

GoldSeal®

Wild Salmon Oil
100% Pure
Sockeye Salmon



Omega 3 Benefits – Information Kit
Scientific References



GoldSeal[®]

OMEGA-3 & -6 Info

Both the Omega-6 and Omega-3 fatty acids belong to a group of polyunsaturated fats called 'essential' because they are necessary to life and to health, yet we cannot make them in the body — they must be obtained from diet and both must be present in the diet in a proper balance for good health.

From the point of view of human nutrition, the long-chain Omega-3 fatty acids — EPA and DHA — are considered much more valuable than the parent n-3 – alpha linolenic acid (ALA), as these are the forms the body requires. In theory, humans are able to synthesize EPA and DHA from dietary ALA, but in practice this process is inefficient. Scientists have therefore concluded that EPA and DHA should be obtained from diet. Oil-rich fish and supplements such as fish oil and cod liver oil are the richest and most readily available sources. Other sources, such as krill and fortified everyday foods like bread and fruit juices, are in production in a minor way in various parts of the world.

**Omega-3s have anti-inflammatory benefits
and help prevent heart disease
Omega-6s lower blood cholesterol and support the skin**

Experts think that man evolved on a diet that would have had roughly 2:1 Omega-6 to Omega-3. Currently, average UK intakes are in a ratio of around 8:1, while in the US it is around 10:1 and in Australia nearer 12:1. Many individuals within those populations will have an even greater Omega-6 to Omega-3 imbalance.

Because of their wide-ranging roles, virtually every area of the human body is susceptible to problems if the two polyunsaturates become out of balance. Current research is investigating how extreme the imbalance needs to be before problems are evident and this can vary from one person to the next.

<http://www.Omega-3info.com/home.htm>



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Here's what the experts say about adding Wild Salmon / Omega-3 to your diet

Salmon is one of the “9 foods you shouldn't live without” because of its high level of Omega-3 fatty acids.

Mindy Hermann, R.D., Fitness Magazine.

By far, the best types of Omega-3 fats are those found in fish. That's because the Omega-3 in fish is high in two fatty acids crucial to human health, DHA and EPA. These two fatty acids are pivotal in preventing heart disease, cancer, and many other diseases. The human brain is also highly dependent on DHA, and maintaining high DHA levels can help deter depression, schizophrenia, memory loss, and Alzheimer's. Omega-3 is also very important for pregnant women and children, as researchers are now also linking inadequate intake of Omega-3 to premature birth and low birth weight, and to hyperactivity in children.

Joseph Mercola, D.O., founder/director, The Optimal Wellness Center.

Wild sockeye salmon has the highest amount of Omega-3 fatty acids of any fish, about 2.7 grams per 100-gram portion.

Omega-3 fatty acids have so many biological roles because they are a primary element of health for virtually every cell and organ system in the body. Along with their partners, the Omega-6 fatty acids, they keep our bodies in balance, modulating such basic physiological functions as inflammation, cell signalling, blood pressure, immune response, and the electrical excitability of heart and brain cells.

Andrew Stoll, Faculty, Harvard Medical School.

Lower Risk of Heart Disease & Stroke

Foods rich in Omega-3 fatty acids can stop arrhythmia before it triggers sudden death from heart attacks. That makes fish such as salmon as potentially potent as any high-tech heart drug and considerably cheaper to stock-up on.
Dr. Alexander Leaf, Professor Emeritus, Harvard University.

One of the ways that the consumption of Omega-3 fatty acids reduces the risk of heart attack is by increasing the levels of these fatty acids in blood cell membranes which reduces the clumping of blood platelets and also coronary spasm. ...Modest amounts of Omega-3 fatty acids from seafood may reduce vulnerability to ventricular fibrillation and, thereby, reduce the risk of coronary heart disease mortality.
David S. Siscovick, M.D., Ph.D., University of Washington.

Fish lower the overall risk of heart disease by 38% and of heart attack by 60% compared to men who eat red meat.
A 1957 study of 1,800 Western Electric Workers.

The *American Heart Association* recommends that people include at least two servings of fish per week, particularly fatty fish (such as salmon), in their diets. This advice was based on scientific evidence suggesting that people who consume at least one, preferably two, servings of fish a week have a lower incidence of heart disease and stroke. The ways that Omega-3 fatty acids reduce cardio-vascular disease risk are still being studied. However, research has shown that they decrease the risk of arrhythmias, which can lead to sudden cardiac death; decrease thrombosis (blood clot formation), which can lead to heart attack and stroke; decrease triglyceride levels; decrease growth rate of atherosclerotic plaque; improve the health of arteries; and lower blood pressure.

A recent study revealed that eating fish could significantly reduce a man's risk of sudden death from a heart attack. The study, supported by the *US National Institute of Health and the National Heart, Lung and Blood Institute*, found that the Omega-3 fatty acids in fish are strongly associated with a reduced risk of sudden death among men without evidence of prior cardiovascular disease.
New England Journal of Medicine, April 11, 2002.

