Omega-3 fatty acids are a type of essential fatty acid that the body needs for optimal health. They are “essential” because the body cannot manufacture them, so you must get them from food and/or supplements (e.g., fish oil, flaxseed oil). The three types of omega-3 fatty acids are EPA (eicosapentaenoic acid), DHA (docosahexaenoic acid), and ALA (alpha-linolenic acid). EPA and DHA offer the most health benefits. ALA is less available because it must be converted in the body to EPA and DHA. Unfortunately the conversation rate is 10 percent at best, and so it is very difficult to get the amount of recommended omega-3 from ALA.

Omega-3 fatty acids belong to a broader category of fats called polyunsaturated fats (PUFAs) because they have multiple double chemical bonds. These fatty acids calm the inflammatory response and thus prevent tissue damage and swelling that leads to pain and illness.

Other benefits of omega-3 fatty acids include the ability to:

- Prevent excessive blood clotting
- Lower the amount of cholesterol and triglycerides in the bloodstream
- Maintain the fluidity of the cell membranes, which is essential for cells to grow and maintain health
- Facilitate the ability of the arteries to relax and dilate, good for maintaining normal blood pressure and overall cardiovascular health
- Inhibit thickening of the arteries by decreasing endothelial cells’ production of a substance called platelet-derived growth factor, also good for blood pressure and cardiovascular health
- Reduce the risk of becoming obese by stimulating the secretion of leptin, a hormone that helps regulate food consumption
- Help prevent cancer cell growth, including prostate, esophageal, and colorectal cancer

**Omega 3 and Prostate Cancer**

One of the most promising studies about the benefits of omega-3s and prostate health was conducted by researchers from the University of California, San Francisco, and published in 2009. The investigators evaluated 466 men who had aggressive prostate cancer and 478 healthy men. All the men were asked to complete questionnaires about the foods they ate daily. They also were screened for a variant of the COX-2 gene that is known to increase a man’s risk for developing prostate cancer.

When the researchers analyzed all the collected data, they discovered that the men who ate dark, fatty fish rich in EPA/DHA (e.g., salmon) at least once a week had a 63 percent reduced risk of developing prostate cancer. The men who consumed little or no EPA/DHA and who also had the COX-2 variant were five times more likely to develop advanced prostate cancer. The researchers concluded that omega-3 fatty acids may decrease prostate inflammation and the progression of cancer by impacting the COX-2 gene. (Fradet 2009)

In a large study conducted at Harvard School of Public Health, researchers followed more than 20,000 men to determine the relationship between prostate cancer incidence and fish consumption. A total of 20,167 men who were part of the Physician’s Health Study were evaluated. The investigators found that of the men in the study who were diagnosed with prostate cancer, those who ate fish at least five times a week had a 48 percent lower risk of dying from the disease than the men who ate fish less than once a week. (Chavarro 2008)

A large Swedish study also evaluated the relationship between intake of fatty fish, COX-2, and prostate cancer. A total of 1,499 men who had prostate cancer who were already part of the CAPS study (Cancer Prostate in Sweden) were monitored along with 1,130 men who were cancer-free at the beginning of the study. The researchers determined that the risk of prostate cancer was 43 percent lower in men who consumed “salmon-like fish” one or more times per week when compared with men who never ate that type of fatty fish.
The investigators also analyzed the men's intake of EPA and DHA and found that the men who consumed the highest amount of both EPA and DHA had a 30 percent less risk than men who consumed the least amount. In addition, men who possessed a variant of the COX-2 gene and who ate the most salmon-like fish had a 72 percent lower risk for prostate cancer when compared with men who had the COX-2 gene variant and who ate the least amount of salmon-type fish. The researchers also determined that a high intake of linoleic acid (an omega-6 fatty acid) increased the risk of prostate cancer. (Hedelin 2007)

In yet one more study, researchers from the Harvard School of Public Health followed 47,866 men who had participated in the Health Professional Follow Up Study from 1986 until 2000. (Leitzmann 2004) The men were asked to complete food-frequency questionnaires and to include specific details about their use of cooking oil, the amount of dark-meat fish they ate, and if they used fish oil supplements. In the final analysis, the researchers found that consumption of ALA from meats, plants, and dairy sources increased the risk of advanced prostate cancer, while a high intake of EPA and DHA was associated with a decreased risk of total and advanced prostate cancer.

A new study however seems to question the benefits of omega 3 by implicating omega-3 fatty acids as a risk booster and trans-fatty acids with a lower likelihood of developing cancer.

Researchers at Fred Hutchinson Cancer Research Center analyzed data collected from the nationwide Prostate Cancer Prevention Trial involving a subset of more than 3,400 men, half of which had developed prostate cancer during the course of the study. They found that those with the highest percentage of docosahexaenoic acid (DHA) in their blood were at a two-and-a-half times greater risk of developing aggressive, high-grade prostate cancer compared to men with the lowest levels of the omega-3 fatty acid. While it might seem that supplements might be to blame, among the study participants, very few reported taking fish oil capsules. The majority got their omega 3’s from eating fatty fish, such as salmon. So, should men just ditch a healthy diet because of these findings? No, says Dr. Brasky, who was involved in the analysis. The study “shine(s) a light on the complexity of studying the association between nutrition and the risk of various chronic diseases.”

**Omega 3, BPH and Prostatitis**

The omega-3s in fish oil may also help two other prostate problems, BPH and prostatitis. The anti-inflammatory activity of omega-3s may reduce the risk of prostatitis, while studies have shown that blood levels of omega-3 fatty acids are lower in men who have BPH.

The American Heart Association recommends consuming 0.5 to 1.8 grams of EPA and DHA daily either as fatty fish or supplements, or 1.5 to 3.0 grams of ALA daily to reduce the risk for heart disease. The Association also cautions that no one should consume more than 3 grams of omega-3 fatty acids per day unless they are under a doctor’s care, because high intake could cause excessive bleeding in some individuals.

The richest food sources of omega-3s in the form of EPA and DHA are certain fatty fish (e.g., anchovies, flounder, halibut, salmon, sardines, trout, tuna). For ALA, you can turn to walnuts, flaxseed, soybean oil, pumpkin seeds, hemp oil, chia seeds, and fortified foods.

**Dr. Geo Espinosa, N.D., L.Ac, CNS, RH (AHG)**

**References**


Brasky TM et al. Serum Phospholipid Fatty Acids and Prostate Cancer Risk: Results From the Prostate Cancer Prevention Trial. Am. J. Epidemiol. (2011) first published online April 24, 2011