

Nutrition News

Department of Human Nutrition

 K-STATE Research and Extension
Kansas State University

June 2009

Omega-6 vs Omega-3 in the Fight Against Heart Disease

The American Heart Association (AHA) Science Advisory now cautions: Reducing omega 6 polyunsaturated fatty acids (PUFA) in our diets may *increase the risk for heart disease*. This was the conclusion after a 2009 review of the large body of research published to date.

For decades, health professionals have recommended substituting vegetable oil (e.g., corn, sunflower, safflower and soy) for saturated solid fats such as butter and shortening in an effort to reduce heart disease. These oils are largely comprised of omega 6 PUFA – mainly linoleic acid. Linoleic acid (LA) is known to reduce LDL cholesterol (the “bad” cholesterol), which increases the risk of heart disease. The AHA recommends that 5-10% of calories come from omega-6 PUFAs (n-6). In the last several years, omega-3

PUFAs (n-3) have been found to reduce inflammation and prevent clot formation--both important for cardiovascular health. Good sources of n-3 are canola oil, flaxseed, walnuts and fatty fish.

Recently, a controversy has arisen as some health professionals contend that it is the *high* ratio of n-6:n-3 in the typical American diet that poses the greatest threat to heart health. They assert we consume foods with more n-6 than our ancestors did, and it is the very disparate ratio of high amounts of n-6 in relation to n-3 that causes inflammation of blood vessels associated with heart disease. The researchers claim that n-6 is pro-inflammatory and n-3 is anti-inflammatory. The rationale that n-6 promotes inflammation is based on the fact that LA can form arachidonic acid (AA) which is often involved in the development of inflammation.

However, that is not the only chemical activity derived from AA. AA forms molecules that actually help suppress the atherosclerotic process, thereby *lowering* the risk of coronary heart disease (CHD). The AHA contends that n-6 is also anti-inflammatory and if omega 6 fatty acids are decreased in our diets, the risk for heart disease may actually increase.

The Science Advisory from AHA summarizes that both omega 6 and omega 3 PUFAs are needed. It cautions that, although n-3 reduce the risk of heart disease, reducing n-6 to adjust the ratio does not necessarily have a beneficial effect. Reducing n-6 may actually *increase* the risk of heart disease. A healthy diet includes both, as each offer heart healthy benefits. The *Health Professionals Follow-Up Study* found the incidence of CHD was lowest in individuals who had higher

intakes of both omega 6 *and* omega 3 PUFAs.

What does this mean for the consumer?

In the battle against heart disease, a varied diet is key. Emphasis should be on fruits, vegetables, whole grains and lean protein foods, along with a good source of omega 6 PUFA found in small amounts of vegetable oil and omega 3 PUFAs found in fatty fish such as tuna, sardines or salmon a couple of times a week. Flaxseed, walnuts,

canola oil and dark green vegetables are also sources of omega 3 PUFAs. Moderation and variety are still essential to good health – including heart health!

Source: Circulation. AHA Science Advisory: *Omega-6 Fatty Acids and Risk for Cardiovascular Disease*. 2009. 119:902-907.

For more information about healthy eating, contact your local extension office.

The Food Assistance Program can help people of all ages with low income buy nutritious foods for a better diet.

To find out more, call toll-free 1-888-369-4777.

Contents of this publication may be freely reproduced for educational purposes. All other rights reserved.

In each case, credit **Karen Hudson**, MEd, RD, LD, Family Nutrition Program Coordinator, Department of Human Nutrition; Kansas State University; *Omega-6 vs Omega-3 in the Fight Against Heart Disease*; June, 2009.

K-State Research and Extension is a short name for the Kansas State University Agricultural Experiment Station and Cooperative Extension Service, a program designed to generate and distribute useful knowledge for the well-being of Kansans. Supported by county, state, federal and private funds, the program has county Extension offices, experiment fields, area Extension offices and regional research centers statewide. Its headquarters is on the K-State campus, Manhattan.

Brand names appearing in this publication are for product identification purposes only.

No endorsement is intended, nor is criticism implied of similar products not mentioned.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service, Manhattan, Kansas.

Kansas State University is an equal opportunity provider and employer.

Kansas State University, County Extension Councils, Extension Districts, and the U.S. Department of Agriculture cooperating.