ESSENTIAL FATTY ACIDS

The Healing Fats—Essential to Good Health

Fats and oils are composed of molecules called fatty acids. Some are short, some are medium and some are long chains of carbon, hydrogen and oxygen. Some of these fatty acids are crucial for good health and can be manufactured in the human body. Others must be derived from what we eat because we cannot make them—these are *essential* fatty acids. There are two basic categories of essential fatty acids: omega-3 and omega-6, based on their chemical structures.

Every body cell needs these long-chain essential fatty acids in order to rebuild, to produce new cells and to produce hormone-like substances called prostaglandins that serve as chemical messengers and regulators of various body processes (such as maintaining core body temperature). Essential fatty acids support immune function, improve skin and hair, reduce blood pressure, protect organs, aid in preventing arthritis, reduce inflammation in general, store and transport fat-soluble vitamins, reduce cholesterol and triglycerides, and reduce the risk of heart attack or stroke. They are important in brain development and functioning—the list of their important functions goes on and on.

Omega-3 and Omega-6 Essential Fatty Acids

Dietary Sources

The omega-3 group of essential fatty acids includes alpha-linolenic acid, eicosapentanoic acid (EPA) and docosahexanoic acid (DHA). These fatty acids are found abundantly in fish that live in cold, deep water (salmon, halibut, mackerel, herring, sardines, etc.), in fish oil and in certain vegetable oils such as canola oil, flaxseed oil and walnut oil. Omega-6 essential fatty acids include linoleic and gamma-linolenic acid and are primarily found in raw nuts, seeds and legumes as well as in vegetable oils such as borage oil, grape seed oil, primrose oil, sesame oil and soybean oil. If either linoleic or alpha-linolenic is missing or deficient in the diet, cells deteriorate and inevitably deficiency symptoms will develop.

Daily Requirement of Essential Fatty Acids

Daily omega-6 and omega-3 requirements are approximately one to two percent of calories of each group, which is enough to prevent deficiencies in most healthy adults. However, a more optimal dose would be 1-3 grams (approximately 1 Tablespoon) daily of each. Obese people and those consuming diets high in saturated fats, even olive oil, require even more.

Since the 1850's omega-3 consumption has decreased to one sixth the level that was then found in our food supply, while omega-6 consumption has doubled in that time. This change in ratio of omega-3 to omega-6 essential fatty acids in our food supply is now reflected in the composition of our tissue fats and in our health. **To make up the omega-3 fatty acid deficit, the quickest way is to take 1 teaspoon-1 Tablespoon of fish or flax (high omega-3) oil daily for several months. The antioxidant Vitamin E (400 I.U.) should be consumed concurrently to prevent oxidation of these fatty acids.** Once the deficit is reversed, then the optimal daily ratio should be in favor of omega-6, approximately 2-3:1. Such a ratio is found in hemp oil, for example. Otherwise, balance your intake of high omega-6 and omega-3 containing foods accordingly and

supplement as needed. Some studies suggest that EPA offers the most benefits against inflammation, while DHA works best for nerves and is also the most protective for the cardiovascular system.

As mentioned above, essential fatty acids are best taken along with vitamin E to prevent oxidation. Other nutrients required for essential fatty acids to perform all of their physiological functions include vitamins B3, B6, C and A, and the minerals magnesium and zinc. A good multivitamin/mineral supplement will supply enough of these nutrients.

Nutrition Facts

Grams of omega-3 fatty acids in 3 ounces of each food:

Food	Amount
Anchovies, canned in olive oil	1.8 g
Pink salmon, canned	1.5 g
Atlantic sardines, canned	1.3 g
Bluefin tuna	1.3 g
Atlantic mackerel	1.1 g
Sockeye salmon	1.1 g
Swordfish	0.8 g

Contraindications

It should also be noted that people with hypertension, blood or bleeding disorders, those on blood-thinning medications, or diabetics, should not take fish oil supplements. However, eating the fish itself is acceptable (except for those with allergies to fish).

Caring for Essential Fatty Acids

Heat, light and oxygen will break down and oxidize these oils, not only destroying their healing properties, but also making them more dangerous to consume. These oils must not be subjected to heat, either in processing or cooking. Therefore, these cold-pressed oils (actually, any oil) should be stored in the refrigerator in opaque containers and used within a month or two, after opening the bottle. They should be shelf-dated by the manufacturer. They can be frozen solid which does not damage them.

Fats are Not Created Equal

The more unsaturated a fat is, the more liquid it is at room temperature (fish, vegetable, nut and olive oils) and the less it can withstand the heat of processing and/or cooking. The more saturated a fat is, the more solid it is at room temperature (butter, lard, tallow, etc.) and the more it can withstand the heat of processing and/or cooking. The process of hydrogenating oils involves making the oil more saturated (and more solid) at room temperature. The hydrogenation process also changes the 3-dimensional character of the oil such that it is no longer beneficial to the body. When you choose dietary fats and oils, think of how well any one of them might be able to flow through your arteries—unsaturated will win out every time.

Resources

Ayoob, Keith et al. Healing Foods. 2000. International Masters Publishers.
Balch, Phyllis and James. Prescription for Nutritional Healing, 3rd edition. 2000. Avery.
Erasmus, Udo. Fats That Heal, Fats That Kill. 1993. Alive Books.