

# Return to work following shoulder arthroplasty: a systematic review

Dear Reviewers and Editors,

The authors of this team thank you for your time spent in evaluation of this manuscript. We hope that you found this article valuable to the readership of *World Journal of Orthopedics*. The reviewers have provided excellent feedback to increase the impact of our article. We have revised the manuscript per the reviewer comments and feel that this has substantially increased the quality of this paper. Please find these revisions below with specific changes highlighted in the author response column. To facilitate viewing our response to reviewer comments, a supplemental file has been added to the submission that contains these responses in a table format. The reviewer's will find that the manuscript also reflects the same highlighted changes. We hope that all comments were sufficiently addressed. If there are any additional concerns with this manuscript, please do not hesitate to contact us.

Sincerely,

Joseph N. Liu, MD

## RESPONSE TO REVIEWERS

Reviewer Comment	Author Response
<i>Reviewer #1</i>	---
The background section needs to be expanded and is too brief. The historical course, and changes in shoulder replacement surgery should be added.	<p>Thank you for your critique. We have included the below paragraph in the Introduction section to expand on the differences in shoulder replacement surgery types. We further expand on specifics within each respective section.</p> <p>"TSA has typically been indicated for end-stage shoulder conditions in individuals with intact rotator cuff and sufficient glenoid bone stock to allow for stable glenoid component implantation<sup>[1,2]</sup>. The TSA procedure involves replacing the humeral head and glenoid with similarly shaped prosthetic components. rTSA, on the other hand, was historically indicated for patients with massive rotator cuff tears and involves using a convex glenoid hemispheric ball and a concave humerus articulating cup to reconstruct the glenohumeral joint. HA has traditionally been indicated in patients with glenohumeral arthritis where the glenoid bone stock is inadequate for TSA<sup>[1,2]</sup>. This procedure involves removing the humeral articular surface and replacing it with a stemmed humeral component."</p>
As a systematic review, the authors should write clearly the inclusion indicators as well as baseline information when describing the methodology, especially when there are more comparative indicators. The inclusion process needs to be mentioned in the methodology, including the total number of articles, the number of articles retrieved in each database, how the screening was performed, and a statement of the relevant	<p>Thank you for your comment. We have included the following paragraph in the Materials and Methods section to address these issues:</p> <p>"As referenced in Figure 1, 23 references were initially identified by the keyword search terms described above. After the title review, 8 references were excluded as 7 were irrelevant to the topic of discussion and 1 was a case report. One reference was excluded</p>

exclusion criteria.	after abstract review as it was a review article and two references were excluded after full text review as they did not include return to work data. Following the review process, there were 12 references left and all were included in this review."
The authors selected the keywords in different databases, is this leading to partial omission of literature? The authors need to explain accordingly or provide a more detailed search strategy.	<p>Thank you for bringing this to our attention. We have included the following to the Materials and Methods section to better explain our search strategy:</p> <p>"The PubMed, Scopus, Embase, and Cochrane Library databases was queried using the search terms "shoulder arthroplasty", "shoulder replacement", "shoulder hemiarthroplasty", or "humeral resurfacing" combined with "return to work". The final search was performed on January 8th, 2021. Additionally, the references of each study were manually assessed as well for potential inclusion in this investigation."</p>
The article includes literature of low Evidence levels and high heterogeneity, and the limitations of the article need to be mentioned in the discussion section, as well as guidance for future research directions.	<p>We greatly appreciate this suggestion. We have included the following in our Limitations and Future Research Directions section to discuss limitations as well as guidance for future research directions:</p> <p>"Our narrative systematic review and analysis has several limitations. First, identification and inclusion of references utilized for this review relied on the previously described search strategy in 4 different databases. We searched 4 different databases in order to limit the possibility of overlooking studies related to shoulder arthroplasty and return to work. Second, our data relied on the data reported in the included studies. Therefore, we are limited by the clarity of the results reported as well as the study design and level of evidence. As a result, we utilized the MINORS score to evaluate the quality of the 12 included studies and any potential publication bias. We found that the 12 studies were of acceptable quality and determined no findings suggestive of publication bias. Additionally, our data shows a high level of heterogeneity which may lead to treatment bias effect. Similarly, with regard to work intensity, our study is limited by what was reported and those studies may exclude important nuances that could have led to functional consequences. Furthermore, the heterogeneity of our data is reflective of the reality of clinical practice and often most accurately represents what orthopedic surgeons encounter in the clinical setting<sup>[67,68]</sup>. Despite these limitations, the findings in our study provide important data that help orthopedic surgeons manage patient expectations about return to work following TSA, rTSA, or HA.</p> <p>In the future, systematic reviews and analyses regarding shoulder arthroplasty and return to work will hopefully have access to references that are more homogenous with higher levels of evidence. Although the reality that a high level of heterogeneity may be inevitable in the clinical research setting, additional research should be conducted that compares short- and long-term outcomes following TSA, rTSA, and HA and a patients' ability to return to work. Furthermore, revision arthroplasty and ability to return to work may be a topic worth exploring as the average age of</p>

