

## Online Supplement Material

### *Estimation of the variance of treatment effect*

For cross-over trials, the variance of the change in adiponectin due to fish oil supplementation was calculated as  $(SD^2_{\text{end of treatment, fish oil}} / n_{\text{fish oil}}) + (SD^2_{\text{end of treatment, placebo}} / n_{\text{placebo}}) - [2 (r) (SD_{\text{end of treatment, fish oil}} / \sqrt{(n_{\text{fish oil group}})} \times (SD_{\text{end of treatment, placebo}} / \sqrt{(n_{\text{placebo}})})]$  (1), where  $r$  is the within-person correlation between the baseline and end of treatment adiponectin values. For parallel-design studies in which SD of change in adiponectin (end of treatment minus baseline) was available in the placebo and fish oil groups, the variance of the change due to fish oil was calculated as  $(SD \text{ of change}^2_{\text{fish oil}} / n_{\text{fish oil}}) + (SD \text{ of change}^2_{\text{placebo}} / n_{\text{placebo}})$ . For parallel-design studies where the SD of baseline and end of treatment adiponectin values were available rather than SD of changes in adiponectin, we first imputed the SD of change in adiponectin within each group (2). For example in the fish oil group:  $SD \text{ of change}_{\text{fish oil}} = \sqrt{[SD^2_{\text{baseline, fish oil}} + SD^2_{\text{end of treatment, fish oil}} - (2 (r) (SD_{\text{baseline, fish oil}})(SD_{\text{end of treatment, fish oil}})]}$ . The SD of change in each group was then used to calculate the variance of the change due to fish oil. Within-person correlations in adiponectin were derived using data from the Health Professional Follow-Up Study (personal communication, Dr Eric Rimm, April, 2012), in which the correlation of serial measures of plasma adiponectin taken 1 year apart in 20 randomly selected healthy men was 0.93 (3). We also conducted sensitivity analyses assuming a lower within person correlation of 0.5.

## References

1. Follmann D, Elliott P, Suh I, Cutler J: Variance imputation for overviews of clinical trials with continuous response. *J Clin Epidemiol* 45:769-773, 1992
2. Higgins JPT, Green S, (eds). Cochrane Handbook for Systematic Reviews of Interventions, Version 5.1.0., updated March 2011. Available from <http://www.cochrane-handbook.org/Accessed>: May 1, 2012.
3. Pischon T, Hotamisligil GS, Rimm EB: Adiponectin: stability in plasma over 36 hours and within-person variation over 1 year. *Clin Chem* 49:650-652, 2003