



NUTRITION
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DETOX

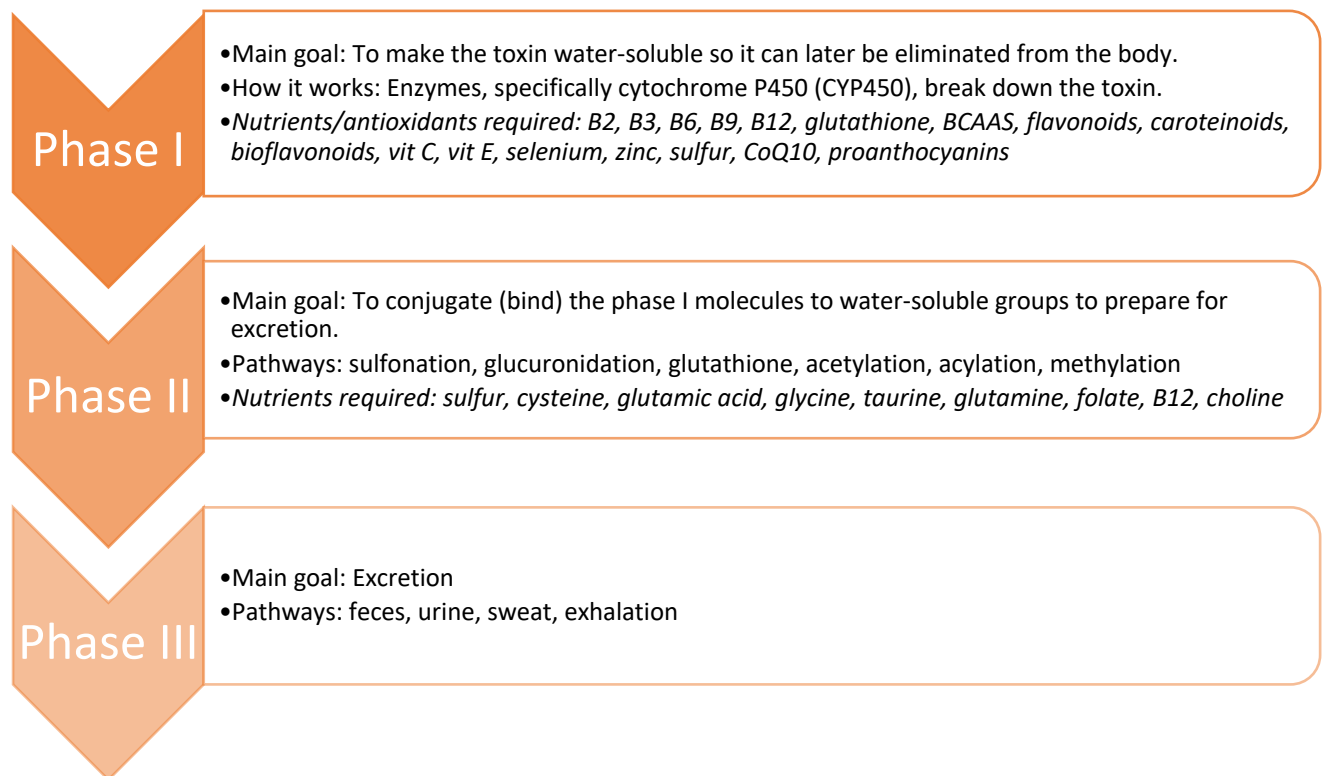


It's more than a short-term cleanse.

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Detox. You've probably heard and most likely used the word many times. Detox products seem to flood social media feeds, especially after the holidays. The global detox product market is valued at \$50.92 billion and is forecasted to continue growing over the next five years¹. Society as a whole can clearly feel the need to detox, but why? Let's take a few moments to look at what exactly detoxification is and why it matters.

Detoxification is a natural, continuous process the body undergoes to remove toxins. The key words there are natural and continuous. This is an important distinction to make, because contrary to what many marketing campaigns portray, detoxification isn't something you have to buy. Instead, it is a multi-step, body-wide process that occurs automatically. The process consists of three phases, each requiring the support of a multitude of nutrients. See below for a quick overview of what this process looks like².



Each phase serves a very specific purpose in order to safely break down the toxin and properly excrete it from the body. There are many organs involved that must effectively work together to achieve this. Therefore, the health of these organs directly impacts the body's detox capacity. Here are a few of major organs involved:

Liver

The liver is the body's primary detoxification organ. It filters the blood and removes toxins³. This is why the terms detox and liver cleanse are often used synonymously.

