**Background:** Not only are omega-3 fatty acids in general directly tied to heart health, but their individual abilities to lower triglycerides, increase HDL (good cholesterol), inhibit plaque formation, stabilize heart rhythm and maintain healthy veins and arteries have highlighted the huge importance of having all eight members of the omega-3 fatty acid family. Researchers were aware of the benefits of omega-3 fatty acids before they were even publicized in the 1970s. In 1936, an epidemiologist studying the Inuit in Greenland observed a zero rate of incidence of heart disease in the population, and first drew connections between heart health and the presence of these fatty acids in the Inuit diet. In 1980, Danish researchers documented the extent of the health protecting powers of omega-3 fatty acids by comparing the incidence of several diseases in Danish versus Greenland Inuit populations. They showed the Danish population had 10 times more cases of heart attacks, 20 times more cases of Psoriasis, 25 times more cases of asthma, and 9 times more cases of diabetes than the Inuit.

**GNLD Research:** GNLD introduced Salmon Oil, derived from pure, natural Salmon, as the most biocompatible, whole food, human food chain source of omega-3 fatty acids. Throughout the 1980’s and 90’s the SAB followed scientific and technological developments in omega-3 supplementation. In the early 2000’s they directed the development of a unique technology called “molecular differentiation” which, for the first time, allowed consistent identification, quantification and delivery of all eight members of the omega-3 fatty acids family in a whole food supplement. Introduced in 2006, Omega-III Salmon Oil Plus set a new standard for excellence in omega-3 supplementation. Human clinical trials conducted under the direction of SAB member Dr. Arianna Carughi and presented at the Annual meeting of the Federation of American Societies for Experimental Biology, April 2008, and at the annual meeting of the American College of Nutrition in October 2008, displayed powerful performance across a wide range of benefits, including:

- Rapid bioavailability and assimilation; resulting in increased anti-inflammatory balance in cell membranes.
- Triglyceride reduction; on average, 17% in just 8 weeks.
- Improved omega-3 to omega-6 ratio; lowering indicators of heart disease risk.
- Improved omega-3 index; a 38% increase in this cardio-protective measure.
- Lowered the inflammatory index by 68%; reducing the tendency toward inflammation and inflammatory conditions.

**Latest Findings:** As more is being discovered about their importance to health, many scientists and researchers have coined the term “master molecules” to describe the power of omega-3 fatty acids. They are fundamental to human biochemistry, and have been proven to have an important role in health, vitality and longevity.

**Cardiovascular health:** In 2005, daily supplementation of omega-3 fatty acids was shown to reduce risk of fatal heart failures in high risk patients. In 2006 researchers looked at data from more than 340,000 participants and reported a 35% reduction in the risk of cardiac death, and a 45% reduction in the risk of sudden death for those who consumed 850 mg of dietary omega-3’s each day. A 2007 study from Japan reported that daily supplementation resulted in a 24% reduction in angina (heart pain) and a 19% reduction in non-fatal coronary events. That same year researchers from the University of Athens reported that high dietary omega-3 status equated to healthier more stable heart rhythm.

**Cognitive health:** In 2005 researchers at Louisiana State University (LSU) showed that fish derived omega-3 fatty acid are not only vital to brain tissue building but exerts a protective effect against neuro-degeneration and brain function decline associated with Alzheimer’s. In 2007 researchers published data that showed that elderly with the highest dietary omega-3 intake had significantly less cognitive decline than those with the lowest. That same year it was shown that high dietary omega-3 intake equated to less decline in verbal ability amongst the elderly. A 2008 study from Taiwan showed that 1.8 grams of supplemental Omega-3 fatty acids may improve general clinical function in patients with mild or moderate Alzheimer’s disease and mild cognitive impairment.

**Vision health:** In addition to the impact of omega-3 fatty acids on reducing the risk of Age-related Macular Degeneration (AMD) by 70 per cent, omega-3 fatty acids, particularly DHA, have been shown play an important role in the layer of nerve cells in the retina.

**Pregnancy and lactation:** The importance of omega-3 dietary intake during pregnancy and lactation has been shown in several recent studies. One recent example from Canada reported that an increased intake of the omega-3 DHA during pregnancy could produce improved motor function in the offspring in later life. Studies published in the April 2006 issue of the journal Surgical Neurology showed that omega-3 supplementation is effective against back and neck pain. In 2007, Swedish researchers showed that young men with the highest dietary omega-3 fatty acid intake in general; and DHA in particular also amassed the strongest bones.
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