

Fats Can Be Good for You



Fat. Just say the word and notice the emotions it evokes. The word can have very negative connotations in modern society. Fats have a bad reputation, both for making people fat and for being bad for their health. Foods labeled as “low fat” or “no fat” are promoted as being healthy.

In spite of this bad rap, most people still love fats. After all, fried foods, whipped cream, sour cream, and butter taste good and food manufacturers know that fatty (and sweet) foods are things people crave. The phrase, “living off the fat of the land,” illustrates the enduring love for fatty foods.

There’s a good reason we crave fats. The right kind of fats are necessary for good health. Every cell membrane is made of lipids (fatty molecules) and the brain is 50% fat by dry weight, so the nervous system doesn’t work properly without them. Fat keeps the skin soft. During the winter, fat helps insulate against the cold. Many tissues, including the brain and heart, work better when they burn fats (in the form of ketones) for fuel instead of carbohydrates.

Fats are also needed for the production of many chemical messengers, including steroidal hormones such as estrogen, testosterone, cortisol, aldosterone, and progesterone. They are used to create specialized messengers, eicosanoids, that allow cells to communicate with each other. Prostaglandins are the best known of these messengers, which mediate inflammation, regulate immune responses, and control cell proliferation.

So, why do fats get such a bum rap? Well, it primarily has to do with the quality of fats people consume. Just like refined carbohydrates cause health problems because they are missing the nutrients your body needs to process them, refined fats are lacking what you need to be healthy. So, in this issue of *Sunshine Sharing*, we’re going to help you understand fats better so you can pick the kind of fatty foods that will contribute to your health, not detract from it.

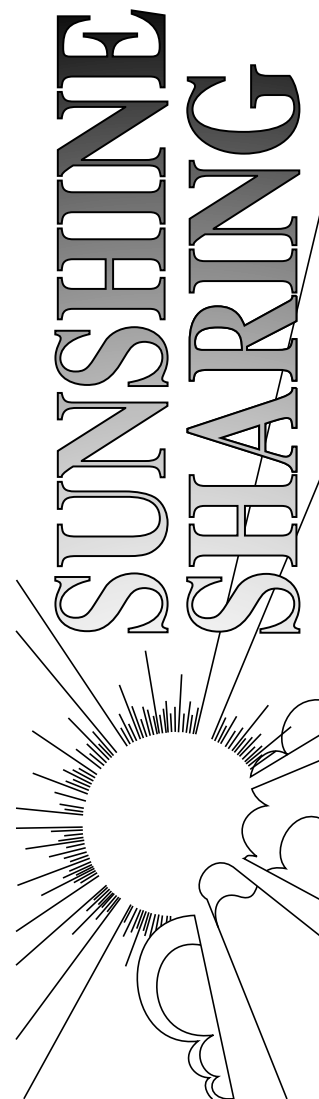
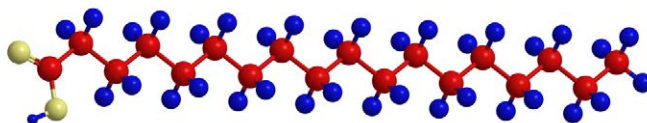
Understanding Fats

Fats and oils contain triglycerides which are composed of three fatty acids attached to a molecule of glycerin. When you eat fats, the body breaks the fatty acids and glycerin apart, absorbs the individual fatty acids and the glycerin and then recombines them to construct the body’s own triglycerides.

It’s the type of fatty acids within these triglycerides that determines how the fats work in the body. Fatty acids come in many varieties. They may be long, medium, or short chained. They may be saturated or unsaturated. If they’re unsaturated they can be mono- or polyunsaturated and the polyunsaturated fatty acids can be either the omega-3 or omega-6 type. To help us understand which fats are good for us, let’s begin by breaking down what all these classifications mean.

Saturation

Fatty acids are long chains of carbon molecules. Each molecule of carbon is capable of holding onto two hydrogen atoms (sort of like Mickey Mouse ears) as shown in the illustration. When all the carbon molecules are holding onto two hydrogen atoms the fatty acid is said to be saturated. If just one carbon atom is missing a hydrogen atom,



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Continued on page 2

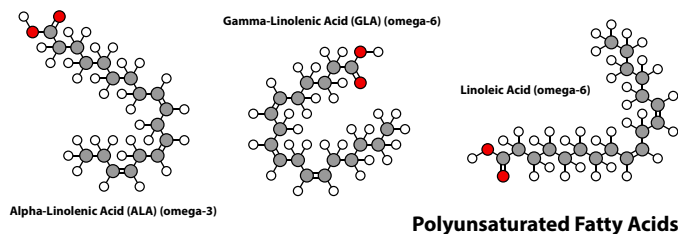
the fatty acid is monounsaturated. If more than one carbon atom is missing a hydrogen atom, the fatty acid is polyunsaturated.

