

Research points to heart disease due to omega-3/omega-6 imbalance

by Dr. Diane H. Morris

News from the International Society for the Study of Fatty Acids and Lipids (ISSFAL) 2006 Conference, Cairns, Australia, July 23-28, 2006...

"Death begins at 40." These words were spoken by Dr. W.E.M. (Bill) Lands in his Award Lecture at the ISSFAL 2006 conference in Cairns, Australia. Whereas most of us are used to thinking that "life begins at 40," Dr. Lands proposed that by 40 years of age, the death spiral due to coronary heart disease is well underway in most middle-aged Americans.

"The cardiovascular system of most Americans is shot by the age of 40," Dr. Lands remarked.

In his ISSFAL Award Lecture, Dr. Lands cited two dietary imbalances that contribute to the current epidemic of cardiovascular disease (CVD) and obesity in the United States. The first imbalance is between the intakes of omega-3 and omega-6 fatty acids, with the average US intake of omega-3 fats being very low. Correcting the low omega-3 content of the American diet is imperative, according to Dr. Lands. He cited studies conducted among Québec urban, Cree and Inuit populations showing that the percentage of omega-6 long-chain polyunsaturated fatty acids or HUFA ("highly unsaturated fatty acids") in total HUFA is a strong predictor of CVD risk. Dr. Lands indicated that CVD mortality can be significantly reduced by eating more omega-3 fats and eating less omega-6 fats. He believes both approaches are necessary to substantially reduce CVD risk.

"Our direction is clear – we must regulate our appetites, eat less omega-6 fats and eat more omega-3 fats," Dr. Lands concluded.

The second imbalance contributes to the obesity epidemic – too many fats, too much energy in the American diet. Dr. Lands, now retired, is formerly of the University of Illinois at Chicago and the National Institute on Alcohol Abuse and Alcoholism. His research into the biologic effects of fatty acids and their metabolites, especially the eicosanoids, began in the 1950s.

Dr. Lands developed software (called KIM-2) to help people calculate their omega-3 and omega-6 fat intakes. The software algorithms for determining CVD risk are based on equations first published in 1992 and refined in 2002. Information about Dr. Lands's software and researches can be found at <http://efaeducation.nih.gov/sig/hufacalc.html> and <http://efaeducation.nih.gov/sig/chainofevents.ppt>.