

Key Aspects of Detoxification

The liver is the main organ involved with detoxification. Poor liver function and/or toxic liver conditions will impact thyroid function, lipid management, blood sugar management, hormone regulation, adrenal function, neurological functions and immune functions. Treating these conditions will prove ineffective if liver health is not restored. When these conditions are altered they will strongly influence all kinds of cravings, hunger signals, sleep, energy, pain and many other symptoms.

Toxins are divided into two sources. Endogenous and Exogenous. Endogenous toxins include hormones, intercellular mediators and by-products, neurotransmitters, bacteria, bacterial by-products, and antigen-antibody complexes. Exogenous toxins include drugs, pesticides, environmental toxins, other chemical compounds from many external sources.

The goal of the detoxification is to convert these substances into a water soluble form so that they can be excreted through bowel, urine and lung pathways. This process is divided into three liver functions called phase 1, phase 2, and phase 3 detoxification. This understanding was discovered and developed by Dr. R.T. Williams in 1947.

- Phase 1 involves a category of enzymes called cytochrome P450. These enzymes can neutralize some chemical compounds, but most are converted to an intermediary stage which is then completed by phase 2. When a compound is in its intermediary stage it is still toxic and will still produce inflammatory reactions, until it is completely conjugated by phase 2 chemistry. People with poor phase 2 functions will thus display elevated reactions upon exposure to any toxic load. The phase 1 process also produces free radicals which must be converted by phase 2. These processes can be enhanced by taking supplements containing specific natural compounds that provide micro nutrients specific to phase 1, phase 2 and phase 3 functions.

- Phase 2 processes include glutathione conjugation, acetylation, methylation, sulfation, and glucuronidation. Understanding these processes, their symptoms, and essential micro-nutrients is essential to successful treatment. Contrary to much of the information available, glutathione can not be administered orally as it breaks down in stomach acid.

- Phase 3 is completed by bile elimination. If bile synthesis, or excretion is compromised, hepatic substances will not be eliminated.

Liver function is strongly affected by blood sugar metabolism and lipid metabolism. The liver can also be impacted by viruses, bilirubin conjugation, cirrhosis, auto immune disease, and genetic influences. These can all be identified, diagnosed and supported with proper execution of diet, exercise and nutritional supplement strategies.