

## **Detoxification From the Four Main Burdens of Life**

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Before people can achieve true wellness, they must liberate themselves from certain burdens that can affect overall health. In order to build a strong foundation, it's crucial to make certain that the gut is healthy, that the liver is functioning properly, that environmental and food sensitivities are under control, and that we've taken steps to reduce the effects of stress. Our bodies are comprised of interconnected systems, and if we haven't addressed each of these areas of health, then other aspects of health may suffer as well. Furthermore, full-body wellness is also dependent upon an effective detoxification program.

This article will address why it's important to tend to each of the above areas of health and how taking care of these areas can help achieve a greater degree of success in achieving other health goals.

### **Gastrointestinal Health**

The gastrointestinal tract plays an important role in maintaining the health of the rest of the body. For example, optimal intestinal function is required in order for nutrients to be absorbed effectively. Additionally, a healthy stomach with balanced levels of gastric bacteria contributes to glowing skin,<sup>1-3</sup> periodontal,<sup>4</sup> heart<sup>5-7</sup> and cognitive<sup>8</sup> health, as well as normal levels of intraocular pressure.<sup>9-10</sup>

When the gastrointestinal tract is operating suboptimally, this can have implications throughout the body. Normally, a healthy intestinal lining serves as a gatekeeper, allowing properly digested fats, proteins and starches to enter the bloodstream. One way that substances pass into the circulatory system from the intestines is through the tight junctions (Desmosomes), spaces between cells that line the intestines that are normally sealed. However, when the intestinal lining becomes irritated, the junctions loosen and allow molecules, which are larger than those normally permitted, to pass from the intestines into the blood. This can trigger immune system reactions, since these large molecules are perceived as foreign. Additionally, this type of increased intestinal permeability or "leaky gut" syndrome is associated with environmental sensitivities, suboptimal joint, immune and pancreatic health, and gluten sensitivity. Leaky gut may also result in effects in areas as diverse as brain and cognitive function, digestive health, and feelings of lethargy or low energy.

The gastrointestinal tract also is responsible for triggering the primary immune response to orally ingested particles. This is because the gut-associated lymphoid tissue (GALT) contains 70 percent of the body's immune cells, spread along the intestine in Peyer's patches and the lamina propria.<sup>11-12</sup>

Furthermore, the Enterochromaffin (EC) cells in the intestines produce approximately 80 percent of the human body's total serotonin, indicating the GI tract plays a role in emotional well being.<sup>13</sup>

In my clinic, I routinely recommend that patients who want to support optimal GI health consume both a good probiotic, such as BioPRO™, and a combination of glutamine, DGL, N-acetyl glucosamine, marshmallow leaf and root, berberine, slippery elm, phosphatidylcholine, gamma oryzanol and cabbage powder (all found in GI Cell Support). These substances work in a variety of ways to enhance GI health by maintaining intestinal structure,<sup>14</sup> supporting duodenal and upper GI health,<sup>15-16</sup>

creating a protective layer around mucous membranes,<sup>17-19</sup> maintaining a balance of healthy GI flora,<sup>20-21</sup> gently stimulating nerve endings in the GI tract,<sup>18,22-23</sup> leading to mucous secretion that coats the delicate lining of the intestines, maintaining a healthy gastrointestinal environment<sup>24-25</sup> and supporting colon and stomach health.<sup>26</sup>

## **Liver Function**

Weighing 1.4–1.6 kg (3.1–3.5 lb), the liver is the largest internal organ in the body (the skin is the largest organ). The liver plays a crucial part in detoxification, protein synthesis and the production of biochemicals necessary for digestion. It is located in the right upper quadrant of the abdominal cavity, just below the diaphragm.

A sluggish liver can have profound effects on the state of health. A sluggish liver can be caused by a combination of different factors that impact the liver's numerous metabolic processes. One important cause of a sluggish liver is diminished bile flow within the liver, which may be due to blockages in the bile flow system. The ingestion of alcohol and drugs also can result in suboptimal liver function, as can exposure to environmental pollutants, which result in the production of free radicals. Optimal liver health is associated with enhanced energy, the absence of environmental, dietary and chemical sensitivities, healthy bowel movements, healthy cholesterol levels, being able to tolerate fatty foods, radiant complexion and a healthy weight.

