

KNOW YOUR FATS & OILS

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There has been a lot of chatter lately about seed oils being harmful. However, not all seed oils are unhealthy, and not all bad oils are seed oils.

This started when the media reported that all seed oils (which do not include avocado, Brazil nut, corn, peanut, palm, rice bran, soy oils, etc.) were harmful. Then, others with little or no nutrition knowledge parroted that erroneous statement. This is how misinformation spreads.

The science of fats and oils is complex and not easily understood. Dr. Mercola's excellent 26 June 2023 article, **The Importance of Omega-3 for Cell Membrane Functionality** explains the complexity of this topic.

Every cell in our body has a membrane that needs the EFAs in balance, especially omega-3, to function and communicate with other cells. According to Aker Biomarine Research Scientist Nils Hoem, PhD, the integrity of membranes is vital for the function of every cell.

I would not say that seed oils are worse than sugar because this makes people think sugar is OK in moderation, which it is not. Both are very damaging to the body but in different ways. The health of each generation on a toxic oil, high sugar diet worsens over time. To accurately assess the results of something, we need to look at two or more generations. Damaged oils/fats and refined sugar/carbs are among the leading causes of heart disease, obesity, diabetes, and other degenerative diseases.

In another article, Dr. Mercola stated, "**Linoleic Acid — is The Most Destructive Ingredient in Your Diet.**" **Linoleic acid/LA (omega-6)** includes avocado, Brazil nut, canola, corn, cottonseed, grapeseed, palm, olive, peanut, rice bran, safflower, sesame, sunflower, and soy oils. Since olive oil is mostly a monounsaturate with some omega-6, it should not be used in cooking or in excess. And, only the 'extra' virgin variety is safe. Many cheaper olive oils, including pure and virgin, are often mixed with canola oil. Most of these **omega-6 (Linoleic acid/LA)** oils are highly processed, damaged oils. Canola oil comes from GM seeds, which makes it toxic to start with. Its refining process and heating add insult to injury. Many restaurants and food processors use cheaper, inferior **omega-6** oils. Heating and cooking the unstable omega-3 and omega-6 polyunsaturated oils damage them. Hence, I never cook with these oils.

Coconut oil (mostly saturated with no polyunsaturated fatty acids) can take more heat than other oils. Thus, it is suitable for baked products. However, not everyone does well with coconut oil. So, butter may be a better option. Regular consumption of baked foods (e.g., cakes, pastries, cookies, etc.) high in sugar is not conducive to good health.

When I use olive oil, I only use 100% **organic, extra virgin** (from a reputable brand) for flavoring and in moderation. I never cook with it.

Too much omega-6 causes an omega-3 deficiency because they compete for delta-6-desaturase, the enzyme responsible for their conversion. An overload of omega-6 gobbles up the delta-6-desaturase enzyme for conversion into arachidonic acid, denying the ALA's (omega-3) conversion into EPA and DHA.

Processed foods loaded with omega-6 fats radically hinder the body's innate ability to synthesize EPA and DHA. This EFA imbalance impairs a child's growth and neurological development with terrible consequences. I believe these damaged and excess omega 6-oils are a significant factor in type-2 diabetes, cancer, mental illness, vaccine injuries, and many chronic diseases. Too much omega-6 (LA) also promotes tumor growth and disrupts brain and endocrine function (contributing to hormone imbalances).

While sugar and refined carbs add fat to the body and deplete minerals, the type of oil one consumes determines where that damaged fat disperses. No one is even talking about this. It is my observation, after many decades of nutrition work. By looking at the body shape, we can tell what fat/oil a person consumes. For example, canola creates that big, fat turkey neck and a blubbery belly and butt. We see a lot of gross distortion of body shapes among consumers of damaged omega-6 oils, especially canola oil. Belly fat is also a symptom of fatty liver (nonalcoholic cirrhosis). The bigger the belly and other areas, the worse it gets.

Sadly, when deprived of omega-3 and overloaded with omega-6 oils (on a fast-food diet), a child suffers life-long brain and nerve damage, and adults suffer from hormonal imbalances and chronic and degenerative diseases. Eliminating these damaged fats from the body is not easy. Dr. Mercola reported that it takes about six or seven years to fully eliminate the stores of LA from the adipose tissue due to their long two-year half-life.

Properly processed, organic flax seed oil is one of the highest sources of **Linolenic acid/ALA** (omega-3). [Omega Nutrition](#) (ON) pioneered the processing method for flax seed oil and other products without damaging their fats. I think they are the best of all the oil companies, with the highest standards and integrity.

While ON Flax Oil is an excellent source of omega-3, it should never be heated or used in cooking. I never cook in oil. Instead, I sauté in butter and water (without burning it). Ghee (not rancid) or poultry fat are other options. I also steam, bake, and broil. Food doesn't need to be cooked in oil to taste good. There are healthier ways (e.g., butter, herbs, spices, garlic, onions, etc.) to make meals tasty.

