

Detox 101: The Solution to Pollution is Dilution

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Organic foods and caution with vaccines are examples of how we try to decrease the input of toxins into our body. But what about the toxins that have already got in, or continue to sneak in? The concept of "detoxification" requires learning how our bodies output toxins. Most of us deal with our toxins indirectly by "managing" the medical conditions that they cause or exacerbate. We can also deal with them directly by detoxification and thus heal ourselves.

The Dose Makes the Poison

Toxins poison various processes in our body. They either prevent the production of necessary compounds (cyanide prevents the release of oxygen), or cause the accumulation of other compounds that eventually crowd out or overwhelm other systems. For example, in Alzheimer's Dementia, there is an accumulation of "tau proteins" which eventually kill brain cells.

The body also makes toxins (endo-toxins) during its normal processes. For example, alcohol is not toxic itself, but one of the intermediates that the body makes to eliminate the alcohol is highly toxic to the liver. Tylenol is toxic to the liver by blocking detoxification.

Each toxin has a limit of tolerance within the body. Even water can be toxic if too much is consumed. Certain toxins such as nuclear waste and petroleum-based "endocrine disruptors" are toxic at minute amounts and can persist for tens of thousands of years.

Oil and Water Don't Mix; Nor Do Their Toxins

Toxins fall into two categories: water-based and fat-based. Water-based toxins are relatively easy to remove through urine, feces and sweat. Heavy metals such as lead and mercury are naturally occurring and water-based but we are releasing excessive amounts into the environment.

Fat-based toxins come from plastics, pesticides and industrial compounds based on petroleum. They get into our fat (the brain is 80% fat) and are difficult to get out; called "Persistent Organic Pollutants". They are removed by attaching them to chemicals called emulsifiers that enable them to mix temporarily with water. Soap is an example of an emulsifier that we use to remove fatty substances from our frying pans and clothes. Bile serves a similar purpose in the body. Constipation is a toxic situation because the bile is re-circulated rather than eliminated.

The Solution to Pollution is Dilution

The obvious and natural approach to dealing with toxins is keeping them dilute. When we began dumping toxic wastes into the earth, ocean and air, the hope was that by diluting these substances they would be less toxic. However, the planet, and our bodies, can only handle so much. Certain compounds are toxic at very low doses, and continue to accumulate as the earth's population increases with its demand for modern products and even plane flight. The electromagnetic fields coming from our phones and other devices are highly concentrated and toxic on another level.

The body (and the planet) have never seen many of these compounds, or these levels over the 3.5 billion years of evolution, and therefore mechanisms to eliminate these compounds are limited or don't exist. Once they get in they can't get out. "Bio-accumulation" not only occurs in an individual, it occurs as smaller organisms are eaten by larger

ones. This is why tuna, a large fish, is more toxic than sardine, a small fish. "Body burden" is the load of toxins deep in our bones (lead), brains (lead and mercury), and fat (petro-chemicals), hard to measure from the surface.

Some of the fatty toxins that the body can't eliminate are stored in fat, not much different from our landfills and nuclear waste depots. As the load increases, to keep it dilute, the body increases its capacity--by increasing fat. We all know people who eat only 1000 calories a day and burn 400 of them with exercise and don't drop a quarter pound. This is in part because the body's wisdom doesn't want to release the stored toxins. This phenomenon is supported by research and throws a big wrench on the "diet and exercise" model of weight gain and loss. Many people get sick when they lose weight for this reason.

The Cocktail Effect

The cocktail effect refers to the fact that the compounds we accumulate synergize in ways we can't know. Even fetuses and newborns have a proven load of toxins. Approval of these compounds is based on testing single compounds on lab animals. There is no research that can measure the effect of accumulation of hundreds of these compounds over decades, and how they synergize. For example, lead and mercury when present together magnify each other's toxic effect by more than ten times.

Just as there is a negative cocktail effect, there is a positive one as well: by combining good sleep with good nutrition, balanced exercise, love, laughter, connection and sense of purpose, we can begin to detoxify.

Despair or Encouragement

Watch the news nowadays and try not to despair. However, as individuals, families and communities we can begin to clean ourselves. As we feel better, physically and emotionally, we validate these principles and gain the knowledge and energy to help others. In order to detoxify safely, before beginning, it is best to assess the toxic load and the deficiencies of minerals and other nutrients necessary to escort the toxins out. Working with an experienced practitioner is often required to strategize a plan and interpret the body's responses. Detoxification can be challenging but it is our best and only choice.

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