Revered for its benefits as far back as 4,000 years ago to the time of Hippocrates, flaxseed has been a long-held staple of human diets across Africa, Asia, and Europe. Lately, this versatile grain has begun to receive well-deserved attention in North America for its ability to help fend off the major life-threatening diseases including cancer and heart disease.

A rich source of minerals, omega-3 fatty acids, phytoestrogens, and soluble and insoluble fiber, abundant evidence supports the value of flaxseed in preventing diverse illnesses such as heart disease and cancer, as well as helping to address common ailments such as menopausal complaints and digestive irregularity.

As part of a snack or meal, it's easy to incorporate tasty and nutritious flaxseed as a staple ingredient in your own diet.

**Protecting Against Heart Disease**

Dietary omega-3 fatty acids have proven their mettle as preventive therapy against cardiovascular disease. Fish oil is the richest source of these heart-healthy fats. Among the plant foods that offer omega-3s, flaxseed stands far above the rest. Analyses have shown that while canola and corn oil contain approximately 10% and 1% omega-3s, respectively, flaxseed oil contains a far greater concentration of 57% omega-3s, in the form of alpha-linolenic acid.

“The intake of flaxseed, especially its lignan fraction, and abundant portions of fruits and vegetables will lower cancer risk.”
which have shown the benefits of omega-3-rich seeds in decreasing risk factors for cardiovascular disease.\textsuperscript{9,10}

Typical of these experiments is a recent study in which postmenopausal women with mildly elevated cholesterol levels supplemented with approximately 30 grams of flaxseed (just over four tablespoons) daily for three months. Flaxseed supplementation lowered total cholesterol by 7\% and decreased dangerous low-density lipoprotein (LDL) by 10\%. These findings led the study authors to conclude that regular flaxseed consumption may offer cardiovascular disease protection by modulating blood lipid levels.\textsuperscript{9}

Another study compared the effect of flaxseed with cholesterol-lowering statin therapy in people with a high total cholesterol level (more than 240 mg/dL). Researchers divided subjects into three groups: a low-fat diet plus either a statin drug or 20 grams (about three tablespoons) of ground flaxseed daily for two months, while a third control group received the low-fat diet only. Supplementation with flaxseed reduced blood lipids: total cholesterol levels fell by 17\%, LDL levels dropped by 4\%, and triglycerides plummeted by 36\%. These improvements in total cholesterol and LDL levels in the flaxseed group were comparable to those seen in the statin group.\textsuperscript{10}

### Fighting Cancers

Scientists have estimated that a remarkable 30-40\% of all cancers could be prevented through dietary and lifestyle strategies alone. Flaxseed may play an important role in a cancer-preventive diet. "Intake of flaxseed, especially its lignan fraction, and abundant portions of fruits and vegetables will lower cancer risk," notes one research review.\textsuperscript{9}

The phytoestrogens so richly present in flaxseed—known as lignans—have proven, in numerous studies, to have great value in blocking hormone-dependent cancers, including breast and prostate cancer.\textsuperscript{9,11}

Canadian researchers studied the effects of dietary flaxseed on key markers of tumor activity in women newly diagnosed with breast cancer. For approximately one month, patients in one group ate a flax-rich muffin (containing 25 grams flaxseed) daily, while a control group ate an ordinary muffin each day. The flax-eaters showed significantly reduced levels of a marker for tumor-cell growth and increased levels in the orderly process of cancer cell death (called apoptosis).\textsuperscript{12} The investigators concluded that dietary flaxseed may help reduce tumor growth in breast cancer patients.

Growing evidence suggests that flaxseed may also help avert...
prostate cancer by boosting blood levels of beneficial enterolactones. After flaxseed is consumed, its lignans are converted in the intestine into enterolactones, which then enter the bloodstream. In a large study that examined blood enterolactone levels in men with prostate cancer versus healthy controls, men with the highest enterolactone levels were 82% less likely to have prostate cancer.19

Further studies are needed to determine if flaxseed may offer protection against other cancers.

**Easing Symptoms Tied to Menopause**

Rich in phytoestrogens, flaxseed may offer welcome relief to women suffering the discomforts of menopause.11

Researchers at the Mayo Clinic demonstrated that flaxseed significantly decreased the occurrence of hot flashes in women who chose not to take estrogen therapy. Women suffering from regular hot flashes consumed 40 grams of flaxseed daily for six weeks. The daily frequency of hot flashes was reduced by a dramatic 50% at the study's end, from an average of 7.3 hot flashes daily to 3.6 hot flashes per day.14

Nutritional scientists increasingly believe that phytoestrogens may help moderate a variety of other menopausal symptoms ranging from night sweats to moodiness.11 Ongoing research is investigating this promising possibility.

Scientists describe phytoestrogens as plant-derived compounds that exert both estrogenic and anti-estrogenic effects in the body. As such, they may offer relief of symptoms associated with low estrogen levels, without the risks associated with estrogen itself. Flaxseed is rich in the phytoestrogens known as lignans, while soy provides an abundant source of the isoflavone phytoestrogens.11

**Flaxseed Fiber Supports Healthy Digestion, Blood Sugar**

Flaxseed is a rich source of both soluble and insoluble fiber.5 Soluble fiber forms a gel-like matrix with water that adds bulk to stools and promotes more regular bowel movements.

Nutritional scientists believe that the insoluble fiber found in flaxseed helps slow the release of sugar into the bloodstream following a meal, preventing spikes in blood glucose levels.5

One ounce of flaxseed contains 32% of the fiber recommended by the US Department of Agriculture.15 If you increase your intake of flax, remember to drink plenty of water as well.

**An Adaptable Ingredient**

Choose ground flaxseed rather than whole. The whole form simply passes through your digestive tract without surrendering its beneficial components. Alternately, you can grind whole flaxseeds in a coffee grinder before consumption. Sprinkle flaxseed on cereal, yogurt, steamed vegetables, and salads. Bake it into meat loaves and muffins, and use it as a healthful coating on oven-baked chicken or fish. For best results, store ground flaxseed in the refrigerator.

If you have any questions on the scientific content of this article, please call a Life Extension Health Advisor at 1-800-226-2370.

**References**
