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

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Reviewer: Vigdis Schnell Husby

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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

Review:
The topic is highly relevant and interesting as the subjects scheduled for THA are younger and want to live active lives. There are however some points that would be useful to consider/add/change.

Major compulsory revisions:

Abstract: Results: It should be noted that there were no statistically significant differences (throughout the study).

Background: Hypothesis? Should the effect of the intervention be an objective of the study?

Methods:
What are primary and secondary outcomes?
Simple or restricted randomization? Stratified randomization could be useful to ensure balance of the treatment groups (distribution of male/female)

Study population:
“Those with significant developmental dysplasia of the hip were excluded”. What kind of classification was used to determine significant hip dysplasia?
Where were the subjects recruited from, and who recruited them?

Intervention:
The exercises performed in the intervention group is in general thoroughly described, except from the load used during exercises, which is not described precisely: "Resistance was added as tolerated with either elastic thera-bands or small sandbags". Furthermore; resistance was added as tolerated. Tolerance according to pain, actual muscle strength or both?
There is less information about the exercises in the control group regarding intensity, frequency and duration. In addition, there seem to be differences within the group as they performed community based rehabilitation 4-6 sessions (per week?) at their own discretion. The subjects in the control group seem to get less attention compared with the intervention group, which might be a bias.

Outcome measures: 6-minute walk test: Performed outdoor or indoor? What was the length of the walking course?

Were surgery performed by the same surgeon or by different surgeons? What was the experience level of the surgeons in the direct lateral (Hardinge) approach?

Data analysis: At which significance level were results considered statistically significant?

Results:

What was defined as adverse events prior to the study? What were the criteria for feasibility?

Discretionary revisions:

Discussion:

Paragraph 3: The 6-minute walk test seemed not to be challenging enough-do you have any suggestions for a more challenging test in young THA patients?

Table 2 and 3: Clinically important differences are not highlighted

The term intensive postoperative rehabilitation does not seem appropriate as the intervention starts 6 wks postoperatively and is performed with low resistance. The duration of the training sessions is 2.5 hours, but intensity does not seem high.

Several studies report larger effects on muscle strength in exercises performed with high resistance compared with low impact exercises; both in healthy subjects and in various patient groups, including THA patients.

17.3.14
Vigdis Schnell Husby

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

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests.