



**...News**

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Everywhere you turn these days you are hearing about Omega-3 fatty acids....so what are Omega-3 fatty acids (FA) and why are we hearing so much about them?

There are many different types of fats that we need to stay healthy, however, only Omega-3 and Omega-6 FA are *essential* fatty acids meaning our body does not produce them and we must get them from our food. Approximately, 95% of Americans do not consume an adequate amount of Omega-3 FA. Omega-3 FA consist of EPA (eicosapentaenoic acid), DHA (docosahexaenoic acid), and ALA (alpha-linolenic acid). EPA and DHA are found in marine-based sources of Omega-3 while ALA is found in plant-based sources of Omega-3 FA. EPA, DHA, and ALA have all been shown to play a role in reducing inflammation in our body which lowers chronic disease risk (such as heart disease, arthritis, cancer, diabetes, and asthma). They have also been shown to help with lowering blood pressure, reducing clotting, decreasing triglyceride levels, improving arterial health, supporting healthy immune function, reducing prevalence of dementia, reducing symptoms of some skin ailments, enhancing mood, improving pregnancy outcomes as well as infant brain and eye development. As you can see the list of positive health outcomes from receiving an adequate amount of Omega-3 FA is quite extensive- one of the reasons we are hearing so much about this amazing nutrient!

Another reason we are hearing more about Omega-3 fatty acids is that a research study released in 2009 conducted by Harvard University and the CDC (Centers for Disease Control and Prevention) revealed that Omega-3 deficiency was the 6th leading cause of preventable death in the United States. Ever heard of the acronym SAD which stands for the Standard American Diet?...most of us will agree this is very fitting. Over the past 75 years, Americans have decreased their Omega-3 FA consumption by 80%.

Not only do we not consume enough Omega-3's in our typical SAD diet, but we are also consuming far too many Omega-6. Omega-6 FA are much more prevalent in the foods we eat such as vegetable oils (soybean oil, corn oil, sunflower oil, safflower oil, and cottonseed oil), salad dressings, pre-packaged foods, and fried foods. While Omega-3 FA help to decrease the amount of inflammation in our bodies and prevent chronic disease, Omega-6 fatty acids increase inflammation. This high consumption of Omega-6 FA also increases our ratio of Omega-6:Omega-3 leading to further inflammation and an increase of chronic disease. An ideal ratio is 3:1, however, the average SAD is 20:1 or even higher. The balance of Omega-6 to Omega-3 are extremely important for the prevention of chronic disease, but it is also extremely important for a growing brain. It is this balance that promotes the growth of the cerebral cortex which is the intellect and reasoning area of our brain. Studies are revealing that blood analysis of children (ages 1-14 years) with already narrowing blood vessels showed that Omega-3 fatty acids were too low and Omega-6 fatty acids were too high. You can also begin to understand the impact that Omega-3 FA can have on our brain health since over 50% of our brain is made up of essential fatty acids.

The most popular forms to get Omega-3 in our diet are from fish, fish oil, and flaxseed. But is this the best way to get our Omega-3 FA? A child would have to eat approximately two to four ounces of salmon everyday or 5-6 ounces of tuna to provide a consistent and adequate intake of Omega-3 FA. However, it is suggested by the Environmental Protection Agency (EPA) that women who may become pregnant and children to limit fish consumption to two meals per week. The EPA estimates that about 7 million women and children are eating mercury-contaminated fish at or above levels it considers safe. Just two ounces of tuna can provide three times the safe level of exposure to mercury for a toddler, and there can be adverse effects on brain function in children who had exposure levels well below the limit set for safety. Infants and small children are especially susceptible to the effects of toxins due to their small size and developing bodies.

As far as fish oil, it is estimated that up to 25-50% of fish oil on the shelf could be rancid which introduces free radicals into our body. While reputable fish oil companies check for mercury, BCP's, and other contaminants, they do not always test for rancidity. Although, thankfully, there is a trend for more companies to add freshness labels and add antioxidants to attempt to prevent or slow the rancidity process. If you are consuming fish oil, use a reputable company and store in the refrigerator. But "move over fish oil now there's something better!"... Krill oil. Krill oil is a marine source of Omega-3 FA that is less likely to go rancid due to the naturally occurring potent antioxidant astaxanthin, as well as being transported more efficiently into our cells.

Flax seeds have long been eaten for their high Omega-3 content, but just as fish oil now has a competitor so does flax. Flaxseed must be ground often and kept refrigerated in order to preserve the nutrient content and prevent rancidity, due to flax seed's low antioxidant content. Chia seed which is extremely high in antioxidants and phytonutrients does not go rancid easily, and is higher in calcium and other bone enhancing nutrients compared to flax seed.

Plant-based Omega-3 FA must be converted to EPA and DHA to be used by our bodies and there is some controversy on how much ALA gets converted to EPA/DHA. However, some research shows that there is enough conversion if an adequate amount is eaten, and plant-based Omega-3 FA maybe just as beneficial if not even more so than marine sources. Also, plant-based Omega-3 FA have the advantage that there is no risk of getting too much since our body has to convert it to the usable form, unlike with EPA and DHA sources. It is important to note that while we should be maximizing our Omega-3 FA intake, we also need to limit how much Omega-6 FA we eat. Not only to keep our ratio of Omega-6: Omega-3 as low as possible, but also to maximize the conversion of ALA to EPA and DHA.

So the next question is- what is the most ideal way to reach an adequate amount of Omega-3 FA? Based on all the latest research, my current recommendation is 1) consume chia seeds and/or walnuts/walnut oil daily 2) take a krill oil supplement 3-4 times per week 3) consume wild caught salmon about once a week. The exact amounts of these foods and supplements you need to meet your Omega-3 requirements are based on body size, stage of life and health, as well as other factors.

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