



## **June 2011: Lightening Up This Summer—For a Healthier Liver**

*As a sequel to my April and May 2011 newsletters on blood sugar and metabolic stress, this a short June piece on the liver. Spring and summer are the perfect seasons to think of revitalizing the liver. Spring brings bitter greens to cleanse the liver following the rich heavy meals of winter. Meanwhile, summer provides antidotes to detoxify and de-stress the liver with its vast array of rainbow-colored fresh, nutrient-dense vegetables and fruits. It is these nutrient-laden whole foods that provide the liver with the tools—vitamins, minerals, and micronutrients—needed to convert toxins for their safe elimination from the body. Because summer also brings a more leisurely pace of living, there is perhaps no better time to alter dietary and lifestyle habits for a healthier liver.*

A well-functioning liver is vital to good health because of the many important functions it performs in the body. Among its jobs, the liver helps to regulate blood sugar and the burning of fat; and, it processes and helps the body discard many toxins—drugs, pesticides, food additives and chemicals, environmental toxins, caffeine, alcohol, and toxic metals. Thus, it is the liver that bears the brunt of many of our modern dietary and lifestyle habits.

Over the past weeks in researching blood sugar and reading the lead article in the Spring 2011 Weston A. Price Foundation *Journal* on fatty liver disease, I think of one primary theme to emphasize in this newsletter—we need to think of the impact of processed foods on the liver. In summary:

*Our modern diet that relies upon refined carbohydrates and refined vegetable oils—so often consumed in convenience foods—takes a heavy toll on the liver. Refined carbohydrates and omega-6 vegetable oils such as corn, soy, and canola provide concentrated, inflammatory, empty calories but without the fiber (to slow and assist digestion) and essential neutralizing phytonutrient cofactors to allow the liver to do its job well. The speed with which empty calories are consumed—particularly from the sugar and high fructose corn syrup (HFCS) in soft drinks—exerts an enormously heavy burden on the liver. It is the calorie load, the speed, and the lack of nutritional cofactors needed by the liver to effectively process toxins that underlie the current epidemic of fatty liver disease.*

### **Fatty Liver Diseases**

Current research suggests that fatty liver disease is not just a disease troubling alcoholics. Nonalcoholic fatty liver disease affects more than 70 million Americans and is fostered by the modern American diet. The following factors are worth enumerating and repeating again. All are particularly detrimental to the liver...

1. *Refined carbohydrates such as sugar and high fructose corn syrup (HFCS), especially when consumed as soft drinks. These high-glycemic carbohydrates tax the liver because of the speed with which the liver is forced to deal with the rapid-metabolizing calories and because they lack the nutritional co-factors required by the liver for their processing.*
2. *Refined vegetable oils such as corn, soy, safflower, and canola. These are polyunsaturated, inflammatory oils that are subject to oxidative stress/free-radical damage due to their fragile double bonds. As in the case of refined carbohydrates, processing strips refined oils of their natural protective antioxidants.*
3. *The relative absence of choline in the modern diet. Choline, found in egg yolks, liver, and organ meats, is necessary for the proper transport of fats from the liver.*

The dynamics of nonalcoholic fatty liver disease is clearly explained in *A Silent Epidemic of Nutritional Balance* from the Spring 2011 WAPF *Journal*, which is available on line at <http://westonaprice.org/health-issues/2162-nonalcoholic-fatty-liver-disease>. If you do not have time or the inclination to read it in its entirety, much of the flavor is captured in the following excerpts:

*Over seventy million Americans may have nonalcoholic fatty liver disease. The disease begins with the accumulation of fat within the cells of the liver, but can progress to inflammation, the development of scar tissue, and in some cases death from liver failure or cancer.*

*Simple accumulation of fat within the liver generally proceeds without producing any overt symptoms, but it is not necessarily harmless. The liver regulates blood glucose and blood cholesterol levels, plays a critical role in burning fat for fuel, helps eliminate excess nitrogen, contributes to the metabolism of endocrine hormones, stores vitamin A, protects against infections, and detoxifies drugs and environmental toxins.*

*Any damage to the liver is thus likely to impact whole-body health. Indeed, fatty liver disease increases the risk of cardiovascular disease three-fold in men, fourteen-fold in women, and seven- to ten-fold in type one diabetics. Fatty liver is thus a dangerous silent epidemic, and... it is likely caused by the overabundance of calorie-rich, nutrient-poor refined foods and the banishment of traditional sources of choline like liver and egg yolks from the modern American menu.*

*...numerous studies have confirmed the relation between fatty liver, obesity and diabetes...the disease is present in up to three-quarters of obese people. Similar studies have shown that 45 percent of type-one diabetics and 70-85 percent of type-two diabetics have fatty liver. Moreover, even in the absence of diabetes and obesity, those with the lowest insulin sensitivity have the highest accumulation of liver fat.*

