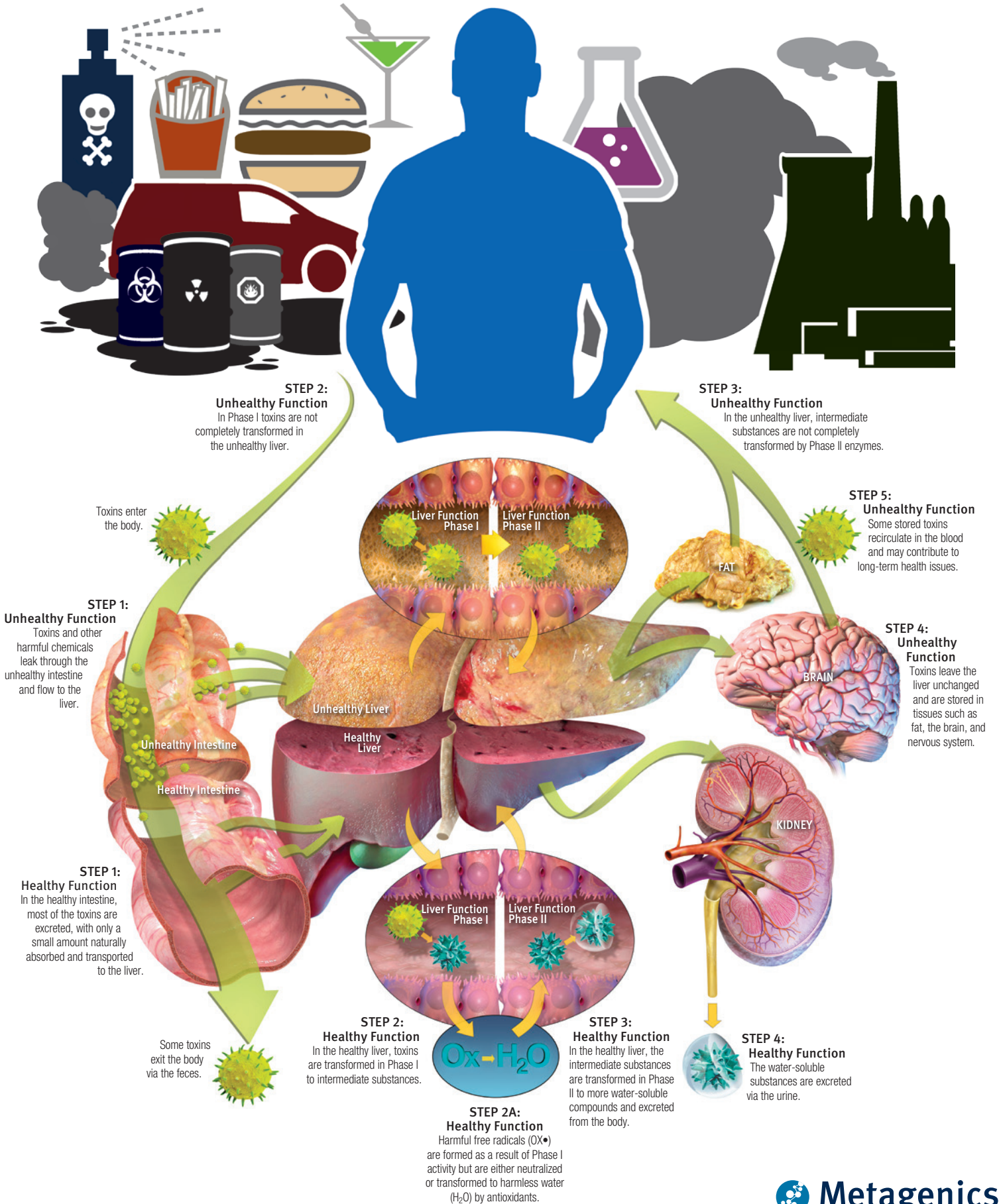


3 PHASES OF DETOXIFICATION



3 Phases of Detoxification

Exposure to Toxins Is a Fact of Life

During routine body function, the human body produces toxins. It is also exposed to environmental pollutants found in the air, drinking water, and food supply. Fortunately, humans have an efficient metabolic detoxification pathway that neutralizes and removes harmful chemicals via key elimination channels, including our digestive system, liver, and kidneys.

Toxins are compounds produced by living organisms that are harmful to humans. Toxicants are toxic chemicals found in nature or made by man. Both toxins and toxicants can have detrimental effects on health. Environmental toxicants include persistent organic pollutants (POCs), volatile organic compounds (VOCs), heavy metals, and pesticides. Exposure to toxins and toxicants is on the rise, and to compound the problem, we have also refined away much of the nutritional value of our food and replaced it with artificial colorings, preservatives, flavorings, conditioners, etc.

Toxic Burden

This represents the total accumulation of toxins in your body. Over time, the buildup of harmful chemicals from the environment and lifestyle choices may compromise the way your body works and can even affect your health.

Environmental toxins and drugs are neutralized and eliminated by efficient and elaborate enzymatic detoxification pathways. These pathways are dependent on proper nutrition and may require additional support during a prolonged or excessive toxin exposure.

Avoiding Toxin/Toxicant Exposure

While it is not possible to completely eliminate toxin/toxicant exposure from all sources, there are ways to minimize external exposures. If you know the source of any toxic materials at or in the home, remove or reduce them. When using any known toxic materials, ensure that you wear appropriate protective clothing and/or a breathing apparatus. It is also very important to eat a good diet with plenty of fresh, wholesome foods. Avoid eating excess fat, refined sugar, and foods high in additives and preservatives. Eat moderate levels of protein (approx. 30% of your calories) and fat (approx. 30% of your calories), while increasing levels of complex carbohydrates (approx. 40% of your calories). Consume meats from organically raised animals and select organically grown fruits and vegetables whenever possible. Drink plenty of purified water (ideally, eight 8-ounce glasses a day). A home water purification system is highly desirable.

Metabolic Detoxification: An Overview

Most toxic chemicals are lipid soluble (lipophilic molecules) and are

not easily eliminated from the body. Metabolic detoxification involves coordinated enzymatic reactions that neutralize and solubilize these harmful chemicals and facilitate their excretion from the body mainly via kidney, stool, or sweat. Hence, the main function of the detoxification pathway is to transform (a process referred to as biotransformation) lipid-soluble toxins to water-soluble (hydrophilic) molecules that are easily eliminated from the body. The phases of metabolic detoxification are performed by three sets of enzymes or proteins, called the Phase I (functionalization) enzymes, Phase II (conjugation) enzymes, and the Phase III (elimination) proteins.

Support Your Body's Detoxification Efforts

Through high-quality protein, complex carbohydrates, fiber, and essential fats, the body gets what it needs to support muscle and organ function and to help prevent depleted energy resources during the detoxification efforts. But that is just the beginning. Additional targeted nutritional support can specifically address the detoxification process and serve to protect the function of the main organs involved in this process—the liver, the kidneys, and the intestinal tract:

- **Liver:** Filters out and transforms toxic substances in the blood into harmless substances that can be excreted in the urine or stool
- **Kidneys:** Provide a route for toxin excretion via the urine, performing a vital component in the detoxification process as they provide a route for toxin excretion via the urine
- **Intestines:** Support regular bowel movements, eliminate the buildup of unhealthy microorganisms and internal toxins, and provide a strong and intact barrier to prevent the leakage of toxic materials from the intestines into circulation

Find the Help You Need

Ask your healthcare practitioner what you can do to support metabolic detoxification through nutrition and to recommend a program that is right for you.

