



INTERNATIONAL

# NEWS YOU CAN USE

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## Omega-3 Fatty Acids: New studies show greater powers while reaffirming what we already knew

The importance of omega-3 fatty acids to health and vitality continues to be solidified as researchers investigate actions and benefits not previously understood or even anticipated. It's becoming more apparent all the time that the amount of omega-3's in the diet directly effects all our cells and tissues and the organs and systems they make up. In addition to being critical components of the structure of our bodies they are also being tied more and more to many functions. Here is some new research worth knowing.

## Omega-3 and Heart Health—The link is now stronger

The importance of omega-3 fatty acids to human health first appeared as benefits to the heart. They were initially identified as heart-health protectors that helped keep cholesterol balanced, triglycerides low, and blood flow easier through veins and arteries. Decades of research has proven there's much more to them than that. They are now known to play key roles in the structure and function of the heart and the veins and arteries that make up the entire cardiovascular system. Just how powerful omega-3 fatty acids are for heart health was driven home in a review article published in the *American Journal of Clinical Nutrition* (Vol. 84, pp. 5-17; July 2006). Researchers looked at a total of 43 studies. Those that made up the largest groups, more than 340,000 participants, reported "significant reductions" in risks to heart health, making a large step forward toward greater assurance of benefits. One study reported that an 850 mg dose of omega-3 fatty acids (EPA & DHA) resulted in a 21% reduction in death from all causes; a 35% reduction in cardiac death and a 45% reduction in sudden death. In their conclusion the Columbia University researchers stated, "We believe that the body of evidence is strong enough to suggest that in the United States, certainly, and in other countries where omega-3 fatty acid consumption is low, public health initiatives are needed to increase intakes."

## Different omega-3 fatty acids give different heart-health benefits

In the August 2006 issue of the *European Journal of Clinical Nutrition* (Vol. 60, pp. 978-984) researchers reported that though the well known omega-3 fatty acids EPA and DHA had proven heart health benefits, others, including ALA are being discovered as important as well.

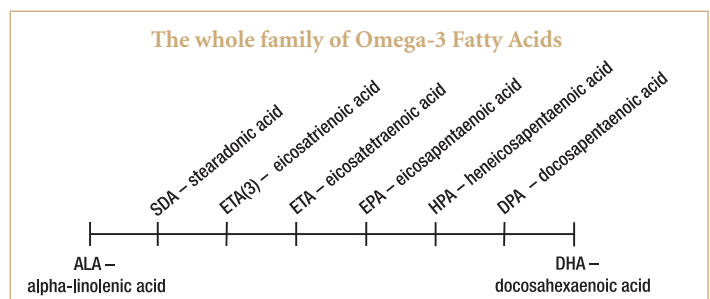
## ALA by itself is not the answer for humans

Alpha linoleic acid (ALA) is the primary building block for other omega-3 fatty acids in both plants and animals. Plant sources such as flax seed oil have been touted as omega-3 sources for years. In an editorial in the July 2006 issue of the *American Journal of Clinical Nutrition* titled "Omega-3 Fatty Acids and Cardiovascular Disease: Navigating Toward Recommendations" researchers pointed out that "accumulating data reaffirms that the EPA and DHA precursor ALA is inefficient and much less efficacious" in humans. The reason is the human body finds it very difficult to convert ALA into the seven other omega-3's the body makes and uses.

## DPA—A powerful omega-3 fatty acid that is finally getting the recognition it deserves

DPA, docosapentaenoic acid, has been a focus of attention for only a few years, but what's been learned is critical to long-term diet and health. Researchers publishing in the journal *Circulation* (vol.102; pp 2677-2679, 2000) showed that DPA / DHA is more important than EPA / DHA in terms of cardiovascular protection.

Making sure our nutritional supplements deliver whole families of nutrients found within the food supply and present in Nature's blueprint for human nutrition has been a hallmark of GNLD nutritional supplement success for decades. Whether it has been to supplement all of the lipids and sterols from whole grains, all of the flavonoids found with vitamin-C, or all of the carotenoids from fruits and vegetables, dedication to this philosophy has provided product performance that has become a standard for science and industry. The recent introduction of Salmon Oil Plus™ and the leading edge technologies that make it the first *complete* Omega-3 supplement, delivering standardized amounts of all *eight* omega-3 fatty acids involved in human nutrition—including DHA, DPA and EPA—is just another example.



