Author's response to reviews

Title: Classification of the midfoot: normal, low or high arched feet.

Authors:

Mette K. Nilsson (mkn1986@hotmail.com)
Rikke Friis (rikke-friis@hotmail.com)
Maria S Michaelsen (mariamichaelsen111@hotmail.com)
Patrick A Jakobsen (patter86@hotmail.com)
Rasmus Ø Nielsen (ragn@rn.dk)

Version: 4 Date: 17 November 2011

Author's response to reviews: see over
Dear Editor

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

The submitted manuscript entitled: "Classification of the foot; neutral, low arched or high arched" to Journal of Foot and Ankle Research was reviewed by the Editor.

We would like to thank the Editor for some useful and relevant comments on the paper. We are convinced that a revised manuscript based on these comments will improve the paper significantly. We sincerely apologize for having submitted the article incorrectly in the previous submissions.

We have revised the manuscript and added a point-by-point response to the comments. 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.
Point-by-point response to the concerns by the editor:

1. The current manuscript does not have a title page, nor does it have the following sections: competing interests, Author(s) contributions, Acknowledgements. The authors still need to submit their manuscript using the outline recommended by the journal. A template can be found at: http://www.jfootankleres.com/info/instructions/

AUTHORS RESPONSE:
We sincerely apologize for having submitted the article incorrectly. The article is now submitted with the following sections: Title page, Abstract, Keywords, Background, Methods, Results and discussion, Conclusions, List of abbreviations used, Competing interests, Authors' contributions, Authors' information, Acknowledgements, Endnotes, References, Illustrations and figures, Tables and captions, and Preparing additional files.

Further, the font style and font size for the headings is not consistent with the journal guidelines as shown on the journal template (can be found within the ?Overview of manuscript sections for Research? section of the Instructions for authors? web-page.

AUTHORS RESPONSE:
The font style and font size for the headings are now changed to: First level bold Arial 16-point font, and the second level with bold Arial 11-point font (no italics). Times New Roman 12-point font is used in the main text.

2. Tables:
The authors have embedded the tables within the main manuscript file as suggested. I apologise for any miscommunication but could the authors please move these tables to the end of the document.

AUTHORS RESPONSE:
Tables are now moved to the end of the document.

There are other specific issues:
Tables:
i. Please remove shading from Tables (e.g., Table 4), rather, highlight relevant information with a symbol.

**AUTHORS RESPONSE:**
The shading in table 4 is now removed.

ii. There is inconsistent/excessive usage of capitalisation of words in the titles (e.g., compare title of Table 2 to Table 3) and within the tables (e.g., NAVICULAR HEIGHT in table 4 is better presented as ?Navicular height?; the word ?TEST? in Tables 2 and 3 is better presented as ?Test?), as well as within the Table legends (e.g., Confidence Intervals is better presented as ?confidence intervals?). Please review all tables and amend (suggest no capitalisation). Please see previous manuscripts published in the journal for guidance.

**AUTHORS RESPONSE:**
Corrected

iii. Would the word ?Range? be more appropriate than ?Min to Max??

**AUTHORS RESPONSE:**
Corrected

iv. Tables 1, 2: Columns showing the standard deviation: No need for ?±? as the column title specifies it is standard deviation

**AUTHORS RESPONSE:**
Corrected

v. Table titles: The order sequence of the variables described in the titles should reflect the order that the variables are presented in the tables. This also applies to the in text descriptions of variables in the tables, as well as the table legends (where possible).

**AUTHORS RESPONSE:**
Corrected

vi. There is inconsistent use of decimal points when referring to LAA values across the Tables.

**AUTHORS RESPONSE:**
In table 1-3 and in the manuscript the values for LAA are now presented without decimals. In table 4 the results from the multivariate regression analysis are shown and values for LLA are presented with decimal points since it may influence the interpretation by not doing so.

vii. Table 3: Please consider spelling in full the titles of the classifications for the columns rather than abbreviating (e.g., LA is better spelt full as 'low arched').

AUTHORS RESPONSE:
Corrected

viii. Table 4: Please consider removing the units of measurement (e.g., centimetre) from each of the dependent variables to simplify the table.

AUTHORS RESPONSE:
Corrected

Figures:
The figures have not been referred to in a manner that is appropriate for the journal. When referring to Figures in text, please refer to them by placing them within brackets after the sentence and before the full stop. For instance, the statement 'The perpendicular distance between the floor and navicular tuberosity was measured with a ruler (Figures 5 and 6).? (rather than 'Figure 5 and 6 around here?). Please see previous manuscripts published in the journal for guidance. Also, there appears to be three Figures uploaded in total for the revised manuscript, yet the text describes up to 8 Figures?

AUTHORS RESPONSE:
Corrected

3. Specific comments:
Grammatical errors:
There are still some grammatical errors in the manuscript that need amending. Please carefully review the manuscript.

AUTHORS RESPONSE:
We apologize for the grammatical errors in the previous manuscripts. Previously, we have used two different English editing services in Denmark to review the manuscript. This time we have used the EDANZ editing service as suggested previously to review the manuscript for
errors. We hope that the grammatical errors are reduced to a minimum in the current submission.

Abstract:
i. Please add ?years? after ?11.7?.

