Fats: Beneficial and Harmful

You need fat! Many people are deficient in beneficial fats. With our modern idea of low fat "health foods," we are starving ourselves of good fats. Despite the plethora of fat-free products over the past 15 years, obesity has tripled in many Western countries, diabetes is now a world-wide epidemic and heart disease and cancer are killing more people than ever. Essential fats are just that: Essential.

Strange as it may seem, eating beneficial fats not only promotes health but they help burn off excess body fat. Studies have shown when subjects switch from a low fat diet to one rich in medium chain fats, such as butter and coconut fat, they lose weight. The kind of fat in butter and coconut oil boosts metabolism and reduces the body's ability to store fat. The same holds true for omega 3 fats. These oils stimulate metabolism. These fats also help us to feel full, so we eat less.

Common Beneficial Fat Deficiency Signs and Conditions

Memory Loss
Depression
Dry, scaly skin, dandruff
Eczema
Weakness and fatigue
Arthritis
Blood sugar and mood swings
High blood pressure
PMS
Attention and learning problems
Irritability and anger
Dry, cracked heels
Hair loss
Allergies
Slow metabolism, weight gain
Diabetes
High triglycerides
Excess weight gain

Beneficial Fats

85% of Americans are deficient in beneficial omega 3 fats. These essential oils help us make hormones, prevent heart attacks and cancer, nourish the brain, help us burn unwanted fat and keep the skin healthy. Other good fats are important as they help us fight cancer, keep our skin soft and keep us satisfied after eating. Good fats lubricate the joints and keep us from experiencing pain. Good fats also taste good!

Sources of Beneficial Omega-3 Fats

Grass fed beef
Cheese, butter and yogurt from grass-fed cows, goats & sheep
Omega-3-rich eggs
Range fed chicken
Flax seeds/flax oil
Pumpkin seeds
Walnuts
Oats/oatmeal
Dark green leafy vegetables
Hemp seeds/hemp oil
Fatty fish: wild salmon, cod, mackerel, herring, sardines, anchovies, trout

Reasons to Eat Your Butter

☆ When from a grass fed source, butter is rich in omega 3 fats
☆ Butter is rich in conjugated linoleic acid, a fatty acid which burns fat and reduces breast cancer risk
☆ The natural vitamin E in butter prevents premature aging and heart disease
☆ The vitamin A in butter benefits skin and promotes immunity
☆ Butter helps us feel satisfied and reduces need for sugar snacks

Benefits From Eating a Diet Rich in Omega 3 Fats

Reduced hyperactivity in children
Reduced violence in children
Improved learning in children
Improvement in asthma
Reduced risk of diabetes
Improved mood
Elimination of depression
Reduced risk of heart disease
Reduction in pain
Reduced cancer risk
Reduction in cravings
Increased metabolism & fat burning
Relief from arthritis

Other Sources of Beneficial Fats

Almonds, almond butter
Hazelnuts
Cashews, cashew butter
Brazil nuts
Sunflower seeds
Macadamia nuts
Avocado
Sesame seeds
Coconut oil
Olive oil

Therapeutic Supplement Suggestions

1-2 Tbsp flax seed oil, hemp oil Omega Twin® or Udo's Choice®
2-3 tsp cod liver oil
1-3 grams fish oil in capsules

Harmful Fats

Partially Hydrogenated Vegetable Oils

Poor-quality fats age your body. They cause easy weight gain, sour your mood, cause skin problems, increase the DNA changes of cancer and promote clots in arteries. Hydrogenated vegetable oils are the worst of the bad. For each 2% increase in partially hydrogenated vegetable oils eaten, risk of a heart attack goes up by 93% according to Harvard's Nurses Health Study of 80,000 women. Hydrogenated vegetable oils are associated with cancer, weight gain, diabetes and heart disease. By some estimates, 80% of the food on supermarket shelves contain it. Check your labels! In addition to hydrogenated fats, vegetable oils can be harmful when they become oxidized such as when used in cooking, left on your cupboard shelf or exposed to light.

