Reviewer's report

Title: Improvements in Gait Characteristics after Intensive Resistance and Functional Training in People with Dementia: A Randomised Controlled Trial

Version: 1 Date: 24 February 2014

Reviewer: Ulrich Lindemann

Reviewer's report:

This study describes an adequately designed intervention trial improving basic mobility in older persons with mild to moderate dementia. The manuscript is clearly written. The introduction follows a red line to the study aims. The methods are appropriately chosen and clearly described. The results are well-arranged presented and profitable discussed.

I have few suggestions which may help to (even) improve the manuscript.

Discretionary revision:

My major suggestion is to analyze more and different gait parameters. All the gait parameters you use are strongly associated with gait speed. Surprisingly, there seems to be no effect on step width, which must be discussed (!).

As you have correctly referenced in your introduction, gait variability (e.g. step time variability) is a relevant parameter and is not associated with gait speed. The GAITRite system has the potential to calculate this parameter. Furthermore, the Walk-Ratio (step length/cadence) seems to be an interesting parameter related to safe walking and easily to be calculated with your data.

If there wouldn’t be no effect on step width, you could report just on gait speed and your results were no stronger than other studies.

Minor essential revisions:

. "Individuals were consecutively recruited ." Please indicate the period of inclusion.

. Did you really test the 1-RM during the intervention to adjust intensity or did you use the 10-RM in order to adjust weight increase? If you used the 10-RM, you should indicate.

. I would prefer consistent statistics (parametric or non-parametric) if possible for all calculations, but I leave this to the editor to decide.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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"