

From our good friends at **Back to Herbs** 12/20/07

Dear Health Enthusiast:

As the Back to Herbs team continues to focus on the innovative products that NSP has to offer, an interesting way of thinking is that “What you know is not as important as what you do with what you know (1).” It is our hope that you will continue to utilize the information we provide to educate those you come in contact with each and every day. Please forward the e-flashes to your friends and family as well as your NSP group.

Have you ever thought about sharing with the assistants at the dentist office the amazing effects diodes have on Electromagnetic Radiation, etc? How about the ladies at the eye doctor? We have found that by sharing the work we are so excited about with those we come into contact with on a daily basis, we are able to make a monumental difference in the lives of others around us. What about giving a bottle of Thai Go as a Christmas gift? What a better gift than the gift of health!

We take for granted the information that we have known for so long, yet the vast majority of the population has never been truthfully educated about. For instance, the negative effects of immunizations, the contamination in the public water supply, much less the potential lethal effects of prescription medication...just to name a few. It is interesting to note that when a medical doctor takes the Hippocrates Oath it states that they will “...DO NOT HARM!” yet the 4th leading cause of death in the United States comes directly from the western medical approach to healthcare! There is something critically wrong with this picture.

In 2003 The **Massachusetts Institute of Technology (MIT)** published in its Technology Review an article discussing “The Ten Technologies that Will Change the World.” Among this list was the emerging scientific field called Glycomics. Glycomics is defined as “...the study of the roles of sugars and sugar-containing molecules in health and disease (2).” This amazing field of study is the basis of this supplement in focus...Glyco Essentials.

Glyco-Essentials
NSP’s Sugar-Coated Messenger

Stock # 876-5

By Chris Ritchason and Patti Keplinger RN BSN

Cellular Communication 101

In this era of technological advances, the basic foundation of the human body continues to depend on the uninhibited ability of its cells to communicate with one another. Cells perform many essential duties in our bodies. They “...roam around in our blood, come together to make organs and tissues, help us to adjust to changes in the environment and perform a number of other important tasks (3).” In order to have a healthy body, one must have “healthy cell to cell communication (4).”

Our bodies were intended to be equipped with the necessary components to live healthy and free of disease. When bombarded with the plethora of toxins that fill our world today, it is imperative that individuals are equipped with adequate tools to ward off unwanted invaders that directly impact the human body at the most basic cellular level...and the supplementation with the 8 essential saccharide sugars might just be the key ingredient that is missing.

“From the very beginning of life, cells communicate with each other using these sugars on the surface of the cell, which holds the complex system of the human body together – and keeps out what doesn’t belong (5).”

The Sugar Connection

In looking at the cell under an electron microscope, researchers were able to isolate and identify that “every cell in our bodies-all 600 trillion of them-are coated with glycoconjugates; a mixture of carbohydrates, fats, and proteins. These molecules protrude from the cell surfaces like delicate hairs...Scientists now know that each cell uses the carbohydrates on its surface to communicate-both giving and receiving information about its status (6)”

There are many schools of thought on the effectiveness of glyconutrients. It is evident through the vast array of clinical studies performed since the 1980’s that “... **these sugars are absolutely essential for proper cellular survival and function** . Without them, our cells, particularly our immune system cells, do not work at optimum levels (7).” It is imperative to note that “...if immune system cells and blood vessel cells are communicating in a pathological way that causes chronic inflammation, as the new research from the Karolinska Institute indicates, it is reasonable to suggest that glyconutrients might be able to normalize these cellular signals (8).”

In his book *Sugars that Heal: The New Healing Science of Glyconutrients*, Emil I. Mondo, MD states that "...saccharides enable cells to give and to receive instructions, respond to each other's needs, know when to stop multiplying, and respect each others space. Virtually every change within our multi-cellular bodies, from conception until death, is to some degree mediated by this language of sugars (9)."

According to Reg McDaniel, MD, "...when you add these nutrients back to your diet, things improve because they're involved in essential synthesis of molecules that carry out bioactivity in the body, including defense, repair, healing, and regeneration." Rita Elkins, in her booklet entitled *Miracle Sugars: The New Class of Missing Nutrients* makes a very true statement stating, "...when given the right tools, the human body has an enormous capacity to correct and heal itself. Each cell needs all of the essential sugars. The fewer the body has to convert on its own, the faster the reaction time for promoting and maintaining health (10)."

