

Essential Fat FAQ

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- I thought fat was bad. Now you're telling me there are different types, and that [certain kinds are actually good](#)?
- [What kinds of fats are there?](#)
- [What are EFAs?](#)
- What is the difference between [PUFAs and EFs](#)?
- [Where are EFs found?](#)
- What can happen to me if I [don't eat enough EFs](#)? [How much EFs do I need?](#)
- Are there some symptoms caused mostly by [deficiencies of the w6 EFs](#)?
- Are there some symptoms caused mostly by [deficiencies of the w3 EFs](#)?
- [How long has it been known](#) that the EFAs are essential? Is this some new discovery?
- Are your [research findings](#) different from those of other researchers?
- [What types](#) of essential fats are most important?
- Can [everybody make the derivatives](#) from the EFAs?
- Can you give me the [names of some w6 and w3 derivatives](#)?
- [How can I know](#) which fats I need?
- I can read food labels for PUFA content. Foods that have PUFAs have EFs. However, I have noticed labels do not tell me [whether the PUFAs are w3 or w6s](#).
- Is it [difficult to evaluate](#) EFA composition of the body? Is this a painful or complicated test?



I thought fat was bad. Now you're telling me there are different types, and that certain kinds are actually good?

Yes, you need *essential* fats (EFs) in your diet. Although it may seem confusing, there are actually three distinct types of fats: saturated, monounsaturated, and polyunsaturated. There are also artificially constructed fats called *trans* fats.

Certain kinds of polyunsaturated fats, called essential fats, are actually required by the body for proper functioning. Many people don't eat enough of them. Insufficient intake of EFs is a more significant cause of heart disease than eating too much saturated fat or cholesterol.

What kinds of fats are there?

Although we use the word "fats" in a general way, fats are really made of substances called fatty acids. There are four major classes of fatty acids that you should know about: saturated, monounsaturated, polyunsaturated, and *trans*.

Most foods are made up of a mixture of fatty acids. For example, corn oil has some SFAs, some MUFAs, and some PUFAs.

- Saturated fatty acids (SFAs) are straight molecules. They form foods which are solid at room temperature, such as butter and beef fat.
- Monounsaturated fatty acids (MUFAs) have one "kink" or bend in their molecules. They form foods that are liquid at room temperature, but solid in the refrigerator, such as olive oil.
- *Trans* fatty acids (TFAs) are byproducts of monounsaturated and polyunsaturated oils which occur during cooking, processing or hydrogenation. In this form, the kinks are removed, making straight, hard molecules similar to SFAs. TFAs have no known desirable function. They may interfere with normal fatty acid activity, and increase the risk of CAD. People who eat many hydrogenated oils accumulate TFAs in their blood. TFAs can be eliminated from the body through proper diet.
- Polyunsaturated fatty acids (PUFAs) have 2 or more kinks. They form foods that are liquid even when refrigerated, such as soybean, walnut, canola or flax seed oil. Some PUFAs are known as "essential fats" because humans must eat them to survive; we cannot make them from other foods. To live healthy lives, we must eat PUFAs in significant amounts practically every day (about 1/3 gram per kg of body weight).

What are EFAs?

EFAs are a type of PUFA that we must obtain from diet in order to live. Unlike other fats, the body cannot make EFAs. There are two EFAs: linolenic acid (an w3), and linoleic acid (an w6).

From the two "parent" EFAs, most humans can make many children (I used to call them "daughters" but I changed the name) or "derivative" EFs. The linoleic derivatives make up the rest of the w6 family, and the linolenic derivatives make up the rest of the w3 family.

EFAs are involved in the regulation of cholesterol and TGs in the body, and in the formation of many hormones. They act together and their relative amounts determine which hormones are produced and how these hormones act in the body. The w6 EFs play a major role in the texture and appearance of the skin and the softness of vessels; the w3 EFs are critical for eye and brain function.

What is the difference between PUFAs and EFs?

Technically, there are some PUFAs that do not come from the EFAs (ie, w7 and w9 PUFAs). The EFs only consist of *PUFAs from the w3 and w6 families*.

In practice there is no difference. The PUFAs in most foods come from the w3 or w6 family. Thus, when you read the word "PUFA" in food labels, it means EFs.

However, because of extensive food processing, we are now finding that some foods have PUFAs that do not come from the w3 or w6 families. Those PUFAs are not healthy. To distinguish the healthy PUFAs from other PUFAs, I invented the word EFs. The EFs are the PUFAs of the w3 and w6 family.

Where are EFs found?

EFAs (but no derivatives) are found in vegetables. Even though vegetables have little fat, they are rich in EFAs. That is one reason why vegetables are very healthy.

Linoleic acid (the w6 parent) is found in corn, safflower, sunflower, walnut, sesame, and soybean oils, most leafy vegetables, and many seeds and seed sprouts.

Linolenic acid (the w3 parent) is found in seed sprouts, flax seeds (linseed oil), soybean, and walnut oil. EFA derivatives are found in animal and fish fat, as well as in some new food and oil supplements. Fish is high in w3s. Other animals, such as chicken and eggs, are high in both w3 and w6 EFs.