I have been using ON Flax Oil properly for over three decades without any heart or cancer health issues. When my patients/clients, including my late husband (a medical physician & researcher), eliminated all damaged oils and added organic ON Flax Oil, their whole body shape and looks improved, energy increased, and toxic oil-related

health issues disappeared (e.g., heart disease, cancer, etc.) The proof is in the pudding! I notice the benefits of including ON Flax Oil in my diet.

For flavoring and the omega-3, I add about 1 Tbsp, more or less, of ON High Lignan Flax Oil to salads and ON Garlic-Chile Flax Oil on some cooked vegetables and rice dishes. For flavoring Italian dishes, I add a small amount of organic, extra virgin olive oil (after cooking) before serving.

I use only healthy oils in my **Nourishing Basics Cook Book Recipes**. They are FREE to access at: <https://NourishingBasics.com> and [Masters of Health Magazine](#).

It is difficult to find seafood today that is not contaminated with toxic metals and plastics. I see this show up in clients' hair analysis. So, I keep seafood (e.g., wild-caught salmon & wild-caught sardines in water/brine) to a minimum and only buy reputable brands such as Safe Catch, Season Brand, and Henry & Lisa's.

Krill, from a reputable source, is beneficial for its DHA and EPA, but it is costly and does not provide the ALA benefits.

Fats are a vital constituent of all cell membranes in the body. They are our most concentrated energy source and help protect against invading allergens, bacteria, and viruses. Fats provide many life-supporting functions that:

- Carry and store fat-soluble vitamins such as A, D, E, and K for healthy skin, immune function, reproduction, and blood clotting.
- Assist the body in utilizing the B vitamins for digestion, nerve health, energy, and mental well-being.
- Activate the flow of bile from the gallbladder.
- Elevate calcium levels in the bloodstream and transport it to the tissues for strong bones, teeth, and cramp-free muscles.
- Help the body conserve protein to rebuild vital tissues.
- Assist in maintaining healthy temperatures.
- Insulate and cushion the vital organs, nerves, and muscles against shock, heat, and cold.
- Seal in moisture for healthier skin, hair, and nails.
- Supply pregnant and nursing women with extra reserves and good milk.
- Protect the cells against invading bacterial and viral infections.
- Are necessary for hormone production and balance, including sex hormones.

Fats, oils, and fat-like substances such as cholesterol and butterfat in mother's milk are also known as lipids. Lipids became prime topics in the '90s, yet there is still a tremendous amount of confusion, misinformation, and suppression of accurate information about this complex subject. Perhaps because sickness care and medication for their related illnesses are big business. The giant edible oil industry, whose main objective has been to promote its highly refined commercial products, exacerbated this problem.

ALL FATS ARE MIXTURES OF SATURATED, MONOUNSATURATED, AND

POLYUNSATURATED FATTY ACIDS IN DIFFERENT PROPORTIONS

Fatty acids are chains of carbon atoms with an acid attached to one end and hydrogen atoms attached to the rest of the carbon atoms. They come in different lengths ranging from three carbons long (propionic acid) to 24 carbons long (lignoceric acid).

PRIMARY FATTY ACIDS

Saturates are short-chain fatty acids with adequate hydrogen atoms and no double bonds within the chain. They are chemically stable and solid at room temperature.

Omega-9 Monounsaturates are medium-chain fatty acids that are missing two hydrogens. In place of the two hydrogens, the adjacent carbons “double” bond to each other in a naturally curved “cis” configuration. Their presence produces liquid oil at room temperature.

Omega-6 Polyunsaturates and **Omega-3 Super Polyunsaturates** are long-chain fatty acids missing four or more hydrogen atoms and contain more than one double bond between carbon atoms in their chain. They are more unstable than the monounsaturated fatty acid, easily damaged during heating, and remain liquid. Omega-3 Super Polyunsaturates have fewer hydrogen atoms and are more fluid than regular Omega-6 Polyunsaturates.

ESSENTIAL FATTY ACIDS IN BALANCE

Fatty acids are the building blocks of fats, much like amino acids are the building blocks of proteins. Of 20 specific fatty acids used by the human body to function normally, only two cannot be produced by the body. Thus, they are called **Essential Fatty Acids (EFAs)** and must be obtained in proper balance through diet or supplements. These two **EFAs** are **Omega-3**

Alpha-Linolenic Acid (ALA) and **Omega-6 Linoleic Acid (LA)**. **EPA** and **DHA** are derivatives of **ALA**, which are converted in the correct proportions at the right time for their vital functions.

Gamma Linolenic Acid (GLA) is a derivative of **LA**. GLA can sometimes mimic and augment the effects of Omega-3 fatty acids within the body. It is found in high quantities in evening primrose oil.

Arachidonic acid (ARA), another derivative of **LA**, is the precursor of prostaglandins and involved in the inflammation process.

Other fats, such as **Omega-9 Oleic Acid/Monounsaturated fats** and **Saturated fats**, are nonessential fatty acids (**NEFA**) because they can be produced provided the EFAs are present.