Saturation affects the structure of the fatty acid. Saturated fatty acids are straight, while most unsaturated fats bend at the points where a carbon is missing a hydrogen. The bend makes the fat more fluid, which is why polyunsaturated fats tend to be liquid at room temperature, whereas saturated fats tend to be solid at room temperature.

This affects how they act in the body. Polyunsaturated fats help keep cell membranes pliable, while saturated fats make them stiffer. This influences the permeability of the membrane too. Too many saturated fats contribute to problems like insulin resistance.

The Omega Factor

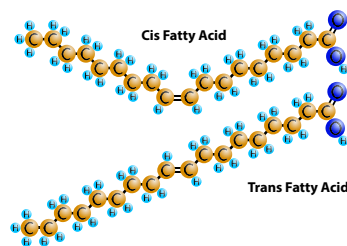
The omega factor in polyunsaturated fatty acids is determined by the position of the first hydrogen missing an electron in the fatty acid chain. In omega-3 fatty acids it occurs at the third carbon on the chain. In omega-6 fatty acids it occurs at the sixth carbon.



Both omega-3 and omega-6 fatty acids are considered essential because the body must get these polyunsaturated fats in the diet. However they are needed in proper proportions to each other. Many researchers believe that a good ratio is anywhere from 1:4 to 1:7, that is one part omega-3 fatty acids to four to seven parts omega-6 fatty acids. Most Americans aren't even close to this ratio, consuming diets of anywhere from 1:20 to 1:60. This contributes to numerous health problems, but the major one is that it increases inflammatory responses, which contribute to chronic disease.

Cis Versus Trans Fatty Acids

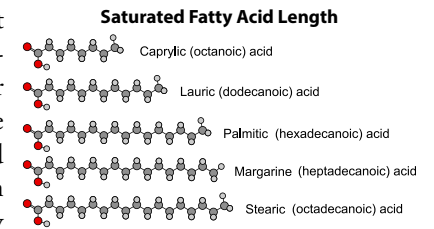
Polyunsaturated fatty acids that bend at the point where carbon atoms are missing hydrogen bonds are called cis fatty acids. As you subject these fatty acids to heat, however, they can become trans fatty acids. In trans fatty acids, the hydrogens attach on opposite sides causing the fatty acid so they don't bend as shown in the illustration. Trans fats are linked to increased risk for heart disease and other health problems. This is why polyunsaturated oils are not the best oils for cooking.



Fatty Acid Length

The length of the fatty acid chain is also important. Shorter chained saturated fatty acids are more easily burned for fuel than longer chained saturated fatty acids. In fact, the medium chained

fatty acids found in coconut oil, palm oil, and even butter are actually beneficial for the body because they are not stored as body fat and encourage the body to burn fat. Medium chain fatty acids, such as caprylic and lauric acid, have many health benefits, which will be discussed later. There are also some health benefits in short chain fatty acids.



Avoiding Bad Fats

Polyunsaturated fats have a problem. They can oxidize because oxygen can attach to the places where the carbons are missing hydrogen atoms. This turns them rancid. Once oil has been removed from the seeds, nuts, or other food sources it begins to deteriorate.

To prevent fats from turning rancid and lengthen shelf life, manufacturers refine oils, a process not unlike making refined white sugar. Fresh oils pressed from nuts and seeds contain vitamins, minerals and other nutrients. Because these nutrients decrease shelf life, they are removed from the oil. This extends shelf life, but makes the oils less healthy for consumption.



Hydrogenation

Many vegetable oils also contain trans fats because they are heated during extraction. This problem is compounded by hydrogenating the oil. Hydrogenation is the process of saturating fats by adding more hydrogen molecules into the fatty acid. Some oils are only partially hydrogenated so they remain liquid, but others are fully hydrogenated (i.e. saturated) to become the solid fats such as margarine and shortening. In either case, hydrogenation ruins essential fatty acids causing trans-fatty acids to form in their place.

