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Dose of omega-3 PUFA required to lower plasma triglycerides in pre-menopausal women

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Abstract
Outcomes: There was a direct relationship between the supplemental dose of LC w-3 PUFA and subsequent changes in erythrocyte EPA + DHA levels ($R^2 = 0.64$, p

Keywords
pre, 3, menopausal, omega, plasma, lower, required, dose, triglycerides, women, pufa

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Differential effects of a single oral dose of EPA or DHA rich fish oil on platelet aggregation in healthy human subjects

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Background
Increased platelet aggregation is the major cause of heart attacks, stroke and deep vein thrombosis. Long chain omega-3 fatty polyunsaturated acids (LC n-3 PUFA; eicosapentaenoic acid, EPA; docosahexaenoic acid, DHA) are known to reduce platelet aggregation; however studies in the published literature involving EPA and/or DHA supplementation have yielded equivocal results. Recent in vitro studies have demonstrated that inhibition of platelet aggregation by LC n-3 PUFA is gender specific.

Objective
The objective of this study was to examine effects of dietary supplementation with a single dose of EPA or DHA rich oils on platelet aggregation (ex-vivo) in male versus female subjects over a 24 hour period.

Design
A placebo controlled trial was conducted in a total of 90 healthy male and female adults (males n = 45; females n = 45). Platelet aggregation was measured at baseline and 2, 5 and 24 hours post supplementation with either a placebo (olive oil) or EPA or DHA rich oil. The relationship between LC n-3 PUFA and platelet activity at each time point was examined according to gender vs. treatment.

Outcomes
EPA was significantly and progressively most effective in reducing platelet aggregation at 2, 5 and 24 hours post supplementation (-3.6%, -8.8%, -13.3%, respectively). DHA was equally effective at 24 hours post supplementation (-11.9%). When grouped by gender, males showed a greater reduction in platelet aggregation at 2, 5 and 24 hours following EPA supplementation (-11%, -10.6%, -20.5%) compared with placebo, whereas DHA was not significantly effective. In contrast, DHA was significantly most effective in reducing platelet aggregation at 24 hours (-13.7%) in females while EPA was not effective compared with placebo.

Conclusion
Significant gender differences exist to reduce platelet aggregation in response to EPA or DHA. Males benefit more from EPA supplementation while in females, the platelets are more responsive to DHA.