In their book *Omega-3 Oils: A Practical Guide*, Donald Rudin, MD, and Clara

Felix point out that most Omega-3 studies used fish oil. In contrast, Dr. Rudin's studies found better results with flaxseed oil. This is because flaxseed oil starts with the plant form of ALA (alpha-linolenic acid), whereas fish oil contains the animal form, EPA (Eicosapentaenoic acid) and DHA (Docosahexaenoic acid). The body makes its own EPA and DHA through enzyme conversions from ALA. Although some claim that the amount of DHA made is small, the body does not need much DHA. Most DHA is contained in cell membranes and is held there with little replacement. In contrast, ALA and compounds made from it are essential for many bodily functions. Fish oil cannot provide ALA. Therefore it deprives the consumer of this critical compound.

For a person that is parasympathetic dominant or has a delta-6-desaturase enzyme defect that deprives the body of making the enzymatic conversion from ALA, the animal source of Omega-3 may be a better option. If unsure, it is best to provide both vegetable and animal sources of Omega-3. Dr. Mercola claims krill oil is superior to fish oil because it contains vitamins E, A, and D and astaxanthin, a potent antioxidant. Research has shown that the antioxidant potency of krill oil is, in terms of ORAC (Oxygen Radical Absorbance Capacity) values, 48 times more potent than fish oil.

The EFAs are one of the basic food groups necessary for life. Yet surveys have shown that over 60 percent of the North American population is deficient in EFA's, especially Omega-3 (ALA). Similar statistics exist in the UK, Australia, New Zealand, and the Pacific region, where the fast/junk food diet, high in toxic LA/omega-6 oils, has been adopted. The EFAs are vital for normal brain development and function from conception to death. Omega-3 deficiencies are linked to decreased memory and mental abilities, depression, tingling sensation of the nerves, poor vision, increased tendency to form blood clots, diminished immune function, increased triglycerides and cholesterol (LDL) levels, impaired membrane function, hypertension, irregular heartbeat, learning disorders, menopausal discomfort, itchiness on the front of the lower leg(s), infertility, and growth retardation in infants and children.

ESSENTIAL FATTY ACIDS CREATE BEAUTY

Consumption of these EFAs in balance is a major factor in creating beauty. Before WW11, most diets of pregnant women and children were relatively free of damaged fats/oils and supplemented with cod liver oil to provide the EFAs. Old movies and photographs reveal the beautiful bone structures, teeth, and body shapes these people developed. In contrast, deficiencies of EFAs within one generation produced deformities such as narrow foreheads, faces, and dental arches, along with stunted growth. The benefits of EFAs and defects from deficiencies of EFAs are also clearly evidenced in the invaluable book "**Nutrition and Physical Degeneration**" by Weston A. Price, DDS. www.westonaprice.org.

Omega-3 fat and its derivative, **DHA** (docosahexaenoic acid), contained in breast milk, is vital for an infant's ability to form myelin - a specialized membrane that protects the nerves. It is also essential for the normal development of the central nervous system and brain. When an infant is fed a formula devoid of the EFAs, or a nursing mother is deficient in the EFAs, premature births are more prevalent, and the child's nervous and immune systems may never fully develop. Their IQ is also

significantly lower. These conditions are common among consumers living on junk food and extreme vegetarian diets, which are EFA deficient. Sadly, these deficiencies can cause mental retardation or a lifetime of unexplained emotional, learning, or immune system disorders. I believe children with EFAs deficiencies are vulnerable when vaccinated, making them more susceptible to ADHD, retardation, and behavioral problems. Studies have shown these children have an altered fatty acid metabolism. An EFAs deficiency could explain why some children are damaged from vaccination toxicity (e.g. adjuncts), while others are not. Fats also protect from viral and bacterial infections. The best insurance a mother can provide for her baby is to consume quality EFAs in balance before, during, and after her pregnancy while nursing. Plus, a child should be nourished with the EFAs in balance throughout its development. To learn about the pros and cons of vaccinations from independent sources/science, [CHD](#), [AVN](#), and [Vaccination Decisions](#) (Dr. Judy Wilyman, PhD) are three good places to start.

EFAs ARE CRITICAL FOR THYROID FUNCTION AND THE MANUFACTURE OF PROSTAGLANDINS

EFAs are critical to thyroid function and required for receptor function. EFAs, especially Omega-3s, improve the efficiency of hormones on the receptor sites. This mechanism also occurs with other hormonal functions of the ovaries, testes, pineal, and adrenal glands.

One of the most critical roles of **EFAs** is the manufacture of **prostaglandins**, which are hormone-like compounds that regulate every function in the human body at the molecular level. Each cell needs a daily amount of EFAs in balance to produce prostaglandins because the body does not store them. Prostaglandins regulate the cardiovascular, digestive, reproductive, and nervous systems. Prostaglandins also:

- Improve brain function, including mood, intelligence, and behavior.
- Alleviate depression.
- Function as an anti-inflammatory catalyst in rheumatoid arthritis and other inflammatory diseases.
- Inhibit cancer cell growth.
- Control yeast infections and improve intestinal flora.
- Promote more effective insulin utilization in diabetes.
- Reduce risk factors in heart disease, lower serum cholesterol and triglycerides, reduce the risk of thrombosis, and lower blood pressure.
- Enhance the functioning of T-suppressor lymphocytes that defend the body from invading bacteria and viruses.
- Promote faster healing and recovery.
- Alleviate asthma, allergies, and symptoms of PMS.
- Clear skin conditions such as eczema, psoriasis, and acne.
- Help to increase the metabolism and more easily lose weight.
- Improve vision.
- Increase oxygen uptake, energy production, performance, and stamina.
- Improve glandular and organ function, including liver, kidneys, adrenal, and thyroid.
- Produce healthier babies and improved digestion during pregnancy.

