

Heart Health Through Whole Foods

Certain whole foods in a diet can ultimately provide heart-healthy benefits. The right foods consumed in the right amounts can help lower cholesterol and/or triglycerides. They may also help to reduce risk for heart disease.

Even though the benefits of whole foods may be known, too often individuals turn to over-the-counter supplements instead. It is important to discuss all supplements prior to ingestion with your physician. Individuals may not realize that taking some supplements with certain medications may be harmful or that taking too much of a good thing can be bad.

The purpose of this session is to educate how to obtain certain nutrients through whole foods rather than through supplements. It must be noted that some individuals may still need supplements in addition to diet. Once again this should be guided by a physician.



Supplement	Health Benefits	Caution	Dietary Alternative
<p>Omega-3 Fatty Acids: Fish Oils</p> <p>Fish oils contain Eicosapentaenoic Acid (EPA) and Docosahexaenoic Acid (DHA)</p>	<p>Fish oil is used for reduction in cholesterol and triglycerides. It is used for hyperlipidemia, hypertriglyceridemia, coronary heart disease and hypertension.</p> <p>Fish oil from supplements or from dietary sources can reduce triglyceride levels by 20 to 50 percent.</p>	<p>There are some safety concerns about using high doses of fish oil. Doses greater than 3 grams per day can inhibit blood coagulation and potentially increase the risk of bleeding. Doses greater than 3 grams per day might also suppress immune response. Patients should only take high-dose fish oil while under medical supervision.</p>	<p>Consuming fish oil from dietary sources such as fatty fish (e.g., tuna, salmon), two servings per week, is associated with a reduced risk of developing cardiovascular disease (primary prevention).</p> <p>These benefits may also be seen in patients with existing cardiovascular disease (secondary prevention). Aim for 3.5 ounces of salmon twice a week.</p>
<p>Omega-3 Fatty Acids: Krill Oil</p> <p>Krill are tiny shrimp-like crustaceans. Promoters say that krill oil provides similar cardiac benefits as fish oil, but with fewer capsules and no fishy taste. Manufacturers claim krill oil is better absorbed.</p>	<p>Preliminary evidence shows that a specific krill oil product (Neptune Krill Oil, Neptune Technologies & Bioresources, Inc.) can lower cholesterol and triglycerides.</p>	<p>Krill oil supplements contain less of the omega-3s EPA and DHA than fish oil supplements. But overall there's much better evidence that fish oil can lower triglycerides and cardiovascular risk.</p> <p>Krill oil may be suggested to healthy people who want to add these omega-3s to their diet but can't tolerate fish oil.</p>	
<p>Omega-3 Fatty Acids: Cod Liver Oil</p> <p>Cod liver oil is less expensive than the fish oil concentrates.</p> <p>It contains relatively large amounts of vitamin A and vitamin D. On average, 20 mL of cod liver oil contains 1.8 grams EPA, 2.2 grams DHA, 15,000 IU vitamin A, and 1,500 IU vitamin D.</p>	<p>In hypertriglyceridemia, cod liver oil is thought to lower triglycerides by decreasing secretion of very low-density lipoproteins (VLDLs) and through other means.</p> <p>Cod liver oil might moderately lower blood pressure.</p>	<p>Orally, cod liver oil can have a fishy taste and might cause belching, nosebleeds and heartburn. High doses can cause nausea and loose stools. Some gastrointestinal side effects can be minimized if cod liver oil is taken with meals and if doses are started low and gradually increased.</p> <p>There is also some concern about vitamin A and vitamin D toxicity in people using cod liver oil long term. Upper limit for vitamin A is 10,000 IU and the upper limit for vitamin D daily is 4,000 IU. The upper limit of intake is the highest possible intake before adverse health effects may take place.</p> <p>Concomitant use of herbs that might affect platelet aggregation could theoretically increase the risk of bleeding in some people. Also, combining cod liver oil with other herbs or supplements with blood pressure lowering effects might increase the risk of hypotension.</p>	