The end result of creating refined vegetable oils is a very shelf-stable, oil product, which can be heated to a high temperature without smoking. However, the oil loses both its flavor and its nutritional value and acquires harmful trans fatty acids in the process. This is why it is best to avoid using processed vegetable oils as much as possible, particularly hydrogenated vegetable oils, like shortening and margarine.

Avoid Fried Foods

Deep fried foods are particularly problematic, since the constant heating of the vegetable oil increases the amount of trans fatty and long chain saturated fatty acids, while decreasing the healthy cis unsaturated fatty acids. Deep frying foods also increases the amount of calories being consumed. These factors help explain why eating fried foods has been shown to increase the risk of obesity, heart disease, cancer, and diabetes.

Choose Animal Fats Wisely

Contrary to popular belief, not all animal fats are bad. The biggest problem with animal fat is its source. The fatty acid profile in animals raised in feed lots is very different from that of animals

raised on pasture or obtained from wild sources. Also, many toxins accumulate in fat, so animals that are fed food containing pesticides or are given chemicals to fatten them up or increase production of milk and eggs, will have less healthy fat.

On the other hand, if you can get organic, grass-fed animal products like eggs, butter, cream, whole milk, raw cheese, poultry, or even red meat, enjoy them. Fish can also be a good source of healthy fats, including wild caught salmon, sardines, tuna, wild caught rainbow trout, and herring. Be careful with fish, however, as it can accumulate mercury.



Getting the Good Fats

The best sources of fat are natural foods such as avocados, nuts (particularly walnuts, macadamia nuts, and almonds), seeds

(hemp, flax, and chia for example), and the organic-grass fed animal products mentioned earlier. When it comes to selecting oils, there are a number of factors to consider.

All the fats you eat are actually a mixture of various types of fatty acids, in varying proportions. For example, coconut oil is 92% saturated fat (mostly steric acid), 6% monounsaturated fat and 2% polyunsaturated fat. Olive oil, on the other hand, is considered a monounsaturated fat because it is: 15% saturated, 73% monounsaturated (oleic acid), and 12% polyunsaturated. Safflower oil is a polyunsaturated fat because it is 10% saturated, 13% monounsaturated and 77% polyunsaturated.

Selecting the Right Oils

Oils high in saturated fats are better for frying because they can withstand heat better. Coconut oil, ghee, and organic lard are all good fats to use for cooking. Four of the best oils for cooking are olive oil, avocado oil, sesame oil, and sunflower oil. Never heat these oils to very high temperatures. If they start to smoke the temperature is too hot.

Also avoid soy, canola, cottonseed, corn, and grapeseed oil. Some of these oils come from genetically-modified plants. Others are too high in omega-6 fatty acids making them pro-inflammatory.

Never use oils high in polyunsaturated fats like flax, hemp, pumpkin, or walnut oil for cooking. These oils should be used in salads or other dishes that don't require heat. It's also good to refrigerate them as they can go rancid more easily.

In addition to these general suggestions, here are a few good fats you should consider using.

Olive Oil

High quality, extra virgin olive oil is one of the best oils to use. Good olive oil has a green or golden color. It also has a distinctive aroma and flavor, somewhat fruity and a little bit bitter. It should always be cold pressed and packaged in dark, glass bottles. It will also be more expensive. If it's cheap it may not even be real olive oil.

Olive oil is great for salads and uncooked foods, however it can also be used as a cooking oil if you keep the temperature down. You can also mix it with coconut oil or ghee for cooking.

Coconut Oil

Extra virgin coconut oil is also a very healthy fat. It is one of the best sources of medium chain triglycerides (MCTs). Coconut oil is also good for cooking as its high content of saturated fats makes it more heat stable. However, it's even healthier consumed raw.



Taking some coconut oil first thing in the morning can curb appetite and help to stabilize blood sugar levels throughout the day. It can help set the metabolism to burn fats which can aid in weight loss. Coconut oil can also help brain function. It may be helpful for preventing and even managing epilepsy, Alzheimer's disease, and autism. It can also help with intestinal dysbiosis, reducing the amount of yeast and harmful bacteria in the intestines.

Butter

Believe it or not butter from pastured (grass-fed) cows can actually be a healthy fat. It contains higher amounts of omega-3 essential fatty acids than regular butter and is also a better source of vitamin A. Butter is a good source of the fat soluble vitamins D3 and E, and grass fed butter can also a good source of vitamin K2. It is also a source of CLA (discussed below).

