

Omega-3s

Omega-3 fatty acids have long been considered beneficial for health – from reducing the risk of heart disease to providing relief from arthritis.

Omega-3s have been suggested to be associated with a decreased risk of prostate cancer as well as a decreased risk of developing aggressive and metastatic cancer.

Omega-3 fatty acids are members of the polyunsaturated fatty acid family. Omega-3s are considered “essential” for human health because they cannot be produced in the body and must be supplied by the diet. These fatty acids are important components of cell membranes, playing vital roles in inflammation and the nervous system, particularly vision and brain function.

The *shorter chain* omega-3 fatty acid alpha-linolenic acid (ALA) is found mostly in plant sources such as flaxseed, walnuts and olive oil. The *long chain* omega-3 fatty acids eicosapentanoic acid (EPA) and docosahexanoic acid (DHA) are found abundantly in cold water fatty fishes, such as salmon, mackerel and sardines, as well as shellfish. While the body has some ability to convert ALA to DHA and EPA, this is minimal (as low as one percent in men), making it important to consume both plant and fish sources of omega-3 fatty acids in your diet.

The Adequate Intake (AI) for alpha-linolenic acid (ALA) for all adult men is **1600 milligrams (mg) per day**. The average intake of ALA among British Columbian men aged 51 years and older is above the recommendation at approximately 1900 – 2700 milligrams of ALA per day ⁴.

There are no specific dietary intake recommendations for the long chain omega-3 fatty acids DHA and EPA. Currently, the average daily intake of omega-3s among men over 40 is approximately 150 mg/day (1 fish meal in 10 days). However, the recommended daily intake (RDI) of omega three varies, depending on the organization. The US National Institutes of Health recommends getting about 650 mg/d (~4.3 fish meals in 10 days), the International Society for the Study of Fatty Acids and Lipids recommends 500 mg (~3.3 fish meals/10 d), and the American Heart Association recommends 300 mg/d (2 fish meals/10 d). This translates into eating 3-4 fish meals (i.e. salmon, mackerel, and sardines) every 10 days). In summary, strive for 3 fish meals in 10 days.

While much evidence supports the benefits of omega-3s in reducing risk of heart disease, lowering blood pressure and cholesterol, and reducing joint tenderness, its potential role in prostate cancer is currently inconclusive. However, there is increasing evidence to support the benefits of consuming adequate amounts of long chain omega 3s in our diet for prostate cancer. Long chain omega-3s have been suggested to be associated with a decreased risk of prostate cancer as well as a

1. Leitzmann MF, Stampfer MJ, Michaud DS, et al. Dietary intake of n-3 and n-6 fatty acids and the risk of prostate cancer. *American Journal of Clinical Nutrition* 2004; 80: 204-16.
2. MacLean CH, Newberry SJ, Mojica WA, et al. Effects of omega-3 fatty acids on cancer risk: a systematic review. *Journal of the American Medical Association* 2006; 295 (4): 403-15.

decreased risk of developing aggressive and metastatic cancer. Scientists have proposed that this may be the result of the anti-inflammatory effects of the compounds derived from omega-3 fatty acids.

Some foods containing omega-3s are listed below. Again, only cold water fatty fish (salmon, mackerel, herring, sardines) contain high levels of EPA and DHA, whereas plants contain ALA, which need to be converted (at a very limited rate) to EPA and DHA. If you feel that you cannot obtain the recommended amounts of omega-3s from your diet, you may want to consider taking supplements of EPA and DHA.

Food item	Serving	Omega-3 content (mg)	
		Total (ALA+EPA+DHA)	EPA + DHA
Salmon oil	1 tsp (5 ml)	1 484	1 435
Salmon, sockeye, baked or broiled	2.5 oz (75 g)	1 454	1 389
Sardines, canned in tomato sauce	~ ½ tin (75 g)	1 224	1 048
Oysters (Pacific), baked or broiled	3 (75 g)	1 080	1 032
Cod liver oil	1 tsp (5 ml)	864	821
Tuna, canned in water, drained	½ can (75 g)	700	647
Canned shrimp, drained	½ can (75 g)	421	409
Egg substitute, omega-3 enriched	1 large (50 g)	319	293
Walnuts (English), chopped	¼ cup (30 g)	2 694	0
Flaxseed, ground	1 tbsp (15 ml)	1 597	0
Canola oil	1 tbsp (15 ml)	1 320	0
Pumpkin seed kernels, roasted	¼ cup (42 g)	96	0

Source: Health Canada. Canadian Nutrient File, 2007. Canadian Nutrient File Home Page, http://www.hc-sc.gc.ca/food-aliment/ns-sc/nr-rr/surveillance/cnf-fcen/e_index.html

To increase absorption, omega-3 fatty acid supplements should be taken with food. If you experience an unpleasant aftertaste or heartburn after taking omega-3 supplements, try dividing your dose into several smaller doses throughout the day.

While intakes of up to 3 grams per day of DHA and EPA are *Generally Recognized As Safe* (GRAS), it is important to talk to your doctor or a dietitian before starting any supplement regimen, particularly if you are immune-compromised, are taking aspirin or prescription blood pressure or anticoagulant medication. It is advised that individuals taking omega-3 fatty acids talk to their doctor about discontinuing the use of supplements prior to and immediately following surgery or radiation.

The Prostate Education & Research Centre



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www.prostatecentre.com

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