

The Body's Brilliant Recycling Project



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We hear a lot about “detox” but many of us don’t really stop to think about what that means in our body. Most often we hear about detox cleanses where people follow a restrictive diet that may include shakes or juices for a set time to support the body’s detoxification. It makes it seem that detox is a short-term event and that without that focused cleanse the body isn’t really detoxing. The beautiful thing is that detoxification is happening every moment in our bodies with a brilliantly designed system. However, there are ways to help the body detox more efficiently as well as steps to reduce our intake and exposure to toxins. These combined tools help support the body’s well designed system.

Let’s take a deeper look at this process of detoxification:

WHAT is a toxin?

The Merriam-Webster toxin definition states: “A toxin is a poisonous substance that is a specific product of the metabolic activities of a living organism and is usually very unstable, notably toxic when introduced into the tissues, and typically capable of inducing antibody formation.”

Simply put, toxins are harmful substances. They come to us through our food, water, and air supply and most of us are exposed to some if not all of them on a regular basis. They come in many forms and can represent a burden for the body. Body burden can come from both internal actions and also from environmental toxins including pesticides/herbicides for crops and gardens, chemical solvents like cleaners and household products, xenobiotics like drugs, and industrial chemicals of all types.

How do they find their way into our daily life?

Internal Toxins: We naturally produce internal toxins simply by being alive. Natural toxins are made by rebuilding tissues and replacing worn out cells. This happens continuously so we naturally create a fair amount of waste that needs to be recycled. Our bodies have automatic ways to eliminate natural toxins and prevent build up.

External Toxins: External toxins are the toxins outside of our bodies that can be ingested or absorbed. We often think of food as a main source but many everyday products and lifestyle choices are significant sources of toxins. External toxins can be found in everything from your daily deodorant, shampoo and even drinking water.

Here are some examples:

1. Food Sources:

- Pesticides found in plant foods like fruits and vegetables
- Mercury concentrations in large predatory fish like tuna and swordfish
- Preservatives and artificial colors and flavors in processed foods
- GMO (genetically modified) foods like soy, corn and even some vegetables

2. Indoor Air Pollutants:

- Dust mites, molds (from leaks or poorly ventilated areas), pet dander
- Asbestos, lead, radon from pipes or building materials
- Synthetic consumer products, solvents, cleaners
- Formaldehyde (foam insulation, wood and carpet glue, paint preservatives)

3. Products At Home:

- Cleaning supplies and air fresheners
- Cosmetics/grooming products
- Plastics (food wraps, soda, baby and water bottles)
- Detergents and soaps

4. Water:

- Solvents
- Pesticides/herbicides
- Heavy metals
- Hormones and medicines

5. Other Sources:

- Industrial and auto exhaust
- Dental restorations
- Alcohol and tobacco
- Medications: over the counter and prescription

It’s important to begin looking at the ways toxins come into our daily life and find alternatives when possible.

WHERE does detox happen?

Detoxification is a process by which the toxic qualities of a poison or toxin are neutralized by the body. It’s the body’s way of recycling or processing things to make them less harmful and to remove waste from the body. This is important for us to stay alive and protected from things that could harm us.

What is the body's pathway to detox? The liver is the main organ for detoxification along with lungs, blood, colon, lymph, skin and kidneys. If we look first at the liver as the main organ of detox, we see it has a multi-step process for managing toxins in our body. Beyond our internal toxins, we bring toxins in through many avenues including our digestive system with food, our immune system through our skin and respiratory system into our lungs. On the day-to-day we primarily count on the liver to help manage those toxins. The liver has a unique 3 phase process to neutralize toxins to prepare for elimination. The purpose of the liver's process is to break toxins down to be water soluble so they can be eliminated.

