



Better Health with Flax: The Anti-inflammatory Diet

The Latest News on Flax: Help for Stroke, Heart Disease Prevention; Arthritis; Chemotherapy; Pet's Skin and Coats

Many new scientific articles are exploring and documenting the healthy benefits of consuming flaxseed and flaxseed oil. Flax, of course, is nature's most well-known, and richest source of the omega 3 fatty acid, alpha-linolenic acid (ALA), the parent compound of all other omega-3 fatty acids.

Most people no longer consume adequate amounts of omega-3 fatty acids. They don't eat much flax; they use too much corn oil and margarine in their cooking; they consume fried foods and other foods depleted of omega-3 fatty acids; and their seafood choices are not ones that would provide adequate amounts of these important fats.

Most people today consume an inordinate amount of saturated fats from beef and dairy as well as omega-6 fatty acids which are more commonly found in commercially processed vegetable oils, fried foods, and other highly processed meals.

The result is that they are ingesting the kinds of fats that cause overall bodily inflammation. We have been informing our readers of the very important information that inflammation is the cause of many different maladies from heart disease and stroke to arthritis and autoimmune disorders. Substituting flaxseed or flaxseed oil for margarine on your toast; consuming wild Pacific salmon, baked tuna or sardines; and baking with flaxseed would go a long way to improving the health of millions of Americans. The news on flax and omega-3 fatty acids is very good, indeed.

Stroke Prevention

In industrialized countries, stroke is the most frequent life-threatening neurological disorder. Investigator S.C. Renaud of University Bordeaux, Bordeaux Cedex, France, reports that the intake of saturated fat, considered as the main risk factor for heart disease, does not appear to be as closely related to stroke as once thought. "The villain for stroke" could be the high intake of an omega-6 fatty acid, linoleic acid, the main polyunsaturated fatty acid ingested from highly processed vegetable oils such as corn oil, notes Renaud.

In fact, increasing ALA intake may be more important than simply reducing saturated fat intake for reducing risk of both heart disease and stroke.

"Observation and intervention studies suggest that the fatty acid with the most efficient protective effect on stroke is alpha-linolenic acid (ALA)."

➤ **Key Health Tip:** Flax will cut your risk of stroke. By increasing intake of fruits, vegetables, folic acid and ALA, cancer and stroke rates can be "reduced by more than 50 %," says Renaud.

Heart Disease Prevention

As with stroke, "the intake of saturated fat was postulated to be the main environmental factor for coronary heart disease," says another French researcher D. Lanzmann-Petithory. "It was also postulated that the noxious effects of saturated fatty acids was primarily through the increase in serum cholesterol. Nevertheless intervention trials either in coronary patients or even in primary prevention did not observe significant reduction in cardiac mortality, especially sudden death, when the diet was markedly

enriched in linoleic acid (LA), the most efficient FA [fatty acid] to lower serum cholesterol."

In intervention trials, it is only when the diet was enriched with ALA that cardiac death was reduced, says Lanzmann-Petithory. Studies in animals as well as in vitro on myocytes in culture have shown that ALA prevents ventricular fibrillation, the chief mechanism of cardiac death. Furthermore, studies in rats have observed that among n-3 FA, ALA, the precursor of the n-3 family, may be more efficient to prevent ventricular fibrillation than eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), two omega-3 fatty acids found in fish oil. In addition it was demonstrated that ALA was the main fatty acid for lowering platelet aggregation and reducing the risk of blood clots, an important step in thrombosis, nonfatal myocardial infarction (i.e., heart attack) and stroke.

➤ **Key Health Tip:** Without side effects, a higher intake of ALA (two grams per day) "could possibly constitute a nutritional answer to the main cause of morbidity and mortality in industrialized countries," says Lanzmann-Petithory.

Natural COX-2 Inhibitor

Celebrex[®] and Vioxx[®] are the latest rage in arthritis drugs. These drugs are called selective cyclooxygenase-2 (COX-2) inhibitors. Unlike aspirin, ibuprofen and other non-steroidal anti-inflammatory drugs (NSAID's) which also are COX-1 inhibitors, Celebrex and Vioxx inhibit only COX-2, the enzyme responsible for inflammation. Inhibition of COX-1 by the older NSAID's is thought to be the cause of gastrointestinal problems among NSAID users.

Both Celebrex and Vioxx have been shown to have both anti-inflammatory and analgesic activities equivalent to those of NSAID's without increasing risk for life-threatening side effects (such as gastrointestinal bleeding) associated with traditional NSAID's such as aspirin and ibuprofen, which also are COX-1 inhibitors. But these new drugs may have other serious adverse side effects.

In the search for new COX-2 selective inhibitors, the inhibitory effects of naturally occurring fatty acids was investigated by researchers in the Division of Pharmacognosy, Department of Medicinal Chemistry, Biomedical Center, Uppsala University, Sweden. Omega-3 fatty acids, including those from flax and fish oils, were found to be the most potent selective COX-2 inhibitors.

The most selective of these was alpha-linolenic acid from flax oil. This should not be surprising, since ingestion of omega-3 fatty acids may be one of the most important avenues for safely and effectively reducing overall bodily inflammation.

➤ **Key Health Tip:** Increase your intake of alpha-linolenic acid via flax oil and other omega-3 fatty acids from seafood (e.g., salmon and tuna) to help reduce arthritis-related inflammation. In some cases, intake of flax oil liquids and capsules may make the new arthritis drugs such as Celebrex and Vioxx unnecessary.

Beneficial in Chemotherapy

A combination of flax and borage oils may be important to persons

who are undergoing chemotherapy with doxorubicin. That is because the clinical usefulness of doxorubicin is limited by toxicity to the heart.

