The Apple Press

Caring For Tomorrow Today

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About the *Apple Press*

The newsletter of Preventive Medicine Group, the private medical practice of:

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The practice emphasizes family care, healthy eating and nutritional supplements, healthy lifestyles, anti-aging medicine, energy medicine, acupuncture and preventive medicine. This complementary and alternative medical practice also offers non-surgical therapy as an option in the treatment of cardiovascular disease.

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GLYCONUTRIENTS

Perhaps the most urgent medical research going on currently is the science surrounding how our body cells communicate. This is something with which we are not familiar since few modern physicians teach us anything about it. Let us think for a moment about the complexity of the human body. It is constructed from the cooperative combination of between 70 and 100 trillion cells! Think of the body in comparison to a large orchestra. Each bank of instruments in an orchestra is composed of expert musicians each of whom knows how to play his or her part in order to produce a symphony. However, it is the conductor who manipulates the musicians to produce his personal interpretation of what the composer intended. It is said that the conductor plays the orchestra.

Cells in the body, each of which is programmed by a genetic blueprint, can be likened to "individual musicians" grouped together to form specific body organs. The cells know exactly what they have to do but will act under the guidance of a "conductor." The conductor of the "symphony of health" is the brain where much of our bodily activity is organized automatically. We do not have to consciously activate our sweat glands, digestion and many other functions. Although we can control breathing voluntarily, when we go to sleep the conscious mechanism is unavailable. Automatic control centers in the lower brain take over the automated activity of breathing. If this were not so, we would stop breathing and die in our sleep.

We can begin to see that the "conductor" has to communicate with the organs in a two way conversation using a complex chemical language. This, however, is not the end of the story. Body cells have to communicate with each other, and in order to do this there have to be messengers that pass through blood and nerve channels. Thus, on a daily basis, the body is a veritable mass of chemical and electrical signals going on throughout our entire life span.

With this introduction to the importance of intracellular signaling in the body, we must now discuss the nature of the messengers and how their messages are received and interpreted. There are literally thousands of messengers. With some of these we are familiar, such as hormones and neurotransmitters. There are others such as kinins, interleukins, eicosanoids, and many more. Each of these is capable of carrying a specific message. The question is how is the message received and passed to the cells that become activated. That is where glyconutrients come into the picture.

In the 1960s, it was found that there

Glyconutrients (cont'd.)

are eight different kinds of sugars in the body that are used to configure the details of signal reception by cells. We are used to thinking of glucose as the sugar that is used by cells as fuel. Oxidative metabolism is the equivalent of fuel combustion and glucose is the equivalent of gasoline in an engine. The eight sugars that come under the heading of glyconutrients are not used as fuel. They have a completely different purpose. They also should not be confused with sugar as in refined sugars found in foods that should be avoided. Each of the glyconutrients consists of a chain of carbon atoms combined in different ways. They can bind together to form what may be seen as an infinitely complex array of molecules. These molecular permutations and combinations become stuck onto the outside of cells. They create a network that enables cells to receive the multitude of messages that organize our body functions.

What is interesting is that these eight sugars can actually be made in the body from glucose. The energy required for this is excessive, however. Thus, mother nature has arranged that they are present in our diet, particularly in dark green leafy vegetables like spinach. To provide a parallel, coenzyme Q10 and carnitine can both be synthesized in the body. Their essential requirements for efficient bodily functions are, however, so great that they must be picked up in our diet or through supplementation. A nutrient such as these that can be synthesized in the body but must be derived partially from diet. To complement what the body makes is known as a conditional nutrient.

Without an efficient network of signaling mechanisms in the body, the complex functions of a multi-celled organism become chaotic. This is a major cause of disease. There are thousands of articles in basic science about the extraordinary roles of these eight sugars. It is generally recognized that it can take fifty or more years for an important discovery of this nature to begin to make itself felt in the clinical field. That is where we are with glyconutrients.

