

Do B Vitamins Influence Homocysteine Levels?

It's been awhile since I've written a newsletter on the subject of homocysteine. Homocysteine, as many of you know, is an amino acid produced in the body as part of normal metabolism. It has been theorized that elevations of homocysteine can lead to poor cardiovascular health and cognitive declines. The data, however, has been somewhat conflicting.

There have been a few recent articles in the medical literature which shed some new light on the subject. In the April 2009 edition of the journal *Stroke*, researchers from Canada reported on a double-blinded, placebo-controlled trial known as the Heart Outcomes Prevention Evaluation 2 (HOPE 2) trial¹. A total of 5,522 adults with known poor cardiovascular health were randomized to receive either a combination of 2.5 mg of folic acid, 50 mg B6 and 1 mg of B12 daily or placebo for a total of five years. By the end of the study, a total of 258 individuals had suffered from poor neurological health. Homocysteine levels decreased an average of 2.2 in the vitamin group, compared to a 0.8 increase in the placebo group. Those in the vitamin group did reduce the risk of poor neurological health, compared to the placebo group, by about 25%.

A smaller, independent study² conducted in Poland examined the effects of poor neurological health and homocysteine levels and was published in the April 2009 edition of *Clinical Biochemistry*. It was found in the study that elevated homocysteine levels were significant independent risk factors in the development of poor neurological health.

The *American Journal of Cardiology* published an interesting study³ in its April 1, 2009 issue regarding plasma homocysteine levels. The aim of the study was to determine the association between homocysteine and the stiffness of arterial walls in a group of young adults who had no symptoms of poor cerebral or cardiovascular health. The researchers found that elevated homocysteine levels were independent risk factors for the development of arterial stiffness in both black and white young adults who had no symptoms. They further noted that this may be a potential marker for poor cardiovascular health within this age group.

Another great study I'd like to share with you appears in the May 2009 edition of *Graefe's Archive for Clinical and Experimental Ophthalmology*. This study centers on eye circulation and homocysteine levels. A total of 85 individuals who developed a lack of blood flow to the eye were evaluated and compared to 107 age- and gender-matched healthy controls. After controlling for other factors, the researchers noted that elevated plasma homocysteine levels, along with low vitamin B6 levels, may increase the risk of developing this impaired blood flow to the eye which can lead to visual loss.

While continuing focus on homocysteine, but switching gears somewhat, I've come across an article⁵ in the May 2009 edition of *Archives of Gerontology and Geriatrics* regarding poor cognitive health. A search in the medical literature was conducted, through which several studies were selected. It was found that elevations of homocysteine seemed to be common in individuals who experienced progressive poor cognitive health, compared to control groups. They were not able to state, however, whether lowering these elevated homocysteine levels could reduce the incidence or severity of poor cognitive health.

Finally, I would like to cite an article⁶ published in the April 2009 issue of *Alimentary Pharmacology & Therapeutics*. A group of 65 individuals suffering from poor colon function, ages 45 to 64 years old, who were on a strict gluten-free diet for several years were

randomized to receive 800 mcg of folic acid, along 3 mg of vitamin B6 and 500 mcg of B12 or placebo for six months. A total of 57 patients completed the trial. It was found that homocysteine levels dropped an average of 34% during this study in the vitamin group. Accompanying this was a significant improvement in overall mood and well being.

The Synergy line of multi-vitamins from Nutraceutical Sciences Institute® (NSI®) provides superior doses of the essential B vitamins (B1, B2, B3, B5, B6, B12 and folic acid) in order to promote healthy homocysteine levels, healthy energy levels, good cardiovascular function plus neurological health. Your typical multi-vitamin provides entirely inadequate amounts of these essential B vitamins, not to mention poor quality and forms when compared to NSI.

For example, NSI exclusively uses the methylcobalamin form of vitamin B12 at levels that are several thousand percent higher than other multi-vitamins. Why? Because this is the organic active form that provides blood levels of B12 similar to that of B12 injections and is far superior at promoting healthy energy and nerve function when compared to the other forms used by other multi-vitamins. Methylcobalamin may be one of the most expensive nutrients on the planet at a cost of thousands of dollars per kilo versus the few dollars per kilo nutrients most other multi-vitamins use, but what is your health worth? Can you put a price tag on good health?

I would also urge you to review the new version 7 of NSI Synergy CardioLift®. It is truly an amazing product. In fact, the customer reviews are 4.8 to 5 out of 5 stars, with 100% recommending this product to others. I would like to thank Dr. David Ilfeld, one of our shareholders and science board members for assisting in this new improved CardioLift formulation. For those of you who do not know Dr. Ilfeld, he was recommending NSI products to his patients prior to becoming a shareholder/investor over ten years ago. He is a triple board certified medical doctor from Harvard who also has a physics degree from MIT. Dr. Ilfeld spends countless hours per year reviewing the published science and medical literature assisting the company with new products and improving the formulations of existing products with a special emphasis on the NSI Synergy line.

Dr. Allen S. Josephs