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Cruciferous Vegetables: Three new studies affirm the anti-cancer connection!

Although she might not have been able to explain it scientifically, your grandmother knew the importance of cruciferous vegetables to your health. A little more than a decade ago, scientists began to home in on exactly why these vegetables are so important. In 1992, researchers at Johns Hopkins University first isolated a component of broccoli called sulforaphane. Shortly thereafter, sulforaphane and other phytonutrients with complicated names like isothiocyanates and glucosinolates formed a growing list of “anti-cancer” protector nutrients in cruciferous vegetables. Three recent studies show a connection between these cruciferous protector nutrients and our risk of cancers of the stomach, breast, and lung.

Japanese research links broccoli with fight against stomach cancer

Presenting their findings at the November 2, 2005, meeting of the American Association for Cancer Research that focused on “Frontiers in Cancer Prevention,” Japanese researchers from the University of Tsukuba presented important new data. Their study showed that sulforaphane from broccoli has the ability to fight the organism known as *Helicobacter pylori*. *H. pylori* is known to cause gastritis and is considered a major factor in peptic ulcers and stomach cancer. In their study, the Japanese researchers showed that sulforaphane glucosinolate from broccoli had the ability to keep *H. pylori* at bay, causing lead researcher Akinori Yanaka to conclude that a diet rich in sulforaphane glucosinolate “may help protect against gastric cancer.”

Cabbage may fight breast cancer

Researchers from the United States and Poland have shown an anti-breast cancer link to cabbage. Cabbage, like other cruciferous vegetables, is rich in glucosinolates, compounds already demonstrated to have anti-cancer activity. At November’s prestigious American Association for Cancer Research meeting, a team of researchers from Poland and the United States showed a direct connection between cabbage consumption—raw, cooked, or prepared as sauerkraut—and the risk of breast cancer. Following a group of Polish immigrants to the United States, they found the lowest rate of breast cancer among women who consumed high amounts of cabbage during adolescence. High consumption during adulthood—three servings a week—also provided significant protection for women who had not eaten cabbage regularly during their adolescence. “The observed pattern of risk reduction indicates that the breakdown products of glucosinolates in cabbage may affect both the initiation phase of carcinogenesis—by decreasing the amount of DNA damage and cell mutation—and the promotion phase, by blocking the processes that inhibit programmed cell death and stimulate unregulated cell growth,” proclaimed University of New Mexico researcher Dorothy Rybczyk-Pathak

Lung Cancer—less likely with cruciferous vegetable consumption

Scientists at the International Agency for Cancer Research have determined that while cruciferous vegetable consumption is good for all of us, some of us get more for the effort. Focusing on two specific gene-types common in the population (GSTM1 & GSTT1), they showed that weekly consumption of cruciferous vegetables equated to lung cancer risk reduction ranging from 33% for GSTM1 to 72% for GSTT1. In a research letter published in the October 28, 2005, issue of *The Lancet*, lead researcher Dr. Paul Brennan states: “These data provide strong evidence for a substantial protective effect of cruciferous vegetable consumption in lung cancer.”

Healthy fruit and vegetable compounds are being lost to processing!

According to research published in the November, 2005, issue of the *Journal of Food Chemistry*, researchers from Wageningen University in Holland have shown that nearly every phase of fruit and vegetable processing from “farm-to-fork” reduces the level of the healthy phytonutrients these foods contain. It is well known that levels of vitamins in fruits and vegetables decline with processing, but this new data showing the same is true for phytonutrients is worrisome, particularly for glucosinolates. “Consumers can see the color and other quality markers” says lead researcher Dr. Ruud Verkerk, “but not the healthy components.”

The importance of cruciferous phytonutrients to optimal health has been well established by members of the Scientific Advisory Board (SAB) since before GNLD introduced Cruciferous Plus™ a decade ago. Formulated using whole-food extracts of broccoli, radish, kale, and other cruciferous vegetables, Cruciferous Plus delivers the phytonutrient protection of a whole serving of cruciferous vegetables, including sulforaphane, glucosinolates, indole carbinols, and several related compounds. Cell culture studies following U.S. National Cancer Institute protocols showed that the active compounds in Cruciferous Plus could protect cells from cancer-causing biochemicals as well as increase the cells’ ability to protect themselves by “up-regulating” their protective phase-2 enzyme capacity.

