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Nutrition Notes – June 2008

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Omega 3's and Inflammation

Healthy Immune System

Healthy immune systems enable our body to efficiently and effectively fight infections, in addition to amplifying our natural healing process. Essential fatty acids, such as omega-3 and omega-6 are capable of assisting our body in regulating inflammation by contributing both pro- and anti-inflammatory properties.

Omega-3 Fatty Acids

Omega-3's are polyunsaturated fatty acids important for growth and body functions. The essential omega 3's important are α -linoleic acid (ALA), eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA). They are essential to human health but cannot be manufactured by the body. Once consumed, the body converts ALA to EPA and DHA, the two types of omega-3 fatty acids more readily used by the body. For this reason, omega-3 fatty acids must be obtained from food. Sources of omega-3 fatty acids can be found in fish, such as salmon, tuna, and halibut, other marine life such as algae and krill, and nut oils. The most beneficial omega-3 oil sources are walnut, peanut, and canola.

Omega-6 Fatty Acids

Linoleic acid is yet another essential type of fatty acid known as omega-6. Found in foods such as eggs, poultry, cereals, vegetable oils, baked goods, and margarine. Vegetable oils containing linoleic acid include corn, cotton, sesame, safflower, and soybean oils. This type of fatty acid can promote inflammation; however, also yields beneficial anti-inflammatory properties when consumed at proper levels.

Fatty Acid Balance

It is important to maintain an appropriate balance of omega-3 and omega-6 in the diet, as these two substances work together to promote health. Omega-3 fatty acids help reduce inflammation, and most omega-6 fatty acids tend to promote inflammation. An inappropriate balance of these essential fatty acids contributes to the development of disease while a proper balance helps maintain and even improve health. A healthy diet should consist of roughly 4:1 omega-6 fatty acids to omega-3 fatty acids. The typical American diet tends to contain a ratio of 15:1 to 30:1 omega-6 fatty acids to omega-3 fatty acids, and many researchers believe this imbalance is a significant factor in the rising rate of inflammatory disorders in the United States.

Treating Chronic Health Challenges

Clinical studies suggest that omega-3 fatty acids may be helpful in treating a variety of health conditions and appear to be particularly important for cognitive (brain memory and performance), normal growth and development, and behavioral function. The evidence is strongest for heart disease and problems that contribute to heart disease, but the range of

possible uses for omega-3 fatty acids include: Coronary heart disease, major depression, aging and cancer. There have been a number of clinical trials assessing the benefits of dietary consumption of fish oils in several inflammatory and autoimmune diseases in humans, including Alzheimer's disease, dry eye syndrome, rheumatoid arthritis, Crohn's disease, ulcerative colitis, multiple sclerosis and migraine headaches.

Fish Oil versus Flaxseed Oil

Fish, plant, and nut oils are the primary dietary source of omega-3 fatty acids. EPA and DHA are found in cold-water fish such as salmon, mackerel, halibut, sardines, tuna, and herring. ALA is found in leafy green vegetables, flaxseeds, flaxseed oil, canola (rapeseed) oil, peanut oil, olive oil, pumpkin seeds, pumpkin seed oil, walnuts, and walnut oil.

As our body can convert ALA into EPA and DHA, fish are capable of the same process. In turn, consuming fish products and/or fish oil is a better alternative than flaxseed oil due to the fact that EPA and DHA are already present with no need to further convert once consumed. Additionally, fish oil has shown to have more nutritional and anti-inflammatory benefits than its counterpart.

Recommended Serving

The American Heart Association recommends eating fish (particularly fatty fish such as mackerel, lake trout, herring, sardines, albacore tuna, and salmon) at least 2 times a week. The recommended dose of omega-3 when supplementing is approximately 1,000 - 3,000 mg/day; however, no RDI has been determined. A 1.5 ounce serving of fish is approximately equal to 1 gram of omega-3 fatty acids.

Recipe

Salmon Steak with Orange-Balsamic Glaze

Ingredients

¼ cup orange juice or concentrate
¼ cup balsamic vinegar
1 T extra-virgin olive oil
2 cloves garlic, finely chopped
1 T finely chopped fresh rosemary
½ tsp salt (optional)
¼ tsp freshly ground black pepper
4 salmon steaks (approx. 6 ounces each)
Vegetable cooking spray

Preparation

Place first 7 ingredients in a large sealable plastic bag. Shake well. Add salmon and refrigerate 30 minutes to 1 hour. Remove steaks from marinade. Turn broiler on and coat with cooking spray. Broil steaks until no longer translucent in the center, about 7-10 minutes. (Times may vary)



For more information call Donna Wolf R.D. at Healthy Directions of Poway at 858-335-2140 and visit our website: www.healthydirectionspoway.com.