

# The Fat Wars

*By ACSH Staff — January 1, 1991*

The relationship between nutrition and health is complex and cannot be described in a set of simple rules. However, simplistic half-truths are dominating public perception and shaping policies concerning our food and the nature of our diet. For example, a recent ad campaign depicted saturated fats as poisons and accused several American food companies of poisoning America because they use tropical oils and beef tallow. The person behind this ad campaign has no formal training in nutrition or medicine, but has forced major companies to reformulate their products. As a most recent example, several fast food restaurants have changed the type of fat used for the deep frying of french fries. Until recently, they used a fat mixture containing vegetable oil and beef tallow. Now they use vegetable oils only.

The general public perceives that saturated fats in any amount are bad, and unsaturated fats in any amount are good. However all fats, animal and the different types of vegetable fats, contain both saturated and unsaturated fatty acids. Individual fats are only called saturated or unsaturated because one type of fatty acid tends to predominate. Thus, animal fats usually tend to be higher in saturated fatty acids, and vegetable fats usually tend to be higher in unsaturated fatty acids. It does not matter whether you get your daily quota of saturated fatty acids from larger amounts of vegetable oils or smaller amounts of butter.

Consuming excess saturated fatty acids can raise serum cholesterol levels in some persons. In many cases, however, saturated fats, or cholesterol in the diet, do not play a major role in causing high serum cholesterol levels. The cause of most elevated serum cholesterol levels is unknown, but is probably genetically determined. Diet plays a role, but this role must be evaluated in each case.

Fat does contribute more calories to our diet than protein or carbohydrates. Excess calories are associated with a greater risk of heart disease and cancer, and for this reason reducing the amount of fat and other high calorie foods we eat is probably good for us. Changing the type of fat we use for deep frying, however, will probably have little effect on our health or on our cholesterol levels.

Fast food restaurants used beef tallow and tropical oils for a reason. Being relatively high in saturated fatty acids, they are more chemically stable than most vegetable oils. Unsaturated fatty acids become rancid more easily and are not suited to frequent reheating. Since the frying fat in fast food restaurants is frequently reheated before it is replaced, vegetable oils are made partially saturated (hydrogenated) to make them as stable or almost as stable as beef tallow. These hydrogenated fats may not be any better for our health than the fats they replace, even if they are less saturated chemically.

Complete hydrogenation converts a predominantly unsaturated vegetable oil into a completely

saturated fat, which is hard and brittle. Partial hydrogenation is more frequently used. Depending on degree of partial hydrogenation, oils either become less susceptible to rancidity, or are converted into a spread or a shortening. Partial hydrogenation results in another type of fatty acid, called trans fatty acid. Trans fatty acids are monounsaturated fatty acids which have a higher melting point than normal monounsaturated fatty acids and are therefore as stable as saturated fatty acids. Trans fatty acids do exist in nature, but they are relatively rare. However, shortening, margarine, and partially hydrogenated vegetable oils contain fair amounts of these fatty acids, thereby increasing our level of consumption.

Is this new type of fatty acid harmful? Most experts don't think so. However, a few scientists think that we may be jumping from the frying pan into the fire by replacing saturated fatty acids with trans fatty acids. A recent study suggests that both types of fatty acids are effective in raising serum cholesterol levels. The trans fatty acids are about half as effective as saturated fatty acids in raising total cholesterol levels. However, the trans fatty acids decrease HDL levels (the "good" cholesterol) more so than do saturated fatty acids. Nonetheless, at the level of trans fatty acids currently taken by most Americans, the change in cholesterol levels would be trivial.

The reduction in saturated fat intake achieved by changing the fat mixtures used for deep frying is really not that large. The beef tallow mixture results in six grams of saturated fatty acids per small serving of french fries. The vegetable oil mixture results in approximately three grams. The amount of total fat is the same, resulting in the same amount of calories. The difference in cholesterol intake is even less significant. The old product provides 9-12 mg of cholesterol, while the new product provides less than two mg. To put these savings in the proper perspective: Our own body produces saturated fats out of excess calories, even if they come from fat-free muffins. Our body also manufactures more than 1000 mg of cholesterol per day.

When a sample of nutrition scientists was asked whether they prefer the beef tallow blend to the new all vegetable oil mixes, most answered that they had no preference; a minority actually preferred beef tallow over hydrogenated fats. Most felt that the only thing that would really help consumers would be less total fat and calories in fast food, simply because obesity is a much greater health problem than the type of fat used for deep frying.

The scientists' comments about food companies changing the fats for deep frying or for food processing were similar: "They had no choice, they were caught between a rock and a hard place." "This step is going to have very little effect on human health, but they (the companies) had to do it, because of the public's perceived dangers of saturated fats." Apparently, the perception seems more important than fact.

This back and forth about fats should teach us the lesson that avoiding one type of fat in favor of another does not necessarily lead to good health. Large amounts of unsaturated, particularly polyunsaturated, fatty acids have their down side as well. Polyunsaturated fats have been shown to cause cancer in laboratory animals. However, no type of fatty acid has been shown to cause harm in moderate or occasional amounts. Harmful effects were only seen when relatively large amounts were consistently consumed over an extended time period. Therefore, the key to this dilemma is not to avoid any type of fatty acid in particular, which is nearly impossible to do, but to consume moderate amounts of all fats which contain all types of fatty acids.

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(From *Priorities* Vol. 3, No. 1, 1991)

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