*...fatty liver disease occurs in two distinct stages. In the first...fat accumulates within the cells of the liver. In the second, inflammation, the proliferation of fibrous connective tissue (fibrosis), and eventually the formation of scar tissue (cirrhosis) ensue.*

*The totality of the evidence suggests that the initial accumulation of fat in the liver is triggered by nutritional imbalance...fatty liver seems to occur as a result of too much energy flowing through the liver without sufficient nutrients to process it. The accumulation of delicate fats, especially polyunsaturated fatty acids (PUFAs) [like corn, soy, safflower, and canola oils] increases the vulnerability of the liver to oxidative and inflammatory insults in the form of infections, toxins, or poor metabolism. These insults launch the progression from the first stage of simple fat accumulation to the second stage of inflammation.*

*The key culprits, then, are nutrient-poor refined foods, choline deficiency and polyunsaturated oils.*

*...dietary protein, methionine, and choline ...protect against sucrose-induced fatty liver disease. [This suggests, just as protein “anchors” alcohol to prevent a hangover, it is also a necessary component when we eat sugar. See May 2009 Newsletter on sugar cravings].*

*...unrefined foods supply a wide variety of interacting vitamins, minerals, and other nutritional substances that aided in the metabolism of the sugar, helping the liver to burn it for energy, store much of the excess as glycogen, and export any fat made from it into the bloodstream... supplying extra choline in the diet provides powerful protection against fatty liver, whether induced by sugar, alcohol, or fat.*

*...while there are special roles of including egg yolks, liver, and other organ meats, and spinach in the diet, as well as avoiding polyunsaturated oils and refined foods—especially sugar—there is likely to be a wide range of different diets that can promote liver health. What they all have in common is that they are ancestral diets, rich in nutrient-dense foods that we are well-adapted to...The emergence of fatty liver as a silent epidemic in the modern era is a call to nourish our livers with age-old traditional wisdom as we pursue the vibrant health of our ancestors.*

### **Strategies for a Healthy Liver**

The primary way to support the liver is through a diet rich in nutrient-dense whole foods. Bitter greens, now in season, are especially effective in cleansing the liver. Other strategies to support the liver include consuming fresh, organic (to avoid pesticides) fruits and vegetables and organic animal proteins rich in choline, while avoiding sugar, HFCS, refined vegetable oils and other refined, processed foods. So, too, will eating hearty meals early in the day, with a light supper consumed at least several hours before bedtime time. The liver cleanses the blood between 1 a.m. and 3 a.m. when it is at its peak activity. Late-night eating prevents the liver from doing its job efficiently and well (see November 2010 newsletter, *The Body Clock*).

Another aspect of liver health involves avoiding modern environment and lifestyle toxins. Do we give sufficient thought to how convenience foods combine with drugs and medications compound, creating an ever greater toxic load for the liver? Layer upon layer, toxins that burden the liver are everywhere—from synthetic prescription drugs, over-the-counter medications such as Tylenol and Nyquil, caffeine, alcohol, food additives and food colorings, pesticides in foods, and chemicals in cleaning agents.

Summer provides a time to pause, take stock, and alter dietary and lifestyle habits. Try to read labels and think of the factors in your present lifestyle that might be placing an unnecessary load on your liver. If you do not eat them already, try some cleansing bitter greens and think of shopping for fresh, organic food at a local farmers' market. For sustainably grown foods, see [www.localharvest.org](http://www.localharvest.org) and to find a local farmers' market, go to [www.ams.usda.gov/farmersmarkets](http://www.ams.usda.gov/farmersmarkets).

### **June Recipe: Watercress Bisque**

1 onion, chopped fine  
1 parsnip, chopped fine  
8 cups filtered water or rich vegetable or chicken stock  
2 bunches watercress with stems, washed and chopped  
2 tablespoons light miso or umeboshi vinegar, to taste

Simmer onion and parsnip in stock 20-30 minutes, covered, until very tender. Add watercress and simmer 3-5 minutes, uncovered. Add miso and puree with an immersion wand or in a blender. Serve with favorite garnishes. This is delicious topped with a broiled or poached fillet of fish. (For a thicker soup, add some cooked grain with the miso and puree. Or, add 4 T. agar flakes when cooking, for increased mineral nutrition.)

*Source: Pathways4Health, derived from Elson Haas.*

### **Reading Resources:**

April 2010 Newsletter, *Managing Inflammation*, <http://pathways4health.org/2010/04/04/april-2010-natural-ways-to-manage-inflammation/>

November 2010 Newsletter, *Living by the Clock*, <http://pathways4health.org/2010/10/26/november10-living-by-the-clock%E2%80%A6the-chinese-body-clock/>

*Unsaturated Oils: Structure and Food Sources*, <http://pathways4health.org/2011/01/08/unsaturated-oils-structure-and-food-sources/>

*Composition of Nut and Seed Oils*, <http://pathways4health.org/2011/01/08/composition-of-nut-and-seed-oils-2/>