It has never been easy for the vast majority of people to make cruciferous vegetables a significant part of their daily diet, and thus deficiencies are widespread. With the latest research confirming the benefits of cruciferous phytonutrients—while at the same time pointing out that, due to processing, we might not be getting as much of them as we thought—the benefits of supplementation become all the more obvious.

Factoid: In an article published in the November 19,, 2005, issue of the British medical journal *The Lancet* (Vol. 366, Number 9499), Harvard University researchers show that low fruit and vegetable consumption is the third leading cause of cancer worldwide, right behind smoking and alcohol consumption. .

Omega-3 fatty acids boost heart health protection of statins

Research presented at the November, 2005, American Heart Association Scientific meeting showed that omega-3 fatty acids are “heart smart” even for those already taking a statin drug such as Lipitor, Crestor, or Zocor. The data came from 18,645 participants in a long-term study investigating the effects of the omega-3 fatty acid EPA (eicosapentaenoic acid) plus statins versus statins alone. The results showed that the combination of statins plus EPA provided a 19% reduction in a variety of adverse heart events compared to the statin-only group. Dr. Mitsuhiro Yokoyama, chief of Cardiovascular and Respiratory Medicine at the Kobe University Graduate School of Medicine, concludes, “These results appear to justify the use of fish oil/omega-3 fatty acids since they can add to the beneficial effects.” The researchers also pointed to evidence that the beneficial effects of EPA and statins are even more convincing for people with a history of coronary artery disease.

The importance of omega-3 fatty acids to cardiovascular health is one of the driving forces behind GNLD’s Omega III Salmon Oil and Omega III™ Concentrate. Both products deliver the same amount of EPA found in a serving of fresh fish and in exactly the same bio-functional form. Imbalances in the average dietary fatty acid consumption, resulting from far too little omega-3 fatty acids intake, undermine optimal health on several levels. Cardiovascular health should remain a very high priority, and we all need to exercise heart-healthy choices. But a complete, health-affirming strategy *must* include supplementation and GNLD’s Omega III supplements have been researched and developed to bridge dietary gaps.

Note: Anyone under the care of a physician for serious cardiovascular health concerns should make sure to advise that person of any decisions to make dramatic changes in fish consumption or omega-3 supplementation.

Soy protein and women: Important study reaffirms the connection

According to researchers from Johns Hopkins University presenting data at the November 15 meeting of the American Heart Association (AHA), consuming soy protein (20 grams per day for 6 weeks) reduced two strong indicators for coronary heart disease in postmenopausal African American women. The study, which followed 216 Caucasian and African-American women, was funded by the National Heart, Lung, and Blood Institute (NHLBI). The results show that LDL-cholesterol and another cholesterol marker known as LDL-P (P=particle number) were decreased in women taking soy protein, regardless of age or race. With an estimated 44.7% of African American women having some form of cardiovascular disease, this message is of particular importance.

GNLD has known the value of soy proteins to a healthy diet for decades. Anyone looking to add the heart-health advantages of soy proteins to their diet can find it in many GNLD protein supplements. Our 100% Vegetarian Protein supplement provides the most with 16 grams per serving, while a serving of our GR² Control® Meal Replacement Protein Shake delivers 10 grams.

High fat/low carb diets rob energy stores in the heart!

Oxford University researchers presenting at the November American Heart Association Scientific meeting advised that high fat/low carb diets, such as the once popular Atkins diet, actually undermine the heart’s energy stores. “The heart requires energy for contractions,” explained Dr. Damian Tyler. “You do see similar patterns in a more severe form in patients with heart failure, and type 2 diabetics also suffer from lower energy stores.” The long-term meaning of this research will take some time to define. It is clear, however, that high fat/low carb diets do affect the heart.

High protein and less carbohydrate may cut heart risk

Another study presented at the American Heart Association Scientific meeting, and published in the November 16, 2005, issue of *JAMA* (Journal of the American Medical Association – vol. 294, pp 2455-2464) looked at the value of replacing carbs in the diet with protein. Comparing a controlled diet rich in carbohydrates to the same diets but with 10% of those carb calories replaced with protein or olive oil, the Johns Hopkins University researchers discovered a protein advantage. Each diet was found to lower blood pressure and LDL cholesterol and reduce coronary heart disease risk. Overall, though, the protein-rich diet showed the greatest heart protection benefit with a 21% risk reduction, compared to 16% for the carb diet. Additionally, the protein diet had a direct benefit on triglyceride levels, reducing them more than either of the other two diets.

