

## **Fishing for Heart Health**

LDL, HDL, cholesterol, triglycerides, blood pressure, arrhythmia, and atherosclerosis are all related to cardiovascular disease which is responsible for more deaths than cancer, diabetes, pneumonia, and AIDS combined.<sup>1</sup> Cardiovascular disease is the leading cause of death in North American men and women. But what do all these seemingly confusing terms mean, and what can be done to reduce your risk of developing cardiovascular disease. Omega-3 fatty acids from fish oil may be what your heart is fishing for.

### **In the Beginning**

Fish oil first gained popularity as a “heart healthy” supplement containing beneficial omega-3 fatty acids. The interest in fish fats began in 1969, when two Danish physicians, HO. Bang and J. Dyerberg, noticed that the Eskimo population of Greenland had a considerably lower death rate from heart disease than the rest of the Danish population. The researchers concluded that the lower death rate was linked to the high amounts of fish fat in their diet.<sup>2</sup> Since then research with omega-3s has exploded in the areas of cardiovascular health prevention and treatment, leading the FDA to release a qualified health claim in 2000. In February 2002, the FDA updated the claim to state “Consumption of omega-3 fatty acids may reduce risk of coronary heart disease. FDA evaluated the data and determined that, although there is scientific evidence supporting the claim, the evidence is not conclusive.” This health claim is a milestone for omega-3s. Along with FDA’s health claim, the American Heart Association updated its dietary guidelines to include omega-3s. They recommend everyone consume at least two 3-ounce servings of fatty fish a week.

### **Omega-3 Fatty Acids**

As early research confirmed, fish oil contains the fatty acids EPA- Eicosapentaenoic acid and DHA- docosahexaenoic acid which are as important to good health as other vitamins and minerals, especially to heart health. Fatty, cold water fish including cod, salmon, mackerel, tuna, sardines, and anchovies contain these beneficial fats. EPA, DHA and ALA from flax oil are part of the omega-3 family of fatty acids. Many North American diets are deficient in these beneficial fats, thus leading to a potentially harmful fat imbalance. Increasing your consumption of fish, or supplementing with a fish oil supplement will help ensure you have sufficient blood levels of EPA and DHA.

### **Current Areas of Research**

Multiple clinical studies and epidemiological observations have demonstrated that omega 3s can reduce the risk of cardiovascular diseases.

**Coronary Heart Disease and Hyperlipidemia:** Research shows a strong relationship between the fatty acids ALA, EPA and DHA and reduced occurrence of coronary heart disease and atherosclerosis, a disease in which a plaque-like substance forms on the blood

vessel walls. Fish oil can decrease the risk of coronary heart disease and heart attacks. Clinical studies show a reduction in blood triglycerides by 25-30 percent when using EPA and DHA. Regular fish oil consumption reduces platelet adhesion and aggregation and prevents blood clotting.<sup>3,4</sup>

**Arrhythmia:** Cardiac arrhythmia is a disorder characterized by an irregular heartbeat. Arrhythmias can be responsible for sudden cardiac death syndrome and follows many so-called “heart attacks.” EPA and DHA have very potent anti-arrhythmic properties.<sup>6</sup>

**Risk of sudden cardiac death:** The GISSI Prevenzione trial studied the effects of fish oil on those patients who had already suffered a “heart attack”. Almost 12,000 patients were randomly divided into four groups with one of the groups receiving 850 mg of EPA and DHA, the second group receiving vitamin E, the third group receiving a combination of both treatments, and the fourth group acted as a control. After 3 ½ years of follow-up, the groups taking fish oil supplements showed a 30 percent decrease in risk of sudden cardiac death and a 20 percent reduction in mortality from all causes. This study was a turning point for omega 3s and heart health when it was published in the prestigious *Lancet* journal in 1999.<sup>5</sup>

**Hypertension:** The blood pressure lowering effects of dietary fish oil have been well evaluated by a meta-analysis of 31 placebo-controlled trials comprising 1,356 patients.<sup>7</sup> Fish oil’s beneficial effect appears greater in patients with high blood pressure.

## **Safety of Fish**

Fish oil products are very safe. Researchers have used dosages as high as 15 grams per day and have not observed any significant side effects. Patients receiving anticoagulant therapy or recovering from stroke should exercise caution while supplementing with fish oil since it may exert blood thinning properties.

## **Dosage**

Current recommendations for omega-3 fats from fish oil include a minimum of two grams of EPA and DHA combined, for general health maintenance. Higher doses of EPA and DHA are required for therapeutic benefits.

## **The Future Looks Bright**

The link between omega-3 and cardiovascular health is highly recognized in the dietary supplement industry. Consumer awareness for omega-3s is on the rise, with 55% of consumers being aware of the term omega-3. Scientific research in this area is very strong, with omega 3s being studied for a multitude of health conditions including depression, ADD/ADHD, infant brain development, and of course, research in the area of cardiovascular health continues to increase reaffirming its benefits in reducing the risks associated with this potentially deadly disease.

## References

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