Flax Seeds and Nutritional Needs

What is Flax?
Flax is a multipurpose crop that is grown throughout the world. Flaxseeds are relatively small (about the size of a sesame seed), and can be a reddish brown or golden yellow color. Flaxseeds are often described as having a crunchy and chewy texture as well as a nutty flavor.

What’s So Special About Flax?
Despite their small size, flaxseeds pack quite a nutritional punch. Here are their properties:

- Rich sources of complete protein, which means that they contain all of the essential amino acids in the amounts needed for human health (similar to soy).
- High in fiber and contain about two to three grams of total fiber (soluble and insoluble) per tablespoon. It is recommended that Americans consume 25-38 grams of fiber each day.
- Contain large amounts of vitamins and minerals which are essential to good health, and are especially rich in potassium and folic acid.
- Contain various phytochemicals including lignans, phenolic acids and flavonoids. These compounds occur naturally in plants and are thought to have antioxidant, anti-cancer and anti-inflammatory functions.
- Contain a high percentage of omega-3 polyunsaturated fats. These fats have numerous health benefits and are often under-consumed by Americans.

Is All Fat Bad?
Although many people think that fat is bad, some fats can actually be very beneficial to your health when consumed in the right amounts. There are three main types of fat:

- Saturated fat
- Unsaturated fat
- Trans fat

All types of fat are high in calories, but it has been shown that replacing saturated and trans fats in your diet with unsaturated fats may lower your risk for heart disease. One type of unsaturated fat is polyunsaturated fat. Most of the fat in flaxseed is polyunsaturated, with only a small amount coming from saturated fat. However, what makes flaxseed so unique is that it is the richest plant source of omega-3 fatty acids (a type of polyunsaturated fat). Omega-3 fatty acids are essential fatty acids; because our bodies cannot make them, we must get them from our diet. The functions of omega-3 fatty acids are:

- Maintaining the structure of cell membranes
- Enabling the transport and use of cholesterol
- Regulating the production of genes and enzymes in the body

Can Flax Help Prevent Diseases?
In recent years, many studies have focused on the disease fighting properties of flax or its components. Although the results of many of these studies seem promising, it is important to remember that more research on flax is still needed. Below is a short list of diseases and the ways that flax may help in prevention or treatment.

Cancer – The high lignan content of flaxseed is thought to play a role in fighting a broad range of cancers. The anti-cancer properties of flaxseed may also stem from alpha linolenic acid (an omega-3 fatty acid found in flaxseed), which is potentially capable of slowing tumor growth.

Heart disease – Clinical studies have shown that flaxseed may lower triglycerides, total cholesterol, and LDL cholesterol levels and reduce the risk of blood clots when consumed over time. These benefits may result from fiber and/or the alpha linolenic acid found in flaxseed.

Rheumatoid arthritis and kidney disease – The anti-inflammatory properties of omega-3 fatty acids have been recognized in both treating and slowing the progression of rheumatoid arthritis and kidney disease. Although most omega-3 research has focused on the omega-3 fatty acids found in fish, more recent studies have shown flaxseeds also may provide this benefit.
Menopause and osteoporosis – Much like soy, flaxseeds are a rich source of phytoestrogens. Some studies have shown that consuming foods high in phytoestrogens may prevent or mitigate symptoms caused by the declining estrogen levels associated with menopause. Phytoestrogens may also be helpful in fighting osteoporosis related bone loss experienced by some post-menopausal women.

So How Do You Use Flax?
Flax is available at most specialty and health food stores, and can be purchased in four forms. The type of flax that you choose is dependent on the benefits of flax in which you are interested and purpose for which you intend to use flax.

- **Whole flaxseed** can be eaten alone or can be added to other foods. When using whole seeds it is important to chew the seeds thoroughly to receive all of the nutrients inside the flaxseed. Whole flaxseeds will pass through the body undigested if not chewed sufficiently. Whole flaxseeds can be easily ground in a coffee grinder.

- **Ground flaxseed** is the easiest and most common way to purchase flax, look for “milled flax” or “flaxseed flour”. Ground flaxseed can be used in baking and in cooked and uncooked foods. Ground flaxseed is particularly beneficial because the grinding process releases the nutrients in flax more effectively than chewing the whole seeds. Ground flaxseed is shelf stable for up to four months and should be kept refrigerated in an airtight container. Add to cereal (hot and cold), salads, yogurt, rice, pasta, etc.

- **Flax oil** can be used as an ingredient in cold preparations like salad dressing or smoothies. It can also be used in recipes that call for flaxseeds by using a 3:1 substitution (3 tablespoons ground flaxseed for 1 tablespoon oil). It is not advised that to fry foods in flax oil because high temperatures make it unstable. However, flaxseed oil does not contain any of the protein or fiber found in flaxseeds, it expires relatively quickly (6-8 weeks) and must be refrigerated.

- **Flaxseed pills** may contain either flaxseed oil or ground flaxseed. The flaxseed oil pills have the same drawbacks as flaxseed oil and also need to be refrigerated. The pills containing ground flaxseed have all the benefits of ground flaxseed but often several capsules daily are needed to reap the same benefits.

For more information about adding flax to your diet
talk to your doctor or a Registered Dietitian.

References:

The Flax Council of Canada web site: [http://www.flaxcouncil.ca](http://www.flaxcouncil.ca)


If you are a registered University of Illinois student and you have questions or concerns, or need to make an appointment, please call: **Dial-A-Nurse at 333-2700**

If you are concerned about any difference in your treatment plan and the information in this handout, you are advised to contact your health care provider.

Visit the McKinley Health Center Web site at: [http://www.mckinley.illinois.edu](http://www.mckinley.illinois.edu)