It can be readily seen that a perfect diet is one that takes into consideration the role of vegetables. This is understood by everyone now, even if the prescription is largely ignored by the majority of the modern population. For many years, nutritionally oriented health practitioners have been prescribing vitamins and minerals for both prevention and therapy. This is because we recognize that they are essential to life and have to be obtained from dietary sources. The glyconutrients are the latest agents to appear on the long list of necessary substances that must be obtained at least partially from our diet or supplementation. They are conditional nutrients for which diet is the primary complementary source next to the body's own production. Supplementation is beneficial for many people as a complement to diet or for therapeutic value.

The question concerning a sufficient supply of glyconutrients is much the same as for prescribing vitamins and minerals. There are two sides of the question. First, is there a sufficiency of these essential nutrients in our food? Obviously, as discussed above, it depends on the food choices that we make and on the potential destructiveness of food processing. Second, would we require an unusually large supply of these nutrients in order to make up a deficit incurred by years of marginal malnutrition?

Anecdotal clinical research strongly suggests that supplementing these sugars is important in the treatment of many different diseases. Perhaps we can summarize by saying that the supplementary supply of vitamins and minerals encourages the repair of cellular energy machinery and that the role of glyconutrients is in organizing efficient intracellular signaling enabling the "conductor" to "play the bodily orchestra" to produce "the symphony of health."

The physicians at Preventive Medicine Group have long used nutritional approaches to help a person achieve and maintain health, well-being and bodily harmony. For many patients, this has been achieved through dietary and lifestyle changes in which a well-designed nutritional supplement program has been integrated. However, for some people, although this has taken them a distance toward optimum feeling of well-being, the goal has not yet been met. It is now recognized that the glyconutrients may be the much needed next step. For others, the introduction of glyconutrients can be beneficial from a purely preventive approach. Either way, the role of these sugars in the body should not be overlooked. They may be the very thing to help you reach your goal of feeling better, no matter how well or unwell you feel now. Unfortunately, only one manufacturing company has seized the opportunity to extract and process glyconutrients. This company has taken out patents that make glyconutrient supplements exclusive to them. However, glyconutrients remain an exciting new step in nutritional supplementation and are now being used by the physicians at Preventive Medicine Group. Ask your doctor about glyconutrients!

The Book Worm

As mentioned in the lead story on glyconutrients, refined sugars in foods are best avoided. Also, less refined sweeteners such as honey, pure maple syrup, rice bran or barley malt syrups, molasses, evaporated cane juice, etc. should really be limited. So, what to do when we want that sweet taste and don't want to overindulge? Use the herbal sweetener stevia! Some stevia cookbooks include **Stevia Sweet Recipes** by Jeffrey Goettemoeller, **Sensational Stevia Desserts** by Lisa Jobs, **The Stevia Cookbook: Cooking with Nature's Calorie-Free Sweetener** by Ray Sahelian & Donna Gates and **Stevia: Naturally Sweet Recipes for Desserts, Drinks and More** by Rita Depuydt. Stevia does not affect blood sugar and is safe for diabetics as an alternative to artificial sweeteners. It also is safe for people on a candida diet because it is not a sugar. Stevia is very potent, so do not use too much. If you do, there may be an aftertaste.

Tip Top Tips

There is no true lean beef, even if it is advertised as such. For example, beef advertised as "85% lean" is really 15% fat containing about a quarter of a day's worth of saturated fat in a 3 ounce serving. Are you eating a 3 ounce steak? Also, the industry measures fat levels after technically trimming the meat cut with a scalpel, removing the fat from outside and inside. Are you doing that at home? Is your restaurant doing that in preparation?

It is feed a cold and starve a fever and it is true. According to the *British Medical Journal*, helper T1 immune cells critical in fighting viruses become more abundant after meals. T2 cells, more efficient at fighting bacteria than viruses, increase in number when we fast. Not that we should abstain from eating with a fever, but perhaps just eat lightly. How did those old wives know these things? Now, if we could only remember which it is when the time comes!

The Wise Old Apple

Health, Peace, & Sweet content be yours!

(William Shakespeare)

Happy Holidays!

The Recipe Corner

Add maple syrup* to the batter so less is added on top avoiding the pancake island in a syrup sea for lower sugar intake. The flavor will still be there!