"In cell-to-cell instructions, essential sugars are so much involved at the membrane level and with cellular receptors that, when they are deficient, you get attention deficit hyperactivity disorder (ADHD), depression, chronic fatigue, fibromyalgia and higher instance of diabetes and neurodegenerative disorders (11)" as well as increased autoimmune diseases, decreased memory, allergies, asthma, an increase in chronic infections, etc. There is a great deal of research that discusses each of these disorders at length and the positive effect that supplementation with glyconutrients has on them.

Here are just a few examples of the exciting possibilities of glyconutrition:

- **Drastically raises natural killer cell and macrophage count against infectious organisms**
- **Activates immune T-cell activity only when invaders or antigens are present**
- **Decreases cell death in chronic fatigue syndrome**
- **Dramatically elevates disease resistance in weakened individuals**
- **Acts as antioxidant compounds, which boost the collection of dangerous free radicals**
- **Protects the body against toxin and pollutant exposure**
- **Slows premature aging**
- **Decreases inflammation in diseases like rheumatoid arthritis**
- **Helps immune cells recognize invaders due to a mutual "sugar exchange" of info**
- **Enables cellular communication to stick to each other initiating the right reactions (12)**

Miracle Sugars: The New Class of Missing Nutrients by Rita Elkins, MH p. 20

Stem Cell Production Enhanced

Even a topic as controversial as stem cell supplementation has clinical studies to back the effectiveness of the use of glyconutrient supplementation to enhance ones own body to produce its own stem cells. This could indeed be the missing link in the stem cell debate since the stem cells are not coming from an outside source. It might be interesting to note that at one point there were "...numerous reports from around the world of Alzheimer's, Parkinson's and stroke sufferers making remarkable recoveries. Diabetics were producing insulin again and transplant recipients no longer needed anti-rejection drugs (13)." It is written that **according to the Fisher Institute of Medical Research, all of these individuals who had drastically improved health conditions were taking some type of glyconutrient supplementation**. "When they measured before and after stem cell counts in the blood, virtually none were detected prior to consuming Glyconutrients. Within a week of consuming Glyconutrients, trillions of stem cells can be found. This is amazing since to date there has never been a product that stimulates stem cell production (14)."

Stem Cells Defined

The National Institutes of Health states that stem cells "Have the remarkable potential to develop into many different cell types in the body. Serving as a sort of repair system for the body, they can theoretically divide without limit to replenish other cells as long as the person or animal is still alive. When a stem cell divides, each new cell has the potential to either remain a stem cell or become another type of cell with a more specialized function, such as a muscle cell, a red blood cell, or a brain cell (15)."

There is a great deal of information available on the following web site:

<http://stemcells.nih.gov/info/media/verfaillie.asp>. It provides a great deal of more in-depth information on the topic of stem cells. Dr. Catherine Verfaillie is the director of the Stem Cell Institute at the

University of Minnesota. "Her rigorous studies aim to determine whether stem cells can eventually be used for so-called "**regenerative medicine**," in which ailments in the human brain, heart and liver, for example, can be cured (16)." It will be interesting to follow the

International research being done on the topic of stem cells and note the beneficial effectiveness of glyconutrient supplementation on the

production of adult stem cells within the human body itself.

Given the fact that “stem cells, then, are a foundational component of our body’s amazing ability to heal, repair and rejuvenate itself (17)” it would make sense that if their ability to communicate among themselves were improved then the human body would be a more efficient mechanism for staying well in the manner in which it was designed...healing itself!

Components of NSP’s Glyco Essentials

In researching the glyco-nutrients, it is apparent that the 8 saccharide sugars are the cellular communication tool that will assist the body in healing itself. NSP’s amazing “sugar-coated supplement”, Glyco-Essentials, is a blend of these eight individual glyconutrients which include: fucose, glucose, galactose, N-acetylgalactosamine, N-acetylglucosamine, N-acetylneuraminic acid, mannose and xylose which are derived from from aloe vera extract, tragacath gum, arabinogalactan, beta-glucan, shiitake mushroom extract, cordyceps mushroom extract, maitake mushroom extract, glucosamine sulfate, ghatti gum, guar gum and rice starch.