If you eat a mixture of vegetables and animal foods, you will usually eat enough of each member of each family. However, if you eat too many processed foods, you will not get enough EFs.

What can happen to me if I don't eat enough EFs?

The effects are still being researched, but I propose that EFA deficiencies play an important role in abnormal vision, hyperlipidemia (high cholesterol or triglycerides), high blood pressure, abnormal

hormone activity, reduced cell survival, impaired wound healing and cell growth, cardiovascular disease, kidney disease, complications caused by diabetes, and probably neurological diseases and loss of mental ability.

When cells do not receive enough EFs, they function poorly, causing parts of your body to begin deteriorating. The cumulative effects of many years of EF deficiency causes a percentage of your organs to die, and eventually leads to the premature death of your entire body.

All of your organ systems will be affected. The only question is, which one will expire first? Will your arteries become hard and brittle, making it hard for your cells to get enough oxygen? Will your heart deteriorate so that your blood is not pumped efficiently? Will your skin lose elasticity and wrinkle, causing you to look prematurely old? Will your immune system deteriorate so that you cannot fight bacteria, viruses and cancer? Will your brain cells be affected, causing you to lose memory and brain function? Unfortunately, you will probably have a combination of these symptoms.

Skin symptoms are most immediately apparent with deficiencies of EFs. Many people exhibit scaly skin, itchy dry skin, or eczema. This is frequently seen in infants, and also in adults behind the ears, on eyebrows, on the scalp, around the nose, and on any area where the skin is folded and frequently irritated. The skin may exhibit increased water loss, resulting in dryness. You may find that small cuts take longer to heal. Your hair may become dry and brittle, and you may lose hair faster. Your hormones change. You may be less fertile, because both sperm and eggs need EFs. Your mind needs EFs, and without them your IQ declines and your memory is impaired.



Find out [how much EFs you need](#) (your "PUFA RDA").

Are there some symptoms caused mostly by deficiencies of the w6 EFs?

The linoleic, or w6, family has a major role in the texture and appearance of the skin and the softness of vessels. W6 deficiencies have a negative effect on the circulatory system. Symptoms in this area include increased blood TGs and cholesterol, increased blood pressure, impaired membrane function, hardening of the arteries, artery obstruction, incorporation of cholesterol and fat in arterial walls, abnormal hair loss, increased urination, increased thirst, and reduced growth (in children).

Are there some symptoms caused mostly by deficiencies of the w3 EFs?

The linolenic, or w3, family is critical for eye, brain, and neurological function. Deficiencies of w3s can cause impaired brain function and decreased IQ. Over a period of many years, you will find that your memory is reduced and that you cannot think as well as you used to. W3s are very important in preventing the formation of unnecessary clots that can obstruct an artery and cause a heart attack or stroke.

How long has it been known that the EFAs are essential? Is this some new discovery?

Scientists have known that the EFAs are essential for more than 40 years. Unfortunately, nutrition and fat are poorly studied in medical school. Doctors know that EFAs are essential. However, until recently, it was thought that everybody got enough of these essential fats.

Are your research findings different from those of other researchers?

Yes. I emphasize the need for a balance of essential fats of two types called *omega-3* and *omega-6*. I analyze the abnormalities and deficiencies of essential fats using my newly patented method. When more physicians start to analyze essential fats using my patented methods, I believe they will find the same results I did. In fact, many researchers told me at recent scientific meetings that they are finding deficiencies of essential fats in a wide range of people. Scientific articles have been published describing abnormalities and deficiencies of essential fats in patients with Cystic Fibrosis, Inflammatory Bowel

Disease, hypertension, high blood pressure, cardiovascular disease, diabetes, arthritis and many other conditions described in my book.

What types of essential fats are most important?

The balance of fats you need to eat depends on your lifetime history and accumulated fat and essential fats. Eating "parent" EFAs allows the body to regulate and produce the EFA derivatives it needs.

Precursors are also cheaper and easier to take than derivatives, because they are found in common oils. Many people can simply eat vegetables to obtain all the EFAs they need.

However, some people need to take derivatives, because their bodies cannot make them. This can be determined through blood testing. Other people have deficiencies of either w3s or w6s, and should eat a mixture of oils including both the parent and its derivatives.

The best way to tell which oils you need most is to get blood testing done. The [fatty acid profile EFA-SR™](#), which Dr. Siguel invented, is the only test of its kind to be awarded a US patent.

Can everybody make the derivatives from the EFAs?

No, some people cannot make derivatives, because of old age, disease, or a deficiency of vitamins or minerals. Also, newborns do not appear to have a mature system to make EFA derivatives and must obtain them from human breast milk. Thus, it is especially important for nursing mothers to eat well.

Can you give me the names of some w6 and w3 derivatives?

The two most common w6 derivatives are GLA and AA. The two most common w3 derivatives are EPA and DHA.

We find w6 derivatives in the muscle and some fat of most animals, including chicken, turkey, pork and beef. GLA is found in evening primrose oil, borage oil, and other specialized oils. AA is found in most animal muscle and eggs.

