Author's response to reviews

Title: The effectiveness of extracorporeal shock wave therapy for the treatment of lower limb ulceration: a systematic review

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Author's response to reviews: see over
Editor’s comment

Online manuscript management system:

Please ensure first letter of author forenames and surnames are capitalised.

General comment:

There is inconsistency in use of 'ise...' versus 'ize...' (e.g. randomised, generalize). Please review entire manuscript and ensure consistent.

All words using ‘ize(d)’ have now been changed to ‘ise(d)’

Abstract:

Methods:

State the type of studies included.

We have now added: “All study designs, with the exception of case-reports, were eligible for inclusion in this review.”

The sentence 'Five studies...were reviewed' is best placed in the first sentence of the results section.

The first sentence of the results section now reads: “Five studies, including; three randomised control trials, one quasi-experimental study and one case-series design met our inclusion criteria and were reviewed.”

State how effectiveness was evaluated.

The final sentence in the methods section of the abstract defines how methodological quality was assessed, and we have also added: The effectiveness of studies was measured by calculating effect sizes (Cohen’s d) from means and standard deviations.

Replace 'article's' with 'study's'.

This has been done, thank-you

Results:

Suggest restructure to explain the number of studies and types of studies. Then state study quality results, then results of analysis of intervention effectiveness.

Thank-you, the results section within the abstract now reads: “Five studies, including; three randomised control trials, one quasi-experimental study and one case-series design met our inclusion criteria and were reviewed. Quality assessment scores ranged from 38-63% (mean 53%). A decrease in healing time and wound size was identified in these studies following extracorporeal shock wave therapy. The majority of wounds assessed were associated with
diabetes and the effectiveness of ESWT as an addition to standard care has only been assessed in one randomised control trial. In summary, there is limited evidence to support extracorporeal shock wave therapy as a treatment for lower limb ulceration.”

Spell out 'RCT'.

This correction has been made

Replace hyphen with 'to'.

This correction has been made

Background:

P3: Replace '...healing is' with '...healing are'.

This correction has been made

Methods:

P4: Replace 'medical subject headings' with 'Medical Subject Headings (MeSH)'.

This correction has been made

P5: Replace 'gender' with 'sex' (review entire manuscript).

This correction has been made

P5: Should 'PB' and 'TW' be 'PAB' and 'TPW'?

Yes, correction made

P5: State the classifications of Cohen's d (not only at the footer of Table 3) at the end of para 2 (and use a reference).

Thank-you, we have now added: Where studies provided sufficient statistical data, effect size (Cohen’s d) was calculated from means and standard deviations [19]. Effect sizes were categorized as follows: negligible effect (≥-0.15 and <0.15); small effect (≥0.15 and <0.40); medium effect (≥0.40 and <0.75); large effect (≥0.75 and <1.10); very large effect (≥1.10 and <1.45) and, huge effect (≥1.45).

Results:

Replace hyphens with 'to' (review entire manuscript).

This correction has been made throughout manuscript including tables

P8: The study design of Schaden et al. appears to be a case-series study design (not a prospective cohort study which is typically used to identify risk factors for pathology). Please review and amend accordingly. It is unclear how there were 25 venous and 6 arterial ulcers in 208 participants. Can you please review this sentence. Also replace 'on' with 'in'.
Any reference to prospective cohort study has been replaced with case series study. ‘On’ has been replaced with ‘in’. Because this review is only interested in ulcers of a neurovascular origin, we have altered the text in this section (and table 2) to reflect this: In a study by Schaden et al. [17], the safety and feasibility of ESWT was assessed in 208 participants with a variety of wounds that included 31 ulcers of a neurovascular origin.

P8: 'Moretti et al' should be 'Moretti et al.'.
This correction has been made

Please italicise the 'p' when stating p values (throughout manuscript). Ensure consistency in use of spacing between the 'p' and the associated symbol.
This correction has been made throughout the manuscript including tables

Discussion:
As previously requested: The discussion is primarily an appraisal of the quality of the studies included in the review. There needs to be discussion around the findings of the review for the main outcomes (i.e. is ESWT effective in healing ulcers?).

