AIM

GINKGOSENSE™

THE AIM COMPANIES™
Nutrition • Opportunity • Success

The nervous system controls communication in the body. Its leader is the brain, which allows us to think, decide, control our actions, and coordinate the ability to move, touch, smell, hear, and see. As with any body system, good nutrition plays an important part in seeing that the good health of the nervous system is maintained. AIM GinkgoSense™ helps maintain your neuro health, especially in regard to memory, concentration, and vision.

When we think of aging, we think of the obvious—wrinkles and achy joints, for example. We usually don't consider things such as worsening vision or memory loss until we are well on our way to senior status. But we should. After all, the disorders that may go along with the aging of the nervous system are some of the most frightening problems we face—dementia, Alzheimer's disease, and macular degeneration, for example. However, there is a way to fight this "neuro aging," through the use of dietary supplements.

DHA

DHA (docosahexaenoic acid) is an essential fatty acid (EFA). EFAs are called "essential" because very little can be synthesized by the body—we must obtain them from our diet. DHA is one of the omega-3 fatty acids, whose perhaps best-known source is fish oil.

EFAs are necessary for good health, and DHA is well-known as one of the keys to a healthy nervous system. DHA is the building block of human brain tissue—60 percent of the brain is fat, and DHA is the most abundant fat in the brain, as well as in the retina of the eye. It plays a key role in the structural development of retinal, neural, and synaptic membranes. DHA is essential in communication between the brain and nervous system—it plays a role in the cell membrane, where the electrical impulses that are the basis of communication within the nervous system are generated. Without DHA and other fatty acids, communication within this system can break down or become less effective.

The importance of DHA to the brain and nervous system is seen early in our development. In the first few weeks of embryonic development, the mother's blood supplies the fetus with large amounts of DHA. In the last trimester of a pregnancy, the DHA content of the brain's cerebrum and cerebellum—which contains centers for speech and abstract thought—increases threefold.

DHA supplementation may be especially important as we grow older. The body's ability to synthesize DHA, which is limited in all people, may decline even further with age. This is compounded by the small amounts of DHA we get in our diet, especially those who strive for a vegetarian diet—the richest sources of DHA are red meats, animal organs, and eggs.

Research indicates that low levels of DHA may be involved in a number of health problems relating to the nervous system.

Depression

Depression is on the rise in North America. This is often attributed to the ups and downs of our lives and is often seen among the aging population. However, recent research indicates that there may be a physiological aspect to depression that relates to nutrition.

A study published in the *American Journal of Clinical Nutrition* (62 (July 1995): 1-9) presents research indicating that omega-3 fatty acids, specifically DHA, may reduce the risk of depression. The authors associate the increase in depression in North America in the past century with the decline in consumption of DHA during the same period. To lend support to this idea, the authors also note that there are lower rates of major depression in those societies that consume large amounts of fish, a key dietary source of DHA.

Dementia and Alzheimer's disease

DHA is also being considered as a factor in dementia and Alzheimer's disease. In 1997, a link between low levels of DHA and Alzheimer's disease and memory loss was the subject of a conference at the New York Hospital–Cornell Medical Center's Nutrition Information Center. Among the findings discussed at the

conference was that a low level of DHA is a significant risk factor for dementia, including Alzheimer's disease.

The Japan Functional Food Research Association has also investigated DHA and dementia. The association notes that those with senile dementia achieved positive results when taking DHA: In 10 of 13 cerebral vascular dementia cases and five of five senile dementia cases, the patients showed more than slight improvements in psychiatric symptoms such as communications, will power, motivation, delirium, the tendency to wander, emotional disorders, and mental depression (*www.jafra.gr.jp/DHA2-e.htm*).

Vision

DHA is also the major fat in retinal tissue. It plays a strong role in the photoreceptor cells of the retina, suggesting an essential role for DHA in vision. DHA deficiency in laboratory animals showed a marked decrease in proper functioning of the visual cycle.

In a recent study looking at fish oil, which contains DHA, and macular degeneration, researchers found that more frequent consumption of fish appeared to protect against late age-related macular degeneration. Only a moderate intake of fish was necessary for the protective effect (*Archives of Ophthalmology* 118 (March 2000): 401-404).