The importance of balanced protein/fat/carbohydrates ratios in the diet is a fundamental scientific concept behind GNLD’s GR² Control Meal Replacement Protein Shakes and the entire GR² Control Weight Loss Program. SAB members knew at the outset of the development of the GR² program that striking the correct balance was critical. They strove for a balance that not only supports optimal weight loss, but also delivers just enough carbohydrates to control Glycemic Response (GR) without compromising carbohydrate energy stores for key muscle functions, such as heart contractions. As a result, GR² Control users report not only great weight loss, but also better blood sugar, better cholesterol control, and more energy throughout the day.

Factoid: According to a recent report from The Natural Marketing Institute (NMI), consumers are getting the message about the importance of diet to health, but are not following through with behavior. While 86% of consumers believe there is a definite connection between diet and health, less than 50% select foods on that basis, while 45% say they know they should make healthier food choices but don’t!

Calcium & Athletic Performance

As modern athletes look toward more specialized nutritional support to gain a competitive edge, they often overlook some very basic nutrients that are needed for peak performance.

Roles of calcium

Sure, it's important for athletes to focus on specific nutrients they think may help improve performance, but all too often they forget the more obvious nutrients—the mineral calcium, for example. Calcium, as everyone knows, is critical for the proper development and maintenance of bones and teeth. For the athlete, however, calcium plays very powerful roles in performance, as well.

Calcium is necessary for muscle contraction, heartbeat regulation, nerve impulse conduction, and even hormone activity for energy production. All of these physiological actions are fundamental to top athletic performance.¹

Athletes' need for calcium

Calcium levels in blood are strictly maintained by the body, and even the slightest decline in circulation can have negative consequences. Here's a common example: When athletes train and compete, they often fall prey to muscle cramps. In many cases, they turn to electrolyte-replacement "sports" drinks, but they often fail to consider how important calcium is to preventing and eliminating muscle cramps. To reduce the occurrence of debilitating cramps, calcium supplementation is particularly important for endurance athletes, or those participating in hot weather activities.

Female athletes' risks

While the short-term effect of inadequate calcium intake is cause for concern, the long-term effects can have a direct impact on overall health, and this especially true for women. It is well

documented that female athletes in weight-controlled sports and endurance sports traditionally have low calcium intakes. Additionally, female athletes on a vegan diet are chronically deficient in daily calcium intake.² The most prominent long-term consequence is decreased bone density. In fact, women who are lifetime exercisers and practice chronic calorie restriction have elevated rates of osteoporosis.² Female athletes who have amenorrhea (abnormal or absent monthly cycle) have much higher rates of osteopenia (mild rate of bone loss that is a strong pre-indicator of osteoporosis) than those that don't. The problem is traditional sources of calcium in the diet for women—milk and dairy products—are being replaced by non-calcium-sourced soft drinks.³ So it's absolutely essential that women meet their daily calcium needs through a combination of calcium-rich foods and high quality calcium supplements.

Calcium for life

Athletes and those with active lifestyles need to make sure their diets have all the nutrients needed for optimum performance, including the obvious—but often overlooked—calcium. While athletic performance may be important, good nutrition is key to something that matters even more—overall long-term health!

References

- 1 *Nutrition in Exercise and Sport*, Wolinsky, I.; CRC Press, Third Edition.
- 2 "Osteoporosis: Understanding Key Risk Factors and Therapeutic Options," Beck, Belinda R., PhD, Shoemaker, Rebecca, MD; *The Physician and Sports Medicine*, Volume 28, No 2, Feb. 2000.
- 3 "Maternal Milk Consumption Predicts the Tradeoff between Milk and Soft Drinks in Young Girls' Diets," Fisher, Jennifer Orlet, Mitchell, Diane C., Smiciklas-Wright, Helen, Birch, Leann Lipps, *Journal of Nutrition*, Volume 131:246-250, 2001.



