

SPRING INTO HEALTH

Nutrients to Optimize Detoxification Pathways and Improve GI Function

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- I. Respect the Earth's rhythm with the changing of the seasons
 - A. Time to transition dietary patterns.

- II. EPA's NHATS Study
 - A. 79,000 chemicals currently in production
 - B. Examples: Carbamates, dry cleaning chemicals, gasoline, heavy metals, mothball/room deodorizers, paints, pesticides, petroleum/coal tar, polychlorinated biphenyls (PCB's), solvents.

- III. Physiologic Effects
 - A. Endocrine disruptor
 1. Dr. Silva's study "Something for Nothing" – 8 weak estrogenic chemicals combined at concentrations below NOEC's produce significant mixture effects.
 2. "Our Stolen Future" (book)
 - B. Neurological/neurotransmitter disruption
 - C. Immune system suppression/overactivation
 - D. Oxidative stress on all organ systems.

- IV. Examples of diseases linked to environmental exposures
 - A. Autoimmune diseases
 - B. Cancer
 - C. Multiple chemical sensitivity syndrome
 - D. Chronic Fatigue Immune Dysfunctions Syndrome/Fibromyalgia
 - E. Endocrine disorders, i.e.: hypothyroidism, PMS, severe menopausal symptoms, decreased hormone levels, infertility/declining sperm counts
 - F. Cardiovascular disease
 - G. Obesity
 - H. Irritable bowel

- V. Signs and symptoms indicating one needs to detox
 - A. Haloptosis, body odor, foul urine or stool
 - B. Skin rashes
 - C. Low energy
 - D. Abdominal bloating, indigestion
 - E. Joint/muscle pain

VI. Time for Spring Cleaning

- A. Avoid further exposure – food, water, air
- B. Cleansing to reduce body stores
 1. Avoid fasting???
 2. Consider detoxification program with a Health Care Practitioner
 3. Add important phytochemicals/vitamins via food and supplementation
 - a. Cruciferous vegetables induce Phase II liver detoxification enzymes, which inactivate potential carcinogenic compounds; also are an important source for healthy estrogen metabolism.
 - b. Cabbage and beets as important sources of glutamine. Glutamine is the fuel of enterocytes, lymphocytes, macrophages and fibroblasts. These help prevent microbial translocation and foreign proteins, etc. Also stimulates immune enhancement via increased TNF and IL-1, which are important players in anti-tumor, antiviral, immunoregulation, etc.
 - c. Beet Root fiber is also important for reducing serum and liver lipids.
 4. Increase Fiber
 - a. Soluble fibers: hold more water than insoluble fibers; are digested by gut flora, promote the growth of colonic flora, and increases fecal transit time.
 - b. Insoluble fibers: provide bulk for stool, provide most of the water retention capacity in the colon, increases fecal transit time.
 5. Important Detoxification Nutrients
 - a. Thiamine (B1): thiamine is made deficient in the presence of chlorinate pesticides and formaldehyde. It is also used in Phase-2 pathways in the liver and is needed to restore oxidized glutathione and lipoic acid.
 - b. Riboflavin (B2): Riboflavin is used in glutathione reductase pathways, which along with SOD, block free-radical damage.
 - c. Vitamin B6 (Pyridoxal 5'-Phosphate): B6 is needed to clear formaldehyde and chronic exposure to this and other toxins can cause B6 deficiency. 60% of all chemical sensitive patients are deficient in B6.
 - d. Green Tea Extract: this is a powerful herbal antioxidant shown to prevent the occurrence of cancer, including cancers associated with pesticides, such as breast and prostate. Green tea also helps to improve gut flora.
 - e. N-acetylcysteine: NAC effectively increases glutathione levels in the body.
 - f. Sulfur: critical element for detox pathways; sources: garlic, onions, apples. MSM provides a low-cost, well-absorbed sulfur source to facilitate hepatic detox.

- g. Milk Thistle extract: helps to protect hepatic cell membranes, is a powerful antioxidant, and helps to regenerate damaged liver cells.
 - h. Turmeric: is also hepatoprotective (liver).
 - i. Taraxacum root extract: dandelion root has both choleric and cholegogue effects. It is a source of choline, which assists in Phase-1 clearing.
 - j. Alpha Lipoic acid: this increases glutathione levels and also has the ability to mobilize mercury and arsenic.
 - k. Folic Acid: methylates homocysteine and co-factor along with vitamin B12 and B6 to metabolize into glutathione.
 - l. Vitamin C: antiviral and antibacterial effects. Antioxidant that protects DNA.
6. Fat soluble vitamins
- a. Vitamin A: important for GI healing and repair, thyroid function and immune system.
 - b. Vitamin E: stabilizes cell membrane
 - c. Vitamin D: involved with immune system stimulation, calcium metabolism (a key cell regulator) and cell growth.
 - d. Vitamin K: critical for bone deposition
 - e. CoQ10: protects mitochondria from oxidative stress. DNA from mitochondria aging is often the direct result of loss of mitochondria or dysfunction.
7. Key Trace Minerals
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 - 1. Magnesium: this is one of the most commonly deficient nutrients in the chemically toxic. Magnesium deficiency leads to decreased functioning of Phase-1 biotransformation.
 - 2. Zinc/Copper: for cell repair and immune system; critical for heavy metal detox.
 - 3. Selenium: critical antioxidant to increase S.O.D. and decrease oxidative stress.
 - 4. Low mineral status increases risk of heavy metal absorption and toxicity.