For all their value, EFAs cannot do their job alone. To be effective, they must bind with protein to form **lipoproteins** before the body can assimilate them. Therefore, EFAs and proteins should be consumed at the same meal in the proper ratios, along with daily exposure to full-spectrum light. See “*LIGHT*,

LIGHT: The Ignored Nutrient” by Lady Carla Davis, MPH, Issue #1, [The NZ Journal of Natural Medicine](#) and “*LIGHT: A Vital Nutrient*” by this author at <http://www.NourishingBasics.com> and <https://MastersOfHealthMag.com>.

Since 1900, Omega-6 consumption has increased by about 20 times the previous levels, primarily because of the increased use of highly refined vegetable oils and partially hydrogenated oils in food preparation. Omega-3s are now only 1/6 of the previous levels. Excessive consumption of Omega-6 fatty acids can interfere with the absorption of Omega-3 fatty acids and promote tumor growth. Compounding this problem is the high consumption of sugar, drugs, caffeine, tobacco, alcohol, GMOs, chemicals (e.g., glyphosate), pharmaceuticals, and fluoride that block EFA enzyme systems and disrupt their conversion to prostaglandins.

Composition of Fats/Properties of Vegetable Oils Chart

MCTs ARE ESPECIALLY GOOD FOR ATHLETES

For Millennia, the type of fats humans consumed was usually naturally balanced between stable saturated animal sources and undamaged EFA from a diet that included wild game and seafood. In the tropics, fat sources came from coconut, palm fruit, and seafood. These fats did not cause the health problems that damaged fats/oils, now used in most processed/prepared food products and fast food restaurants, do.

Saturated fats supply the stable Medium-Chain Triglycerides (**MCTs**). Butter, coconut, macadamia, and palm kernel oils contain MCTs that are especially beneficial for premature infants, burn victims, Crohn’s disease, and cancer patients. MCTs do not get metabolized through the intestinal tract like regular fats and oils but in the liver like carbohydrates. MCTs facilitate the absorption of minerals, fat-soluble vitamins, and essential fatty acids. MCTs are also beneficial for athletes because they deliver more energy than glucose.

SOURCES OF FATTY ACIDS

Dietary fatty acids are available from two basic sources: animal and vegetable. Ensure that they are not damaged. Below are some of the main sources.

Saturates

Animal sources: Beef, bison, lamb, pork, poultry, organs, fats (lard, tallow, suet); unhomogenized full-fat goat, sheep, and cow yogurt and cheeses; cream; and butter.
Vegetable sources: Coconut/coconut butter/oil, palm/palm kernel oil, macadamia nuts/oil.

Butter is an animal saturated fat containing vitamins, minerals, amino acids, and

several fats, including *butyrate*. *Butyrate* provides a base for making the brain chemical GABA (gamma-aminobutyric acid), our natural valium.

Coconut oil is a rich source of lauric acid, also found in mother's milk. Lauric acid has antimicrobial properties and increases HDLs. Being a stable fat/oil makes it one of the few oils suitable for cooking and baking. Virgin coconut oil (in its natural state) has a stronger scent and flavor than deodorized coconut oil. Both should be processed by a reputable company and packaged in light-protected containers. Dr. Bruce Fife, author of *Coconut Cures*, *Coconut Water for Health and Healing*, and *The Coconut Oil Miracle*, claims that coconut oil can help moderate blood sugar levels by re-sensitizing the cells to utilize glucose. Hence, insulin secretion is improved, and type 2 diabetes symptoms are minimized or eliminated. NOTE: Coconut oil is not suitable for all blood types.

Monounsaturates – Omega-9

Vegetable sources include almonds, avocados, coconuts, extra virgin olive oil, hazelnuts, macadamia nuts, walnuts and other raw nuts, peanuts, seeds, and seed oils.

Monounsaturated/oleic acid lowers heart attack risk and arteriosclerosis and aids in weight loss if balanced with omega-3. Unlike what many believe, olive oil does not contain omega-3 fatty acids. Olive oil is mostly a monounsaturated fat (MUFA) with some omega-6. Therefore, it should be used moderately, in balance, with omega-3 and only the **extra virgin olive oil**, packaged in a light-protected container. BEWARE: Some cheap olive oil brands are blended with canola oil, which comes from a GMO seed, is highly refined, and a damaged fat.

Polyunsaturates – Omega-6

Animal sources include mother's milk, organs, and lean meats.