We find w3 derivatives like EPA and DHA in fish and fish oils. For that reason, many oils extracted from fish have been found useful to prevent or treat heart disease and cancer.

How can I know which fats I need?

It is dangerous to eat too many or too few specific fatty acids. In contrast to most vitamins, which may be excreted, fatty acids accumulate in the body. This is why people get fat. Relative excesses or deficiencies of one fatty acid alter the effects of the others. People who follow low fat diets may not eat enough EFAs. People who eat too much fat often eat too much saturated fat. Eating too many w3 derivatives can impair the blood's clotting functions and make you bleed too easily. Eating too many w6 derivatives, or too few w3s, will enhance clotting, which can cause a stroke or heart attack by blocking a key artery in your brain or heart.

This is why you need to [have your blood analyzed](#) to determine which fats you need. The fatty acid profile **EFA-SR™** can diagnose EFA abnormalities and assist your health professional in planning an optimal diet for you. This test reveals which fatty acids you need more or less of. It shows the amounts of major saturated, monounsaturated, EFAs (w3 + w6), and *trans* fatty acids in your blood.

The combined, long term effects of the type of foods you eat, their processing or freshness, your body's metabolism, and your exercise habits make it impossible to predict specific EFA abnormalities. However, people who eat a disproportionate amount of processed foods low in EFAs (such as cereals, breads, pasta), or fruits which are very low in fat and EFAs have a cumulative dietary history of reduced intake of w6 and w3. If you have accumulated an excess of SFAs and MUFAs and little EFAs, you need to compensate by eating more EFAs now.

I can read food labels for PUFA content. Foods that have PUFAs have EFs. However, I have noticed labels do not tell me whether the PUFAs are w3 or w6s.

Correct. It is practically impossible to tell how much w3 or w6 a food has. You can find tables that give you the approximate content for each food. However, food labels do not tell you that information. Food labels also do not tell you whether the food contains EFAs or EFA derivatives. Often, if the label says nothing, it means the food does not contain any PUFAs.

Is it difficult to evaluate EFA composition of the body? Is this a painful or complicated test?

Many physicians are very happy to work with Dr. Siguel to improve your health. You should approach your physician, who can then contact Dr. Siguel. Your health provider will order blood tests to diagnose nutritional and fat abnormalities, and your risk for cardiovascular disease may be determined. The fatty acid profile **EFA-SR™** measures fatty acid abnormalities and will determine whether or not you have too much or too little saturated fat, essential fats, and abnormal fats called "*trans* fatty acids" found in processed foods.

We use less than a teaspoon of blood and the test is as easy for the patient as a cholesterol test. However, proper presentation of test results is very complex and I recommend that you use a laboratory that analyzes fatty acids as described in my patent. While most blood tests can be done in minutes, the fatty acid profile **EFA-SR™** is very sophisticated and requires many days to be completed. Still, it is no more expensive than other complex tests for heart disease, and when compared with other procedures, such as a catheterization, the test is cost-efficient and has no risk. Practically any laboratory or hospital can draw blood from you and send it for analysis by special mail.

The fatty acid profile **EFA-SR™** diagnoses abnormalities and helps your doctor to explain precisely what you need to eat or avoid to improve your health. It is far more valuable than most tests, like cholesterol tests, which tell you what is wrong but not why. [My book](#) describes more than 20 health problems affected by essential fat abnormalities, including neurological problems, decreased mental abilities, inability to grow or perform well (in children), dry skin, immune disorders, cancer, diabetes, arthritis, and circulation problems.

Some form of my test for fats has been available for many years. I developed a new method which is about 10 times more sensitive than methods previously used. Because my method is more powerful and useful, I received a [US Patent](#) for it.

Most insurance companies pay for a significant portion of the blood test. If you are in an HMO, you should request prior approval from your physician and ask your insurance plan to request instructions on how to send the blood and pay for the profile.

A person's EFA status depends on dietary habits followed over the course of his entire lifetime, because fat accumulates in all the cells of your body. It is hard to guess at one's exact *extent* of EFAD without the fatty acid profile **EFA-SR™**, because you have eaten a wide variety of foods prepared many different ways since you were born. Also individuals need varying levels of EFAs, depending on how well they digest food, whether or not they exercise, if they smoke, or if they have a health problem that requires more EFAs. Using a blood test to evaluate the amount of essential fats in your body, your physician can determine how to correct an imbalance or abnormality of fats.

Based on your test results, your doctor or nutritionist will provide a diet that is optimal for you. Depending on your medical needs and interests, the tests will be repeated every 3 to 12 months to evaluate your progress and change your diet accordingly. Although nobody can guarantee you success, the nutrition program described in my book, based on my research, aims to improve your cardiovascular fitness, circulation, physical status, and mental well-being, while reducing the chance of a heart attack. In my experience, people who follow my nutrition plan reduce their risk of heart disease and improve their overall health.



Portions of this section have been excerpted from the book "[EFAs in Health and Disease](#)" (how to order, table of contents, references, notes, excerpts).

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