

## The Importance of Essential Fatty Acids By James Haig, N.C.

Oils are liquid forms of fat and, as such, they are subjected to the unfortunate stigma our society visits upon this most misunderstood of nutrients. Fats (or, more technically, lipids) have been vilified largely because of the association the word has with body fat, America's public enemy number one! Yet without fat in our diet and in our bodies, life would literally be unsustainable. Fats make up the membranes of every single cell in our bodies, including the cells in the eyes that are right now reading these words and the brain that is comprehending them (the brain is comprised of 60% fat). Fats are the raw materials of all our adrenal hormones, and they play a vital role in energy production. And, contrary to popular misconception, moderate consumption of healthy fats does not make us fat; it is actually carbohydrates that are primarily responsible for expanding waist lines. Omega 3 oils actually raise the metabolic rate, helping to burn calories more efficiently!

The main types of dietary fat are saturated, monounsaturated and polyunsaturated (biochemical terms that refer to the amount of hydrogen atoms that are filling or "saturating" their carbon chains).

An excess of saturated fat ( primarily found in animal foods) has been circumstantially ( but by no means conclusively) associated with atherosclerosis ( hardening of the arteries) and heart disease; however; saturated fat has many beneficial functions in the body, including energy production and providing firmness to the cell membranes.

Monounsaturated fat has been highly touted for its ability to lower serum cholesterol. Its best known form is oleic acid ( or omega 9) , the predominant fatty acid found in olive oil and most nuts (fatty acids are the building blocks of fats).

Excellent though this oil is, it is not considered essential, a term that refers to a substance that the body cannot synthesize itself and that therefore must be obtained through the diet. Only two fatty acids are considered essential, and both are polyunsaturated. These are omega 6 (linoleic acid) and omega 3 (alpha-linolenic acid), found primarily in vegetable and seed oils. These oils help to maintain flexibility of cell membranes, and also produce beneficial

prostaglandins (series 1 and 3), hormone-like substances which work to counteract the negative effects of inflammation.

However, polyunsaturated are extremely prone to damage by light, heat and oxygen, leading to the production of dangerous substances called free radicals. Commercial manufactures try to extend their shelf-life by either refining the oils (effectively stripping them of their nutritional value, while adding chemical contaminants) or by hydrogenating them, a process of artificial saturation that uses tremendous heat, along with heavy metal catalysts, resulting in an extremely toxic product that is closer to plastic than to a food substance. Hydrogenated oils are found in almost all margarines, vegetable shortening, commercial baked goods and most movie theatre popcorn.

Furthermore, the ideal ratio between the omega 6 and 3 oils is 1:1 or 2:1, whereas most Americans are getting closer to 20:1. An excess of omega 6 oils (corn, soy, safflower, sunflower) can have precisely the opposite effects to what is desired, producing pro-inflammatory substances, (including series 2 prostaglandins) which contribute to a host of degenerative diseases.