

Detoxification Protocol

Periodic detoxification makes sense in keeping your body as fine tuned and healthy as possible. There are many different cleanse ideas, but if we start with the knowledge of the anatomy and physiology of the body we can make the best approach to a detoxification process possible. We know that there are several systems by which toxins and waste products are eliminated through the body. By having knowledge of these systems we can increase our ability to aggressively detoxify our body. There are four major detoxification systems our body uses. The first is the respiratory system which eliminates gaseous waste products such as carbon dioxide, a waste by product of glucose metabolism. Another system is the integumentary system, in which lactic acid and various other wastes are removed. We also use the digestive system, especially the hepatobiliary system to remove some cholesterol, bile secretions, and other toxins bound in bile. The liver is also the primary conjugator of metabolic toxins into water soluble products which can be sent to the kidney for removal. The remaining system is the renal system, in which the kidney removed nitrogenous wastes, including urea, ammonia, creatinine, and other drug metabolites from the body. I have also added the lymphatic and circulatory system as an elimination component, as they play a crucial role in the mobilization of compounds that need to be removed from the body.

I prefer to use as simple a plan as possible when coming up with a detoxification program. One reason is that I dislike taking many capsules and pills. I just plain don't like it. I would much rather have a patient make a dietary change, rather than add supplements to their system when possible. Keep that in mind when beginning a detox program. It must strive to be doable, and it must be comprehensive at the same time.

Also, many people may benefit from a pre- and/or post- blood analysis, including blood lipids (fats), a complete blood count, and a comprehensive metabolic panel. We are offering a discounted price of \$75 (normally \$130) for all three, if you are doing this program. Very out of shape and physically ill persons may require a pre-detox electrocardiogram, which we are offering at a much reduced rate of \$35 (normally \$65). Discuss these with Dr. Cone or Dr. Dobson if you have questions. People can see a considerable difference in blood fats, liver enzymes, and other blood markers that are indicative of the chemistry changes that can occur during this program.

This detox program has several components that are based on the above four elimination pathways. All are important and play an important role in the whole of the process.

1. Integumentary

The integumentary system has close ties with subcutaneous fat depots and is also a back up system of elimination when the kidneys do a poor job of elimination. We often see skin rashes, itching, dermatitis related to the body's trying to resolve toxins and metabolic metabolites. We enhance this system through one primary way which is the low temperature dry sauna or infrared sauna. These can be easily found at many gyms, such as 24hr Fitness, Lifetime, and Gold's Gym. Heat is in the infrared spectrum of light, so you often hear people talk about this wavelength of energy. It sounds rather fancy,

but again, is simply heat energy. The dry sauna forces the integument to sweat to try to cool the body. It does so much more than steam saunas, a.k.a. wet saunas. In doing so a great amount of the circulating blood is shunted to the skin away from other organs, and this is why people often get red when sweating and exercising. I recommend adding Niacin, vitamin B3, which causes a peripheral flushing reaction to the sauna in order to further increase circulation to the integument. Starting in the low hundreds (100-200mg) and up to 1,000mg (this is what I take), patients can safely add to the detoxification pathway with Niacin. I also start with 30 minutes of exercise, which starts the sweating process and increases circulation. During the dry sauna you should also drink at least a liter or so of reverse osmosis water every 30-45 minutes, which may or may not have herbs added to it (read on about these additions). This therapy can be done daily to multiple times per week depending on the aggressiveness of your detox. Some people also do this sauna for 3-5 hours per day on very serious detoxification programs, including drug detoxification programs. Other minerals, salts, and vitamins should be considered if attempting something of that nature, however. You should feel quite amazing after this process. (I usually chew the Niacin just prior to starting the 30 minutes of exercise. It facilitates rapid digestion, so it gets it done and out of your system by the time you are ready to leave the sauna. If you still have the itching, red, burning skin when you are ready to leave the gym, consider chewing the niacin or taking it earlier before you exercise). If you do daily sauna treatments, you should make sure that you have plenty of organic mineral salts in your diet. Do not be afraid to add sea salt to the foods you eat. You will be losing lots of salt in the saunas, and getting adequate salt in your diet is an easy way to replenish it. If you develop any eye twitching, muscle twitches, or spasms, you may need to add some salt to your diet at this time. A cold shower after the sauna feels great.

1. Take the Niacin

2. Begin 30 minutes of aerobic exercise such as: Bicycle/stair climb/treadmill/elliptical

3. Sit in the dry sauna with plenty of drinking water for 45 minutes to 1 hour. Make sure you are drinking at least a liter of water during this time.

