

## Three New Omega-3 Studies Show Omega-3 Fatty Acid Protect Against Age-Related Mental Decline

The November 2007 issue of the American Journal of Clinical Nutrition (Vol. 86; Number 5) presents three new studies that focus on the ability of omega-3 fatty acids to protect us from the loss of cognitive function too often associated with aging in today's populations. Writing in the editorial section of this important peer-review journal (1259-60), Irwin Rosenberg of the Jean Mayer Human Nutrition Research Center on Aging at Tufts University in Boston put a spot light on the significance of this work. In his article "Rethinking Brain Food," Rosenberg reviews key scientific findings<sup>4</sup> along with three related scientific journal articles.<sup>1,2,3</sup> He tells a clear story of the power of omega-3 fatty acids to protect the brain from the cognitive loss associated with aging. There is so much evidence that he is now certain of the protective effect, stating in his conclusion that, "These studies of nutritional associations with brain function during the elongated prodromal period of age-related neurodegeneration and decline offer an opportunity for early intervention to maintain brain function and slow progression to dementia, which is costly economically and in terms of quality of life..."

## Researchers Look Beyond just EPA and DHA

In a landmark study,<sup>2</sup> the importance of omega-3 fatty acids in general and in particular the most recent omega-3 to take center stage, docosapentaenoic acid or DPA were looked at relative to healthy brain aging as for the first time researchers included the omega-3 fatty acid DPA in their analysis. DPA, along with EPA and DHA make up three of the eight omega-3 fatty acids involved in human nutrition. Though DPA has been well connected to heart health protection, this is the first time it has been included in a serious cognitive health investigation. Their conclusion is that together whole blood omega-3 fatty acids (EPA + DPA + DHA) are associated with lessening decline in two parameters of cognitive function; "sensorimotor speed"—how quickly the brain responds to sensory input—and "complex speed"—how quickly the brain can handle complex problems.

### Reference

- 1 F.L. Crowe, C.M. Skeaff, T.J. Green, A.R. Gray. "Serum phospholipid n-3 long-chain polyunsaturated fatty acids and physical and mental health in a population-based survey of New Zealand adolescents and adults" Pages: 1278-1285
- 2 Carla Dullemeijer, J. Durga, I.A. Brouwer, O. van de Rest, E.J. Kok, R.-J. M Brummer, M.P.J. van Boxtel, and P. Verhoef. "N-3 Fatty acid proportions in plasma and cognitive performance in older adults" Pages: 1479-1485
- 3 E. Nurk, C.A. Drevon, H. Refsum, K. Solvoll, S.E. Vollset, O. Nygaard, H.A. Nygaard, K. Engedal, G.S. Tell, and A.D. Smith. "Cognitive performance among the elderly and dietary fish intake: the Hordaland Health Study" Pages:1470-1478
- 4 Rosenberg, I.H. "Rethinking Brain Food," Editorial pages 1259-1260

From following our decade's long practice of paying close attention to Nature, the natural human food chain and the nutrients it provides, and mixing that with leading-edge science, the GNLD Scientific Advisory Board has repeatedly delivered the finest whole food dietary supplements in the world. The introduction of Salmon Oil Plus, the first complete omega-3 supplement with all 8 members of the omega-3 family involved in human nutrition, is another clear example of how that practice rewards GNLD Distributors with unique and exclusive high-demand products and all who take them with content and benefits only GNLD products provide. In the months and years ahead, as research unfolds and clarifies the critical roles these 8 "super-nutrients" fulfill, it is certain that the lesser known members, such as DPA, will get increasing attention and proof of benefit. In the meantime GNLD's Omega-3 Salmon Oil Plus already provides a powerful way to assure a dietary abundance of complete omega-3 family Nature intended and our bodies need.

## New Study Shows Healthcare Professionals amongst Most Frequent Supplement Users!

A new study published November 15, 2007 by The Council for Responsible Nutrition (CRN) examining supplement use by healthcare professionals across the U.S. shows that contrary to the beliefs of many, doctors, nurses, and other healthcare professionals are in fact both using and recommending dietary supplements.

"It reconfirms what we know: that supplements are very mainstream in the U.S.," states CRN vice president of communications Judy Blatman.

For years media and others with an anti-supplement bias promoted that there was a lack of acceptance of supplementation by the so-called mainstream medicine, but Blatman says this may not be nearly as prevalent as once thought.

According to the CRN, the study demonstrates that an almost equal number of physicians and nurses personally use dietary supplements regularly, occasionally, or seasonally. The study results revealed 72% of physicians and 89% of nurses take dietary supplements, which is a higher percentage than the 68% of adults who reported taking dietary supplements. "They may question them more, but at the end of the day they are still taking them," Blatman said of healthcare professionals.

