

## Understanding Fats in Your Diet, Part I

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There is a lot of confusion and misconceptions out there about dietary fat, and it's time to set things straight. As this is a fairly complicated topic, in next month's issue we'll be continuing the same theme.

Although the details of the biochemistry aren't important, you should know the differences among the basic types of fats. The first categorization refers to the type of bonds that hold the carbon atoms in place---in practical terms, whether these are liquid or solid at room temperature. Saturated fats come from animal sources including meat and dairy, as well as tropical plants such as coconuts and palm. Monounsaturated fats come from plants such as olives, avocados and rapeseed (canola). These are liquid at room temperature but semisolid when refrigerated. Polyunsaturated fats come from fish, seeds, nuts and other plants.

Polyunsaturated fats are further divided into Omega 3 and omega 6 fatty acids. The changing ratio of 3:6 fatty acids in our diets has been blamed for the prevalence of many of our chronic diseases today. Omega 3 fatty acids are found in fish, flax, canola, walnut and hemp seeds. Plants including dark green leafy veggies, legumes, purslane and spices such as cumin, fennel, fenugreek and mustard seeds are also good sources. Omega 6 fatty acids are found in corn, safflower, sunflower, soy, and grapeseed oil, among other sources. Historically, humankind ate a roughly 1:1 ratio of 3 to 6 omega fats. Since the late 1950's, there was a push to change agricultural practices in this country, and now the ratio is roughly 1:20 of 3 to 6 omega fats. Why is this a problem? The Omega 3 fatty acids lead to the production of a group of chemicals called Series 3 eicosanoids, which are anti-inflammatory. They aid in tissue healing, reduce blood pressure, improve insulin sensitivity and are required for appropriate brain development. The Omega 6 fatty acids are inflammatory and lead to rigid cell membranes, as well as higher incidence of cancer, cardiovascular disease and autoimmune disorders. Don't get me wrong, we do need small amounts of omega 6 fatty acids in our diet, as inflammation is important in battling infections and healing wounds. It's the ratio that's important.

Trans-fatty acids are new to nature, human-made fats that arise from exposing liquid fat to heat and a metal catalyst. They were developed to make fats solid at room temperature, so that products containing them would have a longer shelf life. Transfats need to be avoided, as they decrease essential fatty acids in the body, diminish insulin use, raise lipoprotein (a), worsen all parts of the lipid panel, and increase the tendency to form blood clots.

Common signs of essential fatty acid deficiency include coarse dry hair, hair loss, brittle nails, excessive thirst, slow wound healing, "chicken skin" on the backs of the upper arms and atopic dermatitis.

Appropriate metabolism of essential fatty acids requires the presence of several cofactors such as B vitamins, Vitamin C, zinc and magnesium. The metabolism of EFAs can be altered by excess of saturated or monounsaturated fats, as well as excess stress hormones, excess alcohol intake, excess salt, low protein and the presence of diabetes. Keep this in mind, as it means that if you

take lots of fish oil capsules but live a crazy hectic lifestyle, you may not be getting the benefits that you expect from your supplements.

Another thing to keep in mind is the type of animal products that you choose to eat. Milk and meat from cows raised on pasture and eggs from pastured chickens allowed to eat grass all contain much higher amounts of omega 3 fatty acids than those in commercial, corn-fed animals.

Next month I'll explain how to incorporate all this information into a more healthful (and tasty!) way of eating. It may require you to throw out a lot of things in your pantry! Start this month by throwing away everything that says "partially hydrogenated vegetable oil" as well as any old bottles of oil that smell rancid. Then be ready for what's to come next month.