

HEALTH PERSPECTIVES

"Practical Insights Into The World Of Natural Healing."

Therapeutic Use of Flaxseed for Kidney Disease

Flaxseed may be one of your body's best friends if you have kidney disease. A great deal of scientific interest has recently focused on the ability of flaxseed to halt or slow the progression of kidney disease, as well as ameliorate some of the side effects associated with immunosuppressive drugs used to treat kidney disease.

Your kidneys are vital organs, performing many functions to keep your blood clean and chemically balanced. The kidneys remove wastes and extra water from the blood to form urine. Urine flows from the kidneys to the bladder through the ureters.

Your kidneys are bean-shaped organs, each about the size of your fist. They are located near the middle of your back, just below the rib cage. The kidneys are sophisticated reprocessing machines. Every day, your kidneys process about 200 quarts of blood to sift out about two quarts of waste products and extra water. The wastes in your blood come from the normal breakdown of active tissues and from the food you eat. Your body uses the food for energy and self-repair. After your body has taken what it needs from the food, waste is sent to the blood. If your kidneys did not remove these wastes, the wastes would build up in the blood and damage your body.

The actual filtering occurs in tiny units inside your kidneys called nephrons. Every kidney has about a million nephrons. In the nephron, a glomerulus—which is a tiny blood vessel, or capillary—intertwines with a tiny urine-collecting tube called a tubule. A complicated chemical exchange takes place, as waste materials and water leave your blood and enter your urinary system. Your kidneys also measure out chemicals like sodium, phosphorus, and potassium and release them back to the blood to return to the body. In this way, your kidneys regulate the body's level of these substances.

Kidney-related Diseases

Most kidney diseases attack the nephrons, causing them to lose their filtering capacity. The two most common causes of kidney disease are diabetes and high blood pressure. If your family has a history of any kind of kidney problems, you may be at risk for kidney disease.

Kidney Disease Quick Definitions

Albuminuria (AL-byoo-mih-NOO-ree-uh)—More than normal amounts of a protein called albumin in the urine. Albuminuria may be a sign of kidney disease.

Creatinine (kree-AT-ih-nin)—A waste product from meat protein in the diet and from the muscles of the body. Creatinine is removed from blood by the kidneys; as kidney disease progresses, the level of creatinine in the blood increases.

Polycystic (PAHL-ee-SIS-tik) kidney disease (PKD)—An inherited disorder characterized by many grape-like clusters of fluid-filled cysts that make both kidneys larger over time. These cysts take over and destroy working kidney tissue. PKD may cause chronic renal failure and end-stage renal disease.

Proteinuria (PRO-tee-NOOR-ee-uh)—The presence of protein in the urine, indicating that the kidneys are not working properly.

Another cause of kidney disease is lupus, a syndrome that results from several related autoimmune processes. For many years, the prognosis for severe forms of lupus nephritis (lupus-related kidney disease) was miserable. Although patient survival and kidney function outcomes have improved over the last four decades, use of immunosuppressive regimens is not consistently effective. They often involve what experts call "insidious toxicities."

Flax & Kidney Disease

Flaxseed has demonstrated useful anti-inflammatory and antioxidative properties in a number of animal models and human diseases. Flaxseed may also inhibit sclerosis and formation of scar tissue. In recent years, researchers have been investigating whether the phytoestrogens and lignans from foods such as flaxseed can play a beneficially therapeutic role in kidney disease, which often involves destructive inflammatory, oxidative and sclerotic processes. The answer seems to be quite positive.

"There is growing evidence that dietary phytoestrogens have a beneficial role in chronic renal disease," say Drs. M.T. Velasquez and S.J. Bhathena. They note recent findings that suggest that "consumption of soy-based protein rich in isoflavones and flaxseed rich in lignans retards the development and progression of chronic renal disease. In several animal models of renal disease, both soy protein and flaxseed have been shown to limit or reduce proteinuria and renal pathological lesions associated with progressive renal failure. In studies of human subjects with different types of chronic renal disease, soy protein and flaxseed

Personal Counsel

Most of the clinical trials that have examined the therapeutic role of omega-3 fatty acids and kidney disease were of relatively short duration and involved a small number of patients. Furthermore, it is not clear what chemical constituents in flaxseed are most palliative. Still, the evidence supports the protective effect of flaxseed in a variety of types of chronic kidney disease. In short-term clinical studies, the omega-3 polyunsaturated fatty acids, derived from flaxseed and fish oils, seem to diminish cyclosporine-induced kidney toxicity and the attendant complication of hypertension; to inhibit inflammatory and atherogenic mechanisms in lupus nephritis; and to preserve renal function and reduce proteinuria. But, further investigations are needed to evaluate the long-term effects on renal disease progression in patients with chronic renal failure. If you have kidney disease, discuss the utilization of flaxseed and lignan-rich flax oil for your condition with your doctor and proceed from there.

Studies Support Flax's Role in Kidney Therapeutics

In a recent issue of the journal *Lupus*, researchers extracted a lignan precursor from flaxseed to determine if it would exert kidney-protective effects similar to the whole flaxseed in the case of experimentally induced aggressive lupus. The study showed that flax lignans were highly protective "in a dose-dependent fashion, by a significant delay in the onset of proteinuria with preservation in glomerular filtration rate and renal size." The study suggests that flax lignans "may have a therapeutic role in lupus nephritis."

In a 1993 study, researchers from the Department of Medicine, University of Western Ontario, London, Canada, investigated whether a diet supplemented with flaxseed could offer kidney protection in a murine model of lupus nephritis. Tellingly, glomerular filtration rate at 16 weeks was greater in flaxseed fed mice compared with controls. The onset of proteinuria was delayed by four weeks in the flax-treated mice. The percentage of flaxseed-fed mice with proteinuria was lower than the control mice up to 21 weeks of age. Mortality was lower in the flaxseed-fed mice versus the control mice.

At the Department of Pediatrics, and Child Health, University of Manitoba, Winnipeg, Canada, researchers undertook a study to determine if flaxseed would modify the clinical course and renal pathology in experimentally induced polycystic kidney disease. Flaxseed-fed animals had lower serum creatinine, less cystic change, less renal fibrosis, and less macrophage infiltration of kidney tissues than controls. "Flaxseed ameliorates... rat polycystic kidney disease," the researchers said by altering the kidney's content of omega-3 fatty acids "in a manner that may promote the formation of less inflammatory classes of renal prostanoids (i.e., inflammatory-mediating chemicals)."

Promising Clinical Results

In 2001, a clinical trial was conducted to determine whether the kidney-protective effects of ground flaxseed seen in experimental studies would extend to patients with lupus nephritis. Forty patients with lupus nephritis were asked to participate in a randomized crossover trial of flaxseed. Twenty-three agreed and were randomized to receive 30 grams of ground flaxseed daily or control (no placebo) for one year, followed by a twelve-week washout period and the reverse treatment for one year. There were eight drop-outs and of the 15 remaining subjects flaxseed sachet count and serum phospholipid levels indicated only nine were adherent to the flaxseed diet. The nine compliant patients had lower serum creatinine at the end of the two-year study than the 17 patients who refused to participate. Microalbumin levels demonstrated a greater decline when flaxseed was part of the diet. "Flaxseed appears to be renoprotective in lupus nephritis," the researchers said.

How to Find the Best Highest Lignan Flax Oil

Be sure the company that produces your flax is M.A.D. (Made to Order, Air Delivered, and dated for Freshness) 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 lignan flax oil in the refrigerator sections of natural health centers nationwide.

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