

## **Serum fatty acids and the risk of coronary heart disease.**

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To examine the relation between serum fatty acids and coronary heart disease (CHD), the authors conducted a nested case-control study of 94 men with incident CHD and 94 men without incident CHD who were enrolled in the Usual Care group of the Multiple Risk Factor Intervention Trial between December 1973 and February 1976. After confirming the stability of the stored serum samples, the authors measured serum fatty acid levels by gas-liquid chromatography and examined their association with CHD. In all multivariate models, levels of the cholesterol ester saturated fatty acid palmitic acid (16:0) were directly associated with CHD risk (standardized odds ratio = 1.68; 95% confidence interval 1.10-2.55 in the model that adjusted for total plasma cholesterol level). Levels of the phospholipid omega-3 fatty acid docosapentaenoic acid (22:5) were inversely associated with CHD risk in the two multivariate models that controlled for the effects of total plasma cholesterol level or high density lipoprotein cholesterol to total plasma cholesterol ratio (standardized odds ratio = 0.58; 95% confidence interval 0.38-0.89 in the first model that controlled for total plasma cholesterol level). In contrast to the first two multivariate models, levels of the docosahexaenoic acid (22:6) were inversely associated with CHD risk in a third multivariate model that controlled for the effects of high density lipoprotein cholesterol to low density lipoprotein cholesterol ratio (standardized odds ratio = 0.57; 95% confidence interval 0.36-0.90). These findings are consistent with other evidence indicating that saturated fatty acids are directly correlated with CHD and that omega-3 polyunsaturated fatty acids are inversely correlated with CHD. Because these associations were present after adjustment for blood lipid levels, other mechanisms, such as a direct effect on blood clotting, may be involved.

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- Clinical Trial
- Randomized Controlled Trial

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