

Unsaturated Fats

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The following information comes mainly from the research of Dr. Ray Peat, who has gathered hundreds of scientific references, which document compelling laboratory data to show that excessive amounts of unsaturated oils are dangerous to your health. Other researchers are mentioned when appropriate. *“An excess of the polyunsaturated fats (PUFA’s) is central to the development of degenerative diseases: cancer, heart disease, arthritis, immunodeficiency, diabetes, hypertension, osteoporosis, connective tissue disease, and calcification.”* (Peat)

Definitions:

Unsaturated oil: one that contains double bonds because it lacks hydrogen atoms. Polyunsaturated oils contain more than one double bond. They are also called polyunsaturated fatty acids or PUFA’s and sometimes “essential fatty acids.” These include: soybean, corn, safflower, canola, sesame seed, nut (peanut, walnut, almond, etc.), flaxseed, fish (salmon, cod liver), Evening Primrose and Borage oils. All unsaturated oils contain some omega - 6 acid, called linoleic and some omega-3 acid, called linolenic acid. Linoleic acid is the precursor of gamma-linolenic acid or GLA. Linolenic acid is the precursor of Eicosapentaenoic acid or EPA, which then converts to Docosahexenoic acid or DHA. I am putting down these chemicals because many people think they are avoiding unsaturated oils while taking omega-6 and omega-3 oils, or GLA, EPA and DHA.

Partially hydrogenated oils (margarine): the chemical addition of hydrogen to saturate the double bonds and cause the oil to become solid, to mimic butter.

Peat wonders if there is a threshold limit of unsaturated fats, above which the deleterious health effects occur. No one knows. Since no one knows, I recommend avoidance of all unsaturated oils, that is, oils that are liquid at room temperature, whether processed, cold pressed or unrefined, except extra virgin olive oil.

Since all plants contain unsaturated oils except fruits and fruit juices, it is impossible to avoid them. However, the fiber in plants offers some protection against the toxicity of these oils. Don’t think you avoid unsaturated fats if you eat commercial meat because commercial animals are fed soybeans and corn, both high in unsaturated fats, so even the so-called saturated fat in commercial meat is highly unsaturated (30% or more). There is no group of people whose diet does not contain unsaturated fats.

Are unsaturated fats really essential?

Is it rational to talk about substances, which we cannot avoid no matter how hard we try as being essential? PUFA’s are present in all plants (seeds, nuts, grains, beans, vegetables, etc.) except fruits. Peat questions that unsaturated oils are essential (which means we have to eat them because we can’t make them). Why? Humans and animals contain desaturase enzymes, which can produce unsaturated fats from oleic and palmitoleic acids when deprived of the so-called essential fatty acids.¹ No one has ever given correct physiological evidence that these PUFA’s are, in fact, essential. During the last 10 years many journal articles have reported that the body makes its own brand of unsaturated oils in people who don’t eat the exogenous ones. PUFA’s poison the enzymes inside your body that are necessary for the production of unsaturated oils.

How unsaturated fats inhibit enzymes and cause immune suppression

According to Peat, excessive unsaturated fats inhibit all body systems, mainly by inhibiting enzymes essential to metabolic processes required for health and immune protection. Here are some examples. Unsaturated fats directly kill white blood cells.² Unsaturated oils inhibit proteolytic enzymes and this has far-reaching effects. Inhibition of proteolytic enzymes by unsaturated fats causes trouble at many sites where proteolytic enzymes are necessary: the digestion of dietary protein, the digestion of clots, the digestion of the colloidal protein released by the thyroid gland which leads to the active thyroid hormone, and the digestion of cellular proteins involved in maintaining a steady state as new proteins are formed in the cell.

There is an enzyme system called the protein kinase C (PKC) system that is excessively activated by certain substances and certain conditions. Substances that cause excess activation of this system are: PUFA's, including free linoleic and linolenic acids, excess estrogen (a cancer promoter) and cancer promoting phorbol esters. These substances stimulate the cell while blocking the energy it needs to respond. The PKC system is also abnormally activated in diabetes and cancer.

