

**THE HEALTH BENEFITS OF SATURATED FATS**  
**VS**  
**THE DAMAGE FROM POLYUNSATURATED OMEGA 3 AND OMEGA 6 OILS**

**The KILLER OILS --- Omega 6 and Omega 3 “HOHUM PUFAs” = Heated, Oxidized, Hydrogenated, Un-Metabolizable Poly-Unsaturated Fatty Acids**

A powerful and pernicious propaganda machine has brainwashed the public into believing that PUFAs, first omega 6, then omega 3, are essential to health. PUFAs (omega 6) are responsible for the production of pro-inflammatory PROSTAGLANDINS --- responsible for arthritis, allergies, migraines, menstrual and pre-menstrual miseries, and vascular disease --- not to mention every imaginable manifestation of INFLAM-AGING --- including Fibromyalgia, Chronic Fatigue, depression, auto-immune diseases, and Multiple Chemical Sensitivities.

But the damage from HOHUM PUFAs is not limited to their conversion to Prostaglandin 2, leukotrienes, and thromboxane. Let us consider the multiple mechanisms of damage caused by both omega 6 and omega 3 fatty acids, along with how and why they are being peddled as cures for the very pathologies they cause.

Just what do these deadly PUFAs look like? A fatty acid is nothing more than a chain of carbon atoms with a carboxylic acid group attached to one end of the chain. Three of these fatty acid molecules bonded to a glycerol molecule form a triglyceride, the most common form in which fats are found in our foods and in our bodies. When there are single bonds between all the carbons in the fatty acid chain, the fatty acid is considered “saturated”, which means that the carbons have the maximum number of bonding sites available to hold hydrogen; thus, the fatty acid is saturated with hydrogens.

If a carbon in the fatty acid chain forms a double bond with an adjacent carbon, it must surrender a hydrogen to do so. Thus, that fatty acid with a double bond is termed “unsaturated”. A fatty acid with more than one double bond along the length of the carbon chain is called “polyunsaturated”. Normal fat in the healthy human body is reported to be approximately 90% saturated and monounsaturated fat, while only about 10% is polyunsaturated. (Since these figures are taken from human beings living on a modern diet high in PUFAs, I suspect that a truly healthy human being on a natural diet would show very close to zero PUFAs in his fat make-up.)

An omega 6 fatty acid is one with its first double bond on the 6<sup>th</sup> carbon from the omega end of the chain (the end opposite the carboxylic acid). The most common omega 6 fatty acids are linoleic acid and gamma linolenic acid, primarily derived from seed oils – soy oil, corn oil, rapeseed (canola) oil, peanut

oil, cottonseed oil, sunflower oil, safflower oil, sesame oil, etc. These have been dubbed by Agri-business as the “Essential Fatty Acids (EFAs)”. How “essential” are these PUFAs contained in vegetable oils? They are not essential in the least, and in fact, are a leading cause of death in North America. They are nearly as significant as sugar as a causative factor in cardiovascular disease and cancer, not to mention arthritis, migraine headaches, premenstrual syndrome, obesity, etc., etc. Then, who says they are “essential”? Guess who? --- The research funded by Agri-business.

You see, back in the 1950’s Agri-business began to wonder what it could do to generate cash from the millions of acres it planted in soy beans every year. Soy beans were an essential rotation crop because the cash crop corn so totally depletes the soil. The vast acreage necessarily planted in soy beans every year produced little except livestock feed. So, Agri-business came up with the idea of promoting soy oil as a way to generate cash from soy beans. The competition with soy oil in the concentrated fat market was from butter and from palm and coconut oil. That competition was seemingly unbeatable. Every cracker, every loaf of bread, every bit of prepared food that required cooking fat, was made from palm or coconut oil. (I can remember eating Ritz crackers as a kid, whose ingredients were flour, baking soda, salt, and palm oil.) Palm and coconut oil were flavorful, and extraordinarily inexpensive. Meanwhile, butter also seemed unbeatable. Who, after all, was going to give up the taste of natural butter for cheap imitation margarine?