Although butter is high in saturated fat (70%), about 11% of that is the short chain fatty acid butyric acid, which has been shown to reduce inflammation in the digestive system. Butter is also a good source of MCTs such as caprylic, lauric, and capric acid.

Clarified butter or ghee is made by heating butter and removing all the milk solids. Ghee is better than butter for cooking because it has a higher smoke point making it another option for cooking. Clarifying butter also removes potential allergens for people who have issues with dairy.

Fatty Acid Supplements

In addition to including good fats in your diet, you can also take certain fatty acid supplements for specific health needs. Here are some important supplements to consider.

Omega-3 Essential Fatty Acids



While both omega-6 and omega-3 fatty acids are essential to health, most people are getting plenty of omega-6 fatty acids and not enough omega-3 fatty acids. Many researchers believe this imbalance is responsible for increased inflammation, poor tissue healing, and other diseases. As a result, many people benefit from taking an omega-3 essential fatty acid supplement containing the long chain omega-3 fatty acids EPA and DHA. One can also get more omega-3 fatty acids by consuming

Continued on page 4

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Continued from page 3

grass-fed or pasture raised meat, eggs, and dairy, fresh fish, and flax or hemp seed oil.

DHA

DHA is a long chain omega-3 fatty acid. It is the most abundant fatty acid in the brain where it is essential for myelin sheath repair and the maintenance of brain function. It has been used to aid memory, ease mental illness, aid focus and concentration in ADHD, reduce seizures, heal neurological degeneration and neuropathy, and aid recovery from traumatic brain injuries. It is also helpful for the eyes and cardiovascular system.



GLA

GLA is one of the omega-6 essential fatty acids. Along with adequate levels of the omega-3 fatty acid EPA, it helps to reduce inflammation and modulate immune responses. The synthesis of GLA may be inhibited by nutritional deficiencies, alcohol or tobacco use, overconsumption of trans fatty acids or saturated fats, or by stress, illness, or aging. Evening primrose oil, borage oil, and black currant oil are all high in GLA. Supplementation with oils high in GLA along with an omega-3 supplement may be helpful for skin problems like eczema and dermatitis, and for certain types of PMS.

CLA

CLA is conjugated linoleic acid and belongs to the omega-6 family of fatty acids. It occurs naturally in meat and dairy products when animals are grass fed.

CLA enhances the cell membrane's defense mechanism against attack by free radicals. It also stimulates the production of key immune system cells and inhibits the release of an immunoglobulin associated with allergies. It also helps decrease abdominal fat, balance adrenal hormones, enhance muscle development, reduces insulin resistance, and helps to lower cholesterol and triglycerides.

MCT Oil

MCT oil is a supplement containing the beneficial medium chain triglycerides. It is mostly caprylic and capric acid. It is useful as part of a ketogenic diet which can be helpful for neurological disorders, including epilepsy, Alzheimer's and autism.

Fat Soluble Vitamins

In whole foods, fats are accompanied by fat soluble vitamins and other nutrients. Because people may avoid fatty foods or utilize only processed vegetable oils, they wind up being deficient in fat soluble vitamins. These vitamins are extremely important to help prevent the fats in the body from oxidizing. It is oxidized fats that stick to the lining of arteries and contribute to cardiovascular and neurological diseases.

Fish oil supplements can be used to provide both omega-3 essential fatty acids and vitamins A and D, which are essential for the health of mucus membranes, bones and teeth, and proper immune function. Vitamin K2 taken along with vitamin D3 will help bone and dental health as well as reduce the risk of heart disease.

Vitamin E is another important fat soluble vitamin, which helps prevent fats from oxidizing. Vitamin E taken along with the mineral selenium is helpful for preventing blood clots and may reduce the risk of cardiovascular disease.

So when considering sources of healthy fats, be sure to remember the importance of the vitamins that go with them.

Additional Help and Information

For more information about avoiding bad fats and choosing healthy fats contact the person who gave you this newsletter. You can also consult the following resources:

Strategies for Health by Steven Horne

Fats that Heal; Fats that Kill by Udo Erasmus

Know Your Fats: The Complete Primer for Understanding the Nutrition of Fats, Oil, and Cholesterol by Mary G. Eng