Reviewer's report

Title: Exploring mechanisms of fatigue during repeated exercise and the dose dependent effects of carbohydrate and protein ingestion: study protocol for a randomised controlled trial

Version: 2
Date: 24 January 2014

Reviewer: Lewis James

Reviewer's report:

It appears that the authors have made every effort to address the concerns and comments that I provided in my initial review. There are now only a few minor points that I have. I have some comments related to my previous points and for ease have numbered them in line with the previous review.

2. There are still a number of grammar and punctuation errors (including errors in the use of tense) that the authors might want to correct before publication. Although I’m sure these will be addressed by the journals typesetter, the authors might want to address the errors on lines 65, 76, 93, 109, 164, 232, 240, 244, 248, 252, 267, 275, 288, 292, 297-298, 330-331, 341, 383, 419, 441, 443, 457, 461, 475, 482, 492, 520, 555, 643, 661, 662, 707, 708x2, 710, 736, 740, 765.

3. I think I missed the point here when I originally reviewed the manuscript. It is now clear. The TTE data seems very reproducible (~3.5% CV) and if this continues for phase 2 of the study I would encourage the authors to present this data in some way in the scientific literature. At present there seems to be the assumption that all TTE measures lack reliability and your data seems to demonstrate that with rigorous control and familiarisation reproducibility can be good.

6. Yes I am happy for you to use the sentence. I would make a few modifications to make the sentence consistent with your manuscript as follows. Replace “exercise capacity (i.e. time to exhaustion)” with “TTE tests”. Replace “runner/cyclist” with “athlete”. Replace “receding to the back of” with “falling behind”.

I am happy in principal with the other amendments/explanations provided by the authors, but have a couple of other minor points to make, which I have detailed below.

1. Line 163: do you mean “faster” when you say “greater”?

2. Line 365: when you say “void if necessary” presumably you mean their bowls? As you say on the next line that they “will” provide a urine sample. Might be worth stating bowls.

3. Line 393: What volume of solution will be ingested? Presumably it is prescribed in ml/kg to give the appropriate amount of carbohydrate, but I think it’s
worth stating here so that readers know it’s the same volume in each trial with a modified carbohydrate content to ensure the correct ingestion rate.

I look forward to reading the results of proposed studies.

**Level of interest:** An article of outstanding merit and interest in its field

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

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests