Reviewer’s report

Title: Reliability of analysis of the bone mineral density of the second and fifth metatarsals using dual-energy x-ray absorptiometry (DXA)

Version: 0 Date: 18 Aug 2017

Reviewer: Lindsey Cherry

Reviewer's report:

Thank you for submitting an interesting piece of work. Overall, this is a well written piece of work with good scientific rationale and clear description of aims and methodology that would be of value to this field of work.

Abstract:

It may be of relevance to add a single sentence into the discussion section to highlight the varying ICC (particularly the poor ICC for scan-rescan) and what this means for the interpretation of your study; suggest removal of 1st sentence in this section to enable word count fit.

Background:

This is well written and appropriately referenced throughout. Sufficient information is given to establish the rationale for the work presented. The overall aim/purpose is clearly stated.

Methods:

Please provide a rationale for your sample size.

Reference to participant consent and ethical approval is appropriately included.

Please clarify the process for inter-rater image scoring with regards to image capture; were these captured once and then the image analysis repeated or was the whole process of positioning the participant, taking the scan and image analysis repeated? If not the latter please make reference to this also in your discussion. It seems that this may have been the case for intra-rater testing but not inter-rater testing?

Appropriate analysis techniques are reported.
Results:
These are clearly presented.

Discussion:
Please consider the potential for error that may result from differing foot placement on the scanner bed and this was overcome within your protocol. This is of particular relevance given the poor scan-rescan ICC for the distal segments of the 2MT and 5MT.

Line 182-184: 'through training it is possible...'; please provide a reference for this statement.

Conclusion:
This is fair however please do consider adding the caveat that scan-rescan may not be as good and this has clinical implications when considering repeated use over time to assess change in a single patient.

Tables: These are clearly presented.

Level of interest
Please indicate how interesting you found the manuscript:

An article of importance in its field

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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