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Evidence for the Cardioprotective Effects of Omega-3 Fatty Acids

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OBJECTIVE: To review available literature regarding the cardiovascular effects of marine-derived Omega-3 fatty acids and evaluate the benefit of these fatty acids in the prevention of coronary heart disease.

DATA SOURCES: Biomedical literature accessed through a MEDLINE search (1966-April 2002). Search terms included fish oil, omega-3 fatty acid, sudden death, hypertriglyceridemia, myocardial infarction, and mortality.

DATA SYNTHESIS: Following an early 1970's observational investigation that Omega-3 fatty acids may reduce the occurrence of myocardial infarction-related deaths in Greenland Eskimos, additional trials have been conducted that support this finding. Epidemiologic and clinical trial data suggest that Omega-3 fatty acids may reduce the risk of cardiovascular-related death by 29-52%. In addition, the risk of sudden cardiac death was found to be reduced by 45-81%. Possible mechanisms for these beneficial effects include antiarrhythmic properties, improved endothelial function, anti-inflammatory action, and reductions in serum triglyceride concentrations. Omega-3 Fatty acids are fairly well tolerated; potential adverse effects include bloating and gastrointestinal distress, "fishy taste" in mouth, hyperglycemia, increased risk of bleeding, and a slight increase in low-density-lipoprotein cholesterol.

CONCLUSTIONS: Omega-3 Fatty acids may be beneficial and should be considered in patients with documented coronary heart disease. They may be particularly beneficial for patients with risk factors for sudden cardiac death.