

Poor Diet Means Poor Immune System

Physician author Mark Hyman, M.D., has published two books, the New York Times Best Seller *Ultra-metabolism* (released January 2006) and the recently published *The UltraSimple Diet* (March 2007), both making the link between nutrition, health and weight loss. In view of our present issue focus, we directed our interview questions towards links between immune health and nutrition.

LILIPOH: What are the main connections between nutrition and immune system health?

Dr. Hyman: The connections are enormous—and mostly, they are ignored by conventional medicine. But it's impossible to address inflammatory conditions in the body, including allergies, autoimmune disease and even aging (which can be seen as an inflammatory disease), without freely addressing diet and its impact on the body.

LILIPOH: How does diet contribute to inflammation, and how does that throw the immune system off?

Dr. Hyman: In our society, diet is the primary cause of inflammation and disturbed immunity. The two biggest problems are the consumption of refined carbohydrates and sugar and substances which negatively impact our gut immune ecology. Regarding the first, the US per-person, per-year average for sugar consumption is over 185 pounds. This promotes insulin resistance, pre-diabetes or metabolic syndromes (all of these are really synonyms), and these generate huge amounts of inflammation—leading to heart disease, Alzheimer's disease and cancer—while accelerating aging, in general.

On the second front, there are

a large group of undetected food sensitivities that lead to problems with what I've already referred to as our "gut immune ecology." There's extensive scientific literature on the role our gut plays in our immune system. A healthy digestive tract is basically a healthy immune system. That system, though, is disturbed by a diet low in fiber and by poor quality and highly-processed foods. Other insults are added by anti-inflammatory drugs like aspirin and ibuprofen, by acid-blocking drugs and by antibiotics.

LILIPOH: What's the nature of the harm to the gut from these?

Dr. Hyman: They disturb the normal function of the gut and lead to what we call "a leaky gut"—a breakdown in the normal barrier or filter that the digestive tract actually is. The digestive tract is a one-cell-thick filter that lets in the good and keeps out the bad. Sixty percent of your immune system is right inside your gut. When injured by poor diet, toxins, infections, allergens and some medications, the barrier breaks down and contents of your digestive tract leak out. With that, you get a host of complaints from eczema, to asthma, runny nose and postnasal drip—to more serious conditions such as autoimmune disease, and even heart disease and cancer.

LILIPOH: So what are we to do?

Dr. Hyman: The key to combating the insulin resistance, which affects some 80 million Americans, is to eat in a way that keeps our blood sugar evenly balanced. That means eliminating or dramatically reducing processed or refined flours and carbohydrates, including bread, rice and so forth—and further, to eliminate sugars, especially high fructose corn syrup. Then we need an "oil change"—to eliminate trans fats and most processed fats and replace them with the omega 3 fats that help directly with correcting insulin resistance. Those are found in fish oil, in small fish like herring and sardines, and in wild salmon. Fish oil capsules or flaxseed are also helpful.

Beyond that, eating more fiber helps slow blood sugar absorption. Eat more fruits and vegetables, whole grains, beans, nuts and seeds.

How you eat affects insulin levels, also. Eat smaller, more frequent meals rather than large meals. Eat breakfast every day, getting some protein. And then, exercise and take supplements such as a multivitamin and fish oil.

LILIPOH: You mentioned food sensitivities.

Dr. Hyman: I address that in *Ultra-*

etabolism. The core suggestion is to try a one-week elimination diet that excludes the most common food sensitivities: gluten, dairy, yeast, eggs, corn and sometimes soy. It's a simple experiment to demonstrate to yourself how diet is affecting your immune system.

LILIPOH: What do most people experience with this elimination diet?

Dr. Hyman: They lose weight, have more energy, their headaches go away, their joints feel better, their postnasal drip improves, their skin clears up and their digestion improves. Issues resolve very quickly by eliminating things you're usually sensitive to. You can then add them back in one by one to see which ones are troublesome for you.

LILIPOH: So what do you eat with this diet?

Dr. Hyman: Basically, whole, real foods—mostly plant-based. It's actually very easy to do. The book has many recipes. If you want, some animal protein is fine. You need to get unadulterated meat, though. For example, with beef, you need it to come from grass-fed animals. A cow grazing on the range has 500 percent less saturated fat than a feedlot cow fed corn laced with antibiotics. It needs the antibiotics to prevent it from exploding from eating all of that grain which it wasn't designed to eat.

LILIPOH: Sounds like we've got to turn the clock back.

Dr. Hyman: Yes. About 200 years. Foods invented in food labs are probably not really fit for human consumption—especially from those animals raised in industrial settings which don't allow them to eat and move naturally, and through which they end up with altered fat composition and bioconcentrated pesticides and the like. Of course, organically raised is better.

LILIPOH: Is eating healthy a luxury that not everyone can afford?

Dr. Hyman: It's actually cheaper. Certainly cheaper when you consider all the damage done by the garbage being eaten presently. What's the true cost of a MacDonald's hamburger? Add up the costs of inflammatory diseases—the pharmaceuticals, bypass surgery, and insurance premiums. Remember, insulin resistance and obesity are directly linked to cancer.

LILIPOH: Is there solid scientific evidence making those links?

Dr. Hyman: Absolutely. Insulin is a growth factor. Check out Barry Boyd's research (see sidebar). You can have perfectly normal blood sugar, but at the cost of elevated insulin levels. Our conventional diet, remember, is not normal in terms of the insulin levels it demands. So you can have the accumulated effects of decades worth of elevated insulin levels. Then you have the added antibiotics which deplete the normal gut flora impairing metabolism, and the hormones throwing your own hormone regulation off.

LILIPOH: Ouch!! So how do you help people to get out of their bad dietary habits?

Dr. Hyman: Beyond the books, there's our website: Ultrawellness.com. It offers education and on-line communities where people can support and coach each other through sharing stories, recipes and tips. Of course, the site tells about my books, as well. It would be ideal for everyone to have a nutritionist on-call, but the website and books are as close as we can come.

The Insulin/ Cancer Link

Barry Boyd, M.D., is the director of the integrated medicine program at Greenwich Hospital, in Greenwich, CT. His 2003 article, "Insulin and Cancer," appeared in the journal *Integrative Cancer Therapies* (Vol. 2, No. 4, 315-329). His article reviews evidence supporting the role of insulin and IGF (insulin-like growth factor) in promoting tumor growth. Metabolic syndrome, because it is associated with excess insulin, is implicated, as well. Boyd points out further that metabolic syndrome is associated with a chronic inflammatory state that may also contribute to tumor progression.

As a promoter of tumor progression, insulin may have adverse effects on prognosis in colon, prostate, pancreatic and particularly, breast cancer. Boyd raises the additional concern that elevated IGF may interfere with cancer therapies.

Insulin resistance and chronically elevated insulin levels (known as hyperinsulinemia) are a consequence of typical Western diet, sedentary lifestyle, and stress-related changes in neuroendocrine function. Improving cancer outcomes, Boyd says, may call for multidisciplinary, integrative approaches which include nutrition, exercise, and stress reduction.

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