**Author’s response to reviews**

**Title:** Perceptions of using lithium in fracture management: A survey of orthopaedic surgeons, fracture patients and the general public

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**Author’s response to reviews:**

**Methods**

1. Please state how the participants (patients and surgeons) were actually approached. Was this a convenience sample or more purposively. This is not reported.

This study did not utilize convenience sampling. All patients who presented with fracture injuries at Sunnybrook Health Sciences Centre and who were eligible for LiFT (Lithium for Fracture Treatment) trial were asked by the clinical research team to complete the survey. This has been explained in the Methods section lines 94-99 on page 6 as below:

“All patients who were admitted to our level 1 trauma centre between May 2017 and September 2018, had a long bone fracture, and met the inclusion/exclusion criteria (18-55 years of age, otherwise healthy, injury ≤14 days old) to participate in the LiFT trial were asked to complete the questionnaire. Those who declined to participate in the trial completed the questionnaire during their regularly scheduled visit to the fracture clinic (within 2 weeks of injury), while those who participated in the trial completed the questionnaire at their last follow-up visit (between 4 and 6 months post injury).”

The sentences describing the surgeon recruitment process has been revised as below (Methods, lines 107-110, page 6):

“A paper-based questionnaire was distributed at an orthopaedic trauma meeting in October 2017 and additional survey was conducted by disseminating the electronic version of the questionnaire
from January to May 2018. Participants were practicing Canadian orthopaedic surgeons and participation was voluntary. The two surveys were mutually exclusive.”

2. There is no data analysis methods. This needs reporting.

The following sentences has been added (Methods, lines 80-82, page 5):

“Data has been reported as percentages of the respective group size. Given the exploratory nature of this study, qualitative analysis was performed to identify trends in knowledge and opinions about lithium and its adoption in orthopaedics.”

3. Could the authors think of a more creative methods of presenting the data. For instance, could a stack graph or something similar be used to report the findings? Please consider visual representation of the data.

Figure 1 has been added to graphically present the number of people willing to consider taking a medication (including lithium) for fracture healing in the general population survey. This figure presents a key finding of this study, that is, the decline in willingness to take a medication that also has a psychiatric indication.

4. Given the sample size of the patient and surgeon participants, I think a more cautious and conservative interpretation would be appropriate.

The small sample size for patient and surgeon surveys has been mentioned as a limitation of this study (Discussion, lines 248-253, page 12) as below.

“Firstly, the group sizes for patient and surgeon surveys were small. While the volume of trauma patients with fractures received at the site hospital was considerable, only a small proportion of these patients were eligible for the LiFT trial, and hence for the survey due to the strict inclusion and exclusion criteria intended for a more homogenous healthy patient cohort. For the surgeon survey, the low recruitment was attributed to the voluntary nature of their participation.”

The following sentences have been revised as below to present the results more conservatively:

Discussion section, lines 192-195, page 10: “Knowledge about lithium may be limited in the general public, fracture patients, and orthopaedic surgeons, which impact their openness to
consider its use in the context of fracture healing. Yet, there is a clear desire for new therapies to improve fracture healing.”

Discussion section, lines 296-197, page 10: “Improving fracture healing through therapeutics was seen as acceptable by the majority (84%) of the general population.”

Discussion section, lines 224-225, page 11: “There is a lack of knowledge about lithium in the orthopaedic surgeon community, despite most respondents knowing of its use in psychiatric medicine (88%).”

Abstract

5. Your abstract should include the following headings: Background, Methods, Results, Conclusions, and should be no longer than 350 words. Please also include a keywords section, which should three to ten keywords.

Background: the context and purpose of the study

Methods: how the study was performed and statistical tests used

Results: the main findings

Conclusions: brief summary and potential implications

Please ensure you apply this format to the abstract in the main text and the submission system also.

The above mentioned titles have been added to the abstract and the word count with the titles is 349. These changes have also been included in the submission system.

Title page
6. We noticed that the corresponding author information provided on your title page is different to the one you indicated in the editorial submission. Please amend one so that they match.

The corresponding author has been changed on the editorial submission site to match the title page. Dr. Diane Nam is the corresponding author.

Declarations

7. The Declarations section should be ordered in the following way:

Ethics approval and consent to participate
Consent for publication
Availability of data and material
Competing interests
Funding
Authors' contributions
Acknowledgements

Please move your consent statement into the ethics approval and consent to participate section and include a separate consent for publication section which can be "Not applicable" in the case of your manuscript.

The consent statement has been moved to the “Ethics approval and consent to participate” section and included a “Consent for publication” section which states “Not applicable”.

Funding

8. In the Funding section, please also describe the role of the funding body in the design of the study and collection, analysis, and interpretation of data and in writing the manuscript.

The Funding section has been revised as below (lines 284-285, page 13):

“The data collection in this study was supported by the Canadian Institutes of Health Research Project Scheme (#365416) which funded the Lithium for Fracture Treatment trial.”
Clean manuscript

9. At this stage, please upload your manuscript as a single, final, clean version that does not contain any tracked changes, comments, highlights, strikethroughs or text in different colours. All relevant tables/figures/additional files should also be clean versions. Figures (and additional files) should remain uploaded as separate files. Please ensure that all figures, tables and additional/supplementary files are cited within the text.

Final, clean manuscript has been uploaded as suggested above.