Vegetable sources: Pumpkin (pepitas) seed, borage, macadamia, safflower, sunflower, olive, sesame, hemp seed oils, raw nuts, seeds: traces in legumes, algae, and leafy greens.

Super Polyunsaturates – Omega-3

Animal sources include mother's milk, krill oil, marine oils, cold water fish (e.g., salmon, mackerel, herring, carp, sardines, shrimp, oysters, halibut, tuna, sablefish, bluefish, catfish, anchovies), and freshwater fish (e.g., trout and crappie).

Vegetable sources include linseed/flaxseed oil and perilla: traces in walnuts, pecans, kiwi fruit, fresh sea vegetables, algae, and leafy greens.

Fresh, **organic, cold-pressed flaxseed oil** is rich in ALA (alpha-linolenic acid). Flaxseed oil contains approximately 70 to 80 percent EFAs and is especially high in omega-3. Select only quality, organic oil packaged in light-protected containers from a reputable company such as Omega Nutrition.

CHOLESTEROL IS ESSENTIAL FOR NERVE TISSUE, HORMONES, BILE, AND VITAMIN D

Cholesterol is one of a group of fats found in the bloodstream. It travels through the bloodstream bound to two types of **lipoproteins**, which are molecules containing both fats and protein. Low-density lipoproteins (**LDLs**), the richest in cholesterol, rebuild and repair damaged tissue. High-density lipoproteins (**HDLs**) clear fat away from artery walls and return it to the liver for excretion. When arteries are healthy and well-nourished, their linings remain smooth and clear. As cells wear out, HDLs remove them. These cells are replaced with new cells when LDLs bring in more cholesterol in a natural continuous maintenance process. Cholesterol is the perfect lubricant. Well-nourished, elastic arteries allow a steady blood flow to nourish the various organs.

Cholesterol is vital for many important functions of the body and is in all body tissues. It is essential for nerve tissue production, many hormones, including sex hormones, bile for fat digestion, and vitamin D production. Lower than normal cholesterol levels contribute to anemia, acute infection, depression, dementia, autoimmune disorders, and excess thyroid function.

The liver and brain make about 1.5 gm of this waxy fat-like substance every day to help ensure the body has enough of it. About 10 percent of the brain's dry weight is cholesterol. Reduced consumption of cholesterol spurs the body to increase production of it.

Heart disease often implicates cholesterol. However, cholesterol consumption has remained constant during the past 114 years, while the increase in cardiovascular disease is up some 350 percent. Therefore, cholesterol itself is not the villain but rather a symptom of heart disease when it builds up in trying to repair damaged arteries.

Several factors are involved in the development of cardiovascular disease. Through nutritional deficiencies and the ingestion of damaged fats/oils (trans fatty acids), vessels lose their elasticity, form lesions, and start to fragment. Cholesterol, in the form of LDLs, is dispatched to the damaged area to protect the tissue in the same way a scab forms while a cut heals.

If necessary nourishment with vitamin C, bioflavonoids, and silica is deficient, healing does not take place, and HDLs will not remove cholesterol deposits. Instead, scarring takes place, and plaque builds up like glue. Stress, damaged fats/oils, sugar, cigarette smoking, GMOs, coffee (even decaffeinated), diabetes, fluoride, low thyroid function, iodine deficiency, liver dysfunction, and cardiovascular disease all hinder natural processes and contribute to higher than normal cholesterol levels.

TRIGLYCERIDE LEVELS MAY INDICATE PLAQUE OR LIVER DYSFUNCTION

Various fatty acids from fats and oils combine with glycerol and form triacylglycerols. More commonly known as **triglycerides**, they are the main constituent of body fat and another group of fats implicated in plaque formation. In excess, triglycerides develop into a fatty stomach, backside, or thighs (signs of inflammation and liver damage). Medication, refined flour, sugar, damaged oils, soda, alcohol, and coffee elevate triglycerides in the blood. Higher or Lower than normal triglyceride levels may

indicate liver dysfunction and nonalcoholic fatty liver disease. Thus, a balance with a healthy liver is vital for good health.

NOT ALL FATS ARE BENEFICIAL

Over the past 70 years, there have been dramatic changes in our agriculture, food processing, and dietary habits contributing to essential fatty acid (EFA) deficiencies and the consumption of **Trans Fatty Acids (TFAs)**.

Hydrogenation is a commercial process that solidifies oils by saturating the double bonds in fatty acids with hydrogen. Hydrogenation changes the beneficial *cis* form of polyunsaturated fatty acids to the damaged *trans* fat (TFA) not intended for human use. **TFAs derived from vegetable oils interfere with the normal enzymatic metabolism of natural fats and impede every function of the human body, right down to the cellular level. The smallest changes in the molecular structure of natural fats have devastating effects on body chemistry and produce inflammation, an early sign of heart disease.** A C-Reactive Protein (CRP) blood test can measure the inflammation.

The shape of a molecule is important because enzymes and their substrates - the molecules enzymes act upon - must fit together like a key in a lock. TFAs remain unmetabolized in the human body and weaken the cell walls, leaving cells vulnerable to viral invasion. This, in turn, causes swelling and impairment of the mitochondria. TFAs, cannot be used by the body to make beneficial prostaglandins.

