loss safely.

Confusing chemistry aside, the take-home is this: if you do your part to minimize toxins - solvents, pesticides, herbicides, fungicides, heavy metals, and plastics - within your home and diet, your body's detoxification pathways will be better equipped to handle the toxins that you do come in contact with that you can't avoid. Remember to look for next month's newsletter with the follow-up, "I'm full of what??!! GET IT OUT!!!!"

Clean, Green, & Lean. Walter Crinion. Wiley, Inc; 2010.