Unsaturated fats cause thyroid suppression and lead to hormonal imbalances

Unsaturated oils block thyroid hormone secretion, its circulation and its tissue response. This leads to increased estrogen levels. Since thyroid hormone is essential for making the anti-aging hormones, namely pregnenolone, progesterone and DHEA, when your thyroid is in trouble, the manufacture of these anti-aging steroids are in trouble. Also, since thyroid converts cholesterol in your body to these anti-aging steroids, low thyroid function can lead to high cholesterol.

Unsaturated oils inhibit cellular respiration

Mitochondria contain some unsaturated fats to allow them to take up water. The body contains enzymes to make just the right amount needed but this makes mitochondria very susceptible to free radical damage AND to the damage of dietary unsaturated oils. All toxins are enzyme poisons. Dietary unsaturated fats suppress the enzymes that make in vivo unsaturated fats. Therefore, unsaturated fats are, by definition, toxic.

Ephraim Racker observed that free unsaturated fatty acids (PUFA'S) inhibit mitochondrial respiration (the mitochondria are the "lungs" of the cell) - the cell has trouble breathing.³ Stress and hypoxia (oxygen deprivation) cause cells to take up large amounts of unsaturated fatty acids where they can directly damage mitochondria. Thus, large amounts of stored unsaturated fats may present a real danger to the stressed person (Peat). This is especially true in people who have cancer, because cancer cells are known to have a high level of unsaturated fats.⁴

Unsaturated oils and diabetes

I have a client with type I (insulin-dependent) diabetes who has a terrible time controlling her blood sugar. Discussing her case with Peat, he asked me whether or not she ate unsaturated oils. Why? Because research indicates they are implicated in diabetes. I asked her what oils she used in her cooking. She answered, "safflower oil."

Carlson (1966) suggested that increased circulating PUFA's can block the Krebs cycle, resulting in insulin resistance from prolonged pancreatic stimulation.⁵ Recently, Ikemoto, et al, showed that a high

safflower oil diet was found to cause diabetes.⁶ Taken together, these studies suggest that the unsaturated fats are involved in the process of producing diabetes.

To illustrate, in 1947, B.A. Houssay⁷ found that a diet based on sugar as a source of energy was more protective against diabetes than a diet based upon lard, while the most protective diet was based on coconut oil. Essentially, he showed that the unsaturated (pork) fat permits diabetes to develop, sugar is slightly protective and coconut oil is very protective against the form of diabetes caused by a poison (unsaturated oils). Coconut oil increases the metabolic rate, apparently by normalizing thyroid function. Coconut oil provides energy to stabilize blood sugar while protecting mitochondria and the thyroid system from the harmful effects of unsaturated fats.

Similarity of estrogen and unsaturated fats: promote aging and disease

PUFA'S are similar to estrogen. The information that PUFA's and estrogen act similarly on the same regulatory pathway is important. Both inhibit thyroid function, inhibit vitamin E, promote age spots (lipofuscin), promote clot formation, promote seizures, and impair brain development and learning. Estrogen, found in birth control pills and in ERT increases secretion of growth hormone, which, in turn, causes an increase in free unsaturated fatty acids in the blood.

These parallel functions suggest that the role of PUFA's and estrogen in reproduction may be similar, namely the promotion of cell division, essential for reproduction but dangerous in abnormal cell division, such as cancer. Says Peat, *"if a certain small amount of dietary PUFA is essential for reproduction, but for no other life function, then it is analogous to the brief estrogen surge, which must quickly be balanced by opposing hormones,"* (such as progesterone).

Immunosuppression of unsaturated oils

Intravenous feeding with unsaturated fats is so powerfully immunosuppressive that it is now advocated as a way to prevent graft rejection (Mascioli, E., 1987). The poisonous effect of unsaturated fatty acids on the immune system has led to the development of new intravenous feeding products containing short and medium-chain saturated fats (Hashim, S., 1987).⁸

Stress and hypoxia (oxygen deprivation) can cause cells to absorb large amounts of unsaturated fatty acids. It is well known that cancer cells are dependent on unsaturated fatty acids for life and growth.

Cardiotoxicity of unsaturated oils

There is well-established research indicating that excess unsaturated fats are cardiotoxic.^{9 10 11 12} Since stress increases the amount of unsaturated fats and peroxides in the blood and in the heart, stored unsaturated fats may present a special danger to the stressed organism.