4. Do this daily, or at least several times per week as you are able

2. Gastrointestinal and Hepatobiliary

The gastrointestinal and hepatobiliary systems play a large roll in the removal of dietary wastes, and in some processed metabolic wastes. The cornerstone of this system is fiber. It binds cholesterol, bile, excess dietary fats, and it provides an osmotic drag of water that makes for a bulky, well-formed stool. Bulky stools essentially help to “sweep out” the intestines, and keep them functioning normally. Fiber also provides nutrients for various strains of colonic bacteria that produce good things for your body like short chain fatty acids, like butyric acid, and the vitamins K and the B vitamins as well. Adding or making sure of adequate amounts of fiber is the number one thing to do to aid in the gastrointestinal system. Proper fiber intake is also associated with weight loss, lower cholesterol, and inversely related to hemorrhoids, varicose veins, and hypertension. We often use psyllium seed husk, which can be found at most groceries. It is very inexpensive and has a neutral taste. I tend to avoid cathartic herbs, such as Senna, as they can cause some dependency and are not really necessary in my opinion.

In addition to fiber, the liver can be stimulated with herbs and nutrients that stimulate bile secretion, bile liquefaction, and increased bile production. This aids in the liver's ability to remove toxins, and also in the gall bladder's ability to efficiently contract to move bile along the biliary tree.

I also focus on adding adequate amino acid supplementation to the detoxification program in the form of a medical meal. This ensures adequate vitamins and minerals that are used in the detoxification processes of Phase I, Phase II, and Phase III detoxification in the liver and gastrointestinal tract. It also ensures adequate amino acids supplementation that is required for proper Phase II conjugation processes. Many detoxification programs simply do not understand Phase I, II, and III detoxification processes and the specific dietary needs for this type program and completely leave out proper amino acid nutrition. I use low antigenic, low allergen formulas, such as the PureClear or PureWeigh formulas.

An estimated 20-30% of the adult population, in Western countries (NEJM vol.363, No. 14), have nonalcoholic fatty liver disease, and 70 to 90% of patients with diabetes or who are obese have this. That is one in five to one in three adult Americans! It is also a contributor to cardiovascular risk. This detox protocol has some specific effects that can ameliorate this condition, though other treatments should be added if N.A.S.H. has been diagnosed. A simple liver panel blood test or ultrasound can detect this condition.

Fasting-type detoxification programs, in my opinion, are deficient in a few areas. One of these areas is the lack of fiber to bind toxin-rich bile. Without fiber, bile salts, including toxins secreted by the liver, are simply reabsorbed in the small intestine. Also, a fasting diet does not provide amino acid resources that are needed for the liver to be able to conjugate free-radicals formed in Phase I Detoxification, and the person ends up with increased free-radical activities, which are damaging in and of themselves. Fasting does not supply adequate mineral or vitamin coenzymes or cofactors needed for proper Phase I, II, and III detoxification events. Fasting is also very hard for many individuals due to the possibility of very low blood sugar events which make people moody, lethargic, and often cause headaches.

Patients often ask about taking probiotics on this program. It is not a bad idea, however, I don't always feel this is necessary, and like I stated before, I want to keep costs minimized and the program as simple as possible. If you have recently had oral or I.V. antibiotic, antibacterial, or antifungal drugs, you want to add a probiotic during this detoxification regiment to help reinnoculate the colon. The prebiotic psyllium is often sufficient for most patients, without having to add a probiotic, such as *L. sporogenes* or *Bifidobacterium*.

- 1. Start by adding 1 teaspoon of psyllium seed husk to an 8 oz glass of water in the evening before bed. After a few days add another, until you are taking 1-2 Tablespoons of psyllium in a large glass of water prior to going to bed. Since the parasympathetic system is most active at night, this will set you up for a regular bowel movement in the morning when you wake up. Regularity will become a pattern and you will be on your way to better health.**
- 2. I often add an herbal extraction to aid in various detoxification mechanisms. With this system I will sometimes add a formula that contains Milk Thistle Seed, Dandelion Root, Barberry Root, Blue Flag, and Rosemary. You may want to add an oral Liver-G.I. Detox formula for added gastrointestinal support. These will be mentioned towards the end. I often combine formulas or add one that seems particularly pertinent to the patient's needs.**
- 3. Add a protein beverage medical meal to aid the conjugation of metabolites in the liver and intestine. Take medical meals as your only food and beverage (other than water and herbs, supplements) in the first two days of the detoxification program. Do not add fruit, juice, nuts,**

sweeteners to the beverage during the first two days. Use as meal supplements or meal replacements for the remainder of the detoxification program, while adding in low antigen foods (more on this later). The meal replacement should be used once to three times daily in addition to other foods and meals. I recommend at least 2 per day.