The 8 Sugars Defined...

Glucose and Galactose are the only two of the 8 essential sugars that are readily available in our diets. Glucose is converted from white sugar, fructose, and starchy foods. Galactose comes from the conversion of lactose (milk sugar) and is easily obtained from dairy products and some fruits. Persons who suffer from lactose intolerance do not synthesize this readily and it may be due to a dietary lack of galactose.

Fucose, not to be confused with fructose (fruit sugar), is “...abundant in human breast milk; seaweed; including wakame and kelp; several medicinal mushrooms; beer yeast and glyconutritional supplements...Research shows fucose plays a vital role in both overactive and underactive immune systems and can bring them into balance (18).” This essential saccharide has been linked to enhanced wound healing, decreased inflammation, increased calcium absorption, important reproductive functions, helping fight infection (especially of the respiratory tract), as well as thwarting allergic reactions. Interestingly enough, it has also “...been linked to keep[ing] skin at the proper moisture level (19).” It is written that fucose is also essential for proper kidney function.

N-acetylgalactosamine (NAGal) -One interesting fact about this sugar is that “...studies have shown those with heart disease have lower-than-normal levels of this saccharide (20).” It is also written that it might play an imperative role in high-functioning visual acuity.

N-acetylglucosamine (GlcNAc or NAG or GlcNAc) ...If you note the root word “glucosamine!” Yes...glucosamine...which is derived from glucosamine sulfate which is one of the key components of the product “Everflex” I did not realize that this was one of the eight essential sugars until examining them at greater length. What a concept!

N-acetylneuraminic acid (NANA) - This saccharide is said to be an effective anti-flu virus agent if used early enough according to Scientists at the Biomolecular Research institute in Victoria, Australia. Another study stated that “...a N-acetylneuraminic acid mixture was up to 1,000 times more effective in fighting the influenza virus than potent anti-viral drugs (21).”

Mannose was the first of the glyconutrients to be defined and is “...considered the most significant of the essential sugars for optimal health. It is involved in more cell actions than any of the other essential sugars, and deficiencies of mannose can lead to a host of physical problems (22).” There are many functions of mannose which include aiding in cellular communication; inhibiting tumor growth; preventing parasitic, bacterial, viral and fungal infections; and fighting inflammation just to name a few.

Xylose – “The common sugar substitute Xylitol, is the alcohol formed from fermenting xylose with yeasts...however, it cannot replace the necessary xylose (23).”

It is essential to build a firm foundation with regards to ones health and work to prevent unwanted symptoms from appearing. “Glyconutrients tend to work better in preventing problems than in treating them (24).”

There are many disease processes that have shown positive effects if not curative effects from the use of the eight saccharide sugars. There are many testimonials from credible sources that describe the life changing benefits of this type of supplementation. Remarkable testimonies associated with Autoimmune Diseases such as Lupus, Multiple Sclerosis, Diabetes and Rheumatoid Arthritis top the list. Many other ailments have been studied with a beneficial effect using glyconutrients including: ADHD, Allergies, Asthma, Auto-Immune Diseases, Brain and memory function, Cancer, CFS, Cardiovascular Diseases, Diabetes, Fibromyalgia, Inflammation, Healing Skin Disorders, Burns, and Wounds, Immune System Enhancement, Pulmonary Diseases, Syndrome X, and others.

It is written that glyconutrients can induce cellular healing in pulmonary diseases. “Glyconutrients fight free radicals by generating antioxidants...[and] some studies indicate that glyconutrients mitigate coughs and serve as an expectorant, increasing secretions and that more easily allow the lungs to expel mucous (25).”

As a result of NSP's Glyco Essentials, the cellular communication tool that will assist the body in healing itself.

absorption, aiding in cellular communication, and playing a role in building enzymes, hormones, and antibodies.

The RECOMMENDED USE as stated on the label of Glyco Essentials is to take 1 capsule two to three times daily for maintenance or to take 1 capsule five times a day during times of stress.

Products that might be taken in addition to the Glyco Essentials include: Food Enzymes, Proactazyme® Plus, Thai-Go®, Super Supplemental Vitamins and Minerals.