One reason Doxorubicin is toxic to the heart is that it acts against omega-3 fatty acids directly by inhibiting enzymes required for their biosynthesis. This inhibits the conversion of alpha-linolenic acid to other important omega-3 fatty acids. In a study from the Department of Biochemistry, University of Bologna, Italy, researchers used cultures of rat heart cells and exposed them to doxorubicin, followed by a 24-hour recovery period with or without gamma-linolenic acid, which is found especially in borage oil.⁵ The addition of gamma-linolenic acid supplementation favorably influenced the conversion of alpha-linolenic acid to other omega-3 fatty acids. Although this study showed that additional gamma-linolenic acid did not completely overcome the depletion of omega-3 fatty acids, it did show that their supplementation is helpful in overcoming some doxorubicin toxicity.

➤ **Key Health Tip:** Use a product that combines flaxseed oil, the world's richest source of alpha-linolenic acid, with borage oil, the world's richest source of gamma-linolenic acid (GLA). A special synergism exists between these two important fatty acids that may potentiate their effects. Both ALA and GLA are required in balancing the body's hormonal response to conditions associated with allergy, inflammation, pain and swelling.

Better Pet Coats with Flaxseed

Allergies are the bane of many animal and human lives, and the signs, although variable depending on species, cause misery in a variety of ways, notes Susan G. Wynn, D.V.M. Atopy is a common allergy to pollens, grasses, house molds and a host of other allergens, and can affect both dogs and cats. These allergens can be inhaled, ingested, or sometimes absorbed through the skin; the resultant hypersensitivity causes a variety of clinical signs that are attributable to itchiness (pruritis). These signs may appear in the spring or fall, or even year round, and, like human allergies, cannot be cured only controlled.

"Atopy is usually inherited, and pets begin to show signs between six months and eight years of age," notes Dr. Wynn. "The most commonly affected breeds are terriers, golden and Labrador retrievers, schnauzers, poodles, lhasa apso, shih tzu, and bulldogs. You may see your dog exhibiting foot licking, face rubbing, leg chewing, armpit scratching, head shaking, tail biting, discharges from the eyes or nose, and even post nasal drip (which is sometimes described as wheezing, snorting, reverse sneezing or trouble breathing). Related problems may include skin and ear infections and anal gland problems. Cats usually have small crusty lesions over part or all of the body, usually around the neck or over the back."

It is thought that low levels of various omega-3 and omega-6 fatty acids can adversely affect the skin and hair health. At Texas A & M University, College of Veterinary Medicine, Department of Small Animal, Medicine and Surgery, College Station, researchers conducted a study, supplementing 18 normal dogs with flaxseed and sunflower seed oil and evaluating their effects on skin and hair coat condition.⁶ It was found that one-month supplementation with either flaxseed or sunflower seed in dogs provides temporary improvement in skin and hair coat.

➤ **Key Health Tip:** A fatty acid supplement is vital to your pet's skin and hair health. Flaxseed oil is the best choice.

How to Find the Best Regular and Lignan Flax Oil

Be sure the company that produces your flax is M.A.D. about fresh lignan flax oil. Here's what to look for when it comes to being M.A.D. about fresh flax:

● **Made to Order.** Be sure your flax oil is made to order. Most nutritional oil companies rely on third-party distributors to stock, inventory and ultimately deliver their products to market, sometimes months after manufacturing. For this reason, most flaxseed oil today is dated for freshness for up to one year. This is too long for a perishable, electron-rich, live food, like flaxseed oil. What's more, these products are typically shipped by ground transportation resulting in prolonged

delivery and conditions such as high heat that may degrade the oil. Worse yet, some companies have resorted to refining and or filtering their oil in order to artificially extend shelf life. Be sure your flax oil is made to order, and that the oil is pressed the day it is ordered.

● **Air Delivered.** Once fresh pressed, be sure your flax oil is rushed by air delivery, manufacturer-direct, to your favorite natural health center or health professional, arriving within days of being made.

● **Dated for Freshness.** Be sure your flax oil comes coded with both a Fresh Pressed date and a Freshest Before date stamp spanning a period of only four months for maximum potency and freshness. Prolonged distributor delivery and warehoused product makes it necessary for other brands to date stamp their oil for six to twelve months. Good for them, not so good for you.

This service is called Fresh ExPress and it guarantees you the absolute freshest flax oil anywhere. You will find this type of extremely high-quality regular and lignan flax oil in the refrigerator sections of natural health centers nationwide.

References:

1. Renaud, S.C. "Diet and stroke." J Nutr Health Aging, 2001;5(3):167-172.
2. Lanzmann-Petitthy, D. "Alpha-linolenic acid and cardiovascular diseases." J Nutr Health Aging, 2001;5(3):179-183.
3. footnote* Lipsky, L.P., et al. "The classification of cyclooxygenase inhibitors." J Rheumatol 1998 Dec;25(12):2298-303
4. Ringbom, T., et al. "Cox-2 inhibitory effects of naturally occurring and modified fatty acids." J Nat Prod 2001 Jun;64(6):745-749.
5. Hrelia, S., et al. "Role of gamma-linolenic acid in counteracting doxorubicin-induced damage in cultured rat cardiomyocytes." Prostaglandins Leukot Essent Fatty Acids 2001 Mar;64(3):139-145
6. Rees CA Effects of dietary flax seed and sunflower seed supplementation on normal canine serum polyunsaturated fatty acids and skin and hair coat condition scores. Vet Dermatol 2001 Apr;12(2):111-7

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