GI Tract

The GI tract has many roles for detoxification. First, a strong gut lining can prevent digested toxins from entering the blood stream. Second, the GI tract (through bile) is the primary route for the liver metabolites to be eliminated. Third, the gut microbiome also has its own detoxification abilities, which means a healthy gut increases detox capacity⁴.

Kidneys

The kidneys help remove toxins through urine. This is why all detox recommendations include increasing water intake.

Skin

As you may have noticed, any sort of elimination pathway is crucial for detox. Therefore, the skin is no different. Toxins are released through sweat.

Even just briefly touching on the frequency, phases, nutrients, and organs involved in the detoxification process sheds light on its importance for overall health. Diet, lifestyle, and environmental factors all play a role on how efficiently our body is able to perform this process. Unfortunately, our toxic load is higher than ever due to environmental factors such as pollution, pesticides, heavy metals, synthetic hormones, and other man-made chemicals added to various products⁵. While our natural detoxification system is designed to filter out these toxins, the system begins to break down if accumulation gets too high. Long-term stress on this system can lead to disease, illness, and potentially even death. The goal, therefore, is to enhance the natural detox capacity so that the body can easily filter out toxins without becoming overburdened.

The Juice Cleanse Trend

As I mentioned at the start, the global detox market is booming. The most common detox you'll see is some form of a juice cleanse. Does this suffice our detox needs? Let's discuss the pros and cons of this detox trend –

Pros

1. Gives the digestive tract a respite so the body can focus its energy elsewhere.
2. Provides a concentrated source of phytonutrients which are helpful for detoxification.

Cons

1. Juicing removes the fiber from the vegetables and fruit. Why is a lack of fiber problematic?
 - a. Fiber is needed for elimination (phase III of the detox system).
 - b. Fiber has a prebiotic effect, which enhances the gut microbiome.
 - c. A lack of fiber in juice results in spiked blood sugar upon consumption.
2. It is difficult to get the all the nutrients needed in sufficient quantities to support each detox phase through juice alone.

While the decision of whether or not to participate in a juice cleanse is up to the individual, it's important to be aware of these pros and cons. They can help the body detoxify for that short period of time, but ultimately, they are not the best way to boost the body's natural detox capacity overall. Why? It has to do with what I call the "detox to re-tox" effect. After the cleanse is over, people typically return to their previous diet and lifestyle. Therefore, a juice cleanse is simply a short-term fix to a long-term problem. It inevitably leads to investing in additional detox programs year after year. Therefore, these short-term cleanses are no match for lifelong dietary and lifestyle changes.

So, to round this out, let's bust a few myths -

Myth # 1: Detoxing requires the purchase of a specific protocol or package.

Truth: Proper dietary and lifestyle choices are more effective for optimal detoxification long-term.

Myth #2: Detoxing requires excessive dietary restriction and multiple day fasts.

Truth: The body's natural detoxification system requires many nutrients to be able to function optimally. The focus should be on what you are eating rather than what you aren't. Food deprivation is counterproductive.

Myth #3: Proper detoxing requires supplementation.

Truth: While targeted supplementation may be helpful, it is not required. More emphasis should be placed on the food you are eating.



