# American Journal of Cardiology

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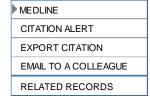
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#### A new predictor of risk for sudden cardiac death.

Jabbar R, Saldeen T

Ups J Med Sci 2006; 111:169-77.



#### Abstract

BACKGROUND: Long-chain fatty acids, particularly omega-3 fatty acids found primarily in fish oil, are beneficial in different physiological conditions in the human body. High intake of omega-3 fatty acids has been found to have a strong inverse relationship to sudden cardiac death. An index showing the relationship between different fatty acids in the blood could be an important risk indicator for sudden cardiac death. METHODS: Whole-blood samples from the fingertip were collected and fatty acids were measured by a new simple method using direct transmethylation. Two groups were compared: subjects who had been taking fish oil daily during the last 6 years, and subjects who had not been taking fish oil. RESULTS: Six different fatty acid indices were calculated. Five of them take both DHA (docosahexaenoic acid) and EPA (eicosapentaenoic acid) into consideration, and the sixth includes only EPA and not DHA in the calculation. This latter index, the ratio between EPA and arachidonic acid, gave the best result, with the largest difference between the two groups. This index varied between 5 and 118 among the different individuals; 70% of the fish oil consumers having an index > or =50. Based on the present knowledge about the relationship between blood levels of omega-3 fatty acids and sudden cardiac death obtained from studies of 14,000 individuals, a subject with an index below 50 should be advised to increase his/her intake of omega-3 fatty acids. CONCLUSION: The EPA/arachidonic acid index may be an important new predictor of risk for sudden cardiac death, and reflects the individual requirement for consumption of omega-3 fatty acids.

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1 of 1