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<p>Flaxseed Alpha-Linolenic Acid</p> 	<p>Diets that are low in n-3 fatty acids create an imbalance that is linked to several conditions such as coronary heart disease, hypertension and inflammatory disorders. Consuming flaxseed is a way to increase the n-3 content of diet.</p> <p>Claims of flaxseed reducing triglycerides are inconclusive as it may actually increase triglycerides in those with hypertriglyceridemia. At this time there is insufficient research to support the claim that flaxseed reduces risk of stroke or heart attack. Flaxseed appears to increase EPA concentrations at times but has not consistently lowered serum LDL cholesterol and triglycerides.</p>	<p>Alpha-linolenic acid, even with long-term consumption, doesn't have the same effect as fish oil or fatty fish consumption on triglyceride concentrations and low density lipoprotein (LDL) cholesterol. This form of fatty acid needs to be converted in the body to EPA and DHA. Diets high in linolenic acid or high in saturated fat reduce this conversion.</p> <p>To prevent intestinal blockage, at least 5 ounces of fluid is required for every 10 grams of whole flaxseed intake. Doses greater than 45 grams flaxseed powder are associated with laxative effects. Since it is bulk-forming, avoid use with individuals with bowel obstruction, esophageal stricture or acute intestinal inflammation.</p> <p>Theoretically flaxseed may increase bleeding/clotting time when taken with other blood-thinning drugs or supplements; use should be monitored by physician.</p>	<p>1 tablespoon or 1 ounce daily in conjunction with 3.5 ounces of salmon twice a week.</p> <p>Other foods higher in alpha-linolenic acid are walnuts, soybean and canola oil.</p>  <p>1 tablespoon or 1 ounce will provide ~7 grams of Alpha-linolenic acid.</p> <p>Food and Nutrition Board of the Institute of Medicine have set guidelines for intake of 1.6 grams daily for men and 1.1 grams daily for women.</p>
<p>Fiber Soluble and Insoluble</p> 	<p>Soluble fibers can help lower LDL cholesterol by interfering with the absorption of dietary cholesterol.</p> <p>Insoluble fibers are considered as gut-healthy fiber because they have a laxative effect and add bulk to the diet, helping prevent constipation.</p>	<p>May experience intestinal gas and/or bloating with dramatically increased intakes. Increasing fiber gradually will allow your body to adapt. Because some fibers absorb water, you should also drink more water as you increase fiber.</p> <p>Excessive fiber can interfere with certain vitamin and mineral absorption.</p>	<p>Institute of Medicine has recommended an Adequate Intake of Fiber of 20 – 40 grams per day based on age and gender. In order to meet in diet, consume 5 cups of fruits and vegetables per day and 3 servings of whole grain.</p>
<p>Soy Proteins</p> 	<p>There is some evidence that soy protein can reduce cholesterol in individuals with hypercholesterolemia, however the results are minimal. There is little effect on cholesterol reduction in those with normal cholesterol. Thus soy is not an effective supplement for prevention of heart disease but rather soy foods should be considered as a cardioprotective because they are low in fat and saturated fat and high in fiber and minerals.</p>	<p>Women with breast cancer should avoid using soy protein supplements as there are concerns that these supplements possess weak estrogenic activity that may stimulate cancer proliferation in women with breast cancer.</p> <p>Soy can interfere with some medications such as medications for thyroid and estrogen replacement therapy. Talk with your physician about soy.</p>	<p>Consume whole foods that contain whole soy such as soybeans, edamame nuts, soy milk, miso and tofu.</p> 

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Garlic 	Some evidence does show garlic can reduce LDL cholesterol, triglycerides and blood pressure; however, the evidence for garlic and cardiovascular disease risk reduction is not strong.	Garlic when taken as a food or supplement may increase bleeding time when taken with other blood-thinning drugs or supplements. Garlic supplementation can also interfere with some medications so use should be monitored by physician.	Most studies have used the equivalent of ~1 garlic clove per day. To optimize the therapeutic effects, some research suggests crushing raw garlic and then allowing it to sit for 10 minutes to help retain properties that are normally destroyed by heat.
Coconut Oil	Medium chain fatty acid that is more likely to be absorbed rather than stored and is often used for weight loss.	High in calories and saturated fat that may lead to weight gain and elevated cholesterol.	Not enough information is available on the quantity recommended or the population who should use it.

References

Academy of Nutrition and Dietetics. Evidence Analysis Library. Disorders of Lipid Metabolism.

Food and Nutrition Board, Institute of Medicine, National Academies. Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fatty Acids, Cholesterol, Protein, and Amino Acids. 2002/2005.

Fragakis, Allison. Thomson, Cynthia. The Health Professional's Guide to Popular Dietary Supplements, 3rd Edition. American Dietetic Association. 2007.

Natural Medicines Comprehensive Database. DHA (Docosahexaenoic Acid), EPA (Eicosapentaenoic Acid), fish oil, and cod liver oil.

To schedule an appointment with a University Hospitals dietitian, please call 216-844-1499. A physician referral is required to make an appointment. Our schedulers can assist in obtaining the appropriate referral.

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