Perhaps even more surprising is that not only did the survey reveal that 72% of physicians use supplements and 85% recommend them to their patients, but that of the 28% of physicians who do not use supplements, 62% still recommend them.

Acceptance by enlightened and forward-thinking health professionals of GNLD products and foundational philosophy of “Based in Nature, Backed by Science,” is not new. For decades, it has been what attracted many of our Scientific Advisory Board (SAB) members, including world renowned cancer researcher Dr. Arthur Furst and our many Health Professionals Council (HPC) members, to GNLD. Many of these esteemed professionals have been Distributors and product users for twenty years or more. The idea of focusing on nutrition in order to maximize health and vitality was so fundamental to their thinking that the whole food supplementation that GNLD products provide was an obvious and prudent daily regimen. Combine that with the extensive scientific evidence that shows GNLD products work and these health professionals have become amongst our strongest advocates

## Soy isoflavones linked to prostate cancer risk reduction

Prostate cancer is on the rise worldwide and those men most at risk may benefit from increased intake of soy and its isoflavones, suggests a new study from the University of Minnesota.

This new evidence of protection, published in the *Journal of Nutrition* (Vol. 137, pp. 1974-1979), adds to earlier studies that showed a direct, inverse association between isoflavone and prostate cancer in Japanese men.

Over half a million new cases of prostate cancer are diagnosed every year worldwide, and the cancer is the direct cause of over 200,000 deaths. More distressing, the incidence of the disease has increased significantly over the past 15 years.

This new randomized controlled trial investigated the potential of soy isoflavones to increase the elimination of one estrogen-related compound (urinary estradiol - E2) and lower the ratio of that compound in relation to a protector compound (16-hydroxyestrone - 2:16 OH-E1). Certain estrogen metabolites have been suggested to initiate hormone-related cancers. Indeed, according to background information in the new study, soy supplementation have been shown to increase the ratio 2:16 OH-E1 in women. However, no studies to date have looked at such effects in men.

Lead researcher Jill Hamilton-Reeves recruited 58 men at high risk for developing advanced prostate cancer and supplemented their normal diets with one of three protein isolates: isoflavone-rich soy protein isolate, providing 107 mg isoflavones per day, isoflavone-poor soy protein isolate, providing less than six mg isoflavones per day, or milk protein isolate. All supplements provided 40 grams of protein per day.

After three and six month periods of supplementation, the researchers report that both soy groups had higher E2 urinary excretion than subjects receiving the milk protein alone. Moreover, after six months of supplementation, a significantly higher urinary 2:16 OH-E1 ratio was observed amongst individuals receiving the isoflavone-rich soy protein isolate than the milk protein.

“Increased urinary E2 excretion and 2:16 OH-E1 ratio in men consuming soy protein isolate are consistent with studies in postmenopausal women and suggest that soy consumption may

be beneficial in men at high risk of progressing to advanced prostate cancer as a result of effects on endogenous estrogen metabolism,” wrote the researchers.

## Soy Isoflavones may Halve Prostate Cancer Risk

Increased intake of soy isoflavones may cut the risk of prostate cancer by 58%, suggests a new study from Japan published in the journal *Cancer Epidemiology Biomarkers & Prevention*, (Vol. 16, pp. 538-545).

The new case-control study recruited 200 Japanese men with different stages of prostate cancer—one case of Stage 1, 131 cases of Stage 2, 44 cases of Stage 3, and 24 cases of Stage 4—and compared their dietary intakes with 200 healthy male controls.

The intake of 12 food items was measured: tofu (soybean curd), natto (fermented soybeans), miso soup (soybean paste soup), bean curd refuse, fried bean curd, fried bean curd with vegetables, soy flour, dried bean curd, soybean milk, soy sauce, green soybeans, and bean sprouts.

The researchers report that an increased intake of the soy isoflavones genistein and daidzein was significantly associated with a decreased risk of prostate cancer. The highest average isoflavone intake (89.9 mg/d) was associated with a 58% reduction in risk compared with the lowest average isoflavone intake (less than 30.5 mg/d).

The health promoting nutrients present in soy have long played key roles in many GNLD products. Isoflavones have been target nutrients included in several of our products for many years. The utilization of soy protein as a companion source for milk proteins has been a key strategy in assuring that GNLD protein drinks deliver broad overall nutritional support. Our GR2 Control® Protein Shakes are the most recent example of that successful strategy. Offering a high PDCAAS (1.31), proven glycemic response control, great taste, and ease of use, each serving also provides 10 mg of protective soy isoflavones.

