Reviewer’s report

Title: Muscle strength and areal bone mineral density at the hip in women: a cross-sectional study.

Version: 3  Date: 6 April 2015

Reviewer: Kerstin Landin-Wilhelmsen

Reviewer’s report:

Major
It is confusing with the wording “6-year follow-up” when describing a cross-sectional study in the Abstract and in the Subjects. The reviewer suggests that the authors present the original cross-sectional data at baseline in all 1495 subjects and not this subgroup followed during 6 years with a great loss of participants, only around 800 left. It is confusing what has happened during the first 6 years; expectancy, intervention? If data are available for any intervention this is of greater interest to report. As the study cohort is called osteoporosis there must be DXA performed at baseline.

Furthermore, in Limitations; the present study is not a random population sample as it is a cross sectional study on a re-examination (6th year). These subjects, only around 50% left, are strongly selected.

The conclusion must be corrected as the present statement is inappropriate. The correlation between muscle strength and aBMD at the hip was solely explained by the lean body mass.

Minor
It is not clear from the legend to Figure what the black dots are representing. It is not clear what appendicular lean mass T-score <=2 stands for.