Author's response to reviews

Title: Classification of the height and flexibility of the medial longitudinal arch of the foot.

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Version: 5 Date: 8 January 2012

Author's response to reviews: see over
Dear Editor, Mr. Mathieson, Mr. Martin, Mr. Murley

Re: Cover letter giving point-by-point response to the concerns by the Editor and the reviewers

The submitted manuscript now entitled "Classification of the height and flexibility of the medial longitudinal arch of the foot" to Journal of Foot and Ankle Research was reviewed by Editor, Mr. Mathieson, Mr. Martin, and Mr. Murley.

We would like to thank the Editor, Mr. Mathieson, Mr. Martin, and Mr. Murley for some useful and relevant comments on the paper. We are pleased to read that Mr. Mathieson state that the manuscript is revised to a satisfactory standard. Furthermore, we are pleased to read the comment by Mr. Martin that this article is an excellent contribution to the literature.

We have revised the manuscript again and added a point-by-point response to the comments by the Editor and the reviewers. You will find this on the following pages.

We look forward to hearing from you in due cause.

Yours faithfully

Mette K. Nilsson, Rikke Friis, Maria S. Michaelsen, Patrick A. Jakobsen and Rasmus Ø. Nielsen.
Title: Classification of the height and flexibility of the medial longitudinal arch of the foot.

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Point-by-point response to the concerns by the editor:

Editor's comment:

Thank you for addressing all of my concerns raised from the previous review.

There are some minor issues that still need to be addressed. Could the authors please:

1. Title: Consider amending to 'Classification of the height and flexibility of the medial longitudinal arch of the foot'. Please do not include a full stop in the title.

   AUTHORS RESPONSE: Corrected

2. Italicize 'p' when referring to p-values throughout the manuscript including table legends.

   AUTHORS RESPONSE: Corrected

3. Page 5, line 9: Replace 'is' with 'was'.

   AUTHORS RESPONSE: Corrected
4. Page 10, line 13: Please delete 'is presented'.

AUTHORS RESPONSE: Corrected

5. Italicize third level headings on page 7 (i.e. NH, LAA and FL).

AUTHORS RESPONSE: Corrected

6. References: Please correct references 5 and 8.

AUTHORS RESPONSE: We kindly ask the Editor to provide us with a description of the corrections needed in references 5 and 8. We have 1) Controlled that the format of the references are in line with the other references, and 2) we have searched the document and found the references to be placed correctly in the manuscript.

7. Tables 1 to 3: I suggest making the titles of each row bold as has been done in Table 4.

AUTHORS RESPONSE: Corrected

8. There are inconsistencies in spacing between '95' and '%' in Tables 1 and 2.

AUTHORS RESPONSE: Corrected

Figures:

9. Figure 1 legend: please replace 'as' with 'was'.

AUTHORS RESPONSE: Corrected

10. Table 3 legend: Replace 'was' with 'were'

AUTHORS RESPONSE: Corrected
Point-by-point response to the concerns by Mr. Murley:

Abstract

Methods section. Please re-word ‘...detect influencing factors’.

AUTHORS RESPONSE: Please refer to the next comment

Abstract/methods/discussion. With respect to the regression analysis, the authors shouldn’t use the term ‘influence of…factors’, rather the ‘association’ or ‘correlation’ or ‘relationship’ is the appropriate phrase. That is, you cannot prove from this data that these factors are influencing foot posture (i.e. cause and effect cannot be inferred)

AUTHORS RESPONSE: In the article: "Determination of normal values for navicular drop during walking: a new model correcting for foot length and gender” published in J Foot Ankle Res (PMID: 19422696) the authors use the same term (influence). This is a discussion on terminology – The correct meaning of the influence / association / correlation / may vary between epidemiologists and statisticians (at least in Denmark). Therefore, we kindly ask the editor to evaluate on this issue and suggest the term which is most appropriate for the Journal of Foot and Ankle Research. Currently, we have made no changes on this issue in the manuscript.

Background

1st paragraph – most of the opening paragraph seems superfluous

AUTHORS RESPONSE: Most of the opening paragraph is now deleted.

2nd paragraph – ‘proposed to investigate’…but haven’t they already investigated? AND 2nd paragraph, 2nd sentence — ‘therefore, participants must be categorized’…this sentence requires re-wording/revision AND 2nd paragraph, 4th sentence — ‘Thus, reporting such cut-off values is important’. AND This sentence doesn’t link well with the 3rd sentence. From what is stated above, I don’t think the authors have explained clearly why cut off values are important.

AUTHORS RESPONSE: The authors have rewritten 2nd paragraph: “To date, no firm conclusions can be made on the link between midfoot posture and the development of injuries.
Finch [3] suggested conducting large scale prospective studies to investigate if the time to injury differs between individuals with different midfoot postures. In such a prospective cohort study, participants must be categorized into exposure groups based on their midfoot posture at baseline. Then, participants are followed over time to identify if the hazard of sustaining an injury varies among persons if different foot postures. However, to our knowledge no cut-off values have been presented to categorize participants into exposure groups based on their midfoot posture. To be able to categorize participants at inclusion in a prospective cohort study reporting such cut-off values is important.”

