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Omega-3 Fatty Acids

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Fats in our food are categorized according to the predominant fatty acid that is present. Typically fats are categorized as saturated fatty acids or unsaturated fatty acids. Some examples of foods that are high in saturated fats are butter and lard. These fats are solid at room temperature. Fats that are high in unsaturated fatty acids are liquid at room temperature. Examples are vegetable oils such as canola, corn, olive or soybean. Unsaturated fatty acids may be monounsaturated or polyunsaturated.

When it comes to heart health, we are hearing more and more about the benefits of one particular type of polyunsaturated fatty acid, the omega-3 fatty acids. We can get these polyunsaturated fatty acids from the food that we eat.

The most common omega-3 fatty acids are eicosapentaenoic (EPA), docosahexaenoic (DHA) and alpha-linolenic (ALA) acids. EPA and DHA are found in fatty fish such as salmon, white tuna, mackerel, rainbow trout, herring, halibut, and sardines. ALA is more commonly found in soybean or canola oil, walnuts, and flaxseeds or flaxseed oil. The American Heart Association has recommended that healthy adults eat at least two servings of fish per week to boost their omega-3 fatty acid intake. Eating 2 to 4 ounces of these fish will generally provide about 1 gram of omega-3 fatty acids.

Another food source is the Omega Egg, a University of Nebraska patented product that is high in omega-3 fatty acids. The eggs are produced from hens that eat a patented diet including flaxseed. These eggs look and taste like conventional eggs but have nearly six times the omega-3 fatty acid, a third less saturated fat, and less cholesterol than conventional eggs.

Benefits of Omega-3 Fatty Acids

Research suggests that including omega-3 fatty acids in the diet may:

- reduce inflammation,
- help prevent blood from clotting and sticking to artery walls,
- help to lower the risk for blocked blood vessels and heart attacks,
- prevent hardening of the arteries,
- decrease the risk of sudden death and abnormal heart rates,

- decrease triglyceride levels,
- improve overall heart health, and
- lower blood pressure.

Omega-3 Fatty Acid Supplements

Research has demonstrated that omega-3 fatty acid supplements have some positive effects on triglycerides and HDL levels, but food is still the best source since a variety of other nutrients are provided. Fish oil supplements will not undo the effects of an otherwise high fat diet. When taking a supplement it is best to consult a physician. The Food and Drug Administration has also noted that high intakes of EPA and DHA can cause excessive bleeding in some people.

How Much is Enough?

The Dietary Reference Intake (DRI) identified as Adequate Intake (AI) for alpha-linolenic acid for adult males is 1.6 grams daily and 1.1 grams daily for adult females. In addition, the American Heart Association has set the following recommendations for intakes of omega-3 fatty acids in diets for adults.

Population	Recommendation
Individuals with no documented coronary heart disease	Eat a variety of (preferably fatty) fish at least twice a week. Include oils and foods rich in alpha-linolenic acid (flaxseed, canola and soybean oils; flaxseed and walnuts).
Patients with documented coronary heart disease	Consume about 1 gram of EPA+DHA per day, preferably from fatty fish. EPA+DHA supplements could be considered in consultation with the physician.
Patients who need to lower triglycerides	2 to 4 grams of EPA+DHA per day provided as capsules under a physician's care.

Source: American Heart Association, <http://www.americanheart.org>, 2002.

Cautions on Fish

Some types of fish may contain environmental contaminants such as methylmercury or polychlorinated biphenols that may cause a health risk. Such substances generally are highest in older, larger, and more predatory fish or marine mammals. For that reason, the Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA) have provided guidelines to help individuals determine their best course of action. Young children, women who may become pregnant, and pregnant or nursing women are at highest risk for exposure. Shark, swordfish, king mackerel and tilefish have the highest mercury levels and should be avoided by women and young children. For other fish and shellfish with lower mercury levels, women and young children may eat up to two regular servings per week (no more than 6 to 12 ounces). For other individuals, time-honored nutrition advice holds true: eat a variety of fish to minimize exposure and any adverse effects that may be due to such environmental contaminants. The following Web sites have more specific guidance about fish consumption:

- <http://www.epa.gov/waterscience/fish/>
- <http://www.cfsan.fda.gov/~frf/sea-mehg.html>

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