A Better Way to Detox

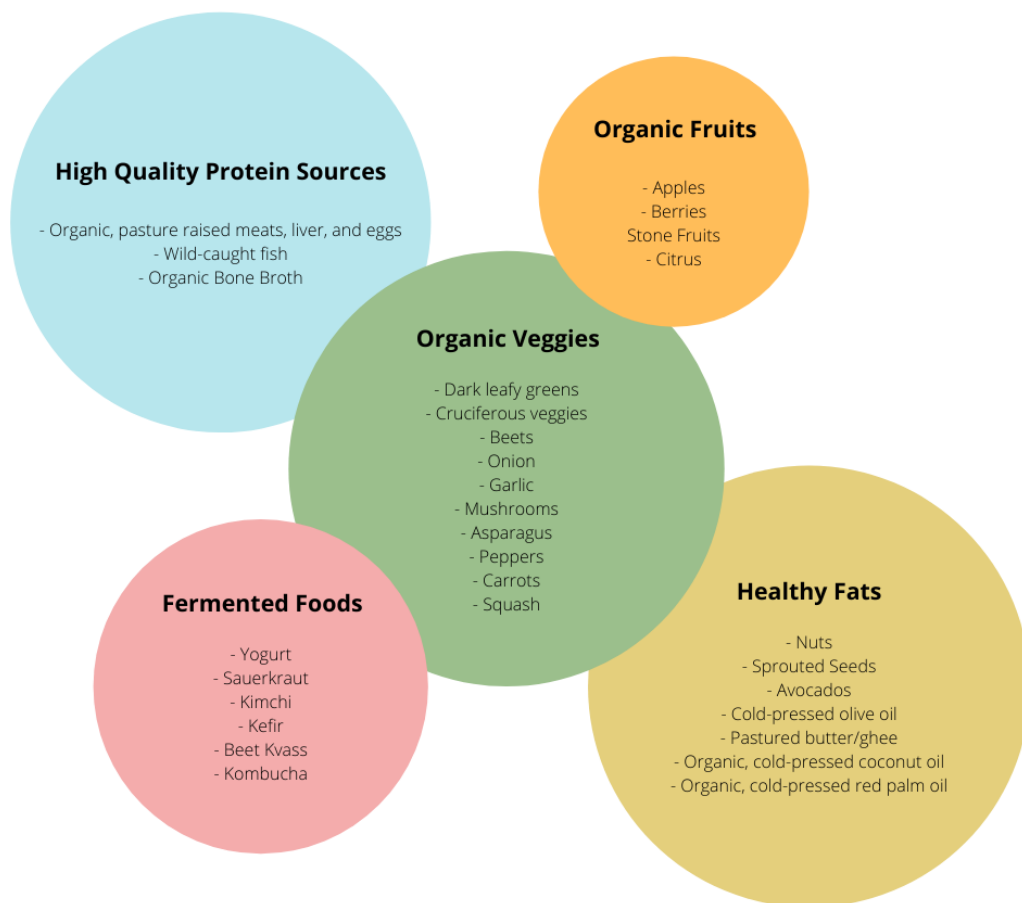
Now, what exactly does it look like to eat to support detoxification? Here are a few general principles:

1. Intentionally designed menu plans to ensure optimal nutrient intake.
2. Proper food sourcing to minimize toxins. This includes:
 - a. Organic produce to minimize pesticides, herbicides, and other chemicals.
 - b. Organic, pasture-raised meats and wild-caught fish to minimize exposure to synthetic hormones and heavy metals.
3. Elimination of refined vegetable oils, refined grains, conventionally raised meat and eggs, farmed fish, conventional produce and dairy, refined sugar, alcohol, and caffeine.
4. Inclusion of fermented foods for gut health.

While strict adherence to these guidelines may not always be possible, overall, it is relatively simple to implement at least a few of these on a daily basis through intentional purchase decisions at the grocery store. This is much more sustainable than a cleanse and lays the groundwork for optimal health.

Time to Eat

Since detoxification is an ongoing process, it is crucial to properly fuel the body daily in order to break down and excrete toxins safely. Remember the nutrients listed for each phase? Here are some of the foods where they can be found -



Therapeutic Foods and Herbs

In addition to the foods listed above, there are some specific superfoods and herbs that can be added periodically for an extra boost.

Chlorella and Spirulina

These algae superfoods are powerful antioxidants known for their detoxifying abilities. They are particularly useful for binding to heavy metals. An added bonus - they are also a great source of chlorophyll, protein, iron, magnesium, copper, and B vitamins^{6,7}.



Ginger

Ginger is anti-inflammatory and helps to reduce oxidative stress⁸. This is important for reducing the body's toxic load.

Turmeric

Powerful antioxidant that has been shown to have anti-inflammatory and liver-protective effects. This spice also enhances the production of glutathione, which is an antioxidant needed in both phase I and phase II of detox⁹.



Milk Thistle

Well known and widely used in herbal medicine for its liver-protective effects. It has been shown to have antioxidant, anti-inflammatory, and anti-fibrotic properties¹⁰.

Dandelion

Dandelion root and leaf have shown to aid liver detoxification¹¹. It makes a great detox tea to sip!

Lifestyle

In addition to the nutritional aspect, lifestyle choices also play a huge role in the body's ability to detox properly. While avoidance of all toxins is impossible, exposure can be minimized through intentional, healthy decisions. Below are a few shifts you can make today to reduce your toxic burden.

1. Reduction/removal of toxic substances such as cigarette smoke, drugs, and alcohol.
2. Switch to organic personal care products free of synthetic fragrances.
3. Switch to organic cleaning solutions or make your own using items such as:
 - a. White vinegar
 - b. Baking soda
 - c. Essential oils
 - d. Hydrogen peroxide
4. Include daily movement such as gentle yoga, stretching, and/or walking to stimulate blood and lymph circulation.



