

Guide to Detoxification

by Erica Elliott, M.D.

We live in a chemical soup of toxins that can undermine and overwhelm our bodies' neurological, endocrine, and immune systems. Lowering the body burden of toxins allows the body to repair itself. People suffering from toxic overload may experience a wide range of symptoms, such as fatigue, inability to think clearly and mood disorders. One piece of the puzzle that is often missing in the treatment of chronic illnesses is toxic overload which can undermine effective immune function.

The liver

The liver is the body's primary detoxifying organ. There are 2 pathways through which toxins travel in the liver: Phase I and Phase II. Phase I utilizes an enzyme called cytochrome P450. This enzyme system alters the toxic chemical, preparing it for Phase II. In Phase II, the toxins are conjugated, or attached, to molecules that make the toxins water soluble and thereby ready for excretion by the gallbladder and the kidneys. Most problems occur in the Phase II pathways where commonly occurring impairments result in the build up of toxins as they wait to be processed. This overload leads to the production of free radicals and results in damage to the liver itself, as well as other organs in the body. The central and peripheral nervous system is particularly susceptible to free radical damage.

Liver support

Minimizing toxic exposures, including mycotoxins from molds, heavy metals, and petrochemicals, will unburden the liver and make detoxification more effective. At the end of the article, there is a list of books which can help guide you toward making your home and workplace less toxic.

Certain supplements can support the liver in the detoxification process.

Anti-oxidants

- Buffered vitamin C, begin 500mg 3 times a day and increase the dose to "bowel tolerance".
- Trace minerals, including selenium 200mcg, zinc piccolinate 30mg, magnesium citrate 400-600 mg. (too much magnesium can cause diarrhea)
- Vitamin E in the form of mixed tocopherols, 400 IU daily.
- Alpha-lipoic acid 200mg twice daily can lessen the oxidative stress from free radical damage.

Molecules needed by the liver for conjugation of toxins in Phase II

- Methyl groups (B-12, B-6, folic acid) Take B-complex 100, once a day.
- Sulfur (MSM 1000mg twice daily; eat sulfur-rich foods which are listed below)
- Glycine (DMG or TMG sublingual)
- Glutathione. (Take NAC 600 mg twice a day. NAC is a precursor of glutathione.)

Methylcobalamin is a special kind of B-12 made in compounding pharmacies. Injections into the muscle generate high levels of both the methyl donor group and also B-12 which facilitate repair of the nervous system. If you are averse to injections, nasal methylcobalamin is available at compounding pharmacies as well.

Glutathione administered intravenously has been very beneficial to many patients with chronic illness. It plays a crucial role in the detoxification pathways and is a potent antioxidant and antitoxin, as well as an immune activator and anti-inflammatory agent. It can be given as an IV push over 10 minutes in the doctor's office. Oral glutathione is not nearly as effective because it is broken down in the stomach. Glutathione can be administered nasally as well as through a mouth nebulizer, like asthmatics use. You can also take NAC, glycine and glutamine capsules, the building blocks of glutathione, so your body can make it on its own.

Dry Sauna

One of the most effective tools I have found for individuals recovering from chronic illness is the dry sauna. When the body heats up, toxins are mobilized from storage in the organs and body fat and released through the sweat. If you decide to embark on a sauna program, consult with a physician who is experienced in the use of sauna. Below are some basic guidelines. For more detailed information, refer to *Detoxify or Die* by Sherry Rogers, M.D. (Prestige Publishing)

- Increase the time and temperature in the sauna gradually, based on tolerance.
- For heat intolerant people, it is important to use the infra-red sauna which is very effective at mobilizing toxins, even at low temperatures. It is not absolutely essential that you sweat while in the sauna to detoxify. Most of my patients use the infra-red sauna.
- If you detoxify too quickly, it will overwhelm your organs of detoxification, particularly the liver and kidneys, and you will feel tired and depleted. If that happens, cut back on the time and temperature and increase them more slowly.
- If you do not sweat, no matter how long you stay in the sauna, use caution to not over heat your body. Again, increase your time and temperature very slowly
- Try using the sauna every other day, or as often as you are able, for at least 6-12 months in order to notice a major improvement. After this period of time, if you have noticed a benefit from the sauna, continue using it indefinitely in order to avoid the re-accumulation of toxic chemicals.
- During and after each session in the sauna, be sure to drink plenty of purified water, enough so that your urine is light in color. Water is important throughout the detoxification program so that the toxins that have been mobilized in the blood are diluted and can be filtered easily through the kidneys. A rough estimate for water consumption on the days one is using the sauna is one liter per 50 pounds of weight per day.
- Find a good source of absorbable minerals to replace what is lost in the sweat. Mineral depletion can cause profound fatigue. (See resource list)
- Avoid constipation, especially while doing a sauna program, since the toxins that stagnate in the gut can be reabsorbed through the intestinal lining and return to the blood. Try to have a normal sized bowel movement at least once every 24 hours.

