KNOW YOUR FATS & OILS

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

- Carry and store fat-soluble vitamins such as A, D, E, and K for healthy skin, 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 gall bladder
- Elevate calcium levels in the bloodstream and transport it to the tissues for strong bones and cramp-free muscles
- Help the body conserve protein to rebuild vital tissues
- Assist in maintaining normal 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, 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 major topics in the '90's, 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. In addition, this problem has been exacerbated by the giant edible oil industry, whose main objective is to promote their highly refined, commercial products.

All fats are mixtures of saturated, monounsaturated, and polyunsaturated fatty acids in different proportions.

Fatty acids are basically chains of carbon atoms that have an acid attached to one end with 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 an adequate number of 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 natural curved "cis" configuration. Their presence produces a liquid oil at room temperature.

Omega-6 Polyunsatrates and **Omega-3 Super Polyunsaturates**" are long chain fatty acids that are missing 4 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 thus, more fluid than the 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 acid used by the human body to function normally, only two cannot be manufactured 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 **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 by the body, 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 are based on fish oil. However, in Dr. Rudin's own studies, he 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 doesn't 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 also needed in the body for a vast number of essential functions. Fish oil cannot provide ALA, and therefore deprives the consumer of this critical compound.

Because of biochemical individuality some people are parasympathetic dominant. These people and others who have a defect, depriving 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. According to Dr. Mercola, Krill oil is superior over fish oil because it also contains vitamins E, A, D, and astaxanthin, which is a potent antioxidant. Research has shown that antioxidant potency of krill oil is, in terms of ORAC (Oxygen Radical Absorbance Capacity) values, 48 times more potent that fish oil.

The EFAs are one of the basic food groups that are 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, Australian, New Zealand, and the Pacific region where the fast/junk food diet 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 heart beat, learning disorders, menopausal discomfort, itchiness on the front of the lower leg(s), infertility, and growth retardation in infants, children and pregnant women.

ESSENTIAL FATTY ACIDS CREATE BEAUTY

Consumption of these EFAs in balance are a major factor in creating beauty. Prior to WW11, most pregnant women and children's diets were relatively free of damaged fats/oils and supplemented with cod liver oil to provide the EFAs. Old movies and photographs clearly reveal the beautiful bone structures, teeth, and body shapes these people developed as a results. In contrast, deficiencies of EFAs within one generation started to produce 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 to an infant's ability to form myelin - a specialized membrane that protects the nerves. It is also essential for normal development of the central nervous system and brain. When an infant is fed a formula devoid 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 diets 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 the ones most vulnerable when vaccinated, thereby making them more susceptible to ADHD, retardation, and behavioural problems. Studies have shown these children have an altered fatty acid metabolism. An EFAs deficiency could be the determining factor for why some children are damaged from vaccination toxicity (e.g. adjuncts), while others are not. Fats also provide protection from viral and bacterial infections. The best insurance a mother can provide for her baby is to consume a sufficient amount of 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. Parents should also learn about the pros and cons of vaccinations from independent sources.

EFAs ARE CRITICAL TO 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 receptors sites. The same mechanism takes place with other hormonal functions of the ovaries, testes, pineal, and adrenal glands.

One of the most important roles of **EFAs** is in 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 many skin ailments like eczema, psoriasis, and acne
- Help to increase the metabolism and loose weight more easily
- 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 a daily exposure of full-spectrum light. See "*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.

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

MCTs ARE ESPECIALLY GOOD FOR ATHLETES

The type of fats that humans have consumed for millennia, were almost 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 the coconut, palm fruit, and seafood. Hence, they did not cause the health problems that the damaged fats/oils, now being used in most processed/prepared food products and fast food restaurants, do.

Saturated fats supply the stable Medium-Chain Triglycerides (**MCTs**) found butter, coconuts, coconut oil, macadamia, and palm kernel oils. They are beneficial for premature infants, burn victims, those with Crohn's disease, and cancer patients. These fats are not metabolized through the intestinal tract like regular fats and oils, but in the liver like carbohydrates. They facilitate the absorption of minerals, fat-soluble vitamins, and essential fatty acids. MCTs are especially good 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. It is important to ensure that they are not damaged. Below are some of the main sources:

Saturates

Animal sources: Pork, lamb, beef and fats (lard, tallow, suet). Organ meats, unhomogenized full- fat goat, sheep & cow's yoghurt and cheeses, cream, and butter. *Vegetable sources*: Coconuts and coconut oil/butter, palm and palm kernel oil, macadamia nuts.

Butter is not only an animal saturated fat, it is also contains vitamins, minerals, amino acids and several types of fats including *butyrate,* which serves as a base for the making of the brain chemical GABA (gamma-aminobutyric acid), our natural valium.

