

052 **A RANDOMISED PLACEBO CONTROLLED TRIAL TO COMPARE THE EFFECTS OF TWO DOSAGES OF OMEGA-3 PUFA ON EXERCISE-INDUCED BRONCHOCONSTRICTION (EIB)**

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Treatment of EIB often involves drug interventions, but long-term use may cause systemic side effects (Dahl, *Respir Med* 2006;8:1307–1317). Supplementing the diet of EIB sufferers with fish oil rich in omega-3 (ω -3) polyunsaturated fatty acids (PUFA) improved post-exercise lung function and reduced systemic markers of inflammation and the need for bronchodilator use (Mickleborough *et al. Am J Respir Crit Care Med* 2003;168:1181–1189; Mickleborough *et al. Chest* 2006;129:39–49). However, these studies used high dosages of ω -3 PUFA (5–6 g day⁻¹), so we examined (and report preliminary data for) the effects of two different dosages of ω -3 PUFA on EIB in asthmatics.

Six physically active EIB positive ($\geq -10\%\Delta FEV_1$ after eucapnic voluntary hyperventilation, EVH) males and 6 (age and activity matched) non-EIB males (CTRL) volunteered for the randomised, double-blind placebo (PLA) controlled crossover study. Subjects completed (in a counterbalanced fashion) three 21 day experimental conditions: (A) HIGH dose: 6.2 g day⁻¹ ω -3 PUFA (3.7 g EPA, 2.5 g DHA) (B) HALF dose 3.1 g day⁻¹ (1.8 g EPA, 1.3 g DHA) and (C) PLA (medium chain triglyceride). EIB response to EVH was assessed on days 0 and 21, with a 14 day washout period between conditions. For CTRLs, FEV₁ was not different after EVH within or between conditions. In the EIB group, the $\%\Delta FEV_1$ at 6-min post-EVH was improved equally after HIGH and HALF, both being better than PLA ($P<0.05$): at day 21 the $\%\Delta FEV_1$ 6 min post-EVH was -32

$\pm 20\%$ (PLA), $-21 \pm 18\%$ (HIGH), and $-19 \pm 18\%$ (HALF). From day 0 to 21, $\% \Delta FEV_1$ at 6 min post-EVH showed $38 \pm 16\%$ and $36 \pm 21\%$ improvements for HIGH and HALF respectively and PLA showed no change ($-6 \pm 19\%$) ($P > 0.05$). These data suggest that lower dosages ($3.1 \text{ g} \cdot \text{day}^{-1}$) of ω -3 PUFA are as effective in aiding the treatment of EIB as high ($6.2 \text{ g} \cdot \text{day}^{-1}$) dosages.



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