4. Try drinking hot water with ½ a lemon squeezed in it as a morning rejuvenator. It acts as a bowel stimulant and should, along with the fiber, make for a regular bowel movement in the morning. The warm water and acid combine to stimulate the release cholecystokinin, which in turn stimulates bile acid release and will facilitate a bowel movement.

3. Respiratory

The respiratory system is often aided by other techniques such as exercise, meditation/prayer, and relaxation techniques. Full, deep, “belly breathing” is important for the proper expansion of the diaphragm. Substantial increases in oxygen delivery are seen with deep breathing. It also activates the brainstem, and increases lung perfusion and exchange. Often parts of the lung are not used during respiration, and breathing techniques can increase their use.

1. Relaxation techniques, visualization, meditation, and prayer, are all techniques that have been associated with increased parasympathetic responses and relaxation of many chest and thoracic muscles that are often tight, in addition to many other benefits. This brief outline does not allow for a full description of these techniques, but there are many places to find descriptions of these. I recommend doing one, or a combination of these during the detox on a daily basis.

2. Practice taking long slow breaths in for a full 7 seconds. Then hold your breath for 26 seconds. Then slowly release you breath over a full 14 seconds. Try this in a series of up to 5 cycles at a time and try this once per day. If you cannot do this all at once, work up to it.

4. Renal

The renal system is one of the most important systems for eliminating the very toxic nitrogenous wastes that we produce in metabolic processes. Fortunately, it is often most helped by adequate hydration. We do sometimes add a diuretic for various reasons that can increase renal clearance of toxins, though this is not always necessary.

1. Drink 1-2 liters of reverse osmosis water per day. I often fill a glass or Nalgene liter bottle of water and carry this with me during the day. If I am adding in liquid herbs (see under Final Thoughts), I simply add them to the container and make sure I finish the beverage by the end of the day. It is important to eliminate soft drinks, coffee, and caffeinated tea during this detox, as they add acid, caffeine, and/or diuretic effects. Reverse osmosis water is available at water dispensaries and many groceries.

5. Circulatory and Lymphatic

As I mentioned earlier, the circulatory and lymphatic systems are not exactly eliminative systems, they both play a large roll in the process indirectly. Exercise is a great way to stimulate both of these systems, and is a natural immune stimulant. I recommend the exercise prior to sauna therapy as a great type of exercise during this detox program. Outdoor bicycling, walking, lake or ocean swimming, kayaking, etc. are also great things to do as well, as they include fresh air, sun shine, and endorphin release. Massage is also another way to increase lymphatic clearance, though it is quite a bit more expensive than exercise! It does feel great and has psychological benefits in addition to increased lymphatic clearance. Consider getting a massage sometime during the detox course of therapy. I have some therapists' names if you need a referral.

- 1. Get 30 minutes of exercise prior to the sauna, and get other outdoor exercises when you can**
- 2. Consider getting a massage during your detoxification program. The earlier the better, because you may want another!**

6. Diet

Your diet during the detoxification program should be heavy on fresh fruits and vegetables, colorful and varied-vegetable salads with light (lemon/apple cider vinegar/balsamic vinegar and olive oil dressings), steamed, grilled, or roasted vegetables, lean un-breaded meats, such as fish, chicken, turkey, eggs, and low in (or no) antigenic foods such as grains, yeasts, and dairy. We reduce heavy starches like a full, baked potato or mashed potatoes when possible. Grains should be used in moderation, and gluten should be avoided when possible, as it is a very common allergen. Other good whole grains, include brown rice, quinoa, or buckwheat groats. A typical breakfast could be steamed spinach, garlic, fresh sliced tomato with sea salt, and two poached eggs with hot lemon water or herbal tea. It could also be a medical meal, or fruit. Lunch could be a big, diverse salad with colorful vegetables of all sorts, garbanzo or black beans, and chicken or tuna salad with lemon, healthy mayonnaise, and finely minced red onion and dill, sea salt and cracked pepper. It could also be an Ezekiel bread/Ezekiel bagel sandwich, bulging with avocado, cucumber, red onion, tomato, sprouts, fresh basil, and balsamic vinegar. Dinner could be a free-range grilled chicken breast, trout, or salmon, with brown rice, roasted turnips, asparagus, and onions along with a side salad. It could also be a 6 oz. bison steak, with green peas, and a large, diverse salad. Dessert could be fresh in season fruit. Snacks may include raw, unsalted nuts (in moderation), roasted or raw vegetables and hummus/baba ganoush, organic fruit, a hard boiled egg, or a medical meal beverage. Another thing to consider is that your plate should generally be $\frac{3}{4}$ vegetables to $\frac{1}{4}$ meat and/or grains/starches. This is an easy way to keep the vegetable content high. $\frac{1}{2}$ of your dinner plate could be salad, the other $\frac{1}{4}$ a side vegetable, and the remaining $\frac{1}{4}$ could be rice and/or a meat. This keeps the animal protein lower, and the vegetable intake high, while still containing adequate protein. The medical meal will supply a complete protein. People generally tend to have $\frac{3}{4}$ of the plate as a meat (think a 16 oz. steak) with an iceberg lettuce salad as the remaining $\frac{1}{4}$ of the plate. This is not what YOU should be doing.