Please continue to share your testimonials with us...

“We’re here because we care!”

Health to you,

The Back to Herbs Team
Chris Ritchason and Patti Keplinger RN BSN
With Dr. Jack Ritchason ND

Works Cited:

1. Somersall, Allan C., et al. (2005). The Healing Power of 8 Sugars. Mississauga, Ontario: The Natural Wellness Group, p. 29.
2. Breakthroughs in Health. (September 2006). Volume 1 Issue 2, p. 77.
3. Ibid p. 44.
4. Ibid p. 43.
5. Retrieved December 17, 2007 from: http://www.newsun.net/catalog/product_info.php?products_id=627
6. Breakthroughs in Health. (September 2006). Volume 1 Issue 2, p. 77.
7. Elkins, Rita. (2002), Miracle Sugars: The New Class of Missing Nutrients. Pleasant Grove, UT: Woodland, p. 5.
8. Breakthroughs in Health. (September 2006). Volume 1 Issue 2, p. 35.
9. Mondo, Emil I., and Kitei, Mindy. (2001). Sugars that Heal: The New Healing Science of Glyconutrients. New York: Ballentine, p. 13.
10. Elkins, Rita. (2002), Miracle Sugars: The New Class of Missing Nutrients. Pleasant Grove, UT: Woodland, p. 13.
11. Breakthroughs in Health. (September 2006). Volume 1 Issue 2, p. 45.
12. Elkins, Rita. (2002), Miracle Sugars: The New Class of Missing Nutrients. Pleasant Grove, UT: Woodland, p. 20.
13. Retrieved December 17, 2007 from: <http://www.potentherbs.com/shop/glyconutrients.html>
14. Retrieved December 17, 2007 from: <http://www.potentherbs.com/shop/glyconutrients.html>
15. Somersall, Allan C., et al. (2005). The Healing Power of 8 Sugars. Mississauga, Ontario: The Natural Wellness Group, p. 257.
16. Retrieved December 18, 2007 from <http://stemcells.nih.gov/info/media/verfaillie.asp>
17. Somersall, Allan C., et al. (2005). The Healing Power of 8 Sugars. Mississauga, Ontario: The Natural Wellness Group, p. 257.
18. Breakthroughs in Health. (September 2006). Volume 1 Issue 2, p. 77.
19. Ibid.
20. Ibid p. 79.
21. Elkins, Rita. (2002), Miracle Sugars: The New Class of Missing Nutrients. Pleasant Grove, UT: Woodland, p. 30.
22. Breakthroughs in Health. (September 2006). Volume 1 Issue 2, p. 78.
23. Somersall, Allan C., et al. (2005). The Healing Power of 8 Sugars. Mississauga, Ontario: The Natural Wellness Group, p. 287.
24. Ibid p. 129.
25. Mondo, Emil I., and Kitei, Mindy. (2001). Sugars that Heal: The New Healing Science of Glyconutrients. New York: Ballentine, p. 82.

Disclaimer: We do not directly dispense medical advice or prescribe the use of herbs or supplements as a form of treatment for illness. The information found on this Web Site is for educational purposes only to empower people with knowledge to take care of their own health. We disclaim any liability if the reader uses or prescribes any remedies, natural or otherwise, for him/herself or another. Historically all of these herbs & vitamin supplements may nutritionally support the bodies biological systems. Please consult a licensed health professional should a need be indicated.

Filename: BACK TO HERBS - GLYCO-ESSENTIALS 122007
Directory: F:\MY FILES STORE\NBW\NSP\MSWORD
Template: C:\Documents and Settings\Owner\Application
Data\Microsoft\Templates\Normal.dot
Title: From our good friends at Back to Herbs
Subject:
Author: UPS Station
Keywords:
Comments:
Creation Date: 1/8/2009 5:56 PM
Change Number: 1
Last Saved On: 1/8/2009 6:00 PM
Last Saved By: UPS Station
Total Editing Time: 4 Minutes
Last Printed On: 1/8/2009 6:00 PM
As of Last Complete Printing
Number of Pages: 4
Number of Words: 2,736 (approx.)
Number of Characters: 15,598 (approx.)