Recently, Kramer (1982)¹³ found that the cardiac necrosis (tissue death) caused by unsaturated fats, especially linolenic acid, could be prevented by coconut oil. Does this mean that saturated fats are essential? Maybe not, since the animal or human organism can normally produce enough saturated fat from dietary carbohydrate or protein to prevent cardiac necrosis UNLESS the diet is too high in unsaturated fats.

Unsaturated fats are essential for cancer

In 1927, Bernstein and Elias observed that a low unsaturated fat diet prevented the development of spontaneous tumors.¹⁴ Subsequent researchers have observed that unsaturated fats are essential for the growth of tumors.^{15 16 17} According to Kitada et al. (1987)¹⁸, tumors secrete a factor, which mobilizes unsaturated fats from storage, thus guaranteeing their supply in abundance until the fat tissues are depleted. In some experiments, the carcinogenic action of unsaturated fats was offset by adding thyroid glandular.¹⁹ This observation suggests that at least part of the effect of unsaturated oils is to inhibit thyroid function.

Ip et al. (1985)¹⁶ studied the relationship of carcinogenicity to the percent of unsaturated fats ranging from 0.5% to 10%. His results show that the optimum unsaturated fat intake may be 0.5% or less.

In addition to inhibiting the thyroid gland, unsaturated fats impair intercellular communication,²⁰ suppress several immune functions related to cancer, and are present at high concentrations in cancer cells, where their antiproteolytic action would be expected to interfere with the proteolytic enzymes and to shift the equilibrium toward growth. Even though cancer cells are known to have a high level of unsaturated fats,²¹ they have a low level of lipid peroxidation.²² Since lipid peroxidation inhibits growth, there is an absence of growth restraint in these cancer cells. Not only this, but tumor cells secrete a substance which mobilizes (releases) unsaturated fats from storage, thus insuring their supply until adipose (fat) tissue is depleted.²³

Consumption of unsaturated fats has been associated with both skin aging and with the sensitivity of the skin to ultraviolet damage. According to Black (1985)²⁴, ultraviolet light-induced skin cancer is mediated by unsaturated fats and lipid peroxidation.

Brain damage, lipid peroxidation and learning disabilities

Let's talk about mice! I hate animal experiments, but I must tell you about this one. Pregnant mice were fed either coconut oil or unsaturated oil. The coconut oil mice had babies with normal brains and normal intelligence. The unsaturated oil babies had smaller brains and inferior intelligence. In another experiment, radioactively labeled soy oil was given to nursing rats. This oil was massively incorporated into brain cells, and caused visible structural changes in the cells. In 1980, shortly after this study was published in Europe, the U.S. Department of Agriculture (USDA) issued a recommendation against the use of soy oil in infant formulas. Yet, most soymilk products still contain soybean oil.

More recently (Bell, et al. 1985), pregnant rats were given soy lecithin with their food and the exposed offspring developed sensorimotor defects.²⁵ Many other studies have shown that excessive unsaturated oils interfere with learning and behavior.^{26 27}

Obesity

Many studies, elsewhere reported have shown a connection between coconut oil and weight loss versus unsaturated fats and obesity. Please refer to the coconut oil article for more information. According to Peat, this indicates the ability of coconut oil to stimulate thyroid function versus the thyroid inhibiting effects of unsaturated oils.

Is their hope after PUFA's?

Yes! It is not the exact amount of unsaturated oils, which governs their harm, but the amount of these compared to the amount of saturated fats. Basically, the more saturated fats compared to the unsaturated oils, the less harm done by the unsaturated oils. The healthiest saturated fats are coconut oil and extra virgin olive oil.

Some of the toxic effects of PUFA's can be reduced with antioxidants. Antioxidants might include certain vitamins and minerals (vitamins A, E, C, zinc, selenium) and antioxidant enzymes, such as catalase. In addition, thyroxin (inactive form of thyroid hormone) is among the structural antioxidants, and the known oxygen-sparing effects of progesterone may make it appropriate to include among the structural antioxidants.²⁸

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