To support liver health, I often suggest a combination of N-acetyl cysteine, trimethylglycine, *Scutellaria baicalensis* root extract, milk thistle, artichoke and (R)-lipoic acid (all found in HepatoGen™). N-acetyl-cysteine (NAC) increases the production of the critical antioxidant glutathione,<sup>27-28</sup> which is important for liver health. Trimethylglycine is a Phase 2 conjugating agent, meaning it helps bind water-soluble substances to toxins. This makes the molecule intended for elimination more water soluble and therefore less toxic. If the molecule is large, it is then excreted through fecal elimination with the activity of bile. Otherwise, it is excreted in the urine.<sup>29</sup>

A number of in vitro and animal studies indicate that *Scutellaria baicalensis* can enhance liver health and help promote healthy cell turnover in the liver.<sup>30</sup> Research shows that silymarin from milk thistle protects against glutathione depletion<sup>31</sup> and increases liver glutathione status.<sup>32</sup> In addition, milk thistle stimulates the production of bile,<sup>33</sup> which is significant since bile acts as a vehicle to excrete toxins into the colon and out of the body. Artichoke has a similar effect to milk thistle with regard to stimulating bile flow, which has been demonstrated in several studies.<sup>34</sup>

In any liver health program, it's also a good idea to incorporate Gallbladder Support, which includes milk thistle (silymarin), dandelion root, beet root, phosphatidylcholine, the amino acid taurine, betaine, inositol, pancreatic lipase, plus alpha-lipoic acid for antioxidant protection, vitamin C for enzyme support and magnesium. This can assist with fat digestion and bile production. The pH of bile (>7) helps neutralize the acidified stomach contents coming into the small intestine. This alkalization is in part necessary to activate digestive enzymes produced by the pancreas. Dietary fats (or lipids) and fat-soluble nutrients such as phospholipids, vitamins A, D, E and K, and carotenoids need pre-treatment with bile before they can be absorbed into the body. Bile protects the intestinal cells that line the GI tract<sup>35</sup> and has also been shown to play an important role in healthy bacterial balance in the GI tract.<sup>36-37</sup>

## **Environmental and Food Sensitivities**

If our bodies are constantly being exposed to food and environmental items to which we are sensitive, it will be more difficult to effectively address other challenges when the body is preoccupied with sensitivities. Testing for environmental and dietary sensitivities allows for individuals to take steps to reduce exposure to offending substances, thus allowing the body's energies to be directed toward other aspects of health.

## **Emotional Health**

Psychological stress can affect cognitive, immune and heart health. If we do not take steps to promote relaxation, any of these systems can be impacted. Animal and human studies have found that stress exacerbates neurological changes in the brain.<sup>38</sup>

Negative emotions and decreased social contact also are associated with development of the metabolic syndrome, as well as suboptimal heart health.<sup>39</sup>

Feelings of uneasiness also impact the immune system. Work-related stress, job loss or insecurity may affect both neuroendocrine and immune systems, with reduced natural killer cell activity reported in unemployed workers or in those with a high perception of job insecurity and/or job stress.<sup>40</sup> Night shift work also was reported to affect immune health, and relaxation techniques have proven helpful in people with immune health imbalances.<sup>41</sup>

People who want to experience enhanced relaxation and a sense of calm often take steps to support adrenal gland health. In order to better understand your adrenal health, one can use a salivary hormone test (Adrenal Function Panel). Supplementing with Cortisol Control may then help support balanced cortisol levels, as it provides a beneficial combination of Relora<sup>®</sup> (a proprietary blend of a patented extract from *Magnolia officinalis* bark and a patent-pending extract from *Phellodendron amurense*) plus Sensoril<sup>®</sup>, a patented form of Ashwagandha (*Withania somnifera*) root and leaf extract standardized to 8 percent withanolides. Relora has been found to promote normal cortisol levels in human subjects and to support positive mood and reduce nervous tension.<sup>42-43</sup>