Diabetes

There is solid research that fish is good for people with diabetes by helping to reduce their risk of a heart attack. In April 2003, *Harvard School of Public Health* declared that women with diabetes who ate fish 1 to 3 times a month reduced their risk of coronary heart disease by 30%. Those who ate fish 5 or more times per week reduced their risk by over 60%.

While the research isn't clear that eating fish prevents diabetes from developing in the first place, we do know is that populations that eat a lot of fish like the Greenland Inuit Eskimos and the Japanese generally do have lower rates of diabetes.

Anti-aging

My anti-aging patients often start-out eating fish two to three times a week. When they see how quickly their skin improves, they are quick to increase their intake to five to seven fish meals a week.

Nicholas Perricone, M.D., Author, The Wrinkle Cure, The Perricone Prescription, The Acne Cure.

Anti-inflammatory Effect

According to the *Journal of the American College of Nutrition, December 2002, "Omega-3 fatty acids in inflammation and autoimmune diseases"*, there have been a number of preliminary clinical trials assessing the benefits of dietary supplementation with fish oils in several inflammatory and autoimmune diseases in humans including rheumatoid arthritis. Some patients taking Omega-3 supplements (often at about 2 to 3 grams per day) report less joint pain and morning stiffness.

A study conducted at the *Purdue University, Indiana* and published in the *Experimental Biology and Medicine, 2001, "Omega-3 Polyunsaturated Fatty Acids and Skeletal Health"*, presents information that Omega-3 fatty acids reduced the symptoms of certain bone/joint diseases in humans.

The oils in certain fish contain 'friendly' polyunsaturated fats called the Omega-3 fatty acids. Add fish oils to the diet, and scientists can measure a very significant drop in one of the most inflammatory immune substances — leukotriene B4 — *Joel Kremer, M.D., Head of Rheumatology at Albany Medical College, New York.*

In three months, the high Omega-3 group started to feel less pain. By years-end most had a stronger grip and were nearly able to decrease levels of non-steroidal anti-inflammatory drugs.

Arthritis and Rheumatism, June 1994.

Asthma and Lung disease

Children who eat fish more than once a week have a third the risk of AHR [airway hyper-responsiveness or asthma] of children who do not eat fish regularly. These data suggest that the consumption of oily fish may protect against asthma in childhood.

Linda Hodge, Cheryl M. Salome, Jennifer K. Peat, Michelle M. Haby, et al., The Medical Journal of Australia, 1996.

The anti-inflammatory effects of Omega-3 fatty acid may have some usefulness in modulating chronic lung diseases. The putative ability of Omega-3 fatty acids to improve blood rheology would be beneficial in a number of chronic lung diseases. In such conditions, further clinical studies of Omega-3 fatty acids are warranted.

Howard R. Knapp, M.D., Ph.D., FACN, Department of Internal Medicine, University of Iowa College of Medicine.

Nursing and Pregnant Women and their infants

Many studies indicate that the DHA component of the Omega-3 family is essential to early childhood brain and retinal system development. Omega-3s are therefore believed to be essential to good health and normal development of both the fetus and newborn. Research indicates that children born to mothers consuming higher quantities of Omega-3 rich fish like salmon are healthier at birth and exhibit higher IQs later in life, especially if the infant is breast-fed for 6-8 months. It is important to understand that the beneficial long-chain Omega-3s are found in fish, not vegetable source Omega-3s like flaxseed oil.

Medical scientists agree that premature birth is the most common cause of harmful outcomes for newborn babies. Studies reveal that the mother's intake of the proper fats during pregnancy may be critical. A *Colorado University* study published in the *Experimental Biology & Medicine*, 2001, "The role of Omega-3 fatty acids in gestation and parturition" notes that: "Several human pregnancy supplementation trials with Omega-3 fatty acids (fish oils) have shown a significant reduction in the incidence of premature delivery..."

Another, more recent article in the *British Medical Journal*, February 23, 2002, "Low consumption of seafood in early pregnancy as a risk factor for preterm delivery: prospective cohort study" concludes: low consumption of fish was a strong risk factor for preterm delivery and low birth weight. In women with zero or low intake of fish, small amounts of Omega-3 fatty acids — provided as fish or fish oil — may confer protection against preterm delivery and low birth weight.

Breast Cancer and Omega-3

Recent evidence suggests that the ratio of Omega-3 to Omega-6 polyunsaturated fatty acid correlates with breast cancer incidence, higher ratios being more protective. ...Short-term low-fat dietary intervention with fish oil can lead to significant changes in the polyunsaturated fatty acid composition of the breast micro environment. These changes may have important implications for the prevention of breast cancer.