Most processed foods contain hydrogenated or partially hydrogenated oil for longer shelf life. Most margarine or vegetable oil spreads contain soy or canola oil derived from GMO seeds and processed at very high temperatures. TFAs are in commercial cakes, pies, cookies, crackers, bread, chips, pretzels, snack foods, breaded foods, French fries, chocolate bars, and salad dressings. READ the INGREDIENTS section of all labels to AVOID these damaged fats/oils.

According to nutrition research expert Mary Enig, PhD, these altered TFAs, called *isomers*, are shaped differently. When the TFAs get into cell membranes that are supposed to have either saturated fatty acids or *cis* unsaturated fatty acids, they disrupt normal body functions (e.g., metabolism, heart, immune, respiratory, reproductive systems, etc.).

Enig's research revealed that the various mechanisms through which the TFAs disrupt function are related, in part, to the ability of TFAs to inhibit the function of membrane-related enzymes, such as the delta-6 desaturase resulting in decreased conversion of linoleic acid to gamma-linolenic acid or arachidonic acid; interference with the necessary omega-3 fatty acids conversion to their elongated tissue omega-3 fatty acids; and escalation of the adverse effects of essential fatty acid deficiency. In essence, they hinder the cell membranes from communicating with each other.

Decades of research at the University of Maryland and other institutions showed that consumption of TFAs from partially hydrogenated vegetable fats and oils had many adverse effects on health. For example:

Heart disease - TFAs raise atherogenic lipoprotein-1 (Lp(a) in humans.

Cancer - TFAs interfere with enzymes the body uses to protect itself against cancer.

Diabetes - TFAs interfere with the insulin receptors in the cell membranes, thus triggering type 2 diabetes.

Immune function - TFAs interfere with B and T cell function, thus reducing the immune response. **Fertility and Reproduction** - TFAs interfere with enzymes needed to produce sex hormones; they decrease testosterone in male animals and increase the levels of abnormal sperm. **Lactation** - TFAs lower the overall fat content in mother's milk in both animals and humans, thus compromising the nourishment of the infant. TFAs can cross the mammary gland into the mother's milk and interfere with the neurological and visual development of the infant.

Development and Growth - TFAs can cross the placenta, creating many problems for the developing fetus, including low birth weight; they also interfere with long-chain polyunsaturated fatty acid formation needed for growth and development, especially brain development.

Obesity - Women who consume TFAs weigh more than women who do not consume TFAs, even though the caloric intake is the same.

The increased intake of biologically abnormal TFAs derived from hydrogenated vegetable oils correlates more significantly to the 20th-century increase in heart disease and cancer, including breast cancer, than any other dietary change (*Townsend Newsletter*, Oct. 1989).

In 1900, cardiovascular disease killed one in seven people. Now, it kills one in two people. This is over a 350 percent increase in the past 111 years despite, or perhaps because of, technological advances. (*Healing Fats, Killing Fats*, by Udo Erasmus, 1990)

The *Nurses Study*, which involved 80,000 female nurses with 14 years (1989-2003) of follow-up, revealed that for 2% of energy intake from TFAs, there was a 95% risk of non-death myocardial infarction or death from coronary heart disease.

Some city governments in the USA have attempted to tackle this serious health problem by outlawing TFAs, in restaurants. This also needs to be done nationally and in other countries, such as Australia, New Zealand, and the Pacific region, where a large population obtains most of their meals from fast food outlets. Samoa and the Cook Islands have among the fattest people in the world dying early. Consumption of damaged fats and oils in a junk food diet combined with crisps and soda is a major contributing factor.

Unless major changes occur, the long-term consequence of damaged fat/oil

consumption will only further exacerbate our modern degenerative diseases, obesity, and mental illness. READ <http://www.westonaprice.org/> and Dr. Richard Passwater's three-part interview with [Dr. Mary Enig, PhD.](#)

[Health Risks from Processed Foods and Trans Fats Part 1](#)

[Health Risks from Processed Foods and Trans Fats Part 2](#)

[Health Risks from Processed Foods and Trans Fats Part 3](#)

Homogenization is another process that extends shelf life. However, this process breaks up large, digested fat globules into droplets, which can bypass digestion. These droplets are then absorbed into the bloodstream, carrying a destructive enzyme called *xanthine oxidase* (XO) that damages arteries. Heart disease is more prevalent in countries consuming high amounts of homogenized milk. AVOID homogenized dairy.

GMOs

The giant oil industry now genetically modifies (GM) their oils to sidestep the TFA problem. However, genetically modified (GMOs) fats/oils (e.g., canola oil, margarine, etc.) are foreign to the body, play havoc with bodily systems, and have unknown long-term consequences. Asthma and allergy increases are but a few of the symptoms. In addition, these GM fats/oils appear to be changing the normal shape of the human body. For example, a person may develop an overly large fatty (turkey) neck, thighs, hips, blubbery butt, or stomach that no exercise can eliminate. These abnormal body shapes have become common among GM-damaged fat/oil consumers.