Combining Cortisol Control with adaptogenic herbs such as *Eleutherococcus senticosus*, Ashwagandha (*Withania somnifera*), and *Schisandra chinensis* (all found in AdaptaPhase<sup>®</sup> I) can be highly effective in promoting recovery from stress and supporting normal, stable cortisol levels.<sup>44</sup> *Schisandra* and *Eleutherococcus* have been shown to increase endurance, mental performance and attention in patients with fatigue in several studies, likely by modulating the HPA axis and promoting healthy cortisol levels.<sup>45</sup>

Adding a number of other adaptogens (all found in AdaptaPhase<sup>®</sup> II) can offer additional relaxation benefits. These adaptogens include *Aralia manchuensis* for occasional fatigue, mild weakness and metabolizing fat,<sup>46-47</sup> *Rhaponticum carthamoides*, another adaptogen for mild fatigue, immune and mood support, and increased work capacity,<sup>48-49</sup> and *Rhodiola rosea*, which has effects on mild fatigue and supports mood, immune and nervous system health.<sup>50-52</sup>

## Detoxifying for Whole Body Health

If we want to achieve optimal health, we need to detoxify on a regular basis. I recommend that people detoxify at least quarterly, if not more often. I compare it to cleaning your house—if you only clean your house once a year, then dust, debris and clutter will prevail within your living environment (body).

In addition to supplementing with Gallbladder Support, as mentioned above, it is especially important to include nutritional therapy that supports all aspects of detoxification. However, any regimen that stimulates the cells to release stored toxins but does not support their elimination from the liver, gallbladder, kidneys and gastrointestinal tract can encourage the recirculation of toxins. Furthermore, fasting, without adequate nutritional support, encourages the release of xenobiotics from adipose and other tissues. This may result in significantly increased phase I activity without a concomitant increase in phase II activity, resulting in unwanted reactions especially in an individual who is already experiencing varying levels of suboptimal functioning.

The most effective approach is to use Detox 365, a multi-functional, hypoallergenic, rice protein-based supplement that is micro and macronutrient fortified to support detoxification. Detox 365 contains vitamins and minerals, amino acids, specific plant-based nutrients, multiple types of fiber, select probiotics and digestive enzymes. It also includes calcium-D-glucarate<sup>53</sup> for hormonal balance and detoxification, Maca root for energy and adaptogenic support<sup>54</sup>, and essential fatty acids from chia seed and organic broccoli sprouts. The product also features Siliphos<sup>®</sup>, a patented and well-studied phytosome combination of milk thistle and phosphatidylcholine, which greatly enhances absorption of these two essential detox powerhouses,<sup>55</sup> and Pectasol<sup>®</sup> modified citrus pectin for toxin-binding and unique immune-supportive qualities.<sup>56</sup>

## Conclusion

In order to give the body the tools it needs to function optimally, it's important to address the above factors—GI health, liver health, environmental and food sensitivities and emotional well-being. It's only by enhancing these areas that the body will have a strong foundational basis for good health. Furthermore, detoxification is essential for overall wellness.