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## Don't overlook minerals!

Though the research on whole foods—including whole grains, fruits, vegetables, and fish—may currently overshadow studies on minerals, much important new research *is* happening. Here are some examples:

### Magnesium: Is it an anti-inflammatory mineral?

Research published in the journal *Nutrition Research* (vol. 26, pp 193-196) indicates that it is. Using a blood chemistry marker associated with heart disease and inflammation known as C-reactive protein (CRP) researchers showed that magnesium has anti-inflammatory actions in the body. Elevated CRP is a consistent indicator of chronic inflammation because it is one of the bodies "signaling molecules." The higher and longer the inflammation exists, the higher the CRP values. "Previous research has indicated that dietary magnesium may be a key component in the association between diet and inflammation" proffers lead study author and Medical University of South Carolina professor Dana King. "The key finding in this study is that magnesium intake from supplements has an impact on the likelihood of having elevated C-reactive protein." People with dietary magnesium intake below the RDA were found to have a 40% higher risk of elevated CRP.

### Zinc is an anti-inflammatory mineral too!

Because zinc has long been known as an important building block of natural antioxidant enzymes made in the body, such as glutathione, peroxidase, and super oxide dismutase, it is thought of as a "protector mineral." Two recent studies further support zinc's critical importance. The September 2005 issue of the *Journal of Nutrition* (vol.135, pp. 2114-2118) reported that zinc deficiency was associated with increased risk of cardiovascular disease through inflammation. New research published online in the March 2006 issue of the journal *Free Radical Biology in Medicine* (doi: 10.1016/j.freeradbiomed.2006.03.017) further supports the oxidation/inflammation risk of deficiency.

### Calcium: a possible key regarding hypertension and pre-eclampsia risk during pregnancy

A large scale review of studies of calcium intake and risk of hypertension and pre-eclampsia during pregnancy suggests this is an important discussion for women to have with their obstetrician. The review, published in the *Cochrane Database of Systematic Reviews* (2006, issue 3), quotes lead author Dr. G. Justus Hofmeyr, "The findings of the review are that calcium supplementation reduces the risk of hypertension for pregnant women who have inadequate dietary calcium." In support of these findings, independent pre-eclampsia expert Dr. John Repke, Chairman of Obstetrics and Gynecology at Penn State University College of Medicine commented "Calcium supplementation may be of some benefit in reducing morbidity (death) associated with pre-eclampsia, and it does no harm."

Depleted soils and industrialized farming have combined to reduce the mineral content of many foods—a fact previously reported in GNLD's *News You Can Use* (Volume 13, 2006). The importance of minerals to health, vitality and longevity has been a core concept in the GNLD product line for decades. Minerals are a key link in the Chain of Life and assuring deficiencies don't exist is a smart health move for all. GNLD offers several choices for those wanting assurance of a healthy abundance of dietary minerals each day. Chelated Cal-Mag®, Chelated Zinc and MultiMin with Chelates all provide potency, purity and our exclusive double amino acid chelation technology to optimize absorption. Vitality Calcium Plus provides a comprehensive bone-mineral complex.

## More research about Phyto-nutrition!

### Whole tomato extracts are better than lycopene alone

Tomatoes—and their active components—have received lots of attention for their link to prostate cancer prevention. This attention has inspired several companies to market pure lycopene products. New research shows that these "now with Lycopene" products may not be as good as the advertising suggests. A review by researchers from the University of California, Oklahoma State, and the Texas Women's University considered the results of several clinical trials conducted between 1998 and 2006 and showed that lycopene alone is not what is needed. A whole tomato concentrate that provides not just lycopene, but all its forms and all its supporting carotenoids is a much more prudent and appropriate choice. Researchers concluded that while there is proof of "convincing antioxidant and anticarcinogenic effects" for lycopene in tomatoes or as a tomato concentrate, "in vivo data (data from living systems) on the effects of pure lycopene is lacking." (*European Journal of Clinical Nutrition*; doi: 10.1038/sj.ejcn.160Z510).