SAB HAS THE ANSWERS:

Q. Please explain the difference between the "good" estrogen and the "bad" estrogen, as described in the Cruciferous Plus literature.

A. These two types of estrogen, both present in the human body, differ in chemical structure. Studies have shown that a form of estrogen commonly known as "bad" estrogen is higher in women who develop breast cancer. Conversely, "good" estrogen has been associated with a lower risk of developing breast cancer. The nutritive properties of cruciferous vegetables inhibit the potentially carcinogenic actions of "bad" estrogen.

Q. Why does GNLD use soy protein isolate and not whole soy in NouriShake®?

A. GNLD uses soy isolates in NouriShake and other protein supplements because they deliver high quality protein and isoflavones needed for the product without the unnecessary fractions of the

whole soybean. The advantage of soy isolate is that it contains protein and specific elements of the phytonutrient value of whole soybeans in a concentrated form. Our soy isolates contain the same spectrum of isoflavones as found in whole soybeans, but soy isolates deliver more protein and isoflavones with fewer calories and fat on a gram-for-gram basis than whole soybeans.

Q. Did Dr. Hooper and Dr. Carughi use three capsules of GNLD's Carotenoid Complex in the study that was published in the *American Journal of Clinical Nutrition*?

A. The study Dr. Hooper and Dr. Carughi published in the *AJCN* was a bioavailability study, meant to demonstrate that the carotenoids in GNLD's Carotenoid Complex are digested and absorbed into the blood stream. Since it was a short supplementation period of four weeks, six capsules per day of our Carotenoid Complex were used.

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All subsequent USDA studies used the standard three capsule per day dose. The USDA was interested in studying Carotenoid Complex because they required a pure, standardized food source for their studies. The results of their study found daily supplementation with three capsules of Carotenoid Complex can:

- Boost immune cells 37% in just 20 days
- Curb oxidation damage to cells by 44%
- Increase natural killer cells by 20% (natural killer cells are our first line of defense against cancer)
- Reduce oxidative burden within the blood stream.

Q. Could you please explain the benefits of GNLD's Omega III Salmon Oil and the Omega III Concentrate? Is one supplement better than the other for the prevention of heart disease?

A. Both products were designed to serve special, individual needs. GNLD's Omega III Salmon Oil contains all the omega-3 fatty acids, including eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), that support healthy cardiovascular functions. Omega-3 fatty acids also support important functions of body tissues and organs, notably the heart, blood vessels, brain, nerves, eyes, skin, and joints. Recent studies have also shown them to help lower the risk of asthmatic conditions.

Omega III Concentrate also contains both EPA and DHA in balanced quantities, but with the added benefits of GNLD's special lipotropic blend, which delivers lecithin, choline, inositol, and methionine to the body. (Choline and inositol help keep lipids emulsified in the bloodstream.) This combination of nutrients supports optimal heart health and function.

For more information on cardiovascular health, we suggest following GNLD's Healthy Heart Program for maximum benefits. You will find

the Healthy Heart Program listed in GNLD's A-Z Guide and on our Web site at www.gnld.com.

Q. What is the function of the licorice in Cruciferous Plus, and how does it work?

A. Licorice root contains sweet substances known as chalcones. These beneficial compounds have been shown to prevent the formation of a byproduct of testosterone that spurs the growth of prostate cancer. Chalcones are also relatives of antioxidant flavonoids, and as such, help to protect the body's cells in many different ways.

Q. I've heard that fish can contain dangerous levels of mercury. What kind of testing takes place to insure there is no mercury in GNLD's Omega III Concentrate and Omega III Salmon Oil products?

A. Fish *can* contain mercury and other toxins. You can be assured, however, that mercury is not a concern with GNLD's Omega III products.

Both GNLD's Omega III Salmon Oil and Omega III Concentrate contain only "body oils" from the edible parts of the fish. This strict specification eliminates exposure to substances that may collect in fish organs, including herbicides, pesticides, and heavy metals.

GNLD also follows the standard testing protocols of the AOAC International (Association of Analytical Communities) to verify that our products are pesticide-free and free of heavy metal contamination, including the presence of mercury. Our careful screening for toxins makes certain that GNLD's Omega III Salmon Oil and Omega III Concentrate feature the highest quality, purity, and consistency humanly possible.

<http://www.Amazing-Health-Products.com>

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