Omega 3's – The Whole Story

To really understand what makes omega-3's so special, it's important to look at the larger picture. There are two main types of essential fatty acids (EFAs)-omega 3 and omega 6. Why are they considered essential? Because even though they are required for good health, the body cannot synthesize these compounds from carbohydrates as it does other fatty acids, we must get them directly from foods we eat.

There are a few differences between omega 3 and omega 6 fatty acids that you may not know. Omega 3 fatty acids are primarily found in fish with high oil content such as salmon, sardines, trout and tuna. These EFA's have potent properties to quell inflammation, support a healthy heart rate, and discourage blood clots and clogged arteries. Omega 6 fatty acids, however, come from the oils in seeds and grains such as sunflower, wheat, corn and soy. Omega 6's are important for stimulating skin health and hair growth, maintaining bone health, regulating metabolism, and maintaining reproductive capability. Both of these EFA's are important in good health – but only if they are consumed in the right ratio.

Thousands of years ago, people ate equal amounts of these two types of fatty acids. Today, the standard American diet focuses on too much omega 6 fatty acids and not enough omega 3's, an imbalance that may contribute to chronic health problems. Most American diets typically contain almost 30 times more omega 6's than omega 3 fatty acids. Nutritionists for years have been stating that instead of a diet containing large amounts of vegetable oils, a well-balanced diet needs to consist of roughly one omega 3 fatty acids to three omega 6 fatty acids. Eating fish once or twice a week and taking a daily fish oil supplement easily accomplish this.

What happens to omega 3's and omega 6's after they have been consumed? Once in the body, EFA's break down to form eicosanoids (hormone like substances that regulate important bodily functions). Omega 3 fatty acids are rich in alpha-linolenic acid (ALA), which is a precursor to two other EFAs, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Omega 3 fatty acids also produce eicosanoids that destimulate coagulation and reduce the immune response. This means less clotting and inflammation, which is great for the heart as well as great for preventing inflammatory diseases like arthritis. Omega 6's create eicosanoids that increase blood viscosity, regulate blood pressure, and help sensitive nerve endings. Omega 6 fatty acids also promote inflammation as they convert arachidonic acid into prostaglandins and leukotrienes. While this can be a good thing if we are ill or injured, consuming large amounts of omega 6 fatty acids and small amounts of omega 3's can trigger chronic low-level inflammation that can lead to serious medical problems. When the omegas are in balance, it is a system of checks and balances. Arachidonic acid causes the production of important substances; while EPA and DHA make sure that these substances are not over produced.

Natural vs. Supplement

Omega 3's from fish oil (EPA and DHA) come to consumers attached to one of two kinds of molecules –triglyceride esters or ethyl esters. Omega 3 triglycerides are esters

formed from the joining of glycerol to three omega 3 fatty acids. The ethyl ester form of omega 3s found in standard fish oils results when EPA and DHA are extracted from their natural glycerol structure by means of “trans-esterification” with ethanol.

The body recognizes both forms (triglyceride or ethyl ester) of fish-derived omega 3s, and uses enzymes to switch omega 3s from either package to another as needed to serve different metabolic functions. Almost all of the long-chain omega 3 fatty acids (DHA and EPA) in fish occur in the triglyceride form. In contrast, almost all fish oil supplements contain the ethyl ester form of omega 3s.

Several studies have been done on the absorption of omega 3s from different types of fish (triglyceride form) with absorption of ethyl ester omega 3s from fish oil supplements. The results were clear and favored the fish as a source of well-absorbed omega 3s. The studies provided experimental evidence that n-3 fatty acids from fish are more effectively incorporated into plasma lipids than when taking EPA and/or DHA by itself.
This is why it is very important to supplement with fish oil that has both DHA and EPA together as opposed to take them separately.

What is the best natural source of Omega 3s?

The best natural source of omega 3s comes from the oil of the greenlip mussel of New Zealand. It is at least 200 times more effective at reducing inflammation in controlled laboratory experiments than fish oils containing the normal polyunsaturated fatty acids (PUFAs). This is due to a series of unique omega 3 PUFA’s called eicosatetraenoic acids (ETA). Another difference between fish oil and greenlip mussel oil is that fish oil will thin the blood and also affect blood clotting which can be dangerous, whereas greenlip mussel oil will thin the blood but will not affect blood clotting. The reason for this is that greenlip mussel oil does not interact with prothrombin, a clotting agent, which is made in the liver but does interact with thromboxane, which is made within the Cox 2 pathway. This can be hugely significant for anyone facing surgery.

These omega 3s from the greenlip mussel are of such a high concentration and natural balance that it would take on average at least 247 capsules of salmon oil to equal 1 capsule of greenlip mussel. Numerous studies have linked the omega 3s in greenlip mussels to measurable health benefits.

I highly recommend the lipid oils from greenlip mussels to my clients, and personally take this very powerful omega 3 product. I also have recently revised my “The ADD and ADHD Diet”, “The Secrets of Staying Young” and “Senior Moments” to include information on greenlip mussel and the benefits.

Dr. Howard Peiper, N.D., nominated for a Pulitzer Prize, has written many books on nutrition and natural health, including several best sellers. His website is: www.walkthetalkproductionsc.om