Vitamin C, magnesium, freshly ground flaxseeds and psyllium husks are effective aids for constipation, and can assist in cleansing the bowels.

- 30 minutes of aerobic exercise before using the sauna, provided you have the energy, increases the effectiveness of the sauna, but is not essential.
- Shower after the sauna to remove toxins from the skin so that they don't reabsorb or cause a rash.
- If you purchase your own sauna, be sure to research what the sauna is made out of. It would defeat the purpose to breathe in glues, formaldehyde from particle board, and other toxic materials. Choose a hypoallergenic source of wood such as poplar. Some people react to the terpenes in pine and cedar. Suggestions are made in the resource list.

Detox baths

If you do not have access to a sauna, there are other ways to induce sweating, including the **detox bath**. Every evening before bed, sit in a hot, chlorine-free bath with 1/2 cup of baking soda and 1/2 cup of Epsom salts. If you cannot afford a whole house filter which removes chlorine, you can use an inexpensive, replaceable filter on the shower head and run the bath water from the shower head. The water should be as hot as you can tolerate without harming yourself. Stay in the bath until the water cools off, or until you begin to feel uncomfortable, whichever comes first. After stepping out of the bath, cool down slowly to prolong the opportunity for sweating.

Caveat: Sauna and detox baths are contraindicated for people who are pregnant since the elevated temperatures can harm the fetus. Certain medical conditions, including psoriasis, multiple sclerosis, and some other auto-immune diseases are exacerbated by the heat. If in doubt, consult a physician knowledgeable about heat therapy.

Colon Cleansing

- Daily colon cleansing for a week each month during a detoxification program can be beneficial. You can buy a colon cleanse kit from the health food store. It should include bentonite clay and psyllium husks as well as other herbs. Follow the directions carefully.
- Some people benefit from doing one or two **colonics** during this period of detoxification. This involves flushing out the lower intestine with copious amounts of water by a trained specialist.
- Organic coffee enemas have helped many people feel better. These can be done as frequently as every day. For guidelines on how to do coffee enemas, refer to *Wellness Against All Odds* by Sherry Rogers, M.D. (Prestige Publishing)

Nutritional Support

1. During any detoxification program it is important that you take adequate amounts of vitamins, minerals, antioxidants, essential fatty acids, and digestive enzymes.
2. It is preferable that every meal, whether vegetarian or not, has an adequate portion of protein. A rough guide for what constitutes an individual portion is the amount that

can be placed in one's open hand. For example, about 1/3 cup of uncooked beans per person, an egg or two, a couple slices of cheese, a handful of nuts or seeds, or about 3-4 ounces of meat or fish per person. The protein provides the amino acids that are crucial for the liver during the detoxification process.

3. Eating fish can be an added health risk. Wild Alaska cod, halibut or salmon are less contaminated than many other fish. If you want to use other kinds of fish or shellfish, read labels to determine where the seafood comes from. Generally, it is preferable to avoid farm raised seafood (including shellfish) because of the increased incidence of disease, and the use of dyes, hormones, antibiotics, and fungicides. There are websites available to track which seafood is safest. Avoid tuna and swordfish.
4. Try to eat organic food, especially from animal sources such as chicken and beef, dairy products (cheese, milk, yogurt, ice cream), and eggs. There is a bioaccumulation of toxins stored in the animal tissues from the pesticide laden grains they are fed, as well as the antibiotics, growth hormones, and female hormones. The label "natural" for chicken and beef means that no antibiotics and hormones have been given, but the animals usually have been fed grains sprayed with pesticides. Buffalo is raised organically but not certified. If money is an obstacle for eating organic, you can purchase less expensive organic food if you belong to a food buying co-op and order in bulk.
5. Eat your grains whole. Limit intake of milled grains such as bread, pasta, crackers, cookies, cakes, and boxed cereals. These foods made of flour offer little nutritional benefit and convert quickly to sugar which can result in carbohydrate craving, blood sugar swings, insulin resistance, and even diabetes.
6. Limit sugar intake. Sugars (fructose, glucose, sucrose, lactose) can temporarily impair the immune system's response to infection, increase cravings, and result in the same problems associated with refined grains.
7. Avoid sugar substitutes such as Nutra Sweet (aspartame) and Splenda (sucralose) which are known to cause neurological problems in some people. Stevia and xylitol are acceptable.
8. Wean yourself off coffee, alcohol, and sodas. Limit your liquids to filtered water, herbal teas, and freshly prepared vegetable juice. To give your immune system a boost, drink 12 ounces of freshly prepared vegetable juice daily, using ingredients like spinach, beets, cabbage, tomatoes, celery, carrots, parsley, cilantro, garlic, ginger, and lemon. If you are not able to use a juicer, then eat 5 extra portions of raw and steamed vegetables a day. Bottled vegetable juice does not provide the same benefits as freshly juiced vegetables.
9. Reduce or eliminate your consumption of fruit juice and eat whole fruits instead. Fruit juice causes a rapid rise in blood sugar levels.

