Reviewer's report

Title: A Randomized Pilot Study of an Intensive Postoperative Exercise Program compared with Usual Care following Primary Total Hip Arthroplasty in Subjects less than 65 Years of Age: Feasibility, Selection of Outcome Measures and Timing of Assessment

Version: 2
Date: 8 March 2014
Reviewer: Justine Naylor

Reviewer's report:

As stated by the authors, the purpose of this randomized pilot study was to explore a) feasibility of intensive postoperative rehabilitation compared to usual care following primary THA in subjects <65 years, b) appropriate outcome measures including performance-based measures and c) timing of assessments.

The study is well done and serves as a useful pilot to inform further study.

The following are minor essential revisions:

Background
2nd para – first sentence talks about ‘programs’. 2nd sentence talks about ‘studies’. These sentences need to be linked better.

Methods
Pg 5 – 2nd para – suggest say “The following performance-based measures were collected…” Then explain rationale for performance-based rather than patient-reported.
Page 6 – Intervention – I suggest that in the definitive RCT, that the ‘usual care’ gp do not be allowed to participate in community-based programs. Participation in such clouds the picture and will undermine any benefits seen of the intervention gp.

Results
Page 9, 3rd para – change ‘ has improved’ to ‘had improved’
Page 10 - Note - for the future RCT - you state that at no stage did gp distances surpass the 65m CID. When it comes to CID, it may also be important to state the number of a patients achieving the CID, not just whether the gp mean surpassed it. (this comment applies to all outcomes).
No between gp differences were significant thus the wording should be “there were trends to greater changes in the intervention gp in strength etc etc’ throughout the Results and Discussion.

Discussion
Para 1 – last sentence is not really useful given the small sample size. That
outcomes used in other studies did not show differences in the current study may reflect the small sample size. Note also, significant changes were not seen in strength either so you need to re-word the changes observed as suggested above.

Pg 11 – given that you used ‘change score in strength’ I’m not sure it is relevant that there were more females in the intervention gp, as it is all relative anyway.

Note – your reference to study #13 in refs on pg 11, 2nd para, is not appropriate because it was only performed in knee patients. It is not yet clear if we can apply TKR measures to THR measures.

Conclusions
That the sample is small means that you should not discount the other measures you have made, especially as the strength changes, like the other variables, were not statistically significant. What your study suggests is that strength may be a more responsive measure given it showed potentially larger changes than the other variables. The challenge in the larger RCT is to see if strength changes translate to anything meaningful other than strength alone eg reduced falls (not suggested by you), return to work/activity (as you suggest), or even better prosthesis longevity (not suggested by you).

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

Quality of written English: Acceptable

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

Declaration of competing interests:
I have no competing interests