Then, Agri-business came up with a brilliant strategy. They financed the research “proving” that saturated fat causes cardiovascular disease. After funding this bogus research, they then spent a fortune promoting the results of this research to the public, quite effectively convincing us that not only were saturated fats killing us, but that the fatty acids in soy oil were “essential” to protect us and to maintain health. Now, in the public’s eye, margarine was not only cheaper than butter but “good for you”, while eating butter was dangerous. Soy oil still, however, could not beat palm oil on price, so a more aggressive strategy was needed. Agri-business spent another zillion dollars pressuring the government to pass laws to “protect” our citizens from dangerous imported saturated fats such as palm and coconut oil. Lining the pockets of bureaucrats is a proven strategy for getting what you want, and it worked in this case – import restrictions were placed on coconut and palm oil, and Ritz crackers were now and to this day made from PUFA oil.

The seed oil industry got two other unexpected boosts to its popularity, one small and one large. A nice little booster came from the health food industry, always prepared to hop on any pseudo-scientific bandwagon it can ride to profits. The health food industry, beginning in the 1960’s, began to aggressively promote safflower oil and other vegetable oils because they contained even more “essential” fatty acids than common soy oil.

The bigger boost to seed oil sales, however, came from the rapidly developing fast food industry. In the mid 1950's, just as Agri-business was beginning its big push for market share, we also saw the birth of McDonalds and all its successors. Nothing makes fast food faster than deep frying in a vat of soy oil, or slopping soy oil on the grill. Burgers and fries replaced roast beef and mashed potatoes as staples in the American diet. Agri-business is fat and happy; Americans are fat and dying.

There are three mechanisms by which these PUFA oils promote deadly pathological processes; two are inherent in the omega 6 fatty acids themselves, and one derives from the way they are processed by the food industry. First, consider that the nature of the double bonds makes them very subject to peroxidation. There is no way we can consume enough tocopherols and other antioxidants to protect us from the oxidative free radical damage caused by the PUFAs in the diets of even those of us who eschew fries and chips. With even occasional participation in the fast food frenzy, or spicing up a salad with dressing, we are begging for migraines, menstrual cramps, arthritis, and eventually cardiovascular disease or cancer.

The second means by which the so-called "essential" PUFA oils make us miserable is by direct conversion into pro-inflammatory prostaglandins, leukotrienes, and thromboxanes. Allergies? Asthma? Migraines? Arthritis? Auto-immune diseases such as Hashimoto's thyroiditis, lupus, and rheumatoid arthritis? All these can be ours, but only if we ingest the oils that are essential to create these pathologies.

Now, consider a third mechanism by which these omega 6 fatty acids cause catabolic oxidative tissue damage and accelerate the aging process; expose them to extremely high temperatures, and watch the damage compound exponentially. What happens to PUFAs in soy oil as it sizzles on the grill? As it simmers in a deep vat where potatoes, onions, and chickens are instantaneously scalded? As it is hydrogenated into wonderfully white Crisco for Betty Crocker's baking needs? --- It is transformed from dangerous to demonic.

The heat of standard processing makes vegetable oils more noxious in two ways. The first is by cis-trans isomerism, by which the original cis-isomer of the fatty acid is converted into the trans-isomer, an entirely contrived fatty acid that is completely unrecognizable by the human body. These trans fatty acids are far more pathological even than the original PUFAs. But the bad news does not stop there; the heat of processing causes the double bonds in the PUFAs to migrate along the carbon chain, creating bizarre unnatural fatty acids that are entirely pathological in their effects. It is tragic but true – most Americans begin dying the day they are weaned. Do you see why avoidance of vegetable oils is a key component of your NUTRI-SPEC Fundamental Diet? Americans

have been subjected to a mass poisoning for over 50 years now, the results of which you see in your practice every day.

Studies using corn oil as a source of HOHUM PUFAs showed damage to the intestines that predisposes to cancer. Mice being fed corn oil for even a short period of time showed over-activation of the complement system, which led to inflammation and antibodies attacking the intestinal membrane. In a very short while polyps formed. --- This study may partly explain the finding in epidemiological studies that while some cancers have been on the decline over the past couple of decades, colorectal cancers have increased dramatically since the 1970s, especially in younger people who used to be never at risk for such cancers. The increased risk of colon cancer in younger people coincides perfectly with the massive shift away from saturated fats and toward corn oil and other HOHUM PUFAs in the American diet.