Coconut oil is a rich source of Lauric acid, which is also found in mother's milk. It has antimicrobial properties and has been found to increase the body's HDLs. Being a very stable fat/ oil, makes it one of the few oils suitable for cooking and baking. Virgin coconut oil, which is in a more natural state, has more scent and flavor than deodorized coconut oil. Both should be processed by a reputable company and packaged in light protected containers. According to Dr. Bruce, author of *Coconut Cures*, *Coconut Water for Health and Healing*, and *The Coconut Oil Miracle*, coconut oil can help moderate blood sugar levels by resensitizing the cells so they better utilize glucose. Hence, insulin secretion is improved and symptoms of type 2 diabetes can be reversed. http://www.coconutresearchcenter.org/. However, coconut oil is not suitable for all blood types.

Monounsaturates – Omega-9

Vegetable sources: Coconuts, avocado, macadamia nuts, hazel nuts, almonds, sesame & other seeds, peanuts, and their oils, extra virgin olive oil.

Monounsaturated/oleic acid lowers heart attack risk and arteriosclerosis and aids in cancer prevention. Unlike what many believe, olive oil does not contain Omega-3 fatty acid. It is mostly a

Monounsaturate fat with some Omega-6. Therefore, use it moderately in balance with Omega-3 and only the **extra virgin olive oil**, packaged in a light protected container. BEWARE: Some cheap olive oils brands are blended with Canola oil, which is GMO (seed) and a damaged fat.

Polyunsaturates – Omega-6
Animal sources: Mother's milk, organ, and lean meats.
Vegetable sources: Pumpkin seed, borage, macadamia, safflower, sunflower, olive, sesame, and hemp seed oils. Raw nuts, seeds, traces in legumes, algae, and leafy greens.

Super Polyunsaturates – Omega-3
Animal sources: Mother's milk, krill oil, marine oils, and cold water fish such as salmon, mackerel, herring, carp, sardines, shrimp, oysters, halibut, tuna, sablefish, bluefish, catfish, and anchovies, and fresh water fish, such as trout and crappie.
Vegetable sources: Linseed/flaxseed oil, perilla, and traces in walnuts, pecans, kiwi fruit, fresh sea vegetables, algae, and leafy greens.

Fresh, **organic, cold pressed, flax seed oil**, a rich source of ALA, contains approximately 70 to 80 percent EFAs and is especially high in Omega 3. Select only quality, organic oils, packaged in light protected containers from a reputable company. http://www.omeganutrition.com

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

Cholesterol is one of a group of fats found in the blood stream. It travels through the bloodstream bound to two types of **lipoproteins,** which are molecules containing both fats and protein. Low density lipoproteins (**LDLs**), 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, they are removed by HDLs. New cells are then replaced as the LDLs bring in more cholesterol in a natural continuous maintenance processes. Cholesterol acts as a perfect lubricant. Well nourished, elastic arteries allow a steady flow of blood to nourish the various organs.

Cholesterol is vital for many important functions of the body and is found in all body tissues. It is essential in the production of nerve tissue, many hormones, including sex hormones, bile for fat digestion, and vitamin D. Lower than normal levels of cholesterol have been correlated with anaemia, 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 insure the body has enough of it. About 10 percent of the dry weight of the brain is cholesterol. Reduced consumption of cholesterol actually spurs the body to increase production of it.

Cholesterol is often implicated in heart disease. 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 the process of trying to repair damaged arteries.

Several factors are involved in the development of cardiovascular disease. Through nutritional deficiencies and/or 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.

However, if the necessary nourishment such as vitamin C, bioflavanoids, and silica, are not delivered, proper healing does not take place and the HDLs will not remove the cholesterol deposits. Scarring takes place and plaque builds up to act like a glue. Stress, damaged fats/oils, sugar, cigarette smoking, coffee (even decaffeinated), diabetes, fluoride, low thyroid function, iodine deficiency, liver dysfunction, and cardiovascular disease all hinder the body's 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. **Triglycerides**, as they are more commonly referred, are another group of fats implicated in the formation of plaque. These fats are stored in the connective tissues. In excess, triglycerides develop into a fatty stomach or fat thighs. Medication, refined flour, sugar, soda, alcohol, and coffee elevate triglycerides in the blood, and thus, add excess weight. Higher or Lower than normal triglyceride levels may indicate liver dysfunction. Thus, a balance, along with a healthy liver are vital.

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 use by the human body. In fact, TFAs derived from vegetable oils have been shown to 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 the natural fats can have devastating effects on body chemistry and produce inflammation, which is an early sign of heart disease. The level of inflammation in the body can be measured by a C-Reactive Protein (CRP) blood test.

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 remains 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 because of its longer shelf life. Margarine and vegetable spreads are manufactured at very high temperatures from these damaged fats/oils and chemicals. Canola, which is derived from GMO seeds, and soy oils are in nearly all margarines. TFAs are found in commercials cakes, pies, cookies, crackers, bread, chips, pretzels, snack foods, breaded foods, 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, which are called "isomers," are shaped differently in space. When the TFAs are deposited in those parts of the cell membranes that are supposed to have either saturated fatty acids or "cis" unsaturated fatty acids, they disrupt the body's normal functions (i.e.: 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; arachidonic acid interference with the necessary conversion of Omega-3 fatty acids to their elongated tissue Omega-3 fatty acids; and escalation of the adverse effects of essential fatty acid deficiency.