Canola seed is one of Canada's chief exports. It is also a large crop in Australia. Canola oil is in thousands of processed/prepared food products, restaurants, and even many so-called health food products. Some well-known commercial brands of peanut butter have replaced natural peanut oil with canola oil to make it more spreadable. Studies have shown that canola oil destroys vitamin E, suppresses the immune system, and blocks (inhibiting) enzyme function. GMO oils damage the healthy gut microbiota, which leads to 'leaky gut' diseases. Its effects are accumulative, sometimes taking years to show up. As with all GMOs, this oil can have serious long-term ramifications for human development and the health of future generations. READ *The Great Con-ola*, by Sally Fallon Aug.-Sep. [Nexus Magazine, 2002](#).

COOKING CAN DAMAGE FATS/OILS

Cooking can damage even the best of oils. Heated polyunsaturated vegetable oils rapidly oxidize and contribute to free radical damage. Do NOT cook with polyunsaturated vegetable oils.

Unfortunately, many chefs, restaurants, schools, and hospitals use canola oil, which is toxic to start with, in food preparations. When choosing a restaurant, find out what kind of oil they cook with. Tell them you want to avoid these damaged fats/oils. The more people speak up, the sooner chefs/restaurants will make the necessary changes. AVOID all fried foods and products containing or prepared with these damaged fats/oils. The best options for cooking are water, poultry broth, organic wine, a small amount of butter, ghee, or coconut oil.

Olive oil, though mostly monounsaturated, should not be used in normal cooking because of its omega-6 content. Instead, use cold-pressed, extra virgin olive oil moderately for flavoring upon serving. Oils at room temperature become rancid more quickly than refrigerated oils.

AVOID OILS PACKAGED IN CLEAR GLASS OR CLEAR PLASTIC BOTTLES

Interaction with oxygen and light creates peroxides or free radicals that cause rancidity. AVOID oils packaged in clear glass or clear plastic bottles.

The use of independently certified organic seed in unrefined oil production is critical. The composition and quality of key nutrients in organic seeds are much higher and free from pesticides and herbicides. Read labels carefully and look for the “**Omegaflo**” process, developed by Omega Nutrition, a pioneer in the industry. Omega Nutrition oils are independently QAI and JAS certified. To ensure the EFAs are well protected, Omega Nutrition packages their oils in completely light-protected, dark high-grade plastic (HDPE) bottles. It is available under the following labels: *Omega Nutrition* and *Jarrow Formulas* in the USA and Canada; *Atowa*, in Japan; *Integrated Nutraceuticals* in Hong Kong; and *Nature’s Glory* in Singapore.

CONSIDER THE TYPE OF FAT

Fats are not detrimental to health, but the damage done to them and the imbalances created between omega-6 (too much) and omega-3 (not enough) are. READ the small ingredients section on the label of every product you buy. Research the companies behind the products. And, remember the six factors that damage fats/oils: **heat, hydrogenation, oxygen, light, homogenization, and genetic modification (GM)**. Therefore, AVOID all fats/oils (e.g., margarine, spreads, and vegetable oils) damaged by these six factors.

Don’t be fooled by the sales hype on labels. Low-fat, light, pure, and cholesterol-free are meaningless if the fats/oils are damaged. It is far more important to consider the type of fats/oils rather than simply counting the grams of fat. TV programs, dieticians, and medical practitioners, who continue to recommend damaged fats/oils, are doing a lot of harm. All the exercise and money in the world will not reduce the enormous increases in degenerative diseases and the current epidemic of diabetes, obesity, and mental illness until the removal of TFAs and damaged fats/oils from our food supply and the restoration of EFAs in balance.

Natural fats found in **organic**, pasture-fed meat/poultry, raw nuts (without added oil), avocados, non-rancid seeds, and unhomogenized dairy (suitable for your blood type) are not harmful when there is a balance of EFAs; omega-3, in particular.

The amount of fat needed varies because of biochemical individuality, climate, and living conditions. As a general guideline, most people need from 15 percent to 30 percent of their calories from a combination of quality super/polyunsaturated, monounsaturated, and saturated fats. The ideal omega-6 to omega-3 fatty acid ratio for adults is approximately 1:1.

Persuade your government to stop wasting billions of dollars on ‘sickness’ care. A more effective approach would be to ban these unhealthy, damaged fats/oils in the food industry. Encourage family members, friends, restaurants, schools, and practitioners to learn about fats and oils.