Holiday Help

The holidays are often wonderful on the taste buds but disastrous on the body. Is it even possible to enjoy the goodies of the season without adding too much stress to the detox system? Yes! Here are some simple tips to follow:

1. Eat complete, nutrient-dense meals throughout the day to ensure optimal nutrient intake. You can't always control what food will be at the parties, but you can control the food you eat before and after. Also, this will eliminate the desire to binge and encourage moderation instead.
2. Prioritize fresh vegetables and healthy fats as snacks throughout the day. It's helpful to have them ready to go in the fridge.
3. Drink more water! Hydration is crucial for detox.
4. Sip on some dandelion root tea. The height of detox activity occurs while you sleep, so it makes the perfect pre-bed drink.
5. Stay active. The desire to snuggle up inside your home while it's cold outside is strong. However, movement is critical for the lymphatic system to be able to flush out some of those toxins. Take some time for a walk or do some gentle yoga and stretching.

Recipes!

There is no shortage of “detox” labeled recipes. To aid in your new perspective of what eating to enhance the detoxification process looks like, however, I wanted to focus on recipes that are nutrient-packed and deliciously filling. Here are a few creative ones on NTI's recipe blog that would make a wonderful addition to your next holiday gathering!

[Stuffed Squash with Pears and Wild Rice](#)

Recipe adapted from [Professional Cooking](#)

Ingredients

- 5 acorn squash or sweet dumpling – cut in half crosswise, seeded
- ½ t freshly ground nutmeg
- 3 T olive oil
- 1 cup wild rice – uncooked
- 2 ½ cups vegetable broth
- ½ tsp salt, plus extra to taste
- 2 T olive oil
- 1 lb. ground turkey or chicken (optional)
- 1 large yellow onion, finely chopped



- 3 large garlic cloves, minced
- 3 large celery ribs, finely chopped
- 2 firm pears, peeled, halved lengthwise, cored, cut ½-inch dice
- 2 T minced sage
- 2 T minced fresh thyme leaves
- ⅓ cup minced fresh parsley
- ½ cup chopped walnuts or pecans, toasted
- ½ cup dried sweetened cranberries – rehydrated

Directions

1. Preheat the oven to 375-degree F. Cut each squash in half crosswise. Scoop out and discard the seeds and strings. Rub inside flesh with oil. Sprinkle each half with a little salt, pepper, and nutmeg to taste.
2. Place on a rimmed baking sheet, cut side down. Bake for 30 minutes while preparing the stuffing.
3. Meanwhile, combine the wild rice, vegetable broth, ¼ teaspoon salt in a medium saucepan. Bring to a boil over medium-high heat. Reduce the heat to a simmer, partially cover, and cook, stirring occasionally, until the rice is tender, about 40 minutes. When the rice is done most of the water should be evaporated.
4. In a sauté pan, heat the olive oil over medium heat. Sauté the ground meat (if using) for 5 minutes; add the onion and celery until slightly softened, about 3-5 minutes. Add the garlic, pears, sage, thyme, and parsley and sauté for 2 minutes. Remove from the heat.
5. In a large bowl, combine the cooked rice, sauteed vegetables/pears, walnuts, and dried cranberries. Add salt and pepper to taste.
6. Mount the rice mixture into the squash halves, dividing it evenly.
7. Cut the 3 tablespoons of butter into small pieces. Dot each stuffed squash with butter.
8. Cover with parchment and foil. Bake at 375-degree F until heated through, about 25 minutes.

Brussels Sprouts with Cranberry Maple Brown Butter

Recipe by Chef Lynda Lacher

Ingredients

- 2 lbs. Brussels sprouts – cut in half lengthwise
- 2-3 T. oil
- salt and pepper
- ¼ lb. fresh cranberries – rough chopped (frozen may be substituted)
- 2 T. maple syrup
- 2 t. fresh ginger- minced or grated
- 1 t. fresh thyme- minced



- 1 orange – juice and zest
- 1 shallot – minced
- 6 T. butter

Directions

1. Preheat oven to 375°.
2. Toss the Brussels sprouts in the oil, salt, and pepper to coat evenly. Place on a baking sheet.
3. Roast the Brussels sprouts, stirring occasionally, until tender and browned, about 25 minutes.
4. In a small saucepan, combine cranberries, maple syrup, ginger, thyme, orange juice, zest, and shallot.
5. Cook for 10 minutes on medium heat.
6. In a small sauté pan, heat the butter until the milk solids are browned.
7. Combine the butter with the cranberry mixture.
8. Toss the Brussels sprouts with the cranberry browned butter and serve.

