Manuscript Revisions Responses: **Outcomes After Arthroscopic Repair of Small to Large Rotator Cuff Tears in the Setting of Mild to Moderate Glenohumeral Osteoarthritis**

Reviewer 1: Thank you for your comments! We appreciate your feedback and hope our revisions to the manuscript are satisfactory.

-The authors attempt to determine the Outcomes After Arthroscopic Repair of Small to Large Rotator Cuff Tears in the Setting of Mild to Moderate Glenohumeral Osteoarthritis by comparing matched cohorts with and without GHOA. There is a paucity of literature regarding this topic and the 2 largest studies existing are contradictory. Limitations include the small number of patients and the heterogeneity of treatment within the operative group. The group certainly should be followed for mid-term outcome follow up (5yrs).

-Thank you. We agree, mid-term follow up (>5 years) would be ideal, however we feel with our data, meaningful conclusions can still be drawn.

- Line 6- spelling for similarly Lines 8-9 - change wording for flow Lines 11-12 - again, change wording for flow Introduction - lines 38-42 - The thought process driving this paragraph is understood, but it should be edited for flow 3 Key words. The key words reflect the focus of the manuscript.

-Thank you for catching these errors. Please see amended manuscript and associated lines for the changes.

- Line 91 - Figure 3c not present. Also these seem to be defined by restraction and not in antero-posterior dimension. This should be clarified in the text.

-Thank you. We have amended the text to include Figure 3c and clarified these images show retraction of the rotator cuff.

-The discussion is accurate and discusses the paper's scientific significance and relevance to clinical practice sufficiently. Lines 207-209 - How many had follow up longer than 2 years? Why include this comment? This could possibly expose a bit a statistical fragility in this study if there are only a handful of patients that wwre followed past 2 years, but 4 of them went on to get an arthroplasty (when only 2 total did within the 2 years).

-Excellent point. There were a total of 83 patients that had follow-up greater than 2 years, the rest were unable to be contacted via phone, email, or letter.

-Lines 227-228 - More of a reason not to include the comment on the patients followed up after 2 years until you have data on all at another future timepoint – say 5 yrs.

-Thank you. We have amended the manuscript (lines 227-228) to not include this specific detail until we have obtained more follow up data on these patients, as we can see how this can be a potential source of confusion for readers.

Reviewer 2: We thank you for your comments and feedback, and hope you find our revisions satisfactory.

- Which classification has been used to classify grade of GHOA? Did authors include all grades of OA? That need to be specified in detail.

-Thank you. We used the Samilson-Priesto score to classify the grade of GHOA for our patients.

- Although this is the presumption of authors as per their wish, but I disagree that this should be the primary outcome variable at all. In my entire career, there has never been a case where we had to convert a RCR case with GHAO to TSR/RTSR within an year or two as cases selection for RCR is always different! The RC tear with GHOA are usually milder types of GHOA, which do well for at least a decade. So, if authors would have followed their cases up for 10 years, I would have agreed with the conversion to TSR/RTSR..
Yes, what may be different is patient reported outcome in terms of pain, and other scores, which might be inferior if there is associated GHOA!

-Thank you. We agree in that our follow-up may not be long enough to truly capture these patients. We intend to continue to follow these patients in the future, and ascertain more data pertaining to conversion to TSA/rTSA. We have also amended our limitations section, to include this limitation (lines 220-222).

-Score/classification?

-Correct, the Samilson-Priesto Classification. Amended wording line 86.

- Which plane, which classification?

-Based on DeOrio and Cofield classification of small (<1cm) medium (1-3cm) and massive (<5cm). Coronal oblique MRI images were used. Please see lines 90-94 for amended wording and clarification.

- Can authors mention mean follow up in both groups along with range for better understanding?

-The mean follow-up for both groups was 12.45 months, with a range from [0-104 months] for the GHOA group, and a range of [0-94 months] in the Non-GHOA group.

- It is better that authors mention duration.. i.e. short term/midterm according to their conclusion.

-Thank you. Please see amended “short-term follow up” in line 158.

- Not sure what size of tear may have to do with progression of GHOA as that was not part of hypothesis

-Thank you. As this was not explicitly stated in our methods, we have amended the manuscript to not include this finding. Retracted from lines 162.

- 2 years is Misleading!
Authors can mention mean follow up! Or else, authors can mention 'in short term follow up'

-Thank you. Please see lines 192-193 for amended wording to include “short term to medium term follow-up”.

- Can authors discuss the reason for conversion to arthroplasty in these cases, when there was no GHOA?

-The indication for this patient to undergo conversion to arthroplasty was rotator cuff arthropathy as was defined in their chart upon review. Please see amended line 143-147.

Editorial Office Comments:

Science Editor:

-Please elaborate which classification has been used to classify grades of GHOA, whether include all grades of OA; please explain why GHAO's RCR cases must be converted to TSR/RTSR cases within a or two years, as RCR's case selection is always different.

-Thank you. We chose to include the Samilson-Priesto classification for GHOA grading. The grades used per the classification were grade 1 (mild or < 3mm) and grade 2 (moderate or 3mm-7mm). The Goutallier classification was used for classifying the varying degrees of rotator cuff fatty infiltration. Grade 0 (normal muscle), Grade 1 (some fatty streakers) and Grade 2 (<50% fatty muscle atrophy) were used. The patient without GHOA that underwent RTSR within 2 years, developed rotator cuff arthropathy and the decision was made to undergo RTSR. Please see amended lines 143-147 for updated information regarding the conversion to RTSR for the 3 patients within 2 years.

-Figure 3c mentioned in the main text is not included at the end of the manuscript.

-Thank you. We have amended the manuscript to include this figure at the end of the manuscript.

Company editor-in-chief:

-I have reviewed the Peer-Review Report, the 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. Before final acceptance, uniform presentation should be used for figures showing the same or similar contents; for example, “Figure 1 Pathological changes of atrophic gastritis after treatment. A: ...; B: ...; C: ...; D: ...; E: ...; F: ...; G: ...”. The title of the manuscript is too long and must be shortened to meet the requirement of the journal (Title: The title should be no more than 18 words). 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 indicating the source, we will indicate the author's copyright for figures originally generated by the author, and if the author has used a

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-Thank you! We have amended the title to: **Outcomes After Arthroscopic Repair of Rotator Cuff Tears in the Setting of Mild to Moderate Glenohumeral Osteoarthritis.**

-We have additionally attached a PowerPoint slide for each figure displayed in the manuscript with the Copyright information on each figure as well.