Bilberry

In addition to DHA, bilberry (*Vaccinium myrtillus*) is good support for a healthy nervous system. It is closely related to American blueberry, cranberry, and huckleberry. It was bilberry jam that first spurred medical interest in this fruit. During the Second World War, British and American fighter pilots hailed bilberry jam as a secret weapon for improved night vision.

Bilberry contains bioflavonoids, which help remove harmful chemicals from the retina, and phytochemicals, which help stabilize the capillary walls and maintain the integrity of the retina.

There have been very few studies on bilberry since the 1960s and more current research is needed to confirm bilberry's properties.

Lutein and zeaxanthin

Lutein and zeaxanthin, carotenoids found in green, leafy vegetables, are also good for the eyes. Like other carotenoids, they are antioxidants. What is unique about these two is that they are the only carotenoids found in the eyes—in the macula (the part of the retina responsible for detailed vision) and the lens. Current research is investigating what function they may serve, and recent studies have found that diets rich in lutein and zeaxanthin may play a role in reducing the risk of age-related macular degeneration and cataracts—two problems that are usually a result of the aging process.

Macular degeneration

Age-related macular degeneration (AMD) is the leading cause of legal blindness among the elderly in the United States and other developed countries. In AMD, the retinal tissue breaks down. It is the retina that converts light into the electrochemical energy needed to produce vision.

Those with the greatest risk for AMD tend to have a lower amount of lutein and zeaxanthin in the eyes than those without AMD. In the mid-1990s, one large epidemiological study (a study that looks at a population and charts its general risk) reported that increased consumption of lutein and zeaxanthin reduces the risk of AMD (*JAMA* 272, no. 18 (1994): 1,410-23).

A study published in November 2000 supports this. In this 140-day study, it was shown that lutein supplementation increases macular pigment—this is important because macular pigment may protect against AMD (*Investigative Ophthalmology and Visual Science* 41 (November 2000): 3,322-26). This is further confirmed in a report that notes in the abstract that "Some observational studies have shown that generous intakes of lutein and zeaxanthin, particularly from certain xanthophyll-rich foods like spinach, broccoli, and eggs, are associated with a significant reduction in the risk for cataract (up to 20 percent) and for age-related macular degeneration (up to 40 percent)." The author goes on to note that further research is necessary (*J Am Coll Nutr 5 Suppl* (October 19, 2000): 522S-527S).

Cataracts

Cataracts are the leading cause of vision impairment in the United States and other developed countries. In cataracts, the lens of the eye, which is normally colorless and clear, grows cloudy. The lens is then unable to focus accurately on the retina, which makes seeing more difficult. Interestingly, lutein and zeaxanthin are the only carotenoids generally found in the lens.

There have been three epidemiological studies looking at the correlation between dietary lutein and zeaxanthin and the risk of cataracts. These found a trend toward reduced risk of cataracts and cataract surgery with increased intake of lutein and zeaxanthin (*Am J Clin Nut* 70, no. 4 (1999): 517-24; *Am J Epidemiol* 149, no. 9: 801-9; *Optom Vis Sce* 77: 499-504).

How they work

Although exactly how lutein and zeaxanthin function in the eye is not fully understood, researchers propose that their health benefits have to do with their antioxidant ability and their absorption of near-to-UV blue light.

They absorb near-to-UV blue light, potentially the most damaging light that reaches the retina. As antioxidants, they inhibit the formation of free radicals—this is important because the eye is rich in fatty acids that are easily attacked and damaged by free radicals.

Ginkgo

Ginkgo biloba is an herb with a 5,000-year history in Chinese medicine. *Ginkgo biloba* extract (GBE) has been studied since the 1950s, and shows positive results for what is known as "cerebral insufficiency, " which is a collection of symptoms that includes difficulties in concentration and memory, absentmindedness, confusion, lack of energy, tiredness, decreased physical performance, depressive mood, anxiety, dizziness, tinnitus, and headache. The German Commission E—a group of physicians, pharmacists, and toxicologists who evaluate herbs for safety and efficacy—notes that GBE does lead to an improvement in memory performance and learning capacity.