Sources of Harmful Fats

Margarine
Chips
Crackers
Breads
Dressings
Sports Bars
Instant soups
Shortening
Fast Food (anything fried)
Cookies
Sauces
Fish Sticks
Frozen foods (pizzas, dinners)
Cake, muffin, and frosting mixes
Biscuit mixes

Omega-6: Over-Consumed Oils

We need some Omega-6 oils, but with the advent of bottled vegetable oils we now eat too much. The ideal ratio of omega-6:3 oils is between 5:1 and 1:1. The typical Westernized diet is 10:1 or even 30:1. Signs of too much omega-6 fat include aging skin, weight gain, inflammation/pain, arthritis, PMS, headaches, strokes, high blood pressure and mood disorders. Most cultures should reduce intake of omega-6 fats from corn, safflower, sunflower, peanut, and cottonseed oils as well as beef and dairy from grain and soy-fed cows.

Other Harmful Fats

Fried foods such as potato chips, Frech fries, egg rolls
Foods cooked in vegetable oil (corn, safflower, sunflower, cottonseed or soybean oils).

Additional Harm from Heating Vegetable Oils

When most vegetable oils are heated, they immediately form toxic compounds called peroxides. Corn, safflower, sunflower and soybean are particularity susceptible. Peroxides encourage cancer growths, heart disease, weight gain and premature aging. Any vegetable oils should be stored in a dark place, kept cool and never heated or used for cooking.

Good Oils for Cooking

Extra virgin olive	Butter or ghee	Sesame
Organic coconut	Organic canola	Hazelnut

Ask the Doctor

Answers to Your Health Questions

Flaxseed Oil

A recommendation to supplement your diet with one or two tablespoons of flaxseed oil per day may be puzzling to you since most health authorities tell people to restrict their intake of fats and oils. However, this recommendation makes perfectly good sense for good health. While it is true Americans should not consume more than 30% of daily calories as fats, a lack of the dietary essential fatty acids (EFAs) has been suggested to play a significant role in the development of many chronic degenerative diseases such as heart disease, arthritis, cancer, and strokes.

Ask the Doctor

Naturopathic physician, Dr. Michael T. Murray, addresses concerns and answers questions often asked by his patients about a specific health issue.

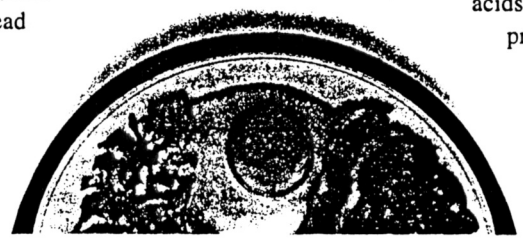
Q What are essential fatty acids?

A The human body absolutely requires both essential fatty acids—linoleic (omega-6 fatty acids) and alpha-linolenic acids (omega-3 fatty acids). That is exactly why they are termed "essential." These fatty acids provided by plant foods function in our bodies as components of nerve cells, cellular membranes, and hormone-like substances known as prostaglandins. In short, essential fatty acids are "good" fats.

Q Why are saturated fats and margarine "bad" and essential fatty acids "good?"

A What makes saturated fats and margarine "bad" and essential fatty acids "good" relates to the function of essential fatty acids in the body and the interference of this function by saturated fats and hydrogenated oils. For simplicity sake, let's just examine the role of essential fatty acids in cellular membranes.

All cells throughout the human body are enveloped by a membrane composed chiefly of essential fatty acids in the form of compounds known as "phospholipids." Phospholipids play a major role in determining the integrity and fluidity of cell membranes. What determines the type of phospholipid in the cell membrane is the type of fat consumed. A phospholipid composed of a saturated fat or trans-fatty acid differs considerably in structure from a phospholipid composed of an essential fatty acid. A diet composed of largely saturated fat, animal fatty acids (e.g., arachidonic acid), cholesterol, and trans-fatty acids is going to lead to membranes which are much less fluid in nature than the membranes of an individual consuming optimum levels of both essential fatty acids.