S. Lee, Capone, D. Bagga and J. Glaspy, Division of Hematology/Oncology, UCLA School of Medicine.

Lower risk of Dementia including Alzheimer's Disease

A study published in the *British Medical Journal* "Fish, meat, and risk of Dementia, 2002" examined associations between eating meat, fish or seafood, and the risk of developing Dementia. The researchers followed a cohort of people aged 68 years or older living in southwest France. After seven years, they found that those who ate fish at least once a week were at lower risk of developing Dementia, including Alzheimer's disease. The 'protective' effect of weekly fish or seafood consumption was partly explained by higher education of regular consumers.

In a study of more than 1,000 people (average age 75), those with higher blood levels of an Omega-3 called DHA were more than 40% less likely to develop dementia (including Alzheimer's) over the next nine years than people with low DHA levels. ...Experts advise eating a weekly serving of fish rich in Omega-3s. *Holly McCord, R.D.*

Anti-depression

In a study involving 20 people with recurrent Depression, researchers studied the effects of a specific Omega-3 fatty acid, known as E-EPA. After four weeks, six of 10 patients receiving E-EPA — but only one of 10 receiving placebo — had significantly reduced symptoms of Depression, according to lead author *Boris Nemets, MD*, a researcher at *Ben Gurion University of the Negev*, Beer-Sheva, Israel. His study appeared in the *American Journal of Psychiatry*, March 2002.

Another study supporting the Anti-Depression benefits of Omega-3 fats can be found in the *Archives of General Psychiatry* "A Dose-Ranging Study of the Effects of E-EPA in patients with ongoing Depression despite apparently adequate treatment with standard drugs, October 2002." Both studies used fish oil supplements.

Fish oil may help combat any number of serious psychiatric illnesses. According to researchers at an international conference sponsored by the National Institutes of Health there is evidence which suggests that higher consumption of essential fatty acids in fish, particularly Omega-3, appear to be linked to a lower risk for depression and better treatment of manic depression and schizophrenia.

"Fish consumption appears to be an important protective factor, which is strongly associated with lower annual prevalence major depression. ...These data do suggest that that some subgroups of suicidal patients may reduce their risk with the consumption of EPA." (eicosapentaenoic acid which is an Omega-3 fatty acid) *Joseph R. Hibbeln, M.D., Chief of Outpatients Clinic, National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health.*

Researchers found that patients suffering from manic depression given capsules containing fish oil experienced a marked improvement over a four-month period.

The Omega-3 fatty acid patient group had a significantly longer period of remission... Omega-3 fatty acids ... improved the short-term course of illness in this sample of patients with bipolar disorder.

Andrew L. Stoll, M.D., Director of Psychopharmacology, Brigham and Women's; Assistant Professor of Psychiatry, Harvard Medical School, Abstract, N.I.H. Conference on Polyunsaturated Acids and the Brain, September 1998.

Antioxidants — how do they benefit my health?

Antioxidants are dietary nutrients that help prevent the cell and tissue damage caused by free radicals in the body. Free radicals are highly reactive, unstable molecules that cause oxidative stress, and can lead to degenerative diseases such as cancer and arthritis. Antioxidants fight oxidative stress by neutralizing free radicals. Naturally occurring fish oils contain good concentrations of Vitamin E, which is a powerful Antioxidant. In Wild Sockeye Salmon, the pigment that gives the fish its rich red colour is also a very powerful Antioxidant. Studies suggest that Astaxanthin (as-tuh-zan'-thin) may be 100 times more powerful than Vitamin E at quenching free radicals. This Antioxidant is also thought to be 10 times more effective than other Carotenoids, like Beta-Carotene.

Omega-3s and Antioxidants are readily available in fruits, vegetables, and fish. Supplemental forms are also available, but studies show that food-source Omega-3s are preferable to pills. Naturally occurring fish oils provide one of the most concentrated and accessible forms of Omega-3 fatty acids.

Astaxanthin

Astaxanthin is a red carotenoid pigment. It is produced by microscopic small plants: the micro-alga *Haematococcus pluvialis*. *Haematococcus* algae can contain up to 30g of astaxanthin per kg-dried algae. These micro-algae are eaten by marine animals including salmon, crawfish, crabs and lobster. The Astaxanthin is responsible for the red colour of these animals.

Astaxanthin is a powerful antioxidant. The free radical scavenging activity of astaxanthin protects lipids from peroxidation and reduces oxidative damage of LDL-cholesterol (thereby reducing arterial plaque formation), to cells, cell membranes, mitochondrial membranes. Astaxanthin increases strength and endurance.

Astaxanthin seems to improve the immune system by increasing the number of antibody producing cells. Astaxanthin enhances antibody production by exerting actions on T-cells and T-helper cells. Astaxanthin is used to treat neurodegenerative conditions such as Alzheimer's and Parkinson's disease.

Astaxanthin protects the eyes and skin from sun radiation damage by quenching singlet and triplet oxygen. Studies with rats show that astaxanthin reduces retinal injury.

Studies have shown the anti-cancer effects of astaxanthin in rodents. The inhibitory effect of astaxanthin on cancer is stronger than that of beta-carotene.

<http://www.phytochemicals.info/phytochemicals/astaxanthin.php>

