



A growing interest in doing "fasts", "detoxes" and "cleanses" is a response to our expanding knowledge of the role of toxins in our health. Yoga is a way of doing a spiritual-psycho-neuro-physiological-mechanical detox; other detoxes are more chemical in nature. However, like yoga, if done incorrectly, these processes can make us sicker rather than better. This article will discuss these topics in general; future articles will discuss specific fasting and detox strategies and the role of the liver--important information for anyone considering these processes.

A "fast" is defined as the removal of certain nutrients and other "inputs", such as TV, for a period of time. A fast is therefore defined by three things: what is eliminated, what is allowed, and the duration of time. Fasts can be both restorative and challenging to our physiology--see below.

A "detox", (short for detoxification) in conventional medicine refers to a process where a specific substance, to which one is usually addicted, is removed from the body. These include alcohol, narcotics, nicotine, Valium-like drugs and sleep medications, and others.

In alternative medicine, we also talk about other types of detoxes. The first is from certain foods with addictive features, such as caffeine, sugar, other sweeteners, bread and glutes, dairy, and others. The second is organ-specific detoxes, sometimes called "flushes", where we do specific processes that "clean out" the organs. Most common are colonics, liver-gallbladder flushes, and kidney flushes.

The line between fasts, detoxes, flushes and cleanses is somewhat arbitrary; in all cases certain things are removed (such as solid foods), certain things are emphasized (such as water or fruit juice), and certain things are added (such as chelating agents, herbals and magnesium). They all have time parameters, and usually have phases or stages, including a preparatory period and an after-process period where things are re-introduced.

Toxins

While there is controversy about the impact of toxicity, no literature, conventional or alternative, disputes the increasing toxic nature of our modern life. Conventional toxins include heavy metals, carbon dioxide and methane (global warming is a toxicity of the planet), PCB's, pesticides, other petroleum-based compounds, food additives such as trans fats, MSG and preservatives, and others. Rocket fuel is now found in breast milk; pharmaceuticals in our drinking water.

Controversial toxins include electromagnetic radiation and electronic media, genetically modified foods and organisms, vaccines, and other chemicals deemed "safe" by the regulatory agencies but distrusted by a growing portion of our population. Light and noise are two interesting pollutants that are of concern to certain groups.

An important concept is that of endo- vs. exo- toxins, referring to toxins that come from the inside vs. outside. In order for the body to remove the thousands of biochemicals that it processes each day, the liver must modify these compounds so they become water or fat-soluble, to be carried out by the kidneys or bile/colon. If there are too many compounds, or there are nutritional deficiencies that

slow down the liver's processes, then these compounds can accumulate in our tissues. Fat-soluble compounds can accumulate in our fat, our brain (which is 80% fat), and our cell membranes and organs. Water-soluble compounds can accumulate in most tissues of the body. In some ways, disease and aging are the accumulation of toxins, like a filter that progressively gets clogged. The filter must periodically be cleaned--but eventually needs replacement!

Endo-toxins also are generated by the trillions of bacteria, yeast and other organisms that naturally live within us, in large part within the digestive system. The blood from the digestive system goes to the liver and spleen for filtering and processing. Again if there is an overload of toxins due to bacterial/yeast imbalance, junk food, allergenic foods (which cause inflammation and weakness of the gut lining), and "leaky gut syndrome" (see prior article), these toxins will limit the liver's ability to eliminate others, and cause accumulation.

Another important endo-toxin is thought, but this topic has been discussed in prior articles on stress and spiritual detoxification and is beyond the scope of this article.

Exo-toxins are those that come from the outside of the body, and include food additives, pesticides, industrial toxins such as heavy metals, medications, etc. These again must be transformed in order to be excreted.

While certain toxins, including mercury, are "natural" in that they have been in the environment before man, and have caused our bodies to evolve detox mechanisms for their removal, the quantity and scope of toxicity can still impair their removal and cause startling accumulation and illness in certain individuals.

During a fast, we are resting the digestive system to a smaller or larger extent. Since digestion consumes 25% of our energy, and generates toxins, resting the digestive system allows for resources to be applied to other processes. However, since most fasts also provide less calories and nutrients than needed for the day, the body must rely on internal stores of energy and materials--mostly fat and muscle. Since fat accumulates fat-soluble toxins, the burning of fat causes a release of toxins. Therefore, a fast done without proper preparation or support, or too fast or long can improperly mobilize toxins, allowing them to re-deposit, affect other systems of the body, and interact with other toxins.

Compartments

It is important to understand the compartments in which these toxins accumulate. For example, while the body is made of made of 75-50% water (decreasing with aging and obesity), only approximately 10% of this water is in the blood system. The majority of the water is in the cells and the "extra-cellular" space, sometimes called the "extra cellular matrix". Toxins slowly diffuse and collect in these compartments; clearing them is also a slow process. If the arteries and veins can deliver and remove toxins like email, then these other spaces must use snail mail. Methods like yoga, sauna and lymphatic massage can facilitate the mobilization of the toxins in these compartments.

