December 12, 2023

Re: "Mid-Term Outcomes of a Kinematically Designed Cruciate Retaining Total Knee Arthroplasty", Manuscript ID: 88887

Dear Editors of the *World Journal of Orthopedics*,

We would like to express our gratitude for your review of our manuscript, titled "Mid-Term Outcomes of a Kinematically Designed Cruciate Retaining Total Knee Arthroplasty," submitted for publication in your journal. We have made an earnest attempt to address the valuable comments provided by the reviewer. Please see below our response to each comment. We have also submitted the revised manuscript which includes changes highlighted in yellow that address the reviewer's comments, as well as spelling and grammatical corrections. We truly appreciate the time and thoughtful insights that have been contributed to enhance the quality of our work.

Reviewer comment #1: The study aimed to assess both short- and mid-term clinical outcomes and patient reported outcome measures (PROMs) of a kinematically designed Cruciate Retaining (CR) Total Knee Arthroplasty design.

Response: Thank you for reviewing our project. We deeply appreciate the reviewer's feedback and insightful suggestions.

Reviewer comment #2: Although the study is well written and easy to understand, there are some minor mistakes, which will require proof reading.

Response: Thank you for this suggestion. We meticulously reviewed the manuscript for minor mistakes and spelling/grammar errors. We also made some changes to improve readability. All edited text is highlighted in yellow in the attached revised manuscript.

Reviewer comment #3: The design of the study and the main goal are not innovative.

Response: The study utilized a well-established design to analyze short-term postoperative outcomes as well as midterm survivorship. While the design of the study is

well-established, the CR TKA implant analyzed is a novel, new device that has been introduced within the past decade and with little available published data on outcomes. Thus, this study will greatly assist surgeons who wish to make better-informed risk assessment when selecting this novel implant for their patients. As a result, this study is truly clinically relevant and innovative in the field of total joint arthroplasty. Every novel implant should be evaluated and early and mid-term reports should be published in order to single out low performing implants and limit the effect on the public.

Reviewer comment #4: Moreover, there are no comparative results to other Total Knee Arthroplasty surgeries.

Response: Thank you for highlighting this point. Of note the purpose of this study was only to report on outcomes and survivorship of this novel implant, not to provide a comparative analysis between this cohort and another group. While outcomes of knee arthroplasties utilizing various other implant designs have been reported on extensively in the literature, data on this novel and increasingly utilized implant are lacking. Therefore, this study's main purpose was to report on outcomes of this specific implant.

Reviewer comment #5: Despite being mainly a descriptive study, the authors should have mentioned the statistical analysis in the procedure.

Response: Thank you for this suggestion. I have updated the methods section to include more information on data collection, patient-reported outcome measures, and statistical analysis. Regarding statistical analysis specifically please see the following paragraph that was inserted at the end of the methods sections:

"*Data Analysis*

Averages and ranges or standard deviations were computed for all interval and ratio values including age, BMI, CCI, LOS, operative time, and PROMs. Percentages were computed for all nominal and ordinal variables including sex, race, smoking status, ASA score, insurance

status, discharge disposition, ED visit rate, readmission rate, and revision rate. The significance of improvements in mean PROMs scores from preoperative scores to scores collected at six months and two years postoperatively was analyzed using Independent Samples t-tests. Statistical analysis was done using Microsoft Excel software (Microsoft Corporation, Richmond, WA) and IBM SPSS Statistics (Version 28; IBM Corporation, Armonk, NY). *P*-values less than 0.05 were considered statistically significant."

Reviewer comment #6: In relation to the results, it is obvious that there would be improvements after 2 or 6 months post-surgery. Therefore, the results were predictable.

Response: We appreciate the reviewers concern in this manner. Unfortunately, it is not true that every surgery and implant design exhibits positive postoperative outcomes and measurable improvement in patient-reported functional and pain scores. Therefore, the results are not necessarily obvious. In addition to showing the significance of improvements in pain and functional scores, this study also reports on the magnitude of these improvements at various time intervals. The magnitude of the improvement in functional and pain scores at various time points is of clinical importance as it can help surgeons with implant selection and allow surgeons to better inform patients on expected post-operative recovery timelines. In addition to patient-reported outcomes, this study also provides insight into clinical outcomes after total knee arthroplasty using this novel implant. Clinical outcome measures analyzed include length of hospital stay, discharge disposition, 90-day emergency department visits, 90-day hospital readmissions, and revision surgeries. Therefore, this study provides numerous outcomes of interest for total knee arthroplasty utilizing this novel implant design. We think it is important to have early and midterm reports of novel implants in order to catch early failures and limit usage of failing implants.

Thank you for your careful consideration of this manuscript. The reviewer's feedback has played a vital role in elevating the quality of our work. We hope that you will find the revised

manuscript to be in line with your publication standards and consider it for inclusion in your esteemed journal.

Sincerely,

The Authors