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Homeopaths

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Detoxification

Most people associate the word “detox” with that time, or several times a year, when they believe their bodies need a “spring clean”. Come spring, or after a long holiday that involved a lot of indulgence, people decide to try and correct various indiscretions by way of a “detox”. In other instances the real motivation is weight loss and a good “detox” is believed to be the way to go. The human body needs to *constantly* and effectively detoxify itself. When the process gets compromised it leads to consequences ranging from allergies and multiple chemical sensitivity to cancer and autoimmune diseases. A build up of toxicity can affect every part of the body, depending on the toxin.

Sources of toxins

We are surrounded by toxins that our bodies are designed to cope with. However, due to the way we live in industrialized countries we are exposed to much higher levels and many more toxins simultaneously, which put the detoxification systems of the body under strain. In individuals with weaker detoxification genes and / or poor nutrition the impact is worse. Sources of toxins include water and other drinks (from pure fruit juice to soda drinks), foods (from fresh fruits and vegetables to highly processed foods), even seafood and meat, industrial and household chemicals, medical drugs, personal care products (from makeup to soaps) and air pollution (not only outside but inside buildings).

The issue with fresh foods and drinks made from fresh fruit is the pesticides (unless certified organic). Meat and other animal products, including dairy products, that aren't organic are packed full of steroid hormones, pesticides and synthetic additives. The food additives (artificial colorants, preservatives, thickeners etc) in processed foods, not to mention the high saturated fat content, interfere with detoxification.

Municipal water supplies in towns surrounded by mines or other major industrial activities are often contaminated with heavy metals and other chemicals. Frequently drinking bottled water puts you at risk of exposure to the harmful petrochemicals (*one* of which is bisphenol A (BPA), but there are several) that leach from the plastic. These are associated with cancer, infertility, autoimmune diseases etc.

There are many environmental sources of heavy metals. Besides for municipal water suppliers, some other sources include amalgam dental fillings still used by some dentists, seafood, cosmetics (e.g. lipstick), preservatives used in medical drugs and from our mothers. Researchers have discovered that transplacental (mother to fetus) exposure to lead can cause schizophrenia in men. There is also evidence that transplacental exposure to toxicants such as cigarette smoke, pesticides and benzene correlate with a higher incidence of childhood cancer.

Consequences of inadequate detoxification

If the liver's detoxification pathways are excessively stimulated and over utilized, they eventually become depleted or begin to respond poorly. Chemical sensitivity may then occur, followed by nutrient depletion and finally various diseases.

Compromised detoxification is implicated in most modern illnesses. Obesity, Diabetes, Cancer, various diseases that affect the immune system, ADD/ADHD, various types of allergies, drug

hypersensitivity reactions, Multiple Chemical Sensitivity Syndrome, degenerative diseases (including motor neuron disease, Alzheimer's disease, Parkinson's disease etc), autoimmune diseases (e.g. multiple sclerosis, hypothyroidism, rheumatoid arthritis), skin rashes (including eczema), infertility for men & women, as well as menstrual problems for women, headaches and other "vague" symptoms such as fatigue, dizziness and problems with concentration.

How does the body detoxify itself?

Toxins enter the body in three ways: by absorption through the skin; by inhalation through the respiratory tract into the lungs; or by ingestion through the mouth into the gastrointestinal tract. The skin, lungs, intestines, and kidneys have all developed some protective mechanisms and methods of detoxification, although the liver is the body's major organ of detoxification.

Phase I of liver detoxification prepares chemicals so that small molecules can be added during Phase II. Phase II detoxification includes a number of complex processes aimed at handling the chemicals produced during Phase I. The reactions in phase I of liver detoxification usually decrease chemical toxicity. However, toxic or reactive chemicals (even more toxic than the original compound) can form during Phase I. When Phase II detoxification proceeds normally, these chemicals are then rendered harmless and excreted. However, if there is an imbalance in the active levels of Phase I and II detoxification, these toxins will remain in the body. Phase I also results in the formation of lots of free radicals, which requires a well-functioning antioxidant system plus a good input of dietary antioxidants to mitigate this effect.

To find out which phase of detoxification (if any) is impaired in our patients we do some sophisticated testing that is facilitated by a university. The same test also reports on the health of the person's antioxidant systems to support detoxification, particularly quenching the release of free radicals that are produced as a result of phase I detoxification.

What affects our ability to detox?

Phase II of liver detoxification involves bile excretion of toxins into the intestines to be eliminated from the body via the bowel. It is therefore essential to consume adequate dietary fibre and to have a healthy gut bacterial ecology; otherwise the toxins simply get reabsorbed. Being constipated also leads to the toxins being reabsorbed, so having regular bowel movements is also important.