10. Avoid frying food with high heat, as the oil becomes a trans fat, which is particularly unhealthy. When cooking on the stove, olive oil is fine for low heat. For medium heat, organic butter, high oleic safflower oil, or unhydrogenated coconut oil are preferable because they resist damage from the heat. Avoid all hydrogenated products which are typically found in processed foods such as chips, crackers, cookies, and other commercially prepared foods.
11. Eat iodine-rich foods such as seaweed and kelp. The iodine helps support the thyroid gland.
12. Certain herbs act like chelating agents for heavy metals, including cilantro and chlorella.
13. Eat plenty of foods high in sulfur which is also utilized by the liver to detoxify. These foods include onions, garlic, cabbage, broccoli, kale, cauliflower, and Brussel sprouts.
14. Avoid foods you suspect you may be allergic to. Many people are sensitive to dairy and gluten products (wheat, spelt, oats, rye, and barley). Other common allergens are soy, corn, and eggs. If you are unsure whether or not you have food allergies, you might do a month long trial period in which you avoid all the common food allergens and see how you feel. If you feel an improvement, re-introduce the foods one category at a time every 3 days to determine which are causing the problems.

Exercise

No article on detoxification would be complete without mentioning exercise. Exercise helps the lymphatic system excrete toxins and improves oxygenation of the tissues. Many people with chronic illness have only limited capacity for aerobic exercise, like fast walking and jogging. Find what level you tolerate and try to do some form of exercise every day. Gentle exercise like yoga, tai chi, and chi-lel can be extremely beneficial in stimulating one's own healing energy.

Suggested Reading List

- *Detoxify or Die by Sherry Rogers, M.D., from Prestige Publishing. To order call 800-846-6687. Comprehensive book on detoxification, especially regarding sauna.*
- *Wellness Against All Odds by Sherry Rogers, M.D. from Prestige Publishing. 800-846-6687. Useful for learning how to do coffee enemas for detoxification.*
- *Clear Body, Clear Mind: The Effective Purification Program by L. Ron Hubbard. This book describes a sweating/exercise purification program (mainly directed at former drug addicts) which became the model for subsequent detox programs throughout the country.*
- *Healing with Whole Foods: Oriental Traditions and Modern Nutrition by Paul Pitchford.*
- *Nourishing Traditions by Sally Fallon, Pat Connolly, Mary Enig, PhD. ProMotion Publishing, 1995. Marvelous cook book for improving your nutrition.*

- *Our Stolen Future* by T. Colburn, D. Dumanoski and J.P. Myers. This highly informative book clearly delineates the harmful effects of the many toxins that act as hormone-mimickers. Foreword by Al Gore.
- *Prescriptions for a Healthy House: A Comprehensive Guide for Builders, Architects, and Homeowners* by Paula Baker, Erica Elliott, MD, and John Banta. New Society Press. 2nd Edition, 2001. A practical guide to improving your indoor air quality. Available through Amazon.com.
- *Staying Well in a Toxic World* by Lynn Lawson. Published by Noble Press, Chicago.
- *Better Basics For The Home: Simple Solutions for a Less Toxic Lifestyle* by Anne Berthold-Bond, Three Rivers Press, 1999.

Resources

1. The vitamin/mineral/antioxidant products I use with my patients undergoing detox programs include the Daily Advantage vitamin pack which can be ordered at 800-888-1415. They are comprehensive supplements with high level of vitamin, minerals, and antioxidants. Take one packet in the morning with breakfast and one packet with lunch. For many of my patients, supplements need to be carefully customized due to allergies and other special needs.
2. I recommend Omega-3 fish oils, 2000 mg daily in addition to the Omega 3 found in the above-mentioned vitamin packets. Nordic Natural and Carlson's are both excellent brands, free of pollutants. They can be found in health food stores or can be ordered on-line.
3. I recommend Pure Synergy, a nutrient-dense green drink, for both an energy boost as well as mild chelation. It can be ordered at 800-723-0277. Take one heaping tablespoon with a glass of water or juice in the morning. This powder can also be used in the afternoon in place of caffeine as a pick-me-up.
4. Harmony catalogue is a good source of non-toxic household products, including air and water filters. 800-869-3446.
5. Two sources of non-toxic infra-red saunas are Heavenly Heat at 800-697-2862 and High Tech Health at 800-794-5355. Sunlight Sauna at 877-292-0020 makes a less expensive dome sauna which is portable. You can also get directions on-line to build your own on the cheap.

Bio

Erica Elliott, M.D., is board-certified in both family practice and environmental medicine, and practices in Sante Fe, New Mexico. She has more than two decades of experience in successfully treating people with complex and perplexing chronic ailments. Dr. Elliott has lectured extensively on nutrition, the role of hidden food allergens, environmental toxins, and detoxification with infra-red sauna. She is co-author of *Prescriptions for a HealthyHouse* (New Society Press, 2nd ed., 2001)