This detoxification diet is diverse, full of choices, and highly nutritious. This diet FEELS great. People feel different. Planning is everything, so shop ahead, make ahead, and plan ahead, so you won't be caught in a bad situation. As a general rule, you should likely be making most of your meals. There are some restaurants and groceries that do contain fresh, healthy meals, but be honest about your food choices at restaurants. If you are unsure of the ingredients, assume the worst! The meal replacement beverage can be useful when it is hard to get a proper meal in. Simply put a scoop of powder in your bottle and add water when you are ready to drink it, or make it ahead in the morning. We do use sprouted grain bagels and bread in moderation, such as Ezekiel brand bread, found in the frozen section of many groceries. Don't go overboard, though, as grains can be highly antigenic. These seem less so, but they are not perfect either. If you interested in further allergy testing, ask about the 164 IgG Blood Panel for delayed-onset hypersensitivity testing. I also discourage a lot of fruit juice, as it is fiber-less, compared to whole food counterparts. Often people get a lot of calories, and very quickly, with either carrot or fruit juice consumption. If you do have juice, I would recommend a vegetable-type juice blend of that is primarily celery, tomato, spinach, kale, garlic, and parsley/cilantro, with a smaller amount of carrot or apple juice for flavor. Something of this nature can be added in the detox as desired, but make sure you are taking the psyllium supplement. Other resources for diets are [the Paleolithic Diet](#), [the South Beach Diet](#), a Mediterranean-type diet, and Susan Summers diet books, which all have some similarities and good recipes.

I also recommend the avoidance of simple sugars, such as honey, agave nectar, sucrose, turbinado sugar, and artificial sweeteners, such as aspartame, saccharin, and sucralose. I do have patients use stevia and/or sugar alcohols, such as ApotheSweet, which we carry at our office. Stevia should strive to be pure stevia if possible and not combined with dextrose, sucrose, or other larger sugar molecules. With this said, occasional natural sources of sweeteners are not going to cause a big problem. Just be honest with yourself about how addicted you are and how often you are using them. They can cause fluctuations in blood glucose and in turn, insulin regulation, which can greatly affect many systems. The overuse of simple sugars is often related to fat-gain, weight loss trouble, carbohydrate-craving cycles, and eventually metabolic "syndrome X" and diabetes. Repetitive high sugar meals are related to lowered growth hormone release (a bad thing), increased insulin release (a bad thing), and lowered fat burning, along with adrenal and thyroid overstimulation.

7. **Final Thoughts**

A detoxification program can be anywhere from a few days, a week, to preferably, a full four week program. People's lives change at the end of a full four week detoxification program. It centers people. People's illnesses resolve or dramatically reduce, or are manageable in ways they never expected. It feels great to feel great! So much of who we are is affected by what we are, what we eat and what we put in our bodies or have stored in our bodies. Our genes are modulated and expressed based on exercise patterns and what foods people consume. People often feel old beyond their actual years, with joint pain, stiffness, body aches, and a loss of vitality. People often lose weight on this program, though this is not a weight loss program per se.

It is also important to consider all aspects of this cleansing process and not leave one out. Many organ systems are synergistic and back the others up, so not doing one aspect of this detox may adversely affect the other systems. For example, the low temperature dry sauna often releases sequestered toxins from fat in the subcutaneous and bone marrow regions. It will go through the blood and eventually be released in the skin or in the liver. If it is released in the liver, it will travel via the intestine and may get reabsorbed in the small intestines and then can redeposit in the fat! It is important to continue with the psyllium to make sure adequate fiber is available to trap and bind these fat soluble toxins.

