



# Health Matters

Great Smokies Medical Center of Asheville

A small, occasional publication

Volume 2, Issue 4

## Speedometers, Lymphocytes and Your Health

Few people would check their car's speedometer once a year and think that doing so would protect them from getting a speeding ticket later that year.

Yet, that is exactly what many people do with their health if they rely on the laboratory serum tests routinely performed during annual physical exams to screen for health problems. Just like a speedometer reveals a car's speed at a particular moment in time, serum testing that is routinely done in physician's offices measures the biochemical status in a narrow window of time.

Routine serum testing is useful in detecting some acute health problems and to monitor chronic diseases. But, serum testing is not useful in assessing nutrient status, in large part because nutrients aren't necessarily in the serum. For example, 50 percent of the body's total magnesium is in bone and 49 percent is inside cells. Only one percent of the body's total magnesium is in the serum. Scientific research originating in the 1950s eventually led to the development of more sensitive laboratory assessment of nutritional status using white blood cells (lymphocytes) instead of serum.

Since the average life span of lymphocytes is four to six months, functional testing of nutrients in lymphocytes reveals a person's nutrient history over a far longer period of time than serum testing can.



An overwhelming amount of scientific evidence documents the ability of deficiencies of vitamins, minerals, and other essential micronutrients to suppress the function of the immune system. Suppression

of the immune function has been shown to contribute to chronic diseases such as arthritis, cancer, and heart disease, to name a few. Nutrient deficiencies also contribute to millions of people becoming the "walking wounded", going through life not ever feeling or functioning well.

Causes of nutrient deficiency include poor dietary quality, decreased absorption, and genetic defects. Certain stages of life (such as adolescence, pregnancy, lactation, and aging) and circumstances in life (such as overly strenuous or prolonged exercise, stress, prolonged or extreme dieting, and many illnesses) can create a temporary exaggerated need for specific nutrients.

One need look no further than nature for everyday examples of how people become sick or age. Oxidation is a natural process by which all matter decays. Examples of oxidation in nature are iron turning to rust, a cut apple turning brown, and a newspaper turning yellow with age.

Oxidation in the body has been shown to cause cellular damage that results in heart disease, arthritis, cancer, and virtually all chronic illnesses. It has been said that we don't age, we rust.

Some nutrients function as antioxidants to keep oxidation in check. These nutrients include the vitamins A, C, and E; the minerals zinc and selenium; glutathione, and many others.

SpectraCell Laboratories, Inc., of Houston, specializes in functional assessment of a select group of nutrients and antioxidants in lymphocytes that play vital roles in health and disease.

Virtually everyone could benefit from knowing their glutathione and antioxidant status and taking appropriate steps to correct any deficiencies.

SpectraCell's Functional Intracellular Analysis (FIA) can be used preventively to tweak and promote good health over a lifetime or to monitor the effects of a particular nutritional regimen. (cont. p.2)

## Q/A: If You Were Stuck on a Remote Island . . .

**Q:** Drs. Wilson and Wright recently put their heads together to answer this question: *Excluding a multiple vitamin/mineral formula, what five supplements would you choose to have with you (and why) if you practiced on a remote island?*

**A:** **First**, Vitamin C. Unlike nearly every other mammal, fruit bats, guinea pigs, and human beings have lost their ability to make vitamin C due to the lack of the enzyme L-gulonolactone oxidase. In fact, any pamphlet on caring for guinea pigs

comes with precautions to include Vitamin C in their diet to keep them healthy. Unfortunately, people don't come with such pamphlets to guide their care and feeding. Vitamin C has antioxidant, anti-inflammatory, and immune-boosting properties, and assists mercury detox. In high doses, Vitamin C has anti-viral and anti-cancer properties. It helps prevent platelets from sticking together, making clot formation less likely. Vitamin C is inexpensive and can



be taken orally or intravenously. It also is supplied in a liposomal base that can be given topically to dramatically help skin conditions ranging from burns to conditions of aging to mysterious rashes.

**Second**, magnesium. More than 300 of the body's enzyme systems require magnesium. Add the fact that 85 percent of the population is estimated to be deficient in magnesium and you have one effective and useful therapy: magnesium replacement. (cont. p.2)

## Lymphocytes and Health, cont.

People who take prescription drugs may find that identifying and correcting their nutrient deficiencies may enable them to decrease or even discontinue their drugs under medical supervision.

People facing an inherited pattern of disease may find that risk can be minimized by correcting nutritional deficiencies. Many inherited health problems need nutritional deficiencies for the risk to manifest, such as elevated homocysteine levels associated with heart disease that is fueled by deficiencies of vitamins B6 and B12, and folic acid.

The nutritional recommendations based on lymphocyte testing is very individualized, unlike the Recommended Dietary Allowances (RDAs) which are merely



intending to avoid a blatant deficiency state and not optimize health.