## References:

1. Szlachcic A. The link between *Helicobacter pylori* infection and rosacea. *J Eur Acad Dermatol Venereol*. 2002 Jul;16(4):328-33.
2. Qayoom S, Ahmad QM. Psoriasis and *Helicobacter pylori*. *Indian J Dermatol Venereol Leprol*. 2003 Mar-Apr;69(2):133-4.
3. Shiotani A, Okada K, Yanaoka K, et al. Beneficial effect of *Helicobacter pylori* eradication in dermatologic diseases. *Helicobacter*. 2001 Mar;6(1):60-5.
4. *Am J Public Health*;92(11):1809-15.
5. Pellicano R, Oliaro E, Fagoonee S, et al. Clinical and biochemical parameters related to cardiovascular disease after *Helicobacter pylori* eradication. *Int Angiol*. 2009 Dec;28(6):469-73.
6. Jha HC, Prasad J, Mittal A. High immunoglobulin A seropositivity for combined *Chlamydia pneumoniae*, *Helicobacter pylori* infection, and high-sensitivity C-reactive protein in coronary artery disease patients in India can serve as atherosclerotic marker. *Heart Vessels*. 2008 Nov;23(6):390-6.
7. Ohnishi M, Fukui M, Ishikawa T, et al. *Helicobacter pylori* infection and arterial stiffness in patients with type 2 diabetes mellitus. *Metabolism*. 2008 Dec;57(12):1760-4.
8. Kountouras J, Boziki M, Gavalas E, et al. Eradication of *Helicobacter pylori* may be beneficial in the management of Alzheimer's disease. *J Neurol*. 2009 May;256(5):758-67.
9. Kountouras J, Mylopoulos N, Chatzopoulos D, et al. Eradication of *Helicobacter pylori* may be beneficial in the management of chronic open-angle glaucoma. *Arch Intern Med*. 2002 Jun 10;162(11):1237-44.
10. Kountouras J, Mylopoulos N, Konstas AG, et al. Increased levels of *Helicobacter pylori* IgG antibodies in aqueous humor of patients with primary open-angle and exfoliation glaucoma. *Graefes Arch Clin Exp Ophthalmol*. 2003 Nov;41(11):884-90.