Herbs are added during this program and include the Herbal Detox, Lymphatic Formula, Kidney Health, and Liver Health as the primary herbal additions we use. They can be combined, as I often do depending what the needs of the individual may be. These liquid herbal formulas are simply added to the liter of water you drink during the day and they have a minimal taste due to the dilution. The formulas should be taken as follows: The first three days should have four full droppers (60 drops per dropper if you count them out) placed in your liter of water. (That is four per formula taken. If you are taking Liver Detox and Lymphatic Formula, add four full droppers of each formula to your liter). This is your loading dosage. The loading dose is important to fully saturate binding sites on albumin plasma proteins. The following days should have two droppers added to the liter of water (again, per formula taken) until the end of the detox or at least close to it. Most patients without disease specific problems will take either Liver Health and Lymphatic Formula, or Liver Health and Herbal Detox.

- Liver Health(added liver support)(Milk Thistle Seed, Dandelion Root, Barberry Root, Blue Flag, Rosemary)
- Kidney Health (added kidney support and has a diuretic effect)(Goldenrod, Dandelion Leaf, Nettles Leaf, Cleavers)
- Herbal Detox (added elimination through the skin, for the skin)(Sarsaparilla, Yellow Dock, Burdock Root, Nettles Leaf)
- Lymphatic Formula (aids lymphatic flow and is an immune stimulant)(Red Clover, Cleavers, Echinacea Root, Ceanothus, Stillingia, Poke Root)

It is also important to decide how long to do a program like this. I recommend up to 4 weeks, but this is unreasonable for some people. It is my opinion that any length of a program is better than none at all. Some patients plan on a long weekend, a week, two weeks, or the full four weeks. Most patients do a two week program, which costs about \$100 in products (a single 18 serving container of PureDetox, and two 4 oz. herbs, plus Niacin). Depending on your history, your current complaints, your overall health, these will determine how long the detox should be.

Patients going through a detox program generally feel great. They are on a clean, allergen-low diet and doing a series of remarkable things for their bodies. However, some patients can feel bad for a period of time, in what we call a Hertz Heimer reaction, or healing crisis. This is simply the body releasing sequestered, fat-bound toxins; bone bound toxic metals, viral load, etc. Some patients get low grade fevers, joint pain, swollen glands, or just feel tired, or slightly ill. Though this is rare, the program does everything to prevent situation by bolstering every elimination pathway available. It is important

for this reason to do all aspects of the program. Call us if you need further assistance. Remember: this is a good thing. Getting healthier is why you are doing this. Sicker people, or people with a history of heavy recreational drug use, multiple prescription drug use, or toxic metal or chemical exposure, may be more prone to this type reaction.

Costs:

I have simplified the program to make it simple, but with the maximum benefit.

PureClear (tax free): \$35.82 for 15 servings = \$2.39/meal replacement beverage. This is taken as your meals/snacks/everything for the first 2 days (with no additions allowed, such as sweeteners, fruit, etc.), and then 1-3 per day as meal replacements and snacks during the rest of the program, for whatever length of time is chosen for the detox. Depending on how long of a program you choose, this will determine how much you need. Fruit (such as berries, pineapple, ½ a banana), water, almond or rice milk, extracts (orange, almond, vanilla), stevia or ApotheSweet, and/or ice can be added to the beverage as well.

Herbal additions: We use the highest quality wild crafted and/or organically grown herbal formulas that are alcohol extractions. They are made for us by a local doctor/herbalist in Wimberley, Texas. I believe that these are generally the most bio-available and they also extract the active components of the herbs better than other methods. They cost \$34 for a 4 oz. supply (per formula). The 4 oz. formulas last about 2 weeks at our usual prescription doses. The Liver-G.I. Detox is \$22.20 for a full month supply.

- Liver Detox
- Kidney Health
- Liver Health
- Lymphatic Formula
- Adaptogen

Gym access: Many people already have this, but week passes, or a month trial membership is also available at many gyms. Ask to see if I have passes available.

Niacin (B3): This is a very inexpensive vitamin and it can be found at any grocery store. Make sure you do not get the “NO FLUSH” variety. Here, we actually want the flushing aspects as previously mentioned.

Psyllium: This is as cheap a product as you can get. You can find it in bulk at many stores, such as Central Market or Wheatsville. We also have packages available for \$2.

2 week plan: 2 PureClear meal replacement beverages (\$35.82 each), 2 Liquid Herbal formulas (\$34 each), 1 Liver-G.I. Detox (\$22.20), and 2 pouches of psyllium (\$2 each) = \$165.84

4 week plan: 4 PureClear meal replacement beverages (\$35.82 each), 4 Liquid Herbal formulas (\$34 each), 1 Liver-G.I. Detox (\$22.20), and 4 pouches of psyllium (\$2 each) = \$309.48