Start of page 5. Please re-word ‘to determine a relationship of foot type…’

AUTHORS RESPONSE: Corrected

End of page 5. Replace ‘influence’ with ‘association between…’

AUTHORS RESPONSE: In the article ”Determination of normal values for navicular drop during walking: a new model correcting for foot length and gender” published in J Foot Ankle Res (PMID: 19422696) which is referred to, the authors use the term “influence”. Therefore, no correction is made.

Methods

Page 6 – replace ‘sex’ with ‘gender’

AUTHORS RESPONSE: Corrected

The authors acknowledge on page 7 that no one has yet determined the reliability (or validity?) if the FL test. Taking into account that these issues also affect the technique used to assess subtalar joint motion, it is worrying to think there may be some significant measurement issues with this study. The authors have not clearly stated/defined what tests were use to determine ‘arch posture’ versus ‘arch flexibility’ (i.e. table 3)

AUTHORS RESPONSE: In the previous section in the methods (before the description of NH, LAA, and FL) we have clarified that we are measuring maximum values and range of motion values in each of the tests described in the article based on the landmarks on the medial side of the foot: From these landmarks the maximum values of NH [6], LAA [11], and
FL were measured for both feet with the subtalar joint in neutral position. Finally the participants were asked to relax, and NH, LAA, and FL were measured in the subtalar resting position. The differences between the measurements of NH, LAA, or FL in the subtalar joint in neutral position and measurements in the subtalar resting position were defined as ROM values for each test, respectively.

We have not added a full description of the procedures for the measurements for each test in the table legend. We think that the table legend would be too extensive if such a description is added.

Please state which type of linear regression model was used?

**AUTHORS RESPONSE:** In the methods, statistics we write “Multivariate linear regression analysis was used…” – we hope the use of “Multivariate” is appropriate.

Results

Multivariate linear regression — page 9. Please change ‘influence’ to

‘association’

**AUTHORS RESPONSE:** Please see the comment in first part of our response concerning the influence / association issue.

Some information from the regression analysis is missing (i.e. F statistic, df

**AUTHORS RESPONSE:** In the article ”Determination of normal values for navicular drop during walking: a new model correcting for foot length and gender” published in J Foot Ankle Res (PMID: 19422696). We have used the same approach for reporting our results as in this published article (without reporting F statistics and degrees of freedom)

Final paragraph — Page 11. Please revise ‘…standing work were found on the

results from the…’

**AUTHORS RESPONSE:** Sentence is revised to “No clinically relevant and, in most cases, no statistically significant influences of BMI, hours of standing work before the measurements, and total years performing standing work were found from the different measurements.”
Page 12 – Item 5 of the FPI relates to ‘height and congruence’ of the MLA, not just height as the authors have discussed.

**AUTHORS RESPONSE: Corrected**

Some sections of the discussion contain whole pages as a single paragraph

**AUTHORS RESPONSE: We have now added line breaks in some parts of the discussion.**

Table 4. Foot length is spelt incorrectly in all of the tables under heading table 4

**AUTHORS RESPONSE: Corrected**

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

Quality of written English: Not suitable for publication unless extensively edited

**AUTHORS RESPONSE: The authors have used the English editing service EDANZ as suggested by the Editor. Based on their corrections and the flaws found by the Editor and the three reviewers in the last submitted, we now hope the quality of written English has reached a satisfactory standard. If the quality of written English is still unsatisfactory, could the reviewer please provide us with suggestions to a new editing service.**

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'
Point-by-point response to the concerns by Mr. Mathieson:

Page 4: Paragraph 2 ‘...to investigate if the TIME OF INJURY...’ could be stated clearer. For example, ‘...to investigate if the age at which injury first occurs differs between individuals with different midfoot postures...’

AUTHORS RESPONSE: The “time of injury” was a flaw. It is now corrected to “time to injury” which refers to the method time to event (in this case event = injury) used in survival analysis (Kaplan Meier and cox regression analysis).

Page 4: Final sentence: ‘...These methods allowed DETERMINING and evaluation of...’. grammatically incorrect. Suggest: ‘...these methods allowed measurement, and evaluation, of the amount of pronation and its significance’.

AUTHORS RESPONSE: Corrected

Page 7: The authors state that there are ‘statistically, but not clinically, significant results. This assertion warrants inclusion of a brief explanatory note.

AUTHORS RESPONSE: The following has been added / changed: Significant differences between the right and left foot were found for LAA (p = 0.002) and FL (p = 0.035). However, these differences between right and left foot did not change the cut-off values significantly. Therefore, the differences were considered clinically insignificant.

Page 12: Discussion. The FPI does not just assess arch height, but arch congruence as well. This is a subtle, but I feel important, point. With a supinated foot the apex of the arch moves posteriorly in the arch, and with pronation it moves distal and becomes obscured. This paragraph would be more factually accurate if this were mentioned.

AUTHORS RESPONSE: Sentence is corrected. “Congruence” is now added.
Point-by-point response to the concerns by Mr. Martin:

I do not have any major comments. I do think there are some sentence structure issues that could be made to improve clarity. Example: last sentence in paragraph 1 (page 4)

AUTHORS RESPONSE: Sentence reworded.

page 5: 1st sentence paragraph 2

AUTHORS RESPONSE: Sentence reworded.

These sentences could be reworded. I will leave these and similar changes to the discretion of the editor.