

Omega Max: Why You Need To Make It A Part Of Your Life

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As most of you know, AmeriSciences has been an advocate of omega-3 fatty acids, or “healthy fats,” for many years. AmeriSciences Omega Max can be described as yet another realization of our ongoing commitment to staying current with emerging science and pharmaceutical technology. AmeriSciences Men’s and Women’s Master-Multi were among the first complete daily micronutrient products in the market that incorporated omega-3 fatty acids. Research and medical literature since then have been very kind to these fats, with new health benefits discovered almost every year, new applications developed and big pharmaceutical companies now jumping on the omega-3 bandwagon.

Omega-3 fatty acids are a category of dietary fats. The most significant omega-3 polyunsaturated fatty acids (n-3 PUFAs) are eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), both found primarily in fish and other marine animals. Alpha-linolenic acid is another n-3 PUFA that occurs naturally in certain plants such as flaxseed, but that has not been found to confer the same health benefits as EPA and DHA. Omega-6 fatty acids, on the other hand, are a completely different set of fats derived mostly from vegetable oil.

For humans, the optimal intake ratio of omega-6 to omega-3 has been established at 4:1. However, the typical North American diet provides only 0.13 g of EPA plus DHA per day, while high intake of omega-6 fatty acids— between 12 and 15 g— yields an overall n-6 to n-3 ratio between 10:1 and 50:1, making supplementation of additional EPA and DHA amounts necessary.

Omega-3 fatty acids have been studied for an array of biological properties and benefits, including cardiovascular, immunological, ophthalmic, neurological and endocrine, to name just a few.

Much of the interest in omega-3 today originated with the pioneering study of Greenland Eskimos by Bang and Dyrberg more than 30 years ago. They found that even though these Eskimos had a diet very high in fat, they had a very low rate of ischemic heart disease. Their research spawned numerous studies and has resulted in recommendations from major public health organizations for increased intake of fish oil, particularly EPA and DHA, for all U.S. adults at risk for coronary heart disease. Today we know this to be the case in not only Eskimos, but also in other marine-dependent regions of the world such as Japan and parts of Russia and Canada (Nunavut and certain regions of Quebec). In fact, statistical research reveals that the U.S. has approximately a 600 percent higher incidence of deaths caused by myocardial infarction and ischemic heart disease than Japan. Yet blood cholesterol levels for the American population are only an average of 6 percent higher. Scientists agree that the high consumption of EPA and DHA omega-3 fatty acids in the Japanese diet, and the effect it has

on other risk factors for heart disease, are responsible for this curious disparity.

Data from epidemiologic and random-ized clinical trials suggest that EPA and DHA reduce the susceptibility of the myocardium (heart muscle) to fatal arrhythmias. They also may lower serum triglyceride levels and inhibit platelet function. There are several possible mechanisms by which they exert these effects. One theory suggests that as EPA and DHA are incorporated into cellular membranes throughout the body, they displace omega-6 fatty acids such as arachidonic acid— a pro-inflammatory and pro-thrombotic, or what we refer to as a “bad fat.” Another commonly accepted theory

describes that as EPA and DHA are released from heart cell membranes in response to ischemic stress, they directly interact with and inhibit the L-type calcium channels and the fast, voltage-dependent sodium channels. This essentially decreases the resting membrane potential, which makes it more difficult for ventricular fibrillation to develop. Thus, these fatty acids may behave somewhat like physiological calcium channel blockers and beta blockers. The detailed molecular mechanisms remain to be elucidated. As with most pharmacological products, though we may not know the exact bio-molecular mechanism, their beneficial effects and safety profile are rather clear.

As previously indicated, EPA and DHA are precursors to groups of anti-inflammatory signaling agents known as 3-series prostaglandins and 5-series leukotrienes, while omega-6 fatty acids have an affinity for the production of pro-inflammatory ones such as the 2-series prostaglandins and 4-series leukotrienes. Omega-3s also reduce the production of other inflammation markers such as C-reactive protein (CRP) and tumor necrosis factor (TNF). This partially explains their immunological benefits as well as their anti-inflammatory effects. Numerous studies have demonstrated such benefits ranging from osteo- and rheumatoid arthritis, to inflammatory bowel disease, to asthma.

