Reviewer’s report

Title: A comparison of various types and thicknesses of adhesive felt padding materials in the reduction of peak plantar pressure of the foot. A case study.

Version: 4 Date: 28 January 2015

Reviewer: Aoife Healy

Which of the following best describes what type of case report this is?: None

Has the case been reported coherently?: Yes

Is the case report authentic?: Yes

Is the case report ethical?: Yes

Is there any missing information that you think must be added before publication?: Yes

Is this case worth reporting?: Yes

Is the case report persuasive?: No

Does the case report have explanatory value?: Yes

Does the case report have diagnostic value?: No

Will the case report make a difference to clinical practice?: Yes

Is the anonymity of the patient protected?: Yes

Comments to authors:

General comments

This manuscript presents a case study which provides clinicians with valuable information on the use of felt padding for pressure redistribution. While a suitable methodology was employed throughout the data collection, additional information and data analysis is suggested to strengthen this manuscript. Additionally, the statistical methods employed were not suitable to a case study design and requires revision before publication can be considered.

Revisions necessary for publication

Case presentation paragraph 4:
The authors’ state a treadmill was used to determine walking pace, however it is unclear if the measurements were recorded on the treadmill or over ground. I assume the measurements were completed on a treadmill but clarify in the text where the measurement were recorded.

Case presentation paragraph 5:
Additional information is required to describe how the metatarsal area was defined in the Tekscan software by the authors.

While I agree with the authors about the importance of accessing the effect of the felt padding on the entire metatarsal area I consider it equally important that the authors would examine the effect of the felt padding at the area of the cut out and at the periphery of the cut out. As discussed by the authors in the introduction previous work by Paton and colleagues has shown the use of cut outs can increase pressures at the periphery of the cut out and this could be potentially harmful to a patient. I therefore suggest that the authors complete further analysis of the pressure data prior to publication, in addition to examining the metatarsal area as one region they should access the area of the cut out and the periphery of the cut out.

It is unclear if all 75 readings per foot for each felt were used in the pressure analysis to determine the mean peak pressure value, confirmation on this is required in the text.

Statistical analysis:
There is incorrect use of statistics in the manuscript. It is not valid to complete t-test and ANOVA statistics on a sample size of one, and these statistics should be removed from the manuscript. For this case study I suggest reporting means and standard deviations for the mean peak pressure of the different felt conditions and percentage change in mean peak pressures from the control condition. The statistical analysis section will then need to be rewritten.

Discussion:
The discussion will need to be rewritten following the removal of the t-test and ANOVA statistical analyses.

While the authors have provided valuable information on the effectiveness of felt padding in pressure redistribution on first application I think it is important that they point out that the present study was not a longitudinal study and that no information is available at present to suggest how long the felt padding will be effective in pressure redistribution and how often the padding should be changed.

There is no reference to Figure 4 within the manuscript, I suggest either providing information within the manuscript to justify its inclusion or to remove it from the manuscript.
Minor issues not for publication:

Case presentation paragraph 4: “The Shoes were of a flat slip on type” – change Shoes to shoes.

Case presentation paragraph 5: Change “…act as controls.” To “…act as a control.”

Discussion Line 1: Remove “at all” from the end of the sentence.

Discussion: The discussion should be written in the past tense.

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

Quality of written English: Acceptable

Declaration of competing interests:

I declare that I have no competing interests