Reviewer's report

**Title:** Factors affecting dynamic foot function in older adults: the Framingham Foot Study

**Version:** 1  **Date:** 27 February 2013

**Reviewer:** Joshua Burns

**Reviewer's report:**

Demographic differences in foot function is an interesting area of research. This large population-based study provides an excellent opportunity to evaluate demographic influences on plantar pressure loading. Some comments to consider revising:

**Major Compulsory Revisions**

1. Some further methods about the Framingham Foot Study would be helpful, rather than just referring to ref #13, in order to review the sampling method and study population, and assess any selective reporting issues.

2. The plantar pressure protocol whereby data were collected from only one trial is an unusual approach. Often 3-5 trials are collected and averaged for analysis. Can the authors justify this approach in regards to reliability and validity? The effect of a larger degree of measurement error using this method, noted in the discussion, could actually be compounded by a larger sample size i.e. one might more firmly conclude an inaccurate ‘significant’ result.

3. Can the authors speculate why the CPEI is smaller in women than men and what clinical implications this might have? Is a smaller CPEI thought to be deleterious or even protective against pain, injury, disability, etc?

4. Similarly, can the authors speculate why the CPEI is smaller in older people and what clinical implications this might have?

**Minor Essential Revisions**

5. The title “Factors Affecting Dynamic Foot Function in Older Adults: The Framingham Foot Study” is a little misleading because only center of pressure excursion index was assessed. A more accurate title would be “Factors Affecting Center of Pressure in Older Adults: The Framingham Foot Study”.

**Discretionary Revisions**

6. Although only one foot per person was used for analysis, it might be interesting to evaluate symmetry of CPEI between feet and its relationship with demographics.

7. Are there any other pressure variables available to broaden the scope of the analysis?
**Level of interest:** An article of importance in its field

**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