A relative deficiency of essential fatty acids in cellular membranes makes it virtually impossible for the cell membrane to perform its vital function. The basic function of the cell membrane is to serve as a selective barrier that regulates the passage of certain materials in and out of the cell. When there is a disturbance of structure or function of the cell membrane, there is a tremendous disruption of homeostasis. Homeostasis, refers to the maintenance of static, or constant, conditions in the internal environment of the cell and, on a larger scale, the human body as a whole. In other words, with a disturbance in cellular membrane structure or function, there is disruption of virtually all cellular processes.

According to modern pathology, or the study of disease processes, an alteration in cell membrane function is the central factor in the development of cell injury and death. Without a healthy membrane, cells lose their ability to hold water, vital nutrients, and electrolytes. They also lose their ability to communicate with other cells and be controlled by regulating hormones. They simply do not function properly.

A diet high in saturated fatty acids and/or margarine is associated with an increased risk for heart disease, cancer, and other degenerative diseases.[1-4]

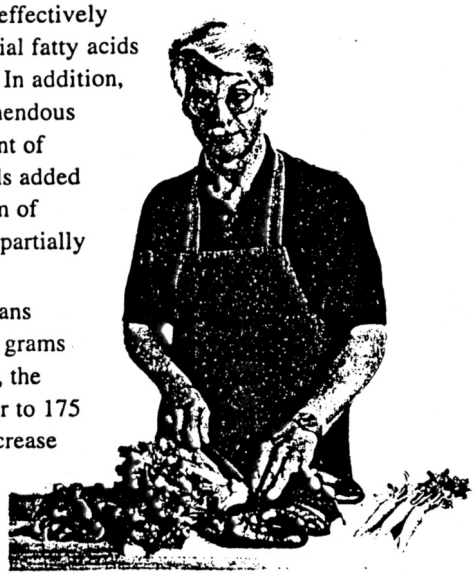
Q How common is essential fatty acid insufficiency?

A Some experts estimate that as much as 80% of the United States population consumes an insufficient quantity of essential fatty acids. This dietary insufficiency presents a serious health threat to Americans. Essential fatty acids are important for the regulation of a host of bodily functions including:

- Inflammation, pain, and swelling
- Blood pressure
- Heart function
- Gastrointestinal function and secretions
- Kidney function and fluid balance
- Blood clotting and platelet aggregation
- Allergic response
- Inflammation
- Nerve transmission
- Steroid production and hormone synthesis

Q What has caused this widespread deficiency of essential fatty acids?

A Commercial refinement of fats and oils, and foods containing them has effectively eliminated the essential fatty acids from our food chain. In addition, there has been a tremendous increase in the amount of unnatural fats and oils added to the diet in the form of trans-fatty acids and partially hydrogenated oils.



In 1909, Americans consumed about 125 grams of fat per day. Today, the consumption is closer to 175 grams per day, an increase of some 40%, or about 50 extra pounds per year. What remains untold is that there has actually been a reduced ingestion of natural, unadulterated essential fatty acids. Instead, Americans have drastically increased the ingestion of refined and adulterated fats and oils. These refined and processed compounds actually inhibit the body's ability to utilize the essential fatty acids that are consumed.

It is important to note that because "synthetic fats" have only been prevalent in the diet for about the last 100 years, our body systems have not had the time to evolve to the point that they can handle these deadly compounds.

In summary, the three primary factors contributing to our current essential fatty acid deficiency are as follows:

1. Unavailability of quality oils rich in essential fatty acids because of mass commercialization and refinement.
2. Transformation of healthful omega-3 and omega-6 oils into toxic compounds, (partially hydrogenated oils and trans-fatty acids).
3. Metabolic competition between hydrogenated and trans-fatty acids with the essential fatty acids.

Q How do I know if I am deficient in essential fatty acids?

