

## Peer Review File

Article information: <https://dx.doi.org/10.21037/atm-23-1173>

Comment 1: First, the title could be more detailed to indicate the subtype of this review, i.e., a narrative review.

Reply 1: First of all, we would like to thank the reviewers for taking the time to review our manuscript. We agree that the title of the review should be more precise.

Changes in the text: The title of this review has been adapted.

Comment 2: Second, the abstract could be more informative. i.e., the clinical needs for this review and the questions to be answered in this review. Please also briefly describe the retrieval of related studies and the main findings from the studies reviewed. The important information of the treatment strategies should be clearly indicated and straightforward. Please also have more direct comments for the research focuses and unaddressed questions.

Reply 2: Thank you for this valuable suggestion. We have rewritten the abstract and hope to have been able to address your ideas and the abstract is now more informative and concise.

Changes in the text: See Abstract.

Comment 3: Third, in the introduction of the main text, please describe the clinical needs for this review and the questions to be answered in the below text.

Reply 3: We have adapted the last paragraph of this section in order to make the clinical needs and the intentions of this review clearer. I hope that our revision is satisfactory.

Changes in the text: new paragraph: lines 94-98.

Comment 4: Fourth, the authors may consider to use a table to summarize the treatment strategies for complex ankle fracture, indications and procedures. In the conclusion, please have a detailed comments on the unaddressed questions or clinical questions that need to be further studied in relation to the treatment of complex ankle fractures.

Reply 4: We highly appreciate this comment and recognize the need for more specific research. We have inserted a new paragraph to the Conclusion section in order to make needed research clearer.

However, in our opinion adding a table would oversimplify the very complex treatment strategies in complex ankle fractures. As every case needs an individual assessment and treatment plan, we believe a table would not do the complexity of treatment justice.

Changes in the text: Lines 391 – 395.

### Reviewer B

Comment 1: In the principle of “span, scan and plan”, how to understand “span”?

Reply 1: Thank you for your thorough revision, we highly appreciate you making time for it! By the term “span” in this triad we refer to the spanning of the ankle with external fixation. We have added a paragraph to explain this concept a little more.

Changes in the text: lines 112 – 113.

Comment 2: “It was better to add related reference (DOI: 10.21037/apm-21-1618) about the surgical reparative treatment for patients with ankle fracture.”

Reply 2: Thank you for making us aware of this highly relevant article. We have included the reference in our manuscript.

Changes in the text: Reference added: line 106.

Comment 3: “Geriatric patients keep rising with aging population. What were your good suggestions for the treatments for geriatric patients with complex ankle fractures?”

Reply 3: We strongly advocate for an individual decision-making process. Patients should be assessed thoroughly preoperatively and soft tissue management becomes even more important in the elderly population (lines 297 – 299).

Changes in the text: none.

Comment 4: Whether the arthroscopy could be applied for the diagnosis and treatment of ankle fracture?

Reply 4: Thank you for this very valuable feedback. As you point out arthroscopy might be another valuable addition especially in the treatment of tibial pilon fractures. Therefore, we have added a separate paragraph addressing arthroscopically assisted surgery.

Changes in the text: lines 246 - 252.

Comment 5: What were your suggestions for the treatments for osteoporotic ankle fractures? Please state in the text.

Reply 5: As you suggest this is a highly relevant topic. We have tried to summarize treatment in geriatric patients in our manuscript. In order to focus on osteoporotic bone even more, we have added two paragraphs to our manuscript.

Changes in the text: lines 292 – 293, lines 321 – 323.