Hamalainen E. Diet and Serum Sex Hormones in Healthy Men. J. Steroid Biochem, Vol 20, No 1, pp. 459-464, 1984. ----- This study altered the diet of healthy male volunteers by keeping the dietary calorie intake constant but decreasing the overall fat percentage of the diet, while increasing the percent of fat as polyunsaturates. The results showed that over a 6 week period there was a dramatic decrease in the testosterone, free testosterone, and androstenedione in these healthy males. At the same time there was an increase in the stress hormone prolactin.

PUFAs stimulate excess production of prostaglandins --- contributing to inflammatory joint disease, osteoporosis, immuno-suppression, and fluid retention.

Johnston, P. "Dietary Fat, Eicosanoids, and Immunity," Advances In Lipid Research, 21, 103-41, 1985.

Polyunsaturates distort fluid movements within and between cells, and thus negatively impact intercellular communication. Excess unsaturated fats retard cellular development and/or accelerate cell death.

Lipids. 22(6), 445-54, 1987. "Effect of fatty acids on junctional communication: Possible role in tumor promotion by dietary polyunsaturated fat," Aylsworth, C.F. et al.

Neurobiol Aging. 2005 Apr;26(4):465-74. Immuno chemical cross reactivity of antibodies specific for "advanced glycation end products" with "advanced lipoxidation end products". Richter, et al.

What you have just read paints a dark picture of Americans' nutrition status. Yet, we have not even begun the topic of omega 3 killer PUFAs. Omega 3 fatty acids are made up of carbon chains with the first of several double

bonds found on the third carbon from the omega end. The three PUFAs now highly promoted by the health food industry are ALA, EPA, and DHA. ALA is found in flax and a few other seeds (though these seeds actually contain omega 6 fatty acids in higher quantities than omega 3 fatty acids). EPA and DHA are predominantly found in fish oils.

What is so special about these omega 3 fatty acids? Absolutely nothing --- they are in many ways even more pathological than the omega 6 fatty acids (as will be explained below). The only perceived benefits that derive from omega 3 fatty acids, are because they do block the conversion of omega 6 fatty acids into damaging prostaglandins, leukotrienes, and thromboxanes. --- Think about that for a moment. --- In a culture that is totally overwhelmed by pathological omega 6 fatty acids, suffering horrendous pathology as a result, what will be the effects of administering to these people a substance (--- any substance, no matter how otherwise damaging it may be) that blocks the formation of omega 6-related pathologies?

Do you see my point? Short-term, the effects of prostaglandins, leukotrienes, and thromboxanes can be reversed by administering ALA, EPA, or DHA. So now you can peruse the scientific literature and find countless studies showing how omega 3 fatty acids are “good for” a wide variety of pathologies. The strength of the propaganda machine behind omega 3 fatty acids has now surpassed that of the “essential fatty acids” machine of old.

The truth is, omega 3 oils are even more damaging than omega 6 oils. The only reason we do not see more pathology associated with omega 3 fatty acids is that quantitatively they exist in our diets in only a tiny fraction of the omega 6 fatty acids we consume.

How are ALA, EPA, and DHA so damaging? Recall the three ways by which omega 6 fatty acids destroy our health:

- by lipid peroxidation
- by prostaglandin formation
- by the formation of trans-isomers and other unnatural fatty acids

Omega 3 fatty acids are guilty of only one of these three sins --- the acceleration of lipid peroxidation. But the omega 3 fatty acids are far more subject to oxidative free radical damage than are the omega 6 fatty acids. Fish oils not only rapidly destroy vitamin E in the body, but they spontaneously oxidize with incredible speed, even before they reach the blood stream. In undergoing such rapid oxidation, they form strange and ultra-pathological fatty acids, much as the omega 6 fatty acids do in response to heat.

I will begin this exposé of omega 3 PUFAs by showing just how vulnerable they are to oxidation, and how easily they cause lipid peroxidation damage in the body. That introduction will be followed by a more detailed description of

how these PUFAs specifically cause damage to the brain, liver, skin, thymus, spleen, and heart, and accelerate the progression of diseases such as atherosclerosis, diabetes, stroke, and cancer.

The first thing to understand regarding the lipid peroxidation damage caused by the oxidation of omega 3 oils, is that these oils are so unstable that they begin to spontaneously oxidize even before they reach the blood stream.

