Reviewer’s report

Title: Post-Exercise Protein Trial: Interactions between Diet and Exercise (PEPTIDE): study protocol for randomised controlled trial

Version: 2 Date: 22 August 2014

Reviewer: Teresa Liu-Ambrose

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This project aims to address: (i) Whether protein co-ingestion with carbohydrate immediately following exercise can increase the magnitude of cardiovascular and intramuscular training adaptations to endurance training when compared with ingestion of carbohydrate alone. (ii) To what extent the timing of protein co-ingestion (i.e. overnight versus immediate feeding) impacts upon those training adaptations.

Major Essential Revisions
1. Reference 11 reports very similar work to what is proposed here. Please clarify how the proposed trial will extend current knowledge base.
2. Please provide details on recruitment process and screening for eligibility.
3. Please provide detailed eligibility criteria.
4. There are only two measurement periods. Thus, ANCOVA, with baseline as a covariate, is recommended. In particular, within group change is not a focus of RCT. I refer to "Analysing controlled trials with baseline and follow up measurements" by Andrew J Vickers, Douglas G Altman.
5. Please clarify how target VO2 max will be determined during training.
6. How will adverse events be monitored.
7. Provide more details as to how compliance will be determined.
8. Please clearly state whether participants of Phase 1 will be eligible or not for Phase 2.
9. Please clearly state how (e.g., who) will conduct the randomization.

Minor Essential Revisions
1. Please have a distinct and separate section for sample size justification.
2. Please clearly state the primary outcome measure of interest on the front end of Methods section.
3. Under the Methods section, keep all the measurements (baseline, follow-up, anthropometric data, etc) grouped together (with appropriate subheaders) and then detail the intervention.

Level of interest: An article whose findings are important to those with closely
related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

'I declare that I have no competing interests'