### Lutein and zeaxanthin—new links to cardiovascular health!

The first research to show a positive connection between the carotenoid lutein to heart health came in a 2001 issue of *Circulation* (vol. 103, pp. 2922-2927). Now researchers from Sweden have found yet another strong link. Publishing in the February 2006 issue of *Nutrition, Metabolism and Cardiovascular Disease* (doi: 10.1016/numecd.2006.02.006) the researchers pointed out that people suffering from coronary artery disease are consistently found to have low levels of the carotenoids lutein, zeaxanthin, and beta cryptoxanthin. Conversely, they found that the healthy persons in the control group had significantly higher levels of these carotenoids in their blood. They think it's connected to immune function because of higher levels of natural killer cells (NK cells) in the people with higher levels of these carotenoids. "This finding suggests a specific link

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between certain carotenoids, oxidative stress, and immune perturbation (imbalance) in CAD,” said lead researcher Caroline Lidebjer from the University Hospital at Linköping, Sweden.

### More evidence of lutein and eye health

Researchers showcased findings from a 48-week long intervention trial that used supplemental doses of the carotenoid lutein to measure preservation of visual function with patients with retinitis pigmentosa (RP). Published in the journal *Ophthalmology* (BMC Ophthalmology 2006, 6:23), researchers reported that the results of their placebo-controlled study showed that lutein supplementation was preventive.

“Comparing the development of vision measures against the natural loss expected to occur over the course of the 48 weeks, most measures showed reduced decline, and these reductions were significant for normal illumination.”



## SAB HAS THE ANSWERS:

### Q. What can I take to relieve the pain and discomfort of arthritis?

**A.** Peer-reviewed scientific studies conducted around the world have demonstrated the benefits of omega-3 fish oil supplements in alleviating tenderness and inflammation in the joints, and can relieve the morning stiffness that makes arthritis so painful. Any one of GNLD's omega-3 products: Salmon Oil Plus, Salmon Oil, or Omega III Concentrates can deliver the nutritional abundance of natural omega-3 fatty acids to support health and comfort.

### Q. If I take Carotenoid Complex™, why should I take Cruciferous Plus™ and Flavonoid Complex™?

**A.** Three of the primary fruit and vegetable phytonutrients groups associated with health protection and disease prevention are carotenoids, flavonoids and cruciferous. These products have different functions within the body. Science has shown that these three different nutrient groups protect us and our cells in different, yet complementary, ways. Carotenoids protect the lipids in the blood and cell membranes; flavonoids protect the watery portions inside and outside of our cells; cruciferous nutrients protect the cell as a whole from the negative effects of certain carcinogens.

Research has shown that the vast majority of people do not get enough fruits and vegetables in their diet. Carotenoid Complex, Flavonoid Complex and Cruciferous Plus are complete whole-food supplements formulated to deliver an abundance of these important protector nutrients. When taken together, they offer the most complete phytonutrient protection possible!

### Q. Would the soy found in Cruciferous Plus interact negatively with someone who had breast cancer?

**A.** There is no evidence to suggest that any of GNLD's products which contain soy would interact with the body in a negative manner. Intake of soy products has actually been linked to a decreased risk of breast cancer. Soy contains isoflavones which have been shown to provide some protection against breast cancer.

GNLD's Cruciferous Plus is an exceptional whole-food product that provides the density and diversity of the phytonutrients found in an optimal serving of cruciferous vegetables. Additionally, Cruciferous Plus provides important related nutrients, including sulforaphane, isothiocyanates and indole carbinols.

**Complete Carotenoid Phyto-nutrition**—the role of plant derived nutrients in human nutrition—has been a cornerstone of GNLD supplementation since the beginning, 1958, with the whole-grain lipid and sterol supplement Tre-en-en®. The introduction of Carotenoid Complex™ in 1992 resulted from more than a decade of research and development that focused on identifying, concentrating, and extracting complete and intact the many carotenoids found in whole foods within the human food chain. This was a daunting technological feat that resulted in not just a patent, but peer-reviewed publications and USDA researcher investigations that proved Carotenoid Complex protects our hearts, our cells, and boosts immune capacity, including the body's first line of defense against disease, natural killer cells (NK Cells). It is the first and only whole food supplement to provide the complete family of carotenoids, including; alpha & beta carotene, lycopene, lutein, zeaxanthin, beta cryptoxanthin and at least nine others. ([www.carotenoidcomplex.com](http://www.carotenoidcomplex.com))

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### Q. Is "molecular differentiation" the same as "molecular distillation" that is commonly used in the industry?

**A.** No, these two terms refer to processes which are very different. The exclusive GNLD technology used for Salmon Oil Plus called "molecular differentiation" allows us to select and concentrate specific omega-3 molecules while at the same time identifying, extracting and eliminating other non-omega-3 fatty acid molecules that play roles only in taste, odor or color. Molecular distillation focuses on isolating and concentrating only a single molecule.