Certain compartments have very specific gates. For example the "blood-brain-barrier" ("BBB") only allows certain compounds, such as mercury, to enter and leave using very specific compounds and under very specific conditions. Other compartments include specific proteins, bone and fat that bind to specific toxins and make them especially difficult to release. Some man-made toxins may not have exit strategies.

Cocktail Effect

Most toxins that have been tested are tested one at a time, and often not in humans. However, in real life, we accumulate hundreds if not thousands of toxins. We have no idea about these accumulated effects, called the "cocktail effect". Fortunately there is also a positive cocktail effect--if we combine multiple healthy lifestyle measures, they often will synergize and allow for healing.

Individuality of Detoxification

The tendency to accumulate toxins and the ability to eliminate them is highly individual. Factors include: age, sex, genetics, current and past use of pharmaceuticals and street drugs, alcohol, caffeine, sleep, current and past stress levels, current and past illnesses, current and past exposure to toxins, nutritional deficiency, exercise and movement, and state of hydration, (just to name a few!). Therefore, strategizing a detox program for an individual requires proper evaluation and strategy.

Methods of Elimination

We have essentially five main methods or organs of elimination. These are the kidney (urine), intestines (stool), liver-gallbladder (bile-> stool), skin (sweat) and lungs (breath). Other minor excretions such as hair, mucus, sexual fluids, saliva, tears, milk, and processes such as sleeping, shivering, yawning, blinking, and even burping and flatulence that have some unique features and may have detoxification roles that are not yet understood.

If a preferred method of excretion for a particular toxin is blocked or overloaded, then other methods are utilized. Increased sweating, diarrhea, bad breath and psoriasis are examples of such alternative means of elimination.

Adrenal Stimulation, Fatigue and Morphins

Toxicity causes physiological stress. The major stress-managing system of the body is the adrenal gland (see prior articles on Cortisol and Adrenal Fatigue). Long periods of toxicity, causing long periods of stress accelerate aging and are a major contributor to chronic illnesses such as fatigue, arthritis, diabetes, depression, dementia, etc.

An important but counter-intuitive observation is that we often crave and even binge on toxins and allergens. One explanation is that the response to toxins and stress is the production of endo-morphins, which are internal opioid-like (happy-making) molecules. It is as if the body is protecting us from the negative effects of the toxin or stressor. Certain food toxins such as casein from dairy or gliadin from gluten grains lead to the production of these morphins. Because of this, these toxins can become addictive, and removal of them can cause a withdrawal reaction, with irritability, problems sleeping, depression and anxiety, gastro-intestinal disturbance, and other symptoms, causing a detox to be not fun. Proper preparation and self-care, with decreased stress

and plenty of rest is optimal during a fast/detox.

Testing

Conventional testing can only detect structural and functional disorders (such as gallstones and liver enzyme elevations) after they have reached a certain magnitude. Some "alternative" tests are now available that can detect early liver dysfunction or certain toxins (see article on Heavy Metals), and in certain circumstances (such as a child with autism) are worth the expense.

Re-Toxification

For most of us, a single detox will not be sufficient. In addition, due to environmental toxicities, we are constantly exposed to toxins through the air, water, and food. Periodic detoxes, even weekly, may be optimal. In some ways, a Sabbath is a detox--activities and foods are altered, and there is a concurrent spiritual cleansing. Most cultures have an annual detox, such as Lent, Yom Kippur and Ramadan.

Constructing a sustainable lifestyle that limits toxicity and includes regular detox is a leading-edge challenge for which we are getting better information and methods, and will continue to improve over time.

IMPORTANT NOTE: This educational material may not be used to make decisions about medical care without the help of an experienced practitioner.

For More Information (Books followed by ISBN #'s)

- O See Dr. Cheikin's website, www.cheikin.com, for related articles on: Elimination and Detoxification, Adrenal Fatigue, Cortisol, Heavy Metals as well as other topics and holistic health information.
- O Dr. Cheikin offers workshops in several holistic health topics for adults and children. Please call for more information.
- O Ballentine, Rudolph: Radical Healing: Integrating the World's Greatest Therapeutic Traditions... Three Rivers, 2000. 0609-804-847
- O Sivananda Center: The Sivananda Companion to Yoga. New York: Simon & Schuster, 1983. ISBN: 0684-87000-2.
- O Pitchford, Paul: Healing with Whole Food: Asian Traditions and Modern Nutrition, 3rd Ed. North Atlantic, 2002. 1556-434-308.
- O Fuhrman MD, Joel: Disease-Proof Your Child: Feeding Kids Right. St Martins, 2006. ISBN 0312-338-082
- O Peck, M. Scott: Road Less Traveled. New York: Touchstone, 1978 (1997). 0684-847-248.

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