Roasted Miso-Pomegranate Salmon

Adapted from [Feasting at Home](#)

Ingredients

- 1 – 1.5 lb of wild-caught salmon filets
- 2 tablespoons olive oil
- 2 large shallots (sliced into thin rings), or half a yellow onion (thinly sliced)
- 2 fennel bulbs – very thinly sliced (save the fronds!)
- ½ cup white wine or sherry (or, use ½ cup broth plus a big splash of apple cider vinegar instead)
- salt and pepper to taste



Salmon Marinade

- 3 tablespoons miso
- 2 tablespoons maple syrup
- 2 tablespoons olive oil
- 2 garlic cloves
- 1 orange, zest and ¼ cup juice
- 2 tablespoons pomegranate molasses (see [original recipe](#) for instructions on making your own)
- ½ teaspoon salt and pepper

Garnish: ¼- ½ cup pomegranate seeds, fennel fronds

Instructions

1. Preheat the oven to 375F.
2. Make the salmon marinade by whisking marinade ingredients together in a small bowl. Pour over the salmon, coating it well. Let marinate 15 minutes or up to 24 hours.
3. Heat oil over medium in an extra-large skillet (preferably oven-safe). Sauté the fennel bulb and shallots/onion for 4-5 minutes, stirring until golden and slightly tender. Add wine and season generously with salt and pepper. Simmer gently until the wine has evaporated. Let the fennel finish cooking in the oven with the salmon.
4. Place the salmon in the oven to roast (skin-side down). It can be placed over the braised fennel, or on a separate pan. Pour any remaining marinade over the salmon. Depending on the size, thickness and the way the salmon is cut, cooking time will vary. For individual portions, check after 10 minutes. Large filets will likely take 15 minutes, and extra-large thick filets may take even longer. Better to err on the side of under than over, so make sure to check the salmon every few minutes.
5. When the salmon is cooked, scatter with pomegranate seeds and fresh herbs for color before serving.

For more delicious recipes check out <https://ntischool.com/category/recipes/>

Happy Holidays!



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¹ Grandviewresearch.com. 2020. *Detox Product Market Size & Share | Global Industry Report, 2019-2025*. [online] Available at: <<https://www.grandviewresearch.com/industry-analysis/detox-product-market>> [Accessed 6 December 2020].

² Hodges RE, Minich DM. Modulation of Metabolic Detoxification Pathways Using Foods and Food-Derived Components: A Scientific Review with Clinical Application. *J Nutr Metab*. 2015;2015:760689. doi:10.1155/2015/760689

³ InformedHealth.org [Internet]. Cologne, Germany: Institute for Quality and Efficiency in Health Care (IQWiG); 2006-. How does the liver work? 2009 Sep 17 [Updated 2016 Aug 22].

⁴ Shimizu M. Modulation of intestinal functions by dietary substances: an effective approach to health promotion. *J Tradit Complement Med*. 2012;2(2):81-83. doi:10.1016/s2225-4110(16)30080-3

⁵ Gennings C, Ellis R, Ritter JK. Linking empirical estimates of body burden of environmental chemicals and wellness using NHANES data. *Environ Int*. 2012;39(1):56-65. doi:10.1016/j.envint.2011.09.002

⁶ Bito T, Okumura E, Fujishima M, Watanabe F. Potential of *Chlorella* as a Dietary Supplement to Promote Human Health. *Nutrients*. 2020;12(9):2524. Published 2020 Aug 20. doi:10.3390/nu12092524

⁷ Karkos PD, Leong SC, Karkos CD, Sivaji N, Assimakopoulos DA. Spirulina in clinical practice: evidence-based human applications. *Evid Based Complement Alternat Med*. 2011;2011:531053. doi:10.1093/ecam/nen058

⁸ Mashhadi NS, Ghiasvand R, Askari G, Hariri M, Darvishi L, Mofid MR. Anti-oxidative and anti-inflammatory effects of ginger in health and physical activity: review of current evidence. *Int J Prev Med*. 2013;4(Suppl 1):S36-S42.

⁹ Rahmani AH, Alsahli MA, Aly SM, Khan MA, Aldebasi YH. Role of Curcumin in Disease Prevention and Treatment. *Adv Biomed Res*. 2018;7:38. Published 2018 Feb 28. doi:10.4103/abr.abr_147_16

¹⁰ Vargas-Mendoza N, Madrigal-Santillán E, Morales-González A, et al. Hepatoprotective effect of silymarin. *World J Hepatol*. 2014;6(3):144-149. doi:10.4254/wjh.v6.i3.144

¹¹ Balaban YH, Aka C, Koca-Caliskan U. Liver immunology and herbal treatment. *World J Hepatol*. 2017;9(17):757-770. doi:10.4254/wjh.v9.i17.757

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