A The signs and symptoms of essential fatty acid deficiency may either be quite obvious, or somewhat hard to detect. Often a deficiency of essential fatty acids can be so vague that symptoms typically are written off as one of a myriad of other causes. The signs and symptoms that follow should help you recognize a deficiency of EFAs.

Symptoms typical of, but not exclusive to, EFA deficiency

- Aching, sore joints
- Angina, chest pain
- Arthritis
- Constipation
- Cracked nails
- Depression
- Dry mucous membranes, tear ducts, mouth, vagina
- Dry, lifeless hair
- Dry skin
- Fatigue, malaise, lackluster energy
- Forgetfulness
- Frequent colds and sickness
- High blood pressure
- History of cardiovascular disease
- Immune system weakness
- Indigestion, gas, bloating
- Lack of endurance
- Lack of motivation

Q Do essential fatty acids fight disease?

A Yes. As well as playing a critical role in normal physiology, essential fatty acids are being shown to actually be protective and therapeutic against heart disease, cancer, autoimmune diseases like multiple sclerosis and rheumatoid arthritis, skin diseases, and many other diseases. Over 60 health conditions have now been shown to benefit from essential fatty acid supplementation.

Some health conditions linked to low levels of EFAs

- Acne
- AIDS
- Allergies
- Alzheimer's disease
- Arthritis
- Attention Deficit Disorder
- Breast cancer and other cancers
- Depression
- Eczema
- Elevated cholesterol levels
- Heart disease
- High blood pressure
- Hyperactivity
- Lupus
- Multiple sclerosis
- Obesity
- Psoriasis

Q How can I achieve better health and optimal levels of essential fatty acids in my diet?

A Here are three recommendations that can really help:

1. Reduce the amount of saturated fat and total fat in the diet.

There is a great deal of research linking a diet high in saturated fat to numerous cancers, heart disease, and strokes. The American Cancer Society, American Heart Association, and National Academy of Sciences have recommended a diet containing fewer than 30% of calories as fat. The easiest way for most people to achieve this goal is to eat fewer animal products and more plant foods. With the exception of nuts and

seeds, most plant foods are very low in fat. While nuts and seeds do contain high levels of fat calories, the calories are derived largely from polyunsaturated essential fatty acids.

2. Eliminate the intake of margarine and foods containing trans-fatty acids and partially hydrogenated oils.

During the process of margarine and shortening manufacture, vegetable oils are hydrogenated. This means that a hydrogen molecule is added to the natural unsaturated fatty acid molecules of the vegetable oil to make it more saturated. This hydrogenation changes the structure of the natural fatty acid to many "unnatural" fatty acid forms which interfere with the body's ability to utilize essential fatty acids. Trans-fatty acids and hydrogenated oils have been implicated as contributing to the following disorders:

- Increased levels of harmful cholesterol in humans
- Low birth weight infants
- Low quality and volume of breast milk
- Abnormal sperm production
- Decreased testosterone in men
- Increased incidence of heart disease
- Increased cancer rates
- Increased rate of prostate disease
- Increased prevalence of diabetes
- Increased incidence of obesity
- Immune suppression
- Essential fatty acid deficiencies

3. Take one or two tablespoons of flaxseed oil daily.

Organic, unrefined flaxseed oil is considered by many to be the answer to restoring the body's proper level of essential fatty acids. Flaxseed oil is unique because it contains both essential fatty acids: alpha-linolenic and linoleic acid in high amounts. Flaxseed oil is the world's richest source of omega-3 fatty acids. At a whopping 58% by weight, it contains over two times the amount of omega-3 fatty acids as fish oils. Omega-3 fatty acids have been extensively studied for their beneficial effects toward:

- High cholesterol levels
- Stroke and heart attack
- Angina (heart pain)
- High blood pressure
- Arthritis
- Multiple sclerosis
- Psoriasis, eczema, and other inflammatory skin disorders
- Inhibiting cancer formation and metastasis