Phase 1: Like a "spray n' wash" pre-treatment in laundry. Toxins are broken down to more manageable units by a system of enzymes. These enzymes use several biochemical processes to accomplish this. Vitamins and minerals are essential to this step of detox. Many substances are more toxic or volatile after this first phase. Alcohol is one of those toxins that becomes more toxic after going through phase 1. That is why chronic and excessive alcohol consumption is damaging for the liver. It's so important to look at ways to support the transition from phase 1 to phase 2 so that the handoff flows seamlessly.

Phase 2: Like the "wash" cycle of your washing machine. During this phase, toxins are made water soluble to be excreted. This part of the process uses amino acids that come from protein as well as vitamins and minerals to complete what phase 1 started. One of these processes is called sulfation which uses sulfur compounds like those found in cruciferous vegetables like broccoli, Brussels sprouts and cauliflower to support detox. Research shows that eating 1 cup of broccoli per day creates a positive impact on this phase of detox.

Phase 3: Like the "rinse/spin" cycle of your washing machine. Toxins are removed or recycled through urine, stool and bile. Regular daily bowels movements, urination and even sweating are key to support the completion of the cycle. This is one of the many reasons we need to drink sufficient water to help the liver complete its process.

This is where the other organs of detox come to help the liver. The water-soluble toxins from the liver are pushed along to the kidneys to filter through urination as well as the gastrointestinal tract. There are many layers of reinforcement for the body to run efficiently and there are backup organs if the liver and kidneys get overwhelmed. Your lungs, skin, bladder and large intestine will jump in to help the process, but since they are not primarily detox organs it's harder for them and requires more energy from the body.

WHAT gets in the way of detox?

Toxins become dangerous when this waste accumulates. When we combine both internal and external toxins, the body burden can become high. Some people are exposed to a high level of toxins through certain foods and lifestyle. The liver is designed for this but never gets a break since there are always toxins to recycle and the liver can be overworked. When there are many toxins in the body, they can build up waiting for recycling and create some damage to cells and organs. They can, in effect, clog the system. It's important to consider how you can help your body and to learn more about the impact of some of the choices we make. For example, certain medications like acid reflux medications and antacids slow digestion down and reduce the body's ability to absorb vitamins. Vitamins are an important assistant in detox so those medications don't clog the system. Tylenol, with long term use, affects phase 1 of liver detox and has even been shown to damage the liver making detox more challenging.

HOW can I help the process?

The easy answer to that question is to limit and avoid toxic exposure. The second very important support you can give your body is to add foods and practices that accelerate detoxification in the body.

1. Avoid/Limit Toxins

Foods:

- Choose organically/locally grown produce; focus on at least avoiding the dirty dozen. The dirty dozen are the most important fruits and vegetables to buy organic. This website will give you that list: (www.ewg.org- search dirty dozen)
- Seek grass fed/locally raised meats and wild caught or sustainably farmed fish
- Look for non-GMO foods and avoid dyes, preservatives, artificial colors or flavors
- Avoid artificial sweeteners which are just chemicals that the body needs to detox
- Limit sugar as much as possible as it creates cellular damage
- Drink filtered water
- Use glass/ceramic/stainless steel for drinking and storage of water
- Limit/avoid plastic wrap and containers, use glass for storage and reheating
- Avoid tin cans; look for BPA free lined cans or tetra boxes

Limit toxin burden in your home:

- Choose a water filtration system
- Swap out cleaning products for non-toxic brands
- Open your windows for air circulation or consider an air filter

Limit toxin burden in your life:

- Replace your beauty care products with chemical free brands
- Limit alcohol; better to have less a few times per week than several servings at one sitting
- Reduce over-the-counter medication when possible, especially painkillers

Consider these resources for making healthier lifestyle choices:

Environmental working group

<http://www.ewg.org>

The Daily Green

<http://www.thedailygreen.com/>

Cosmetic data base

<http://www.ewg.org/skindeep/>

Cleaning products

<http://www.ewg.org/guides/cleaners>

2. Support Your Body's Detox System:

Use your food as medicine; eat foods that promote detox and help all the phases of liver detox:

