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# Hypocaloric dietary advice targeting increased N-3 pufa intake does not increase blood pressure reduction over 3 months

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# Hypocaloric dietary advice targeting increased N-3 pufa intake does not increase blood pressure reduction over 3 months

## **Abstract**

Abstract of a presentation that was present at the NSA 2014 Annual Scientific Meeting, 26-28 November, Hobart, Australia.

## **Disciplines**

Medicine and Health Sciences | Social and Behavioral Sciences

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**CONCURRENT SESSION 7:  
HYPERTENSION**

**HYPOCALORIC DIETARY ADVICE TARGETING  
INCREASED N-3 PUFA INTAKE DOES NOT INCREASE  
BLOOD PRESSURE REDUCTION OVER 3 MONTHS**

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**Background/Aims:** Epidemiological studies report an inverse association between long chain *n*-3 PUFA (LC*n*-3PUFA) intake and blood pressure (BP). This study assessed 3-month change in BP in participants enrolled in a 12-month weight loss trial targeting increased LC*n*-3PUFA intake.

**Methods:** A parallel randomised placebo-controlled trial was conducted in 118 obese Australian adults (mean  $\pm$  SD BMI 31.3  $\pm$  3.5 kg/m<sup>2</sup>; age 45  $\pm$  10 years). Participants received (1) low calorie dietary advice (2 MJ energy deficit; 30%E fat, 45%E carbohydrate, 25%E protein) + placebo (1 g olive oil) (Control), (2) low calorie dietary advice emphasising two servings (180 g) fatty fish/wk + placebo (Fish), or (3) low calorie dietary advice emphasising fish diet + LC*n*-3PUFA supplements (Fish+S). Office BP was measured as a secondary outcome. Statistical analysis included linear mixed models and partial correlations.

**Results:** At 3 months, all groups lost a similar amount of weight, Control: -5.1  $\pm$  3.3; Fish: -4.3  $\pm$  2.8; Fish+S: -4.8  $\pm$  3.2 kg. There was a trend for greater reductions in systolic BP in the intervention groups, Fish: -4.24  $\pm$  14.11; Fish+S: -6.83  $\pm$  8.79; Control: -2.75  $\pm$  10.30 mmHg, but this was not significant in models that adjusted for weight change (systolic BP: *p* = 0.600; diastolic BP: *p* = 0.574). No associations were found between change in BP and change in total *n*-3PUFA, *n*-6PUFA or individual red blood cells fatty acids.

**Conclusions:** Weight loss is a more important predictor of change in BP, regardless of the amount or type of dietary fat consumed.

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