Reviewer’s report

Title: Reliability of the use of ultrasound in the assessment of the dorsal Lisfranc ligament

Version: 2 Date: 5 September 2012

Reviewer: Maria M Stokes

Reviewer’s report:

GENERAL COMMENTS
This paper reports a study of intra and inter-rater reliability of ultrasound imaging for assessing the length of the Lisfranc ligament under different loads and foot positions. The experimental design for intra-rater reliability is sound and the results indicate that the technique is reliable, even for a novice user. The design of the inter-rater reliability aspect is questioned (see Point 2 below). The paper is generally well written and presented. Some specific points are raised below

MAJOR COMPULSORY REVISIONS
1. Pg 11, lines 7-8: the authors need to be cautious about encouraging colleagues to use the ultrasound imaging technique without any training, which is contrary to the recommendations of professional imaging bodies, such as the American Institute of Ultrasound in Medicine www.aium.org and the British Medical Ultrasound Society www.bmus.org. Although the authors had no formal training themselves, they did have a specialist colleague available who taught them how to image. The statement ‘access to an ultrasound machine will be able to duplicate this protocol and obtain a sonographic image of the dorsal Lisfranc ligament in a consistent manner’ is misleading, as this assumes all readers would have the training and support they had. Even with their training, they may not have been taught the fundamental basics of ultrasound imaging, which would make them sufficiently aware of the safety implications and also factors that influence the quality of images and ability to interpret them, e.g. artefacts.

As a reviewer, and involved in training of ultrasound imaging, I would not wish to endorse use of this technique by podiatrists, without them undergoing training in musculoskeletal ultrasound, which is widely available (courses are predominantly undertaken by medical specialists in rheumatology and sports medicine but allied health professionals are able to access these courses). Please add a comment about the training recommendations of the imaging societies and modify the way in which taking up the ultrasound technique is currently encouraged in the manuscript.

MINOR ESSENTIAL REVISIONS
2. Page 7, line 1, Heading: ‘Experimental design’ refers to the type and nature of the study (i.e. inter or intr-rater reliability study’), rather than what was actually performed. Suggest this section is headed ‘Experimental protocol’.
3. Pg 7, paragraph 3, inter-rater testing: the design of this aspect of the study is questionable, as it is very complex and involves confounding factors that detract from testing inter-rater reliability. It is unclear why Examiner B tested participants on a different day to Examiner A, as this does not enable true inter-rater reliability to be tested. It also involves potential error from repeated sessions, so the results probably give a poorer outcome for inter-rater reliability that is actually the case. This point needs to be acknowledged in the section on limitations of the study in the Discussion on pg 12.

4. Pg 9: the ICC model numbers are needed for the two types of analysis (intra & inter-rater reliability).

DISCRETIONARY REVISIONS

5. Title: it may be helpful to specify that this is ultrasound imaging, as therapeutic ultrasound can also be used for diagnosis of pathology (i.e. pain response). Perhaps: ‘Reliability of ultrasound imaging in the assessment of the dorsal Lisfranc ligament’

6. Pg 9, para 1: suggest the data for males and females are presented separately.

7. Pg 9, para 2, line 3: alter spelling of ‘separate’ to ‘separately’.

8. Pg 9, para 2, line 4: ‘not consistent’ is misleading, as the ICC values are acceptable. Please rephrase to something like ‘not as reliable or repeatable as’.

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

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I have no competing interests to declare