- Dark leafy vegetables (kale, collard greens, arugula, watercress and mustard greens): Sauté, juice or eat them raw but the more the merrier
- Onions and garlic: Add 1-2 cloves per day to veggies or salads; add them to your sautéed greens
- Artichoke: High in fiber and rich in detox nutrients
- Cruciferous or Brassica Family vegetables: (broccoli and broccoli sprouts, Brussels sprouts, cabbage, kale, and cauliflower) These are very powerful for phase 2 detox
- Cilantro and parsley: considered natural chelators of toxins and heavy metals
- Organic berries: blueberries, raspberries, strawberries, blackberries are high in antioxidants which reduce cellular damage

- Organic Green tea: This is an amazing antioxidant with Matcha green tea especially high in chlorophyll, a superstar of detox
- Spices/herbs: cinnamon, turmeric, cumin, oregano, rosemary: the compounds in these offer many tools of support for detox and reducing the effects of cell damage

Eat high quality fats that help flush the liver:

- Omega 3 fats like fish oil and flax
- Avocados, olive oil and almonds

Ensure sufficient protein to give the building blocks for phase 2:

- The average adult needs about 50-60 grams of healthy protein per day. For example, 1 ounce of meat/fish, 1 egg or ½ cup beans/legumes = 7 grams of protein

Eat more plants to ensure plenty of vitamins and minerals that support all aspects of detoxification:

- Eat a rainbow of colors in your fruits and vegetables every day. The pigments that give plant foods their color are called phytonutrients. They work as strong supporters of all phases of the detox process.

Improve elimination of toxins:

- Increase water to 6-8 glasses per day to flush the body and support phase 3
- Have 1-2 bowel movements per day to aid the liver in completing its job
- Increase exercise for circulation and sweating; this aids the secondary team of detox organs
- Consider an infrared sauna or steam bath to promote perspiration using the skin as a way to eliminate and burn fat where excess toxins are stored
- Increase fiber to 35 grams per day; fiber helps keep your elimination moving and completes the circle of detox

Nutritional Detox Programs:

In addition to shifting our diet and lifestyle to a less toxic one, there are also many high-quality professional nutraceutical supplement programs to aid detoxification. These are often referred to as 'detox programs'. Detox programs can help to support the liver in detoxification as well as provide the body with essential nutrients 'detox' at a deeper level. Often, when a person has been exposed to toxins for a long period of time and has illness, a detox program can be beneficial to reach optimal health. It is helpful to have a professional support you in this type of detox program. Some health care professionals that offer detox programs

include Naturopaths and Clinical Nutritionists that specialize in Functional Medicine and Functional Nutrition.

As we review our whole life including but not limited to food, we can see many ways we can make changes to improve the body's potential detox.

3. Stress and Relationships

There are more subtle ways we bring toxins into our life. Since we are complex beings, we know that stress, feelings, beliefs and people can also push the toxic burden of our lives. When we consider our whole life, here are some of the other ways we become toxic.

- Stress: Chronic stress is toxic for the body; by being in an emergency state we limit the body's capacity to handle the day-to-day "housekeeping". Making a choice to meditate or practice mindful breathing can enhance our overall wellbeing.
- People/relationships: Consider that person that after spending time with them we feel drained. These are the kinds of relationships that are hard to manage and weaken our body. Sometimes shifting and changing who we spend time with can improve our health.
- Negative beliefs: They can lower our self-esteem and limit success creating stress that is damaging to the body. There is healing potential in the power of positive thinking and cleaning up our thoughts.

When we examine detox and the many things in our life that can contribute to it, we see that we have the opportunity to make choices. Overall, it's important to limit the total load of how much burden we put on our detox system. Taking a step like limiting fast food eating, reducing alcohol, swapping out body care products for cleaner brands or drinking more water impacts that total toxic burden. With those choices, we all have the power to enhance our detox capacity and improve our health.

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