AUTHORS RESPONSE:
Corrected

ii. Please add once decimal point to the ?13 degrees? when referring to LAA ROM.

AUTHORS RESPONSE:
The authors have decided to present numbers for LLA without decimals. Therefore, no decimals for LLA are presented in the abstract.

Introduction (should be ?Background? as stated in the author guidelines):

AUTHORS RESPONSE:
Corrected

iii. Paragraph 3: the word ?joint? should follow the word ?subtalar?.

AUTHORS RESPONSE:
Corrected

iv. Please remove the commas after the word ?subtalar?.

AUTHORS RESPONSE:
Corrected

v. Please remove the capitalisation of the variables/words ?Navicular Height? etc.

AUTHORS RESPONSE:
Corrected

Methods:

vi. The Editor has previously requested ?When referring to previous studies regarding the reliability
of the measurements, the authors need to include exact values (e.g., ICCs = 0.88) in addition to stating 'good reliability' etc. This change has not been made although the authors state that it has.

AUTHORS RESPONSE:
We apologize for the flaw made in the previous submission. We have now rewritten the methods section: Sell et al. [12] reported an ICC ranging from 0.73 – 0.96 for the intertester and intratester reliability. Menz et al. [13] found NH to be significantly associated with radiographic measure (Pearson r = 0.79). and Dahle et al. [7] reported a Kappa value for intertester reliability for visually assessing LLA of 0.72. Jonson et al. [14] found a intratester and intertester ICC of 0.90 and 0.81, respectively.

vii. Page 5, line 1: Replace ?was? with ?were?.

AUTHORS RESPONSE:
Corrected

viii. The description of the cut-offs used is confusing as the categories for the ROM and MV have been combined in the one sentence. Please rewrite to make more clear.

AUTHORS RESPONSE:
The methods section has been rewritten: Therefore +/- 1 standard deviation from the mean (68 % prediction interval) were used as cut-off limits for MV measures which correspond to a range between normal and low arched and high arched. The cut-off for ROM measures between normal and flexible and rigid are calculated in a similar way. +/- 2 standard deviation from the mean (95 % prediction interval) were used as cut-off limits between low arched and severely low arched as well as high arched and severely high arched for MV measures. A similar approach was used for the ROM measures.

Results:
viii. Table 3: Cut-off values: There is overlap between the cut-off values for certain categories. For instance, if a person obtained a measurement of 3.6 cm for NH (maximum value), would they be classified as LA or normal? Please revise all cut-offs and amend accordingly. In addition, it would benefit the reader if there was some reminder description in the table legend of what classifications made up the 68 and 95% cut-off limits. For instance, in relation to range of motion values, the
categories ?normal? consist of the 68% cut-off, whereas and flexible and rigid would be the 95% cut-off.

**AUTHORS RESPONSE:**

The reference values have been changed and no overlaps between categories exist. The following has been added to the table legend: In relation to maximum values and range of motion values, the normal categories consist of the 68% prediction limit cut-offs. Whereas low arch and high ached as well as flexible and rigid are categorized based on the 95% prediction limit cut-offs.

ix. Can the authors present cut-off values for normalised navicular height and drop, as suggested previously?

**AUTHORS RESPONSE:**

In the results section the regression equation used to calculate the normalized range for NH/ND, LAA, and FL (taken into account the influence of other covariates) is shown: Normal range (68% prediction limits) = (Intercept + (B_{foot} \times \text{foot length}) + (B_{BMI} \times \text{BMI}) + (B_{Age} \times \text{Age}) + (B_{work\ today} \times \text{Work\ today}) + (B_{Year\ stand} \times \text{Year\ stand}) \pm \text{Standard deviation}.

In the discussion section an example of normal reference value for navicular drop for a male, with a foot length of 28 cm, BMI of 25, age 30 who has been working 4 hours at the time of measurement and have been working 4 years are: (-0.67 + (0.07 \times 28) + (-0.01 \times 25) + (-0.003 \times 30) + (-0.003 \times 4) + (0.005 \times 4)) \pm 0.6 = 0.5 \text{ cm to 1.7 cm}.

x. Can the authors present the R-squared value for their multivariate analyses? The size of the R-squared value for the analyses will provide information regarding the value of considering the variables in the classification system.

**AUTHORS RESPONSE:**

The $r^2$ values are now added in table 4.

**Discussion:**

xi. Paragraph 1: The readers will find it difficult to understand the concept of calculating the cut-off values using the regression equation from the information provided. This needs to be explained with more clarity.

**AUTHORS RESPONSE:**

An example is now given: For instance the 68% cut-off values / normal reference range for ND for a male, with a foot length of 28 cm, BMI of 25, age 30 who has been working 4 hours
at the time of measurement and have been working 4 years are: 

\[-0.67 + (0.07 \times 28) + (-0.01 \times 25) + (-0.003 \times 30) + (-0.003 \times 4) + (0.005 \times 4) \pm 0.6 = 0.5 \text{ cm to 1.7 cm.}\]

xi. The limitations paragraph (currently paragraph 2) is best moved to the end of this section.

AUTHORS RESPONSE:
Corrected

Figure legends:

xiii. Please remove the quotation marks from the descriptions. Please review grammar and replace the words ?will be? with was/were.

AUTHORS RESPONSE:
Corrected