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Certainly a plant-based diet which minimizes animal products is the best approach for losing weight, preventing and reversing disease, and optimizing health. However, those following a vegetarian or vegan diet, and those not consuming fatty fish like salmon each week, should be aware of recent studies that suggest they may be deficient in a critical and essential nutrient - especially EPA & DHA the long-chain omega-3 fatty acids.

Alpha-linolenic acid (ALA) is an omega-3 fat and is the precursor of the longer chain omega 3 fats eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) - ie EPA and to a lesser extent DHA can be made in the body from ALA. Primary sources of these fatty acids are certain fish and seafood.

As a result, vegetarian, and especially vegan, diets provide little EPA and DHA directly. A recent study reviewed the varying dietary fat intake across vegetarians, vegans, omnivores, and semi-omnivores and its impact on essential omega-3 fatty acid availability in tissues. It concluded that vegetarians were left with reduced levels of omega-3 and recommended that they consume additional direct sources of EPA and DHA, regardless of age or gender, for physical, mental and neurological health benefits.<sup>1</sup>

In addition, ALA, EPA, and DHA are especially important for the prevention of certain cancers, particularly those of the breast and colon, and possibly of the uterus and the skin, and are likely to reduce the risk of postpartum depression, manic-depressive psychosis, dementias, Parkinson's, hypertension, toxemia, diabetes, and to a certain extent, age-related macular degeneration.<sup>2</sup>

Although vegetarian diets are generally lower in total fat, saturated fat, and cholesterol than are non-vegetarian diets and may appear to offer cardiovascular health benefits due to higher intakes of antioxidants and fiber, the lack of direct EPA or DHA dietary sources may cause an adverse effect.<sup>3,4</sup>

With all of this documented research, it is not surprising that when I draw blood for fatty acid analysis on many of my patients, I find that a large percentage of individuals who do not eat fish or seafood regularly do not have optimal levels of DHA - even those using walnuts and flaxseeds on a regular basis. I often see patients eating otherwise excellent diets with itchy dry skin, seborrheic dermatitis and other signs of DHA deficiency.

Although, there are some vegans and vegetarians regularly consuming walnuts and flaxseeds (which supply adequate ALA) may produce enough DHA on their own and may not require supplementation. However, because this issue is so imperative to their health it should be confirmed with a blood test before assuming that the conversion level is adequate. In order to assure optimal production of DHA fat, without recommending that the consumption of fish or refined fish oils, I recommend taking a vegetable sourced DHA supplement. DHA alone can deliver the same benefits of fish oil, since the intake of DHA can cause a natural retro-conversion to EPA internally.

Laboratory cultivated DHA is made from microalgae and is a pure form of DHA without environmental contamination. It is grown in the laboratory, not collected in the wild. It has no mercury or other toxins, which is a concern even for non-vegans who are cautious about eating fish or seafood.

DHA has been shown to protect against dementia, depression, inflammatory diseases, attention deficit

and hyperactivity disorder (ADHD), allergies, and to offer significant benefits for overall cardiovascular health.

There are other problems with consuming fish oils. The main problem is that the fat turns rancid as it sits on store shelves. As a result, many people complain of burping, indigestion, a foul taste, and long lasting fish breath. I have also observed that rancidity of this fish fat can place a stress on the liver. Patients of mine have had blood tests showing abnormal liver function when consuming fish oil in significant amounts and then have had these tests return to normal when the fish oils were stopped.

Fortunately, vegetable derived DHA, from microalgae, is an alternative. However, even algae-derived DHA can become rancid if not cared for properly. We go through great lengths to deliver the purest and freshest DHA product available on the market today. My [DHA Purity](#) is manufactured under strict conditions to ensure purity. Every step of the way, from production to packaging, transportation and storage, this product is kept refrigerated and handled to ensure optimal freshness.

In conjunction with a high nutrient, plant-based diet, I advise all people take a daily DHA supplement from a clean source. Early in life, DHA is supplied via the placenta and from breast milk. While adequate DHA is particularly important for [pregnant and nursing women](#) and young children, it is beneficial for all ages!



[Dr. Fuhrman's DHA Purity](#) contains 30 ml of pure, all vegan, DHA concentrated liquid. The DHA comes from algae grown under sanitary laboratory conditions. In conjunction with a high nutrient, plant-based diet, I advise all people take one of these supplements daily.

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<sup>1</sup>Kornsteiner M, Singer I, Elmadfa I. Very low n-3 long-chain polyunsaturated fatty acid status in Austrian vegetarians and vegans. *Ann Nutr Metab.* 2008; 52(1):37-47.

<sup>2</sup>Bourre JM Dietary omega-3 fatty acids for women. *Biomed Pharmacother.* 2007; 61(2-3):105-12

<sup>3</sup>Davis BC; Kris-Etherton PM Achieving optimal essential fatty acid status in vegetarians: current knowledge and practical implications. *Am J Clin Nutr.* 2003; 78(3 Suppl):640S-646S

<sup>4</sup>Lee HY; Woo J; Chen ZY; Leung SF; Peng XH Serum fatty acid, lipid profile and dietary intake of Hong Kong Chinese omnivores and vegetarians. *Eur J Clin Nutr.* 2000; 54(10):768-73