

Protecting Heart & Brain Function with Omega-3 Fish Oil

Most folks, when asked what foods they should avoid, will probably answer “fats.” Skipping saturated and hydrogenated fats is, in fact, a survival strategy, but a diet that avoids all fat is actually hazardous to human health.^{1,2} The brain, for example, is composed of 60% fat,³ and needs essential fats in order to function properly.⁴

While it’s true that, in large amounts, some types of fat are bad for your health (not to mention your waistline), there are some we simply can’t live without. In reality, some fats cause disease while other fats heal.⁵ Fortunately, more Americans are moving away from the trend of following a “low-fat” diet toward one that is based on understanding the differences among fats.

The foods we eat contain a complex mixture of fats and oils whose basic structural components are called *fatty acids*. We generally consume at least 20 different types of fatty acids, each of which is classified as either saturated, monounsaturated or polyunsaturated.⁶

“Essential Fats” Are Lacking in the Typical American Diet

What are the good fats humans MUST have to survive? They’re known as the *essential fatty acids*: **omega-3s** (alpha linolenic acids, or LNA) and **omega-6s** (linoleic acids, or LA). We call them “essential fats” because the body requires them for health and can’t manufacture them from other sources. **They must be obtained through diet and/or supplementation.** Both these fats are thought to pull life-giving oxygen into our cells and keep it there, much the way a magnet pulls and holds iron filings.⁷

It is estimated that approximately 80 percent of Americans consume an insufficient amount of essential fatty acids.⁸ This shortage of essential fats in the typical American diet may contribute to the modern **epidemics of cardiovascular disease, cancers, diabetes, arthritis, high blood pressure and strokes.**^{9,10,11} While nutritional deficiencies are certainly not the sole cause of modern diseases, they are powerful negative forces that undermine health.¹²

Omega-3 fatty acids are essential fatty acids which fall under the “polyunsaturated” classification.

Humans are not able to synthesize omega-3s, but cold-water fish such as tuna, trout and salmon are especially rich sources of these beneficial fats. High quality fish-oil supplements are also an excellent direct source of *eicosapentaenoic acid* (EPA) and *docosahexaenoic acid* (DHA), important derivatives of omega-3 oils. EPA and DHA perform vital functions in maintaining health and preventing disease.⁶

Certain plant oils (such as flaxseed or pumpkin seed) contain an abundance of *alpha-linolenic acid* (LNA).⁶ This fatty acid is a metabolic precursor of the EPA and DHA found in fish and fish oils. The body must **convert** alpha-linolenic acid to EPA and DHA, however, and this conversion is not efficient in people who consume a typical Western diet.⁶

Omega-3 Fatty Acids: Crucial for Maintaining Health

Dietary omega-3 fatty acids are used in the formation of the cellular membranes of all the body’s tissues.⁷ What’s more, the brain needs omega-3s to develop properly during infancy, and they are “essential in growth and development throughout the life cycle.”¹³

Another vital function of omega-3 fats is their role in the production of *prostaglandins*, the chemical “messengers” that are found in every organ. Prostaglandins regulate most body processes, including: immune system function, healing, heart function, blood pressure, clot formation, inflammation, pain, hormone production, digestion, elimination, nerve transmission, allergic response and more.⁷ In addition, prostaglandins are involved in recovery from fatigue, growth, cell division, brain development, and the ability to learn and recall.¹⁴

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Several new studies have revealed a host of diverse benefits associated with Omega-3 fatty acids: Omega-3s help blood flow smoothly,¹⁵ reduce clotting,¹⁶ and lower triglycerides.¹⁷ In addition, Omega-3s may ease rheumatoid arthritis, inflammatory bowel disease,¹⁸ improve psoriasis¹⁹ and combat cancer.²⁰

Low Omega-3 Intake Creates Dangerous Imbalance

Research indicates that optimal health is best achieved through a diet providing equal amounts of omega-6 and omega-3 fatty acids. Omega-3 fatty acids compete with the omega-6 fatty acids for incorporation into all cell membranes. Unfortunately, in modern Western diets, the ratio of omega-6 to omega-3 fatty acids ranges from approximately 10:1 to 20:1 instead of the desired range of 1:1 to 2:1.²¹

Not surprisingly, therefore, studies show that a high intake of omega-6 fatty acids shifts the physiologic state to one that **increases the risk of heart disease**.²¹ Three main factors have caused this imbalance: (1) milling grain into white flour; (2) a dependence on beef for protein, and (3) the processing and hydrogenation of vegetable oils.²²

A Low-Fat Diet Can Lead to Weight Gain

One of the worst things about many popular “low-fat” diets is their high content of simple sugars (including refined starches). The cruel irony is that these high-carbohydrate, low-fat foods release a rapid jolt of glucose that our bodies quickly store as harmful fats.⁸

Sadly, this leads to **weight gain**, degenerative diseases, increased blood triglycerides and cholesterol, depleted stores of vitamins and minerals, and malfunctioning of our essential fatty acids, adrenal glands and immune systems.⁸

Clearly, any person pursuing optimal health should consume the right fats and avoid simple sugars, in addition to avoiding dangerous fats.

Harmful Fats to Avoid

Many types of commercially-processed fats/oils have been exposed to excessive heat, light and oxygen during processing. This exposure robs the fats of natural nutrition and creates toxic free radicals.²²

Hydrogenation stabilizes fats, but also twists some molecules into trans fats that harm brain and body,²²

raise bad LDL cholesterol, increase triglycerides, lower good HDL cholesterol levels, and increase the risk of heart disease and cancer.^{23,24}

When given trans fats, your body creates defective cell structures that cannot properly expel toxins, causing the cells to become undernourished and toxic.²² These defective cells lose their ability to hold water, nutrients and electrolytes. They can't communicate with other cells or be controlled by regulating hormones. They simply cannot function properly.⁸ While the body can use omega-3 and omega-6 fatty acids to create good prostaglandin messengers, animal fats convert into messengers that make trouble by increasing inflammation and making blood platelets “stickier.” This may lead to hardening of the arteries, heart disease and strokes.⁸

Choosing an Omega-3 Supplement

When choosing an omega-3 or EFA supplement, it's important to remember that omega-6 and -9 fatty acids are plentiful in our diets — in fact, we probably get too much. Omega-3 fatty acids, however, are often lacking in the typical American diet. Consequently, it is generally necessary to either eat foods rich in omega-3, and/or (preferably) supplement with contaminant-free fish oil sources.

High quality fish oils provide rich amounts of long-chain omega-3 EFAs and are shown to promote heart health, based on evidence from secondary prevention trials, which investigated whether advising people to eat fish can prevent a second heart attack. The well-known GISSI and DART trials have demonstrated that marine fatty acids significantly reduce mortality in people who already have cardiovascular disease.²⁵

To make sure you get a premium-quality omega-3 supplement, select a **natural fish oil concentrate** that has been tested to be **free of potentially harmful levels of contaminants** (i.e. mercury, heavy metals, PCB's, dioxins, and other contaminants). One of the best products on the market is available in an **enteric-coated**, odor-controlled softgel. This makes it easier to digest, and is especially helpful for those who experience nausea or reflux from other fish oils.

Another newly-available, improved [omega-3 fish oil supplement](#) provides **increased amounts of EPA and DHA** per softgel, thus requiring the intake of fewer softgels per day.

Omega-3 References

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