### Q. What is Neo-Plex Concentrate and why does GNLD use it in their products?

**A.** GNLD's Neo-Plex Concentrate provides all the nutritional elements found in whole oranges including the juice, rind and pulp, vitamin C, bioflavonoids, flavedo, mesocarp, endocarp and protopectins and other naturally occurring factors to enhance the absorption and utilization of vitamin C. Research shows vitamin C stays in the body longer and is utilized better when consumed with natural, whole food components.

### Q. Which source of calcium is the best to take?

**A.** When it comes to calcium sourcing, the key issues for comparison of calcium products are purity, consistent quality, dissolution time and absorption—factors in which all GNLD products excel. GNLD has four different calcium products.

Chelated Cal-Mag® uses our unique double amino acid chelation process for improved absorption. Each serving of Cal-Mag provides 300 mg of calcium plus 150 mg of magnesium and is available in either tablets or capsules. Cal-Mag capsules also provide 400 IU of vitamin D. Vitality Calcium Plus™ is more than a calcium product; it is a comprehensive mineral complex designed to support the development and maintenance of strong, healthy bones. Each serving contains multiple sources of calcium plus key minerals which are critical to the process of bone development. It is also lactose free.

Neo-Cal™ is a chewable, multiple sources calcium supplement with added vitamin C, magnesium and natural betaine HCl to support digestion, absorption and utilization.

## NASA research speculates Flavonoids will protect future astronauts on long space flights.

Scientists at Tufts University and the University of Maryland have been experimenting with the effects of the high level radiation astronauts will be exposed to on flights to other planets. Their initial conclusions, published on line in the journal *Neurobiology and Aging* (doi:10.1016/j.neurobiolaging.2006.05.031) are that the flavonoids found in fruits like strawberries and blueberries are neuro-protective, with specific flavonoids protecting specific brain tissues or regions. “It appeared that the antioxidant diets and the different polyphenols (flavonoids) in these fruits might act in different brain regions to produce their beneficial effects.” As is typical in the broad array of fruits found in Nature’s plan for human nutrition, many inter-related and likely synergistically acting flavonoids are needed in the diet. “These findings suggest that multiple mechanisms may be involved in the beneficial effects of high antioxidant fruits—on ageing as well as radiation.”

## Broccoli, cauliflower and genetic cancers

Rutgers University researchers have just published new data showing that broccoli, cauliflower and other cruciferous vegetables have natural ingredients that may reduce the risk of developing hereditary cancers. The natural ingredient they’re talking about is sulforaphane and it’s not the first time it’s been shown to have anticancer properties. What is important about this study is the genetic connection. People with hereditary cancer risk are essentially genetically predisposed to the disease. This research, published online in the August 2006 journal *Carcinogenesis*, advises that the risk is not, however, beyond control. “Our research has substantiated the connection between diet and cancer prevention, and it’s now clear that the expression

of cancer-related genes can be influenced by the chemopreventive compounds in the things we eat.” states lead researcher Ah-Ng Tony Kong, professor of Pharmaceutics in the Ernesto Mario School of Pharmacy at Rutgers.

Both Flavonoid Complex™ and Cruciferous Plus™ are broad-spectrum formulas that supplement a wide range of phytonutrients found and needed in the human diet. Flavonoid Complex is derived from ten natural fruit sources and delivers the broad flavonoid profile they provide. Cruciferous Plus comes from nine cruciferous and related fruit and vegetable sources, including broccoli for the active cruciferous compounds sulforaphane and indole carbinol. Both Flavonoid Complex and Cruciferous Plus have been tested to National Cancer Institute protocols and proven biologically effective.

### Factoid:

Spinach is a great source of the carotenoids lutein and zeaxanthin; both important for eye health and vision longevity. But did you know that spinach was probably first eaten by people living in the Middle East? And they probably were eating it hundreds of years before Europeans! Spinach is also related to a group of plants called “goosefoots” because of the shape of their leaves.

### Factoid:

Broccoli has been around for over 2000 years and was a favorite food of the ancient Romans. The average American eats only about four and one half pounds a year. That’s less than 1/5th of an ounce a day or only about 1/20th of the amount recommended as the minimum daily target. Does that tell you something?

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