



Letter to the Editor

Letter to the editor regarding “Negative pressure wound therapy vs. conventional management in open tibia fractures: Systematic review and meta-analysis”


Dear Editor,

With great respect and interest, we read the review, “Negative pressure wound therapy vs. conventional management in open tibia fractures: Systematic review and meta-analysis,” [1] to appear in *Injury, Int. J. Care Injured*. After careful review, there are several concerns worth noting after reading both this review and referenced papers:

- 1) This systematic review claims its focus on tibia cases; however, two of the referred studies [2,3] reported lower extremities cases including femurs, ankles and feet, except tibia cases. The authors do not state that these non-tibia cases were excluded from their study. These two studies are not suitable for current meta-analysis without excluding the non-tibia cases, which impairs the reliability of the authors' conclusions.
- 2) The details of fracture information extracted from multiple included studies are not correct. In this meta-analysis all fractures were reported Gustilo III, however, four studies [4,2,3,5] involve other type of fractures other than exclusively Gustilo III. It has been reported that the Gustilo type is a predictor of the infection for negative pressure wound therapy [4]; therefore, it is reasonable to analyze these data in subgroups according to Gustilo classification, or at least report them in exact way.
- 3) In the “literature search” part of the “Method” section, the search strategy is not logistically reasonable by combining two keywords of which one is a subset of the other (for example, ““open fracture” or “Gustilo IIIopen fracture””). In the same section there are two writing mistakes: “tibia fracture “appears twice and misspelling “Gustilo” to “Guistlo”.
- 4) This research failed to reference four of its included studies.

The principle of “PICO” and critical selection of references included in this study are the cornerstone of systematic reviews and meta-analyses, which ensure homogeneity and reliability. Such studies should follow these principles strictly when conducting systematic review and meta-analysis to avoid resulting incomplete or misleading answers to important clinical questions. Clinicians and researchers must take these matters seriously in

critically evaluating current literature, which has the potential to shape the practice of medicine.

Potential and real conflicts of interest

No potential and real conflicts of interest.

Acknowledgement

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References

- [1] Kim J-H, Lee D-H. Negative pressure wound therapy vs. conventional management in open tibia fractures: Systematic review and meta-analysis. *Injury* 2019;0;. doi:<http://dx.doi.org/10.1016/j.injury.2019.04.018>.
- [2] Costa ML, Achten J, Bruce J, Tutton E, Petrou S, Lamb SE, et al. Effect of Negative Pressure Wound Therapy vs Standard Wound Management on 12-Month Disability Among Adults With Severe Open Fracture of the Lower Limb: The WOLLF Randomized Clinical Trial. *Effect of Negative Pressure Wound Therapy vs Standard Management on*. *JAMA* 2018;319:2280–8, doi:<http://dx.doi.org/10.1001/jama.2018.6452>.
- [3] Stannard JP, Volgas DA, Stewart R, McGwin GJ, Alonso JE. Negative Pressure Wound Therapy After Severe Open Fractures: A Prospective Randomized Study. *J Orthop Trauma* 2009;23.
- [4] Blum ML, Esser M, Richardson M, Paul E, Rosenfeldt FL. Negative pressure wound therapy reduces deep infection rate in open tibial fractures. *J Orthop Trauma* 2012;26:499–505, doi:<http://dx.doi.org/10.1097/BOT.0b013e31824133e3>.
- [5] Virani SR, Dahapute AA, Bava SS, Muni SR. Impact of negative pressure wound therapy on open diaphyseal tibial fractures: A prospective randomized trial. *J Clin Orthop Trauma* 2016;7:256–9, doi:<http://dx.doi.org/10.1016/j.jcot.2016.05.007>.

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