Fish oil is so subject to oxidation that, without antioxidants, it is almost totally degraded within 48 hours; no amount of added antioxidant prevents considerable degradation. That spontaneous oxidation is what makes fish oils useful as varnish and in paint, but it is what also causes them to induce catabolic oxidative damage to tissues. (1, 2, 3)

The degenerative diseases are all associated to some degree with lipid peroxidation. Alzheimer's Disease, various forms of arthritis, liver disease, retinal degeneration, epilepsy, Irritable Bowel Disease, diabetes, and vascular disease, to name a few, all involve breakdown products of PUFAs. The products of PUFA oxidation include acrolein, malondialdehyde, hydroxynonenal, crotonaldehyde, neuroprostanes, and countless other derivatives of fatty acid oxidation. (These are the substances revealed by your NUTRI-SPEC testing when the urine specific gravity is high and the pH is low.)

One of the most demonstrable pathological effects of all PUFAs, both omega 6 and omega 3, is the formation of lipofuscin (also known as "age pigment," or "liver spots") resulting from oxidative free radical damage, particularly when accompanied by insufficient vitamin E. Lipofuscin, or ceroid pigment, does not just form in the skin, it forms simultaneously in the brain. Associated with the formation of lipofuscin, PUFAs were discovered decades ago to cause degeneration of the gonads, and the brain. In fact, it was the protection against lipofuscin formation that allowed early researchers to understand that the essential role of vitamin E is as an antioxidant.

In their 1968 edition of Present Knowledge in Nutrition, Hartroft and Porta showed that adequate saturated fat (meat, poultry, eggs, cheese, coconut oil, and palm oil) in the diet actually protects against the formation of the lipofuscin caused by unsaturated fat. Specifically, they showed that age pigment is produced in proportion to the ratio of oxidants to anti-oxidants, multiplied by the ratio of unsaturated fats to saturated fats. Other studies demonstrate that ultra-violet light induces peroxidation in unsaturated fats, but not saturated fats, and this occurs in the skin. The unsaturated fat in the skin is a major target for the aging and carcinogenic effects of ultra violet light. (As a side note, other experiments have shown that the amount of unsaturated oil in the diet strongly affects the rate at which the skin develops wrinkles. How ludicrous is it to use skin lotions made from vegetable oils?!)

Many studies show that after ingestion of omega 3 fatty acids the end products of oxidative lipid damage increase substantially. 4-hydroxynonenol is a particularly pathological end product of omega 3 PUFA oxidation. Malondialdehyde is shown to increase substantially in the body following ingestion of concentrated omega 3 fatty acids, but also from ingestion of whole cod liver oil. Oxidative end products after omega 3 PUFA ingestion are shown to be associated with an acceleration of atherosclerosis development, and also with increased oxidative damage in bone marrow DNA in rats. (4, 5, 6, 7)

EPA and DHA form isoprostanes and neuro-prostanolins during their lipid peroxidation. These substances behave in many ways like the damaging prostaglandins and leukotrienes. The brain is particularly sensitive to oxidative damage and excitatory toxicity from these omega 3 derivatives. Research shows that EPA and DHA cause brain swelling and increased cerebral blood vessel permeability. When DHA is added to cultured cells from the cerebral cortex, they produce free radicals, and stimulate the production of both malondialdehyde and lactate. The malondialdehyde shows Dysaerobic catabolic damage to the brain, and lactate shows Anabolic/Anaerobic damage to the brain. Furthermore, the DHA inhibits the uptake of glutamic acid, which allows for prolonged excitation of the nerve cells.

Tragically, Agri-business is now putting DHA in baby formula, even though honest research shows that PUFAs impair fetal and infant brain development (while saturated fats are essential for normal brain development and nerve myelination), and, omega 3 fatty acids increase the incidence of allergies in infants. (18)

In a comparison of DHA, EPA, ALA, as well as omega 6 PUFAs to saturated fatty acids, the PUFAs cause the production of free radicals and swelling of the brain, while the saturated fats do not. PUFAs inhibit the respiration of mitochondria in brain cells while producing edema, while saturated fatty acids cause no problems. Free radical activity is shown to cause the liberation of free fatty acids from the cellular structure, as well as activation of lipases associated with the loss of potassium from the cells --- another indication of Dysaerobic cellular damage. The prolonged neuro-excitation caused by PUFAs becomes a self-stimulating process leading to cellular destruction. (8, 9, 10, 11, 12, 13, 14, 15, 16, 17)