11. Jung C, Hugot JP, Barreau F. Peyer's Patches: The Immune Sensors of the Intestine. *Int J Inflam*. Published Online September 19, 2010.
12. Valdés-Ramos R, Martínez-Carrillo BE, Aranda-González II, Guadarrama AL, Pardo-Morales RV, Tlatempa P, Jarillo-Luna RA. Diet, exercise and gut mucosal immunity. *Proc Nutr Soc*. 2010 Nov;69(4):644-50.
13. Berger M, Gray JA, Roth BL. The expanded biology of serotonin. *Annu Rev Med*. 2009;60:355-66.
14. Sacks GS. Glutamine supplementation in catabolic patients. *Ann Pharmacother*. 1999;33:348-54.
15. van Marle J, Aarsen PN, Lind A, van Weeren-Kramer J. Deglycyrrhizinised liquorice (DGL) and the renewal of rat stomach epithelium. *Eur J Pharmacol*. 1981;72:219-25.
16. Tewari SN, Wilson AK. Deglycyrrhizinated liquorice in duodenal ulcer. *Practitioner*. 1973;210:820-3.
17. Burton AF, Anderson FH. Decreased incorporation of 14C-glucosamine relative to 3H-N-acetyl glucosamine in the intestinal mucosa of patients with inflammatory bowel disease. *Am J Gastroenterol*. 1983;78:19-22.
18. Newall CA, Anderson LA, Philpson JD. *Herbal Medicine: A Guide for Healthcare Professionals*. London, UK: The Pharmaceutical Press, 1996.
19. Martindale W. *Martindale the Extra Pharmacopoeia*. Pharmaceutical Press, 1999.
20. Amin AH, Subbaiah TV, Abbasi KM. Berberine sulfate: antimicrobial activity, bioassay, and mode of action. *Can J Microbiol*. 1969;15:1067-76.
21. Sun D, Courtney HS, Beachey EH. Berberine sulfate blocks adherence of *Streptococcus pyogenes* to epithelial cells, fibronectin, and hexadecane. *Antimicrob Agents Chemother*. 1988;32:1370-4.
22. *The Review of Natural Products by Facts and Comparisons*. St. Louis, MO: Wolters Kluwer Co., 1999.
23. Gruenewald J, Brendler T, Jaenicke C. *PDR for Herbal Medicines*. 1st ed. Montvale, NJ: Medical Economics Company, Inc., 1998.
24. Stremmel W, Ehehalt R, Autschbach F, Karner M. Phosphatidylcholine for steroid-refractory chronic ulcerative colitis: a randomized trial. *Ann Intern Med*. 2007 Nov 6;147(9):603-10.
25. Cicero AFG, Gaddi A. Rice Bran and Gamma-Oryzanol in the treatment of hyperlipoproteinemias and other conditions. *Phytotherapy Research*. 15(4):277-289.
26. van Poppel G, Verhoeven DT, Verhagen H, Goldbohm RA. Brassica vegetables and cancer prevention. *Epidemiology and mechanisms. Adv Exp Med Biol*. 1999;472:159-68.
27. Banalocha M. Therapeutic potential of N-acetylcysteine in age-related mitochondrial neurodegenerative diseases. *Med Hypoth*. 2001;56:472-77.
28. Maritim AC, Sanders RA, Watkins JB. Effects of alpha-lipoic acid on biomarkers of oxidative stress in streptozotocin-induced diabetic rats. *J Nutr Biochem*. 2003 May;14(5):288-94.
29. Anonymous. Betaine: Monograph. *Alternative Medicine Review* 2003;8(2):193-196.
30. Zhao Y, Li H, Gao Z, Gong Y, Xu H. Effects of flavonoids extracted from *Scutellaria baicalensis* Georgi on hemin-nitrite-H<sub>2</sub>O<sub>2</sub> induced liver injury. *Eur J Pharmacol*. 2006 Apr 24;536(1-2):192-9.
31. Campos R, Garido A, Guerra R, et al. Silybin dihemisuccinate protects against glutathione depletion and lipid peroxidation induced by acetaminophen on rat liver. *Planta Med*. 1989;55:417-419.
32. Valenzuela A, Aspíllaga M, Vial S, Guerra R. Selectivity of silymarin on the increase of the glutathione content in different tissues of the rat. *Planta Med*. 1989;55(5):420-2.
33. Loguercio C, Federico A, Trappoliere M, et al. The effect of a silybin-vitamin e-phospholipid complex on nonalcoholic fatty liver disease: a pilot study. *Dig Dis Sci*. 2007;52(9):2387-95.
34. Kraft K. Artichoke leaf extract- recent findings reflecting effects on lipid metabolism, liver and gastrointestinal tracts. *Phytomedicine*. 1997;4:369-78.
35. Wells CL, Jechorek RP, Erlandsen SL. Inhibitory effects of bile on bacterial invasion of enterocytes: possible mechanism for increased translocation associated with obstructive jaundice. *Crit Care Med*. 1995;23(2):301-307.
36. Graham DY, Osato MS. *H. pylori* in the pathogenesis of duodenal ulcer: interaction between duodenal acid load, bile, and *H. pylori*. *Am J Gastroenterol*. 2000;95:329-336.
37. Worku ML, Karim QN, Spencer J, Sidebotham RL. Chemotactic response of *Helicobacter pylori* to human plasma and bile. *J Med Microbiol*. 2004;53(Pt 8):807-811.
38. Nation DA, Hong S, Jak AJ, Delano-Wood L, Mills PJ, Bondi MW, Dimsdale JE. Stress, exercise, and Alzheimer's disease: A neurovascular pathway. *Med Hypotheses*. 2011 Jun;76(6):847-54.
39. Tziallas D, Kostapanos MS, Skapinakis P, Milionis HJ, Athanasiou T, S Elisaf M, Mavreas V. The association between Type D personality and the metabolic syndrome: a cross-sectional study in a University-based outpatient lipid clinic. *BMC Res Notes*. 2011 Apr 5;4:105.
40. Boscolo P, Di Gioacchino M, Reale M, Muraro R, Di Giampaolo L. Work stress and innate immune response. *Int J Immunopathol Pharmacol*. 2011 Jan-Mar;24(1 Suppl):51S-54S.
41. McCray CJ, Agarwal SK. Stress and autoimmunity. *Immunol Allergy Clin North Am*. 2011 Feb;31(1):1-18.
42. LaValle J, Hawkins E. *Relora—The Natural Breakthrough to Losing Stress-Related Fat and Wrinkles*. North Bergen, NJ: Basic Health Publications; 2003:16.
43. Bhattacharya S, et al. Anti-stress activity of sitoindosides VII and VIII, new acylsterylglucosides from *Withania somnifera*. *Phytother Res*. 1987;1:32-37.
44. Kelly GS. Nutritional and botanical interventions to assist with the adaptation to stress. *Altern Med Rev*. 1999 Aug;4(4):249-65.
45. Panossian A, Wikman G. Evidence-based efficacy of adaptogens in fatigue, and molecular mechanisms related to their stress-protective activity. *Curr Clin Pharmacol*. 2009 Sep;4(3):198-219.
46. Martinez B, Staba EJ. The physiological effects of *Aralia*, *Panax* and *Eleutherococcus* on exercised rats. *Jpn J Pharmacol*. 1984;35(2):79-85.
47. Abidov MT, Grachev SV, Klimenov AL, Kalyuzhin OV. The effects of Aralox, a phytomedicine, consisting of standardized extracts of *Aralia mandshurica* (Araliaceae) and *Engelhardtia chrysolepis* (Juglandaceae), on body fat loss, lipolytic activity and adipocytes