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

Heart disease - TFA's raise the levels of 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 both B and T cell function, thus reducing immune response.
Fertility and Reproduction - TFAs interfere with enzymes needed to produce sex hormones; they decrease the levels of testosterone in male animals and increase the levels of abnormal sperm.
Lactation - TFAs lowers the overall fat content in mother's milk in both animals and humans, thus compromising the nourishment to the infant. TFAs can cross the mammary gland into mother's milk and interfere with 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 the formation of long-chain polyunsaturated fatty acids needed for growth and development, especially development of the brain.
Obesity - Women who consume TFAs weight more then 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 in spite of, or perhaps because of advances in technology. (*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 the use of TFAs in restaurants. This needs to be done on a national level and in other countries, such as Australia, New Zealand, and the Pacific region, where a large number the population obtain most of their meals from fast food outlets. Samoa and the Cook Islands now have among the fattest people in the world that are dying early. Consumption of damaged fats and oils in a junk food diet combined with soda are a major contributing factors.

Unless major changes are made, the long term consequence of damaged fat/oil consumption will only further exacerbate our modern degenerative diseases, obesity, and mental illness. To learn more about this go to http://www.westonaprice.org/ and,
the interview with Dr. Enig and Dr. Richard Passwater www.drpasswater.com
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 are able to bypass digestion. These droplets are then absorbed into the bloodstream, carrying with them a destructive enzyme called xanthine oxidase (XO) that damages arteries. Heart disease is more prevalent in countries where homogenized milk is consumed. AVOID homogenized milk and its products.

GMOs

To side step the TFA problem, the giant oil industry is now genetically modifying (GM) their oils. However, genetically modified (GMOs) fats/oils, such as Canola oil and margarine are foreign to the body, play havoc with bodily systems and have unknown long-term consequences. Increases in asthma and allergies 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, or stomach that no amount of exercise can eliminate. These abnormal body shapes have become a common sight among consumers of these GM damaged fats/oils.

Canola is one of Canada's chief exports and also a large crop in Australia. Canola oil is widely used 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 the 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. These GMO oils damage the gut's healthy microbiota, which then 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 in human development and the health of future generations. See: "*The Great Con-ola"* by Sally Fallon Aug.-Sep. *Nexus Magazine*, 2002. https://www.nexusmagazine.com

COOKING CAN DAMAGE FATS/OILS

Cooking can damage even the best of oils, because heated polyunsaturated oils oxidize rapidly and contribute free radical damage to the body. Do NOT cook with polyunsaturated oils.

Unfortunately, many chefs, restaurants, schools, and hospitals use Canola oil, which is toxic to start with, in food their preparations. When choosing a restaurant, find out what kind of fat/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 food products containing or prepared with these damaged fats/oils. Unrefined rice or palm oils may be better options, but much depends on the source and processing procedure. The best options for cooking are water, poultry broth, organic wine, a small amount of butter, ghee, or coconut oil.

Olive oil, though mostly a monounsaturate, should not be used in normal cooking because of its omega 6 content. Instead, use cold pressed, extra virgin olive oil, moderately for flavouring upon serving.

Monounsaturates and Saturates can be heated at low temperatures (below 160C/320F).

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. Therefore, avoid oils packaged in clear glass or clear plastic bottles.

Use of independently certified organic seed in the production of unrefined oils is critical. The composition and quality of key nutrients in organic seeds is much higher and the seeds are free from pesticides and herbicides. Read labels carefully and look for the "***Omegaflo***" process, developed by **Omega Nutrition**, a pioneer in the industry. http://www.omeganutrition.com/. Omega Nutrition's oil is independently QAI and JAS certified. Omega Nutrition, packages their oils in completely light-protected, dark high-grade plastic (HDPE) bottles to ensure the EFAs are well protected. Their oil can be found under the following labels: *Omega Nutrition* and *Jarrow Formulas* in the USA and Canada; *Atowa,* in Japan; *Integrated Neutraceuticals* in Hong Kong; and *Natures Glory* in Singapore.

CONSIDER THE TYPE OF FAT

Remember, it is not the fats themselves that are detrimental to health, but the damage that is being done to them and the imbalances being created. Read the small ingredients section on the food label of every product you buy. Research the companies behind the products. And, remember, fats/oils can be damaged by six factors: **heat, hydrogenation, oxygen, light, homogenization, and genetic**

modification (GM). Therefore, avoid all fats/oils such as margarine, spreads and vegetable oils that have been damaged by any of these six processes.

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 in the manufacturing process. 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 great deal of harm. All the exercise and money in the world won't reduce the enormous increases in degenerative diseases and the current epidemic of diabetes, obesity, and mental illness, until TFAs and damaged fats/oils are removed from our food supply, and the EFAs are restored in balance.

Natural fats found in whole nuts (without added oil), avocados, seeds that are not rancid, and organic dairy (suitable for your blood type) do not create a problem in a healthy body, when the EFAs are supplied in balance.

Because of biochemical individuality, climate, and living conditions, the amount of fat needed varies. 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.

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

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