Dietary polyunsaturated fats suppress the activity of endogenous omega-9 unsaturated fats, which researchers suspect may be the trophic substance of greatest importance both to the brain and to the immune system. (19)

Among the many benefits of nursing infants for the first few months of life is the decreased incidence of allergic sensitivity. However, it has been shown that in mothers who consume high quantities of omega 3 fatty acids, their infants are at increased risk of developing allergies. (20)

Also related to omega 3 oils and brain function: A significant portion of the advertising hype regarding fish oil supplementation is its purported beneficial effect on depression, psychosis, and dementia. Contrary to the propaganda, a legitimate scientific study of over 29,000 male subjects reported that the use of omega 3 oil or consumption of fish had no beneficial effect on depression, and furthermore did not decrease the incidence of suicide in the least. (21)

The most absurd myth of all regarding the purported benefits of omega 3 fatty acids concerns their relationship to cardiovascular disease. Fish oil supplementation is alleged to benefit CVD primarily because it will yield a small, but statistically significant decrease in cholesterol and triglycerides. The unbiased research on omega 3 fatty acids, however, shows that serum lipids are decreased solely due to fish oil's toxic effects on the liver. EPA and DHA are shown to lower blood lipids --- both triglycerides and cholesterol --- only as they are incorporated into tissues and suppress mitochondrial respiration. (22, 23)

Of course Nutri-Spec practitioners know, and it is well established among honest researchers, that high serum cholesterol is not a primary risk factor for CVD, and that eating cholesterol has absolutely no connection with CVD. It has been established that it is only oxidized cholesterol that damages the arteries. Ironically, fish oil will increase the risk of CVD because it dramatically accelerates oxidative damage to the vascular system. The lipid peroxides derived from fish oil and other omega 3 supplements accelerate the oxidative damage to LDL lipo-proteins in the blood. (24, 25, 26, 27, 28)

A study of over 42,000 subjects over a period of 9 years showed that the use of cod liver oil had no protective effect against coronary heart disease. (29)

Many studies have shown a dramatic increase in the incidence of strokes in animals that are fed a diet high in omega 3 and/or omega 6 fatty acids. (30, 31)

It was pointed out above that dietary polyunsaturates damage healthy mitochondrial function, particularly interfering with the action of cytochrome oxidase. There are many other studies showing depressed aerobic energy production under the influence of supplemental omega 3 fatty acids. Here is one showing EPA and DHA inhibiting glucose utilization and thereby decreasing exercise performance. (32)

While on the subject of glucose utilization, it should be pointed out that omega 3 PUFAs damage pancreatic beta cell function leading to the development of diabetes. (33)

PUFAs are damaging to red blood cells. When dietary PUFAs are retained in the cell membrane of RBCs, they lower the rigidity of those cell membranes by destroying their protein structure. The presence of these unsaturated fatty

acids, plus the effects of their peroxidation products, so weakens the cellular structure that RBCs are destroyed prematurely. (34)

Perhaps the most devastating effect of EPA, DHA, and ALA is the immune-suppressive damage they do ...

Omega 3 oils are even more immuno-suppressive than the omega 6 oils. The first effect on the immune system from increased consumption of omega 3 PUFAs is the suppression of prostaglandin synthesis; this is because the more highly unsaturated long chain fats of the omega 3 oils interfere with the conversion of omega 6 oils into prostaglandins. Since the omega 3 oils suppress the production of all prostaglandins (both good and bad), they decrease the prostaglandin 2 series, those that are pro-inflammatory, and are associated with so many pathological conditions. In the short term, therefore, omega 3 supplementation can actually decrease symptoms of arthritis, allergies, and many types of headaches. The action of EPA, DHA, and ALA is very much like aspirin in this regard.

