

**Flaxseed oil** is derived from the seeds of the flax plant. Flaxseed oil and flaxseed contain substances that promote good health. Flaxseed oil is rich in alpha-linolenic acid (ALA), an essential fatty acid that appears to be beneficial for heart disease, inflammatory bowel disease, arthritis and a variety of other health conditions. Flaxseed, in addition to ALA, contains a group of chemicals called lignans that may play a role in the prevention of cancer. Please see the flaxseed monograph for further information on this herbal agent.

ALA, as well as eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), belongs to a group of substances called omega-3 fatty acids. EPA and DHA are found primarily in fish while ALA is mostly found in flaxseed oil and other vegetable oils. Although similar in structure, the benefits of ALA, EPA, and DHA are not necessarily the same.

It is important to maintain an appropriate balance of omega-3 and omega-6 (another essential fatty acid) in the diet as these two substances work together to promote health. These essential fats are both examples of polyunsaturated fatty acids, or PUFAs. Omega-3 fatty acids help reduce inflammation and most omega-6 fatty acids tend to promote inflammation. An inappropriate balance of these essential fatty acids contributes to the development of disease while a proper balance helps maintain and even improve health. A healthy diet should consist of roughly two to four times more omega-6 fatty acids than omega-3 fatty acids. The typical American diet tends to contain 14 to 25 times more omega-6 fatty acids than omega-3 fatty acids and many researchers believe this imbalance is a significant factor in the rising rate of inflammatory disorders in the United States.

Omega-3 fatty acids have been shown to reduce inflammation and help prevent certain chronic diseases such as heart disease and arthritis. These essential fatty acids appear to be particularly important for cognitive and behavioural function as well as normal growth and development.

## Uses

Studies suggest that flaxseed oil and other omega-3 fatty acids may be helpful in treating a variety of conditions. The evidence is strongest for heart disease and problems that contribute to heart disease, but the range of possible uses for flaxseed oil include:

### High Cholesterol

People who follow a Mediterranean diet tend to have higher HDL ("good") cholesterol levels. The Mediterranean diet consists of a healthy balance between omega-3 and omega-6 fatty acids. It emphasizes whole grains, root and green vegetables, daily intake of fruit, fish and poultry, olive and canola oils, and ALA, along with discouragement of ingestion of red meat and total avoidance of butter and cream.

### High Blood Pressure

Several studies suggest that diets and/or supplements rich in omega-3 fatty acids (including ALA) lower blood pressure significantly in people with hypertension. Fish high in mercury (such as tuna) should be avoided, however, because they may increase blood pressure.

### Heart Disease

One of the best ways to help prevent and treat heart disease is to eat a low-fat diet and to replace foods rich in saturated and trans-fat with those that are rich in monounsaturated and polyunsaturated fats (including omega-3 fatty acids from flaxseed oil). Evidence suggests that people who eat an ALA-rich diet are less likely to suffer a fatal heart attack.

### Inflammatory Bowel Disease (IBD)

Some people with Crohn's disease (CD), one form of IBD, have low levels of omega-3 fatty acids in their

bodies. Fish oil supplements containing omega-3 fatty acids have been shown to reduce symptoms of CD and ulcerative colitis (another inflammatory bowel disease), particularly if used in addition to medication. Preliminary animal studies have found that ALA (such as from flaxseed oil) may actually be more effective than EPA and DHA found in fish oil supplements, but further studies in humans are needed to confirm these findings.

### **Arthritis**

Several studies suggest that omega-3 fatty acid supplements reduce tenderness in joints, decrease morning stiffness, and allow for a reduction in the amount of medication needed for people with rheumatoid arthritis and, probably, osteoarthritis as well.

### **Breast Cancer**

Women who regularly consume foods rich in omega-3 fatty acids over many years may be less likely to develop breast cancer and to die from the disease than women who do not follow such a diet. Laboratory and animal studies indicate that omega-3 fatty acids can inhibit the growth of human breast cancer cells and may even prevent the spread of cancer to other parts of the body. Several experts speculate that omega-3 fatty acids in combination with other nutrients (namely, vitamin C, vitamin E, beta-carotene, selenium, and coenzyme Q10) may prove to be of particular value for preventing and treating breast cancer.

### **Depression**

People who do not get enough omega-3 fatty acids or do not maintain a healthy balance of omega-3 to omega-6 fatty acids in their diet may be at an increased risk for depression. The omega-3 fatty acids are important components of nerve cell membranes. They help nerve cells communicate with each other, which is an essential step in maintaining good mental health.

### **Burns**

Essential fatty acids have been used to reduce inflammation and promote wound healing in burn victims. Animal research indicates that omega-3 fatty acids help promote a healthy balance of proteins in the body -- protein balance is important for recovery after sustaining a burn. Further research is necessary to determine if this may apply to people as well.

### **Acne**

Although there are few studies to support the use of omega-3 fatty acids for skin problems, many clinicians believe that flaxseed is helpful for treating acne.

### **Asthma**

Preliminary research suggests that omega-3 fatty acid supplements may decrease inflammation and improve lung function in adults with asthma.

### **Menstrual pain**

In a study of nearly 200 Danish women, those with the highest dietary intake of omega-3 fatty acids had the mildest symptoms during menstruation.

### **Other**

Although further research is needed, preliminary evidence suggests that omega-3 fatty acids may also prove helpful in protecting against certain infections and treating a variety of conditions including ulcers, migraine headaches, preterm labor, emphysema, psoriasis, glaucoma, Lyme disease, lupus, and panic attacks.

### **Dietary Sources**

Flaxseed oil is obtained from the seed of the flax plant. It contains 50% to 60% omega-3 fatty acids. This amount is roughly double that contained in fish oil.