Composition of Fats/Properties of Vegetable Oils Chart

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References:

[Health Risks from Processed Foods and Trans Fats Part 1](#)

[Health Risks from Processed Foods and Trans Fats Part 2](#)

[Health Risks from Processed Foods and Trans Fats Part 3](#)

Dietary Fat and Cancer Trends—A Critique, Enig MG, Munn RJ, Keeney M. Federation Proceedings 1978; 37:2215-2220;

Influence of a Margarine-Containing Diet on Aryl Hydrocarbon Hydroxylase Activity Sampugna J, Casterline J, Enig MG, Keeney M. J. Amer Oil Chem Soc 1980; *Modification of Membrane Lipid Composition and Mixed-Function Oxidases in Mouse Liver Microsomes by Dietary Trans Fatty Acids*, 57:Abstract #178, Enig MG. College Park, MD: Doctoral Dissertation, University of Maryland, 1984;

Healing Fats, Killing Fats, Udo Erasmus. Alive Books 1986,

Beyond Pritican, Ann Louise Gittleman, MS. Bantam Books, 1989;

The New Supernutrition, Passwater RA. New York: Pocket Books, 1991;

Trans Fatty Acids in the Food Supply: A comprehensive report covering 60 years of research, Enig MG. Silver Spring, MD. Enig Assoc., 1993;

Intake of Trans Fatty acids and Risk of Coronary Heart Disease Among Women, Willett WC, Stampfer MJ, Manson JE, et al. Lancet 1993; 341:581-585;

The Facts About Fats, John Finnegan. Celestial Arts, Berkley, CA 1993;

Know Your Fats, Carla Cassata, NC. Lets Live Magazine, Feb. 1994;

Omega-3 Oils: A Practical Guide, Donald Rudin, MD and Clara Felix. US: Avery, 1996. Pharmacological Research, Vol. 40, No. 3, 1999;

Health Benefits of Docosahexaenoic Acid DHA, Lloyd A. Horrocks, Young K. Yeo. Dept. of Biochemistry, Ohio State University, Columbus, Ohio, USA, and Lipid Laboratory, Kyungpook National University, Taegu 35, Republic of Korea, 7 January 1999 Article, No. hrs.1999.0495, available online at <http://www.idealibrary.com> on Ideal.

The Great Con-ola, Sally Fallon. Nexus Magazine, Aug-Sep 2002;

Know your Fats, Enig Mary G. Bethesda Press, 2005;

Light... The Ignored Nutrient, by Lady Carla Davis, MPH, The NZ Journal of Natural Medicine Magazine, Issue #1, Jan-Apr 2011, The New Zealand Journal of Natural Medicine, Issue #2, Sep-Dec 2011, <http://www.naturalmedicine.net.nz>

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Properties of [vegetable oils](#)^{[136][137]}

Chart from https://en.wikipedia.org/w/index.php?title=Palm_oil

The nutritional values are expressed as percent (%) by mass of total fat.

Type	Processing treatment ^[138]	Saturated fatty acids	Monounsaturated		Polyunsaturated fatty acids				Smoke point
			Total ^[136]	Oleic acid (ω-9)	Total ^[136]	α-Linolenic acid (ω-3)	Linoleic acid (ω-6)	ω-6:3 ratio	
Avocado ^[139]		11.6	70.6	52–66	13.5	1	12.5	12.5:1	250 °C (482)
Brazil nut ^[142]		24.8	32.7	31.3	42.0	0.1	41.9	41.9:1	208 °C (406)
Canola ^[144]		7.4	63.3	61.8	28.1	9.1	18.6	2:1	204 °C (400)
Coconut ^[146]		82.5	6.3	6	1.7				175 °C (347)
Corn ^[147]		12.9	27.6	27.3	54.7	1	58	58:1	232 °C (450)
Cottonseed ^[148]		25.9	17.8	19	51.9	1	54	54:1	216 °C (420)
Cottonseed ^[149]	hydrogenated	93.6	1.5		0.6	0.2	0.3	1.5	
Flaxseed/linseed ^[150]		9.0	18.4	18	67.8	53	13	0.2:1	107 °C
Grape seed		10.4	14.8	14.3	74.9	0.15	74.7	very high	216 °C (421)
Hemp seed ^[152]		7.0	9.0	9.0	82.0	22.0	54.0	2.5:1	166 °C (330)
High-oleic safflower oil ^[154]		7.5	75.2	75.2	12.8	0	12.8	very high	212 °C (414)

Olive, Extra Virgin ^[155]		13.8	73.0	71. 3	10.5	0.7	9.8	14: 1	193 °C (380)
Palm ^[156]		49.3	37.0	40	9.3	0.2	9.1	45: 5:1	235 °C
Palm ^[157]	hydrogen	88.2	5.7		0				
Peanut ^[158]		16.2	57.1	55. 4	19.9	0.318	19.6	61: 6:1	232 °C (450)
Rice bran oil		25	38.4	38. 4	36.6	2.2	34.4 ^[159] 1	15: 6:1	232 °C (450)
Sesame ^[161]		14.2	39.7	39.	41.7	0.3	41.3	13	
Soybean ^[162]		15.6	22.8	22. 6	57.7	7	51	7.3 :1	238 °C (460)
Soybean ^[163]	partially hydrogen	14.9	43.0	42. 5	37.6	2.6	34.9	13: 4:1	
Sunflower ^[164]		8.99	63.4	62. 9	20.7	0.16	20.5	12 8:1	227 °C (440)
Walnut oil ^[165]	unrefined	9.1	22.8	22. 2	63.3	10.4	52.9	5:1	160 °C (320)