One of the most promising and remarkable areas of research is in eye health. Dr. SanGiovanni and associates from the U.S. National Institutes of Health’s Age-Related Eye Disease Study (AREDS) found that age-related macular degeneration (AMD) patients with increased dietary intake of EPA and DHA were 20 to 25 percent less likely to develop severe AMD. Other recently published studies, such as those conducted by the Massachusetts Eye and Ear Infirmary at Harvard University and the Vision Co-operative Research Centre in Australia, have found a risk reduction of AMD in the range of 36 to 75 percent when participants increased their consumption of omega-3 fatty acids from fish. Both studies were published in the July 2006 issue of the American Medical Association’s Journal Archives of Ophthalmology.



omega-3 may extend to people with diabetes and post menopausal women both with and without HRT. Among 5,103 women with diabetes participating in the Nurses' Health Study, those who ate fish five or more times per week reduced the risk of developing heart disease by as much as 64 percent compared to those who ate fish less than once a month.

Finally, omega-3 supplementation plays a role in neurological health. Approximately 60 percent of the brain's gray matter is composed of PUFAs, and DHA makes up about half the total fat in the membranes of brain cells. Maternal levels of omega-3 fatty acids during pregnancy determine the levels present in the fetus. DHA in particular is critical in supporting infant growth, including brain development, and newborn DHA levels are correlated with birth weight, birth length and head circumference, making a solid case for omega-3 supplementation during pregnancy and lactation. In addition, recent human and animal studies have

concluded that supplementation with this omega-3 fatty acid was found to reduce buildup of amyloid protein—a sticky plaque substance that is characteristic in the brain of Alzheimer's disease sufferers—by as much as 70 percent. Other studies are being conducted with positive preliminary results of omega-3 supplementation on children suffering from attention deficit disorder (ADD), as well as adults suffering from depression and other forms of dementia. Moreover, we have been able to observe first-hand remarkable recoveries from neurological traumas utilizing omega-3 fatty acids as therapeutic treatment, as was the case of the sole survivor from the Sago Mine tragedy earlier this year, thanks to the expertise of cutting-edge physicians such as Dr. Julian Bailes, world-renowned neurosurgeon and member of the AmeriSciences Scientific Advisory Board.

Dr. Bailes has been instrumental in the selection of the fish oil utilized in the manufacturing of Omega Max, and, with his expertise, AmeriSciences has been able to produce the best omega-3 product available in the market. The developmental process for Omega Max during the past year had one goal—that the final product would meet the stringent criteria set forth by AmeriSciences and Dr. Bailes throughout this collaboration.

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Larger fish, particularly those near the top of the marine food chain such as tuna and cod, can accumulate dangerously high levels of heavy metals, pesticides and other persistent organic pollutants in their bodies. The oil utilized in the extraction of EPA and DHA for AmeriSciences Omega Max is sourced exclusively from small feeder fish, including primarily sardines and anchovies. These smaller marine animals have a much shorter lifespan and do not feed on other fish but rather microscopic plankton and algae, thus lowering their potential for accumulating contaminants through the food chain. Furthermore, the state-of-the-art molecular distillation process ensures an extremely pure extraction of the fish oil, leaving any undesirable molecules behind.

Beyond the advanced purification techniques and raw material selection, the finished soft-gel is subjected to a battery of assays, quantitative and qualitative analyses designed to confirm the absence of contaminants above the specified allowable limits.

In fact, AmeriSciences Omega Max is manufactured to comply with European Pharmacopeia standards—the only true pharmaceutical standard for fish oil to date. No other dietary supplement in the U.S. market currently surpasses the standards met by Omega Max. In addition, the extraction process allows for a higher concentration of both EPA and DHA in the native triglyceride form.

A common occurrence among omega-3 soft-gel consumers is the unpleasant reflux of the oil, also known as the “fish burp.” AmeriSciences Omega Max capsules undergo an enteric coating process that covers the soft-gel in a cellulose-derived film. This protective layer delays the disintegration of the capsule until it reaches the alkaline environment of the duodenum, bypassing the harsh stomach acids and preventing the occurrence of this oil reflux.

We strongly believe that supplementation with this high-quality marine lipid should be a critical part of every daily routine.

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