This is largely due to its effect on circulation. *Ginkgo* increases blood flow to the extremities and the brain, so the brain gets more oxygen and glucose, explaining why there is significant improvement in patients with some form of dementia.

GBE also has antioxidant properties that counteract free radicals, also a cause of dementia.

In fact, in October 1997, the prestigious *Journal of the American Medical Association* (JAMA) reported that GBE may be beneficial in the treatment of Alzheimer's disease. Since then, it has received increased attention. In 1998 and 1999, analyses of previous ginkgo studies noted that ginkgo does positively affect cognitive functions to some degree. A more recent study (*Dement Geriatr Cogn Disord* 11, no. 4 (July-August): 230-7) looked at ginkgo and dementia in a 26-week, double-blind, placebo-controlled trial. The abstract notes that "In comparison to the baseline values, the placebo group showed a statistically significant worsening in all domains of assessment, while the group receiving GBE was considered slightly improved on the cognitive assessment and the daily living and social behavior."

Ginkgo also inhibits PAF (platelet-activating factor), which causes the platelet blood cells to clump together.

Recently, GBE is showing promise with intermittent claudication, a cramp-like pain in the calf on walking, which usually disappears on resting. It is caused by narrowed arteries in the legs, usually from plaque buildup, that reduces the blood supply to the muscles. A meta-analysis shows that GBE increases pain-free walking distance (*Pittler et al 2000*).

AIM GinkgoSense™

AIM GinkgoSense™ combines ginkgo biloba, bilberry, lutein, zeaxanthin, and DHA in a synergistic product to maintain your neuro health. Each capsule contains:

- 120 mg of ginkgo biloba extract standardized to contain 24 percent ginkgo flavonglycosides and 6 percent terpene lactones—the same percentages used in clinical trials.
- 40 mg of bilberry extract, derived from the fruit, standardized to contain 25 percent anthocyanosides
- 400 mcg of lutein, as marigold extract
- 18 mcg of zeaxanthin, as marigold extract
- 2.5 mg of DHA in 21 mg of fish oil

How to use

Take 1 capsule per day.

Close tightly after opening and store in a cool, dry, dark place (70-75 °F; 20.1-23.8 °C). Do not refrigerate.

Q & A

Who should use AIM GinkgoSense™?

Anyone concerned with mental acuity and vision as they age and with maintaining their overall neurological health should consider using AIM GinkgoSense™.

Is there anyone who should not use AIM GinkgoSense™?

Pregnant and nursing women as well as children should not take AIM GinkgoSense™. Consult a health practitioner if taking a blood thinner or undergoing surgery.

Can I take AIM GinkgoSense™ with other supplements or medications?

You may take AIM GinkgoSense™ with other products.

Are there any side effects?

Very seldom, cases of stomach or intestinal upset, headache, or allergic skin reaction have been reported by some people taking gingko.

Suggested Reading

Elkins, Rita. *Bilberry Natural Enhancement for Visual and Cardiovascular Health*. Pleasant Grove, UT: Woodland Publishing, 1998.

Gormley, James J. DHA, *A Good Fat: Essential for Life*. New York: Kensington Publishing, 1999.

Murray, Frank. *Ginkgo Biloba*. New Canaan, CT: Keats Publishing, Inc., 1996.

Pittler, M.H., Ernst E. "Ginkgo biloba Extract for the Treatment of Intermittent Claudication: A Meta-analysis of Randomized Trials." *Am J Med*. 108 (2000): 276-281.

Rothfeld, Glenn S., M.D., M.Ac., and Susanne LeVert. *Ginkgo Biloba*. New York: Dell Publishing, 1998.

Benefits & Features

Benefits

- Helps maintain neuro health
- Helps maintain cardiovascular health
- Improves brain function, memory, concentration, and mental clarity
- Helps maintain healthy vision
- Improves blood flow to the extremities

Features

- Standardized extracts for consistent results
- Powerful antioxidants
- Synergistic effect—ingredients work together to improve each other
- 30-count capsules

AIM GinkgoSense™ is a Neuro Health product. The complete Neuro Health line consists of AIM GinkgoSense™ and AIM Composure™. Use these products to help yourself maintain neurological health.

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