SpectraCell's functional nutrient and antioxidant laboratory tests are covered in part by Medicare. In our experience, private insurance generally follows Medicare's precedent, but we cannot speak for any specific insurance company's decision as the specifics of their contracts with members vary from policy to policy. Established GSMC patients who would like to be tested for underlying nutrient deficiencies should make an appointment for a routine non-fasting blood draw by GSMC's lab staff, and schedule a 30-minute appointment about three weeks later with their GSMC healthcare practitioner to get their test results and recommendations based on their specific deficiencies.

## Remote Island, cont.

Magnesium regulates muscle response, heart rate and rhythm, bone formation, bowel function, helps prevent kidney stones, and protects against radiation exposure. Dr. Wilson earned the title "Dr. Magnesium" when he regularly administered magnesium intravenously for asthma, PMS, high blood pressure, headaches, heart failure, etc., when he started practicing at GSMC in 1991.

**Third,** Vitamin B12. People with deficiency of hydrochloric acid (HCl) produced by the stomach are more likely to be deficient in B12. The use of prescription drugs that block HCl production in patients with reflux or heartburn can result in deficient B12 levels, as can long term vegan diets, and aging. These facts give this special B vitamin a place in our docs' top five list. Though the biggest impact is obtained through giving vitamin B-12 by injection, our testing reveals that oral or sublingual forms of B-12 can also correct less severe deficiencies, though they do so more slowly. Deficiencies of vitamin B-12 result in fatigue, anemia, asthma, menstrual problems, heart disease, diabetic neuropathy, hives, bursitis, poor memory, confusion, and various neurological problems. Many people report an energy boost from B-12 injections.

**Fourth,** EPA and DHA fish oil. Our docs find that a day does not go by that they don't recommend the use of these impor-

tant oils. Eicosapentacoic acid (EPA) and docosahexaenoic acid (DHA) are found in oilier fish (salmon, herring, and mackerel) or can be supplemented in capsule form. Fish oil fights heart disease three ways: preventing clots, improving lipids, and decreasing formation of atherosclerotic plaque in arteries. Other conditions that benefit from fish oil include retinal problems, ADD/ADHD (the brain is 60% fat), autoimmune disorders, inflammatory conditions (notably arthritis), and cancer (in particular breast, prostate, and colon). High quality fish oils such as those recommended by GSMC doctors are tested by independent third party labs to assure they are free from oceanic environmental toxins, notably mercury.

**Fifth,** Co-Enzyme Q10. If you were a carburetor, CoQ10 would be your spark plug. CoQ10 provides a spark of energy that facilitates oxygen transport to cells. CoQ10 is used to address problems associated with aging, including memory problems, and all sorts of heart problems including heart failure, angina, arrhythmias, and valvular heart disease. In addition, CoQ10 is a potent antioxidant. Research suggests that CoQ10 may be beneficial when used in high doses in treating breast cancer. It is also useful in treating allergic diseases, chronic fatigue, and any condition that would benefit from enhanced oxygenation. Some classes



## One Super Mom



If you ever doubted the impact that one person can have, we want to tell you about a woman who is called "Mom" by one of our autistic patients. When her only son became autistic after receiving mercury-preserved vaccinations, an activist was born in the person of Amy Carson.

You may find Amy speaking in Washington, D. C., communicating with one of a growing number of concerned parents, involved in her son's daily treatment, or politicking to ban mercury from future vaccines. When her friends wanted to give her a Christmas present, she asked for a public service billboard to raise the awareness of the role mercury plays in autism. She has even put her own much needed eye surgery on the back burner, choosing instead to fund her son's treatment and educate others. Amy thinks and acts globally *and* locally. Amy is the first to say that behind every great Mom is a great Dad and supportive family and friends. You can contact Amy and meet two beautiful young boys who are changing the world for the better on her website: [momsagainstmcury.com](http://momsagainstmcury.com).

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of drugs lower CoQ10 levels, including cholesterol-lowering drugs (statins), beta blockers, and sulfonyleureas that are used to treat diabetes.

**Sixth,** (*The docs snuck in an extra one!*) Vitamin H. One of the requirements for a substance to be designated as a vitamin is that it must have a deficiency state. Vitamin H is also called hope. A deficiency of hope leads to feelings of discouragement and high stress levels that can interfere with recovery. In fact, just five minutes of even recalling a past stressful situation has been shown to result in six hours of immune system suppression. That's one little negative nostalgic indulgence with a pretty big price tag. All thoughts have a downstream consequence in the physical body. Vitamin H synthesis starts gradually with awareness of habitually stressful thoughts. Once identified, (we all have them), move away from them and toward what brings you happiness. Then, simply do more of the happy thing and less of the stress thing. Use your brain . . . for a change.