Each of the steps involved in liver detoxification heavily depends upon the support of adequate nutrient input. For example, the enzymes that detoxify alcohol depend on an adequate supply of zinc, iron and molybdenum to function properly. Other minerals that are required by detox enzymes include manganese, magnesium, sulfur, selenium, and copper. In many instances it is not a mineral deficiency that impairs the body's detoxification, but a mineral imbalance. We use Hair Tissue Mineral Analysis (HTMA) to assess this in our patients. The same analysis reports on the presence of heavy metals (e.g. arsenic, lead, mercury, aluminum, cadmium etc).

The presence of heavy metals in the body has far-reaching effects, since they interact with nutritionally essential metals. For example lead interacts with calcium in the nervous system, Cadmium and aluminum interact with calcium in the skeletal system, lead toxicity can cause anemia and anemia increases absorption of lead, cadmium and aluminum. There are many more examples of nutrient / heavy metal interaction. I usually confirm HTMA heavy metal results with a urine heavy metal challenge test.

In addition to minerals, various vitamins and amino acids (protein building blocks) are required to support each step of detoxification. A diet low in protein isn't good for detoxification. However, a diet high in protein derived from animal product also isn't good. This is because the saturated fats negatively impact on certain phase II steps of detoxification, as well as antioxidant enzymes.

Individuals that are on chronic medication are more likely to have nutrient imbalances, because various drugs affect vitamin and mineral levels. For example aspirin and other related drugs, ibuprofen and other non-steroidal anti-inflammatories, not to mention some drugs that are used to treat arthritis, deplete folic acid. Oral contraceptives and other types of estrogen drugs deplete magnesium. Various antibiotics, diuretics and corticosteroids also deplete magnesium. Corticosteroids, oral contraceptives, oral estrogens used in hormone replacement therapy, some drugs used to treat high blood pressure (e.g. ACE inhibitors), diuretics, certain cholesterol-lowering drugs and the anti-ulcer drug Cimetidine deplete zinc. These are just a few examples of medical drugs that affect nutrients in the body.

Detoxification can also be affected by foreign chemicals for which the body has no detoxifying mechanisms, poisoning of detoxification enzymes by heavy metals, toxic overload from overwhelming exposures, and a deficiency of detoxification enzymes due to genetic inheritance. Although infants have detoxification enzymes at birth, their detoxification rate is slower than that of adults, causing them to be easily affected by toxins. This is why it is better to limit their exposure to toxic medical drugs and food additives.

Detoxification as a form of treatment

We prescribe individualized detoxification programs for our patients as treatment for specific diseases when indicated. Prescription is often guided by the detailed test results of the patient's toxic load and / or liver detoxification capability (sometimes including genetic tests). Individualised herbs and supplements will be chosen to work most effectively for that patient's case. We also give our patients specific dietary guidelines to follow during their detoxification program.

Conclusion

Lifestyle directly determines the total toxic burden of an individual. People who eat a nutrient-deficient diet and food contaminated with additives, hormones (usually in animal products), and preservatives will add to their toxic load. Drugs, including many prescription drugs, smoking, and alcohol consumption also contribute to toxic burdens. Personal care, cleaning, and laundry products are toxic exposures for many people. Lack of exercise and a sedentary lifestyle further contribute to the problem, as exercise is necessary for the elimination of toxins.

Rather than embark on a one or two week detox once or twice a year, make a commitment to reduce your exposure to some toxins that are avoidable (i.e. food additives) and to improve your diet. If you are concerned about toxins you may already have built up in your body that may over time increase your risk for various diseases, take the necessary steps to have these checked.

Very few practitioners in South Africa have experience in environmental medicine, so you may find it difficult to find a practitioner that will be able to help you and / or that will understand what you want to achieve. But don't give up – search for practitioners in your area that are experienced with doing specific tests to assess Phase I and Phase II of your liver's detoxification in depth. Testing for heavy metals should be done by a heavy metal urine challenge test using the correct dose of the correct chelation agent and Hair Tissue Mineral Analysis. A blood test for heavy metals alone is not sufficient. The Hair Tissue Mineral Analysis will also provide valuable information about your mineral balance.

Finally, if your interest in a detox is driven by a desire to lose weight, take note that a detox forms only part of a successful weight loss program. Without the appropriate dietary restrictions recommended by a registered dietician, plus moderate exercise, weight loss will not be achieved or else will be unsustainable.

To make an appointment with Dr Tanith Davidson or Dr Cornelia Botha please contact their receptionist on 0117871221.