## Onion Compound Linked to lower Blood Pressure

A new study, published in the *Journal of Nutrition* (November 2007, Volume 137, Pages 2405-2411) titled “*Quercetin Reduces Blood Pressure in Hypertensive Subjects*,” is said to be the first to report the blood pressure-lowering activity of this flavonol. The study found that a supplement of quercetin (a naturally occurring component of onion) led to significant reductions in the blood pressure of 22 people with high blood pressure (hypertension). Hypertension, defined as having a systolic and diastolic blood pressure (BP) greater than 140 and 90 mmHg, affects about 600 million people worldwide and is associated with over seven million deaths.

The randomised, double-blind, placebo-controlled, crossover study, considered to be the gold-standard for experimental interventions, adds to an ever-growing body of reported health benefits for quercetin. The flavonol was previously linked to reduced risk of certain cancers.

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## Calcium and Magnesium May Help Prevent Type 2 Diabetes

Nutritional and medical research continually reveals aspects of human biochemistry that are relevant to the development of chronic disease. Particular attention has been given to Type 2 Diabetes. This condition is characterised by poor blood glucose control and associated complications such as increased risk of cardiovascular disease, peripheral neuropathy and chronic renal (kidney) failure.

In order to help prevent Type 2 Diabetes it is necessary not only to maintain a healthy weight and eat a balanced diet, containing low glycemic response carbohydrates, but also to obtain an adequate supply of minerals. While it is now well established that calcium and magnesium are vital for the prevention of hypertension, recently these minerals have been shown to have preventative qualities against Type 2 Diabetes.

In an article published in the *Journal of Clinical Endocrinology & Metabolism*<sup>1</sup>, researcher Pittas and colleagues analysed data

resulting from both observational studies and clinical trials in order to ascertain if calcium, vitamin D intake, or dairy food intake is associated with a reduced risk of Type 2 Diabetes.

The authors state that data from the observational studies they analysed demonstrated a “relatively consistent association” between intakes of calcium, vitamin D, or dairy food intake and the prevalence of Type 2 Diabetes. In fact, the highest levels of calcium, vitamin D, or dairy food intake were associated with a 64% lower prevalence of Type 2 Diabetes.

In another recent study, published in the *Journal of Internal Medicine*<sup>2</sup>, researchers looked at the relationship between magnesium intake and risk of developing Type 2 Diabetes. Swedish researchers Larsson and Wolk, from Stockholm’s Karolinska Institute, performed a meta-analysis of what are known as cohort studies. These types of studies follow groups of people over time with the aim of showing causal relationships between dietary factors and disease.

The researchers chose seven studies that examined the link between magnesium intake from food and/or supplements and

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## SAB HAS THE ANSWERS:

### **Q. Is the Enjoy/Avoid guide only for the main meal or can it be used for mini meal suggestions?**

**A.** The Enjoy/Avoid booklet is designed to be a real-world “survival guide” for people on the GR<sup>2</sup> program. Primarily, the booklet helps GR<sup>2</sup> Control® participants pick items for their main meal. Additionally, the booklet provides guidelines for meal choices when a GR<sup>2</sup> Control shake is not available—such as at a party or when dining out. By using the guide in these circumstances, the participant can choose foods that are both nutritious and will that help stay in the Glycemic “control zone.” Finally, the booklet gives food choices for those individuals who have met their weight loss goals and are now in a maintenance phase.

### **Q. I have been getting more requests for supplements that contain vitamin D. Can you tell me why and which GNLD supplements contain vitamin D?**

**A.** Recent focus on osteoporosis and supplementation has raised public awareness of vitamin D and its role in human nutrition. GNLD has known for years that this vitamin plays critical roles in health and disease prevention. Vitamin D is a unique and vitally important nutrient which can be obtained from two different sources: diet and sunlight. If you get outdoors daily, you probably have enough vitamin D in your body to enhance calcium absorption. If you eat very little or no foods that are good sources of vitamin D, and you live in a geographical location that does not receive much sunlight, you may not get enough vitamin D. If you are unsure of your vitamin D status, it is always a good idea to take a supplement.

GNLD has a number of products that contain vitamin D:

Formula IV®, Formula IV Plus, Stress 30™, Sports 30™, Active 40+™, Cod Liver Oil, Cal-Mag® Capsules, Multi-Min, Vegetarian Multi, Vita Squares, Liqui-Vite®, and GR2 Control® Meal Replacement Protein Shakes

### **Q. Can someone with Type 1 or Type 2 Diabetes still use the GR<sup>2</sup> Control weight loss program?**

**A.** The GR<sup>2</sup> Control weight loss program was formulated using knowledge gained from diabetic eating plans. For those who are non-insulin dependent (Type 2 Diabetes), GR<sup>2</sup> Control is an excellent program to help keep blood sugar in control.