LUSCIOUS WHOLE WHEAT MAPLE PANCAKES

2 c. whole wheat flour or pastry flour
1/2 c. wheat germ or more flour
2 t. baking powder
1/2 t. salt (opt)
1/2 cup maple syrup*
2 large eggs
2 tablespoons canola oil
2 1/2 to 3 cups organic skim, soy or rice milk

Stir together all dry ingredients. Beat the eggs lightly and combine with milk and maple syrup. Add liquid mixture to dry ingredients and stir briefly. Stir in oil. Adjust amount of milk to result in a batter that is not to thin and not too thick. Heat non-stick griddle or frying pan or lightly coat with oil. Surface should be hot enough that a drop of water "dances." Pour batter on griddle about 1/4—1/2 cup at a time depending on the size of pancake you want. Cook over medium heat, turning once when bubbles come to the surface and pop and the edges are slightly dry. Makes 12-18 pancakes depending on size.

*(Recipe adapted from **The New Laurel's Kitchen** by Robertson, Flinders & Ruppenthal)*

***Use 100% maple syrup such as Snake Hill Farm's *(www.snakehillfarm.com)* not a grocery store maple flavored sugar syrup.**

THERMOGRAPHY

a non-x ray, non-contact alternative to mammography

What is thermography? Thermography is literally a photograph of the heat the body radiates. Unlike mammography, X-ray is not involved nor is there compression of the breast or any form of physical contact. A special camera is used to image infrared energy emanating from the body. This energy represents the metabolic features of the body's cells and tissues; abnormal tissue areas demonstrate as being areas of hotter or warmer temperature due to abnormal cellular activity or blood flow to the area. With expert interpretation of the levels and distribution of the heat, abnormal cellular features can be detected. Thermography of the breast can be used with a high degree of reliability to screen for and detect different forms of breast disease, including cancer.

Does thermography replace mammography? At Preventive Medicine Group, state-of-the-art thermography is recommended instead of mammography for routine screening of the breast for abnormalities. Usually, thermograms of the breast should be taken yearly. Preventive Medicine Group also recommends monthly self-exams and exam by the physician if there is a question on the self-exam.

Is thermography as effective as mammography? Thermography has a diagnostic power comparable to mammography and is especially effective for early detection. Thermography has greater sensitivity in women under 50 years of age. Thermography can be more effective than mammography in pre-menopausal women or post-menopausal women taking hormone replacement therapy. In cases of post-menopausal women not taking hormones, thermography will have almost as good results as the best mammography. Factors to consider in this comparison, however, are that mammography errors are most often false negatives while thermography errors are most often false positives. In cases of false negatives, no further examination is conducted because the test result was "negative" and problems continue undetected. In cases of false positives, investigation continues because the test result was "positive." Eventually, the matter becomes clarified and there is little risk of lack of detection. Another consideration in comparing thermography and mammography is the safety of thermography due to lack of radiation, even at low doses. Because thermography detects potential cellular change at a very early stage, the physicians at Preventive Medicine Group can recommend natural therapeutic approaches that very often normalize the situation before more serious changes develop. This is perhaps one of thermography's greatest strengths.

Why isn't thermography used more commonly? Thermography has been developed over the past several decades in major medical universities and women's clinics around the world. It is the method of choice in screening for breast disease in most of the developed countries. The United States and Canada have lagged behind in applying this completely safe and sensitive technique because of poor results from false starts in early stages of experimentation and complacency with mammography. However, with the development of objective criteria in 1975 by the prestigious Pasteur Institute in France and new digital equipment, thermography has emerged as a proper science and a reliable means of screening for early breast disease. The National Cancer Institute has reconsidered its past judgment on thermography and has funded several large-scale clinical thermography projects. Recent publications in prestigious medical journals have validated and recommended the use of thermogaphy in detecting breast disease.

Preventive Medicine Group offers thermogaphy utilizing the *very* best of state-of-the-art digital equipment available for the most accurate and reliable assessment. Through 12/31/06, we are offering thermography at a reduced fee on a promotional basis. For further information, call (440) 835-0104 and request a thermography information packet!