	patients undergoing shoulder replacement is decreasing."
<i>Reviewer #2</i>	---
The methodology used is not clear, although it is mentioned in the text it was carried out according to the PRISMA instructions. For example, the online search with the keywords used can not be reproduced. How many studies were initially evaluated and how many were excluded and why. The flow diagram will therefore need to be revised.	Thank you for bringing forth this point. When using the key words ("shoulder arthroplasty" OR "shoulder replacement" OR "shoulder hemiarthroplasty" OR "humeral resurfacing") AND "return to work" in our online search through the Pubmed, Scopus, Embase, and Cochrane Library databases, we were able to reproduce 23 references in our listed time frame. Additionally, we have revised the Materials and Methods section (see above) to better describe our search strategy, inclusion criteria, exclusion criteria, and overall methodology.
<i>Science editor</i>	---
The conception of such a study is commendable and indeed it will be of interest to many Orthopedic surgeons performing this type of operations and equally to many patients. However, authors should strictly follow the PRISMA 2020 statement and include a checklist to specify which parts of the checklist were fulfilled and at which part of the manuscript.	Dear science editor, thank you for your evaluation of this manuscript. We appreciate your time spent in review. Although this is a narrative systematic review that utilizes pooled analysis, we have included in our submission the PRISMA checklist with relevant portions filled out.
Also, the background section needs to be expanded and is too brief.	We greatly appreciate your comment. We have expanded our Introduction section to provide more background on this topic (see above).
The authors should write clearly the inclusion criteria. Formal quantitative or qualitative synthesis of the results collected from various studies was not performed-please comment.	Thank you for your critique. We have updated the Materials and Methods section to address this comment. As this manuscript was intended to be a narrative systematic review as opposed to a systematic review and meta-analysis, the standards of a meta-analysis (including stringent inclusion criteria and certain quantitative data) should not be applied. The major benefit of this manuscript is that it is a narrative systematic review that utilizes pooled analysis.
Finally, imitations of the article need to be mentioned in the discussion section, as well as future research directions.	Thank you for this feedback. As we mentioned above, we have included a discussion on limitations as well as future research directions in the Limitations and Future Research Directions section.
<i>Company editor-in-chief</i>	---
I have reviewed the Peer-Review Report, full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Orthopedics, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office's comments and the Criteria for Manuscript Revision by Authors. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor. In order to respect and protect the author's intellectual property rights and prevent others from misappropriating figures without the author's authorization or abusing figures without	Dear company editor-in-chief, thank you for taking the time to review our article.

indicating the source, we will indicate the author's copyright for figures originally generated by the author, and if the author has used a figure published elsewhere or that is copyrighted, the author needs to be authorized by the previous publisher or the copyright holder and/or indicate the reference source and copyrights. Please check and confirm whether the figures are original (i.e. generated de novo by the author(s) for this paper). If the picture is 'original', the author needs to add the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT): Copyright ©The Author(s) 2022. Authors are required to provide standard three-line tables, that is, only the top line, bottom line, and column line are displayed, while other table lines are hidden. The contents of each cell in the table should conform to the editing specifications, and the lines of each row or column of the table should be aligned. Do not use carriage returns or spaces to replace lines or vertical lines and do not segment cell content. Before final acceptance, when revising the manuscript, the author must supplement and improve the highlights of the latest cutting-edge research results, thereby further improving the content of the manuscript. To this end, authors are advised to apply a new tool, the RCA. RCA is an artificial intelligence technology-based open multidisciplinary citation analysis database. In it, upon obtaining search results from the keywords entered by the author, "Impact Index Per Article" under "Ranked by" should be selected to find the latest highlight articles, which can then be used to further improve an article under preparation/peer-review/revision. Please visit our RCA database for more information at: <https://www.referencecitationanalysis.com/>.