FATTY ACID COMPOSITION OF SELECTED OILS

(% of total fat)	SF	OA	LA	GLA	ALA
Cooking oils:					
Canola	7	54	30	0	7
Olive	16	76	8	0	0
Corn	17	24	59	0	0
Safflower	7	10	80	0	0
Soy	15	26	50	0	9
Medicinal oils:					
Primrose	10	9	72	9	0
Black currant	7	9	47	17	13
Borage	14	16	35	22	0
Flaxseed	9	19	14	0	58

SF = Saturated Fats
OA = Oleic Acid
LA = Linoleic Acid
GLA = Gamma-Linolenic Acid (an omega-6 oil)
ALA = Alpha-Linolenic Acid (an omega-3 oil)

Q Why should I consider using flaxseed oil over fish oil?

A Significant scientific evidence exists to attest to the numerous therapeutic benefits of fish oils. Unfortunately, there also some hazards associated with fish oil supplementation. Namely encapsulated fish oil products often have extremely high levels of lipid peroxides (a measure of rancidity in oils) and stress antioxidant mechanisms.[5,6] Furthermore, fish oil supplements are much more expensive than flaxseed oil.

Q What about evening primrose oil?

A Evening primrose, black currant, and borage oil contain gamma-linolenic acid, an omega-6 fatty acid that eventually acts as a precursor to the favorable prostaglandins. These prostaglandins exert many beneficial effects, particularly in inflammatory conditions. Although these products are quite popular, the research on GLA supplements is controversial and not as strong as the research on omega-3 oils in most health conditions. Studies have actually shown that over the long term, GLA supplementation will adversely affect the concentration of tissue fatty acids by lowering the level of omega-3 fatty acids.[7]

Also, another controversial aspect is the fact that because GLA can be formed from linoleic acid, it is difficult to determine to what extent the effects are due to GLA vs. linoleic acid. Most sources of GLA are actually much richer in linoleic acid than GLA. For example, evening primrose contains only 9% GLA, but contains 72% linoleic acid.

In most instances, high linoleic acid-containing oils, including flaxseed oil, may provide as much benefit as GLA products at a fraction of the cost. The only exceptions to this generalization may be in individuals with diabetes. Diabetics cannot form GLA from linoleic acid. GLA supplementation in diabetics has been shown to improve nerve function and prevent diabetic nerve disease.[8] However, the dosage required is relatively small (240 to 480 mg of GLA per day).

Q What is the preferred material to package flaxseed oil, plastic or glass?

A An opaque plastic container made of high density polyethylene (HDPE) is the preferred material for packaging and protecting flaxseed oil from light. The HDPE material is fully approved by U.S. and Canadian governments for these purposes with an untarnished record of health and safety. Independent laboratory analysis conducted by responsible organic oil producers have resulted in absolutely no migration of the HDPE material into the oil they contain. Even amber pharmaceutical-grade glass allows over five different light frequencies to penetrate the bottle with the potential to destroy the benefits of the oil.

Q Are there any side effects common to taking flaxseed oil?

A Since flaxseed oil is a food source, side effects from supplementing with flaxseed oil are highly uncommon. The possibility does always exist however, just as with any food source, that someone may react unfavorably with the oil. For some individuals this may be a transitory effect, whereas simply reducing the dosage should relieve any problems any others, simply discontinue usage, or seek the advice of nutritionally oriented practitioner.

Q Is there a preference to taking flaxseed alone or with food?

A There are actually several advantages to taking the flaxseed oil with another food source. Mixing flaxseed oil with yogurt for example helps to emulsify (breaks up the oil globules consistently in the food) the oil, aiding in optimal digestion, absorption, and utilization of the essential fatty acid.

Q What is high lignan flaxseed oil?

A In addition to their high level of omega-3 fatty acid, flaxseeds are also the most abundant source of lignans—special compounds that are demonstrating some rather impressive health benefits including positive effects in relieving menopausal hot flashes, as well as anticancer, antibacterial, antifungal, and antiviral activity.[9,10] High lignan flaxseed oil is produced by adding some of these lignans back to the oil. However, even regular flaxseed oil is very high in lignans and is the second richest source behind whole flaxseeds.

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