Reviewer’s report

Title: The reliability of toe systolic pressure and the toe brachial index in patients with diabetes

Version: 1 Date: 29 September 2010

Reviewer: Alistair A McInnes

Reviewer’s report:

The topic and research question is well defined and the methodology is sound with appropriate statistical analysis exploring reliability and repeatability.

The points that I would like to raise are the following:

1. In the Background section, it might be useful when identifying Monckeberg’s sclerosis to describe the associated aetiology of autonomic neuropathy.

2. In the paragraph that immediately follows Table 1, there is a description of one study that has not yet been published. Perhaps a reference here would be helpful, e.g. personal communication, or an identification of the source, even though it is unpublished work.

3. I appreciate that the participants were not assessed for their vascular status. However, I wonder about the variables in physiological status, which the authors do recognise. If for example, any of the participants had severe peripheral neuropathy, they may have quite irregular patterns in blood flow that could cause differences in measurements. I appreciate that the purpose of the research was to investigate the reliability and repeatability in this unique population (diabetic subjects). I wonder if there was a reason not to have a control/comparison group to determine rep and relat studies in that group.

It would be interesting to know the vascular status of the participants and the recorded values—even though this was not a part of the research question. Readers would be interested about this data.

What was the time period between the raters tests? (I may have overlooked this in the article, but haven’t identified this). This could affect the measurements, if the tests were performed immediately one after another.

perhaps some discussion on any subjects with severe neuropathy. Were they excluded from the study?

However, an important albeit small study (recognised by authors) and will provide clinicians with useful information. Perhaps the conclusions need to include the importance of pulse palpation and pain history together with all the other important aspects of vascular assessment to inform clinical judgement. The context of toe pressures as a non-invasive investigation that may determine intervention should be mentioned as the gold standard may be MRI angiography.

Level of interest: An article of importance in its field
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.