Reviewer's report

Title: Determination of the individual normal Values for dynamic navicular Drop - a new Model influenced by Foot Lenght and Gender

Version: 2 Date: 12 February 2009

Reviewer: Ian Mathieson

Reviewer's report:

This is a clear and well written paper that fills an obvious gap in the literature concerning navicular drop. It is written succinctly and uses accessible language. I have a number of comments, and although most are minor/discretionary, I do have a major compulsory revision that I would like the authors to consider and respond to.

Major Compulsory Revisions

My major concern relates to the reporting of the multiple regression analysis. There is limited information included to help the general readership understand the use of this technique in the context of the study. There is one sentence in the Statistics section on page 5 and then in the Results section there is reference to table 4, which has no legend. Given that the difference in navicular drop associated with an increase in foot length of 10mm is 0.4mm for males and 0.31mm for females, a brief explanation of the function of the regression analysis would help the reader understand how this small difference can become important. Since this underpins the conclusions of the paper I would like to see the authors offer more information to bridge the gap between the results and the conclusions that are ultimately drawn.

Minor / Discretionary Comments:

Consider modifying the title to, for example, 'Determination of normal values for dynamic navicular drop - a new model correcting for foot length and gender'. Check spelling of 'length' throughout article.

Abstract

Line 3. 'Conflicting results have been found with regard to differences in navicular drop between healthy and injured SUBJECTS.'

Background

Paragraph 4.

Clarify the figures given from Beckett's study of ND in ACL injury: provide the ND measurements for the non-injured side as well so that the difference is understood.

Methods
Paragraph 1. How many subjects were approached? How many refused? How many were not suitable? This information would enhance understanding of the recruitment protocol.

Procedures

Provide a diagram illustrating the measurement techniques - again this will increase the readers understanding.

Page 5 Line 1.
The 'caput' of the first metatarsal bone. Not an immediately recognisable term. Is there an alternative?

Provide more information on the VSA system eg. video camera used and sampling frequency. If the frequency was low this could explain differences between electromagnetic tracking system - derived data. Provide a comment on this.

Results

Line 1. Provide the 95% confidence interval - don't just exclude the top 2.5%, what about the lowest 2.5%? Reduced navicular drop might be important as well as excessive motion.

The discussion seems appropriate and conclusions are within the remit of the study.

Should you require clarification of any of these points please contact me.

**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.