Yes fair point, however the discussion is a focus on methodology because the methodological issues identified do not allow us to say whether ESWT is effective. However, your point is noted and the first paragraph of the discussion has been changed to account for this comment: The aim of this systematic review was to investigate the effectiveness of ESWT for the treatment of lower limb ulcers. We evaluated five studies in this review, and identified a trend to suggest that ESWT may be effective in improving wound healing and decreasing wound size. Furthermore, ESWT may also be a safe treatment option with few complications associated with its use, however; we found average study quality for the studies identified.

P9: Replace 'subjects' with 'participants'. Insert space between '11' and 'to'.
This correction has been made

P10 para 1: delete the word 'prospective'.
This correction has been made

P11: Were there 5 studies included in the review (first line of para 2 states 4 studies)?
Our apologies, this correction has been made

P11: Change 'participants' ' to 'participants'.
This change has been made

P12: Delete the sentence 'In addition, future research...controlled trials' as this was said in previous sentence.
References:

Ensure capitalisation of first letter of journal titles.

This change has been made

Review reference 15: are there page numbers? It does not appear to be retrievable in its current description.

There are no page numbers, this is a published abstract. The reference has been changed to reflect JFAR guidelines: Serizawa F, Ito K, Sato A, Shimokawa H: Non-invasive extracorporeal shock wave therapy ameliorates walking ability in patients with peripheral artery disease and intermittent claudication [abstract]. Circulation 2010,122(21).

Remove the DOI from reference 24.

This change has been made

Review the presentation of a book chapter (it is currently presented as a journal).

This change has been made to be consistent with JFAR guidelines and previous published JFAR articles that have used this reference:


Tables:

Include a horizontal border across the top rows of Tables 2 and 3.

This change has been made

Table 3: Capitalise 'Wound' and 'Completely'. remove the 'p' from within the p value column cells. Specify the actual Cohen’s d values where this has been calculated (not just the interpretation).

These changes have been made

Figure 2:

Replace 'articles' with 'studies'. Is there a need to refer to Additional File 5 which is the PRISMA checklist?

Change made

Additional Files:

Please remove Add. File 5 and include it as part of your cover letter.

Change made

Add. File 3: consider including volume and page numbers to aid the reader to retrieve the study.
This change has been made, thank-you

**Reviewer report:**

I do not see where the "increase in healing time" comes from: from the results section, it looks as though only one study (Moretti et al) studied healing time, and actually reported a shorter healing time in ESWT-treated patients. Moreover, would it be possible to say anything on healing rates?

Our apologies, this should have read a *decrease* in healing time. However, your point is valid and we have now altered this section to read: *Improvements in wound healing were identified in these studies following extracorporeal shock wave therapy.*

**Reviewer report:**

I have only minor revision points I have to make at this stage are:

1. Abstract: Results: 1st Sentence. Do the authors mean "an improvement in healing time .... ", rather than what they have stated as "an increase in healing time"?

   Thank-you, we have amended this in line with the other reviewers comments and it now reads: *Improvements in wound healing were identified in these studies following extracorporeal shock wave therapy.*

2. Abstract: Results: Last Sentence. This sentence seems like it isn't actually your results but rather part of your Conclusion. I'd suggest moving it into the first sentence of your Conclusion.

   This sentence has been removed – the conclusion already states something similar

3. Discussion. The aim of the review was to investigate the effectiveness of ESWT, yet the discussion is predominately about the methodological quality of the studies. From my read really only the first sentence of the discussion touches on effectiveness. I cant help but think the Discussion needs at least a paragraph on discussing what the authors consider to be the effectiveness of the treatment itself using their findings.

   Yes, the editor has also raised this issue – as such, the first paragraph of the discussion has been changed to account for this comment: *The aim of this systematic review was to investigate the effectiveness of ESWT for the treatment of lower limb ulcers. We evaluated five studies in this review, and identified a trend to suggest that ESWT may be effective in improving wound healing and decreasing wound size. Furthermore, ESWT may also be a safe treatment option with few complications associated with its use, however; we found average study quality for the studies identified.*