For Type 1 diabetics who rely on insulin, GR<sup>2</sup> Control can play a role in helping to maintain steady blood sugar levels, but we always suggest that you consult with your doctor to ensure that the program meets your exact needs.

### **Q. Why is boron included in Full Motion?**

**A.** Boron is a trace mineral that reduces calcium loss and bone demineralization. There are often low levels of boron in the bones and joint capsules of arthritic patients. To ensure optimal boron levels, we included boron in Full Motion

### **Q. Is the amount of sodium in the GR<sup>2</sup> Control Meal Replacement Protein Shake considered high?**

**A.** Sodium is an essential nutrient. It has been classified as an electrolyte and is also integral to the metabolism of proteins and carbohydrates and the maintenance of the body’s acid/alkali balance. Although there has been no established RDA for sodium, most medical experts agree that we should consume no more than 2400 milligrams of sodium per day. (American Heart Association: [www.americanheart.org](http://www.americanheart.org)).

The GR<sup>2</sup> Control Meal Replacement Protein Shakes have 350 mg of sodium per serving. With the two servings per day and the recommended meal plan, your sodium intake should fall well below the generally accepted recommended daily amount.

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## Onion Compound Linked to lower Blood Pressure

Building on science from animal studies reporting a potential hypotensive (blood pressure lowering) role for the flavonol, researchers from the University of Utah recruited 19 men and women with pre-hypertension (average BP 137/86 mmHg) and 22 hypertensives (average BP 148/96 mmHg). The subjects were randomly assigned to receive a daily supplement of quercetin or placebo for 28 days.

Lead author Randi Edwards and co-workers report that the hypertensives receiving the quercetin supplement experienced reductions in systolic and diastolic BP of seven and five mmHg, respectively, compared to placebo. No BP changes were observed in the pre-hypertensives as a result of either intervention.

Specific whole foods of the allium family such as onions and garlic have a long history of being associated with cardiovascular benefits. This new evidence further clarifies one way onions support heart health by working to lower elevated blood pressure in people with hypertension. It is also further support for the GNLD approach of including families of whole foods to assure both nutrient density and diversity, which is exemplified in our Garlic Allium Complex—a comprehensive supplement of garlic, onion and other allium family members associated with supporting cardiovascular health.

**Factoid:** According to the American Heart Association, 34.2 percent of Americans (70.1 million people) suffered from some form of cardiovascular disease (CVD) in 2002.

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## Calcium and Magnesium May Help Prevent Type 2 Diabetes

the risk of Type 2 Diabetes. The total number of participants in these studies came to 286,668 people with 10,912 cases of Type 2 Diabetes.

Out of seven studies reviewed, six of them showed a statistically significant inverse association between magnesium intake and Type 2 Diabetes risk. In fact they concluded that for every 100 mg per day increase in magnesium intake there was a 15% decrease in Type 2 Diabetes risk. Put simply, this means that when magnesium intake is increased the risk of Type 2 Diabetes is reduced significantly.

The mechanism by which this process is thought to occur is not yet fully understood. The researchers did state however that, “The potential protective role of magnesium intake against Type 2 Diabetes may be due to improvement of insulin sensitivity.”

Type 2 Diabetes is one of the fastest growing chronic diseases in the world today. This disease is, for most people, entirely

preventable. A prevention strategy should include maintaining a healthy weight, exercising regularly and eating a healthy balanced diet. A balanced diet should include fruits and vegetables, whole grains and an adequate supply of omega-3 fatty acids. In light of this recent research it would also seem a prudent measure to include calcium and magnesium rich foods such as legumes, nuts and seeds and leafy greens.

Of course eating an ideal diet is often not practical or indeed possible. Supplementation with calcium and magnesium is a sure-fire way to meet your requirements and ensure an optimal supply of these vital minerals.

### Reference:

1. A.G. Pittas, J. Lau, F. Hu, B. Dawson-Hughes. “The Role of Vitamin D and Calcium in Type 2 Diabetes. A systematic Review and Meta-Analysis” *Journal of Clinical Endocrinology & Metabolism*; June 2007, Volume 92, Number 6, Pages 2017-2029. doi:10.1210/jc.2007-0298
2. S.C. Larsson, A. Wolk. “Magnesium intake and risk of Type 2 Diabetes: a meta-analysis,” *Journal of Internal Medicine* (Blackwell Publishing). Published on-line, doi: 10.1111/j.1365-2796.2007.01840.x

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