- perilipins, in obese, non-diabetic women on a restricted calorie diet is investigated in a double-blind, randomized, placebo-controlled clinical trial. *Remedium Medical Journal, Russian Academy of Sciences*. 2005:35-47.
48. Petkov V, Roussinov K, Todorov S, Lazarova M, Yonkov D, Draganova S. Pharmacological investigations on *Rhaponticum carthamoides*. *Planta Medica*. 1988;50(3):205-209.
  49. Gerasyuta MA, Koval TN, "The experience of prolonged use of *Leuzea carthamoids* (*Rhaponticum carthamoides*) extract for the purpose of preservation and increase of mental and physical work capacities" IN: *New data on Eleutherococcus and other adaptogens: proceedings of the 1st International Symposium on Eleutherococcus* (Hamburg, 1980). Vladivostok: Far East Scientific Center of the Academy of Science of the USSR, 1982;135.
  50. Darbinyan V, Kteyan A, Panossian A, Gabrielian E, Wikman G, Wagner H. *Rhodiola rosea* in stress induced fatigue—a double blind cross-over study of a standardized extract SHR-5 with a repeated low-dose regimen on the mental performance of healthy physicians during night duty. *Phytomedicine*. 2000;7(5):365-71.
  51. Spasov AA, Wikman GK, Mandrikov VB, Mironova IA, Neumoin VV. A double-blind, placebo-controlled pilot study of the stimulating and adaptogenic effect of *Rhodiola rosea* SHR-5 extract on the fatigue of students caused by stress during an examination period with a repeated low-dose regimen. *Phytomedicine*. 2000;7(2):85-9.
  52. Spasov AA, Mandrikov VB, Mironova IA. The effect of the preparation *rodiosin* on the psychophysiological and physical adaptation of students to an academic load. *Eksp Klin Farmakol*. 2000;63(1):76-8.
  53. Heerdt AS, Young CW, Borgen PI. Calcium glucarate as a chemoprotective agent in breast cancer. *Isr J Med Sci*. 1995;31:101-105.
  54. Lopez-Fando A, Gomez-Serranillos MP, et al. *Lepidium peruvianum chacon* restores homeostasis impaired by restraint stress. *Phytother Res*. 2004 Jun;18(6):471-4.
  55. Barzaghi N, Crema F, et al. Pharmacokinetic studies on Idb 1016, a silybin-phosphatidylcholine complex (Siliphos®) in healthy human subjects. *Eur. J Drug Metab Pharmacokinet*. 1990;15:333-338.
  56. Eliaz I, Hotchkiss AT, et al. The effect of modified citrus pectin on urinary excretion of toxic elements. *Phytotherapy Research*. 2006 Oct;20(10):859-864.