In addition to the anti-inflammatory effects by virtue of prostaglandin inhibition, there is another way that omega 3 fatty acids are directly anti-inflammatory. Anti-inflammatory? Sounds good doesn't it? Look closer; the direct anti-inflammatory effects of omega 3 fatty acids do not result from the fatty acids themselves but from the oxidized derivatives of these oils. You see, the omega 3 oils rapidly destroy Vitamin E, after which they are themselves highly oxidized. Research has shown that **it is the oxidized omega 3 fatty acids that have the anti-inflammatory effects.**

The obvious problem here is that these anti-inflammatory effects are short-lived, while the oxidative free radical damage that ensues has devastating long-term consequences. In experiments that last only weeks to months, seemingly beneficial anti-inflammatory effects can be documented. However, in these short-term studies there is no time for the experimental subjects to show the immuno-suppressive damage, lipid peroxidative damage, light sensitizing damage, anti-mitochondrial effects, depressed aerobic energy production, lipofuscin age pigment production, liver damage, brain damage, and metastatic cancer that result from long-term intake of fish oils and other sources of omega 3 fatty acids. (35, 36)

Under various forms of stress, free fatty acids are released from the tissues, and their oxidation blocks the oxidation of glucose. Cortisol is released both in response to stress in general, and in particular in response to glucose deprivation. Cells of the thymus are particularly sensitive to glucose deprivation, and the stress hormone cortisol prevents the thymus cells from using glucose, causing them to take up fatty acids. Thymus cells die easily when exposed to either excess cortisol, or deficient glucose. The PUFAs linolenic, arachidonic, and eicosapentaenoic, are especially toxic to thymus

cells by preventing their inactivation of cortisol, and increasing its damaging effect.

Patients with AIDS, and those with cancer, have abnormally high levels of both cortisol and free PUFAs. Lymphocytes from people with AIDS and with leukemia are less able to metabolize cholesterol. An extract of serum from AIDS patients causes lymphocytes exposed to cortisol to die seven times faster than cells from healthy people. (37, 38, 39, 40, 41)

EPA and its metabolites are extremely cytotoxic, particularly to cells of the nervous system, the vascular endothelium, and the thymus. One study showed that 15 milligrams of EPA per liter was enough to kill over 90% of macrophages, and furthermore, that this cell destruction was not inhibited by Vitamin E. (42)

T-cells are a critical part of the immune system, yet immunological activation tends to kill T cells that contain PUFAs. (43)

When animals are fed fish oil, then exposed to bacteria, their immunosuppressed T cells cause them to succumb to the infection more easily than animals fed coconut oil or a fat-free diet. Natural killer cells, which eliminate cancer cells and virus-infected cells, are decreased after eating fish oil, and T suppressor cells are often increased. More subtle interference with immunity is produced by the actions of PUFAs on the "immune synapse," a contact between cells that permits the transmission of immunological information. By several mechanisms, a fish oil diet or fish oil supplementation, will increase tumor metastasis. (44, 45, 46, 47, 48, 49)

An experiment with dogs showed that a diet high in cod liver oil increased their cancer mortality from the normal 5% to 100%.

PUFAs actually increase the incidence and severity of cancer. A study done at the Oregon Institute of Science and Medicine in 1994 showed that in mice an approximately 50% increase in the incidence and severity of cancer occurred when the diet was supplemented with seeds and nuts rich in polyunsaturates. (50)

Animal experiments with fish oil supplements demonstrate degeneration of spleen cells, which, in turn, causes the production of red blood cells that die prematurely. (51)

The tragedy in the propaganda about omega 3s is that they "work." They will most definitely relieve inflammatory symptoms associated with an excess of omega 6 fatty acids. That is why fish oil is such an easy sell for the health food industry --- so many people get symptomatic relief from taking them. Since excess omega 6 oils is a major cause in virtually all cases of arthritis, allergies,

migraines, Fibromyalgia and menstrual symptoms, etc., etc., omega 3 fatty acids will make sufferers from these conditions feel better.

The clinical results obtained from omega 3s derive solely from their ability to block the conversion of omega 6 PUFAs into pro-inflammatory prostaglandins. Those apparently beneficial results are felt very soon. The oxidative damage is manifest more gradually. The research studies demonstrating results from fish oil are not false; but merely incomplete.

The answer to all the pathologies associated with omega 6-derived prostaglandins is not to ingest even more free radical generating omega 3 fatty acids, but to stop ingesting the omega 6 oils that initiated the pathology. By minimizing dietary PUFAs, and achieving metabolic balance with NUTRI-SPEC, inflammatory and degenerative pathologies will respond with permanent improvement. --- Inflamm-Aging and all its states of Dis-Ease can always be slowed, almost always stopped, and often reversed.

See REFERENCES below ...

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