Reviewer’s report

**Title:** Proximal Radius Fracture Morphology Following Axial Force Impact: A Biomechanical Evaluation of Fracture Patterns

**Version:** 2  **Date:** 07 Dec 2018  
**Reviewer:** Reviewer 2

**Reviewer’s report:**

**PEER REVIEWER ASSESSMENTS:**

**OBJECTIVE** - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?

No - there are minor issues

**DESIGN** - Is the current approach (including controls and analysis protocols) appropriate for the objective?

No - there are major issues

**EXECUTION** - Are the experiments and analyses performed with technical rigor to allow confidence in the results?

No - there are major issues

Statistics - Is the use of statistics in the manuscript appropriate?

Yes - appropriate statistical analyses have been used in the study

**INTERPRETATION** - Is the current interpretation/discussion of the results reasonable and not overstated?

No - there are minor issues

**OVERALL MANUSCRIPT POTENTIAL** - Is the current version of this work technically sound? If not, can revisions be made to make the work technically sound?

Maybe - with major revisions
PEER REVIEWER COMMENTS:

GENERAL COMMENTS: interesting and novel study, but the methodology was rather problematic in terms of loading application and clinical relevance.

REQUESTED REVISIONS:

Per comments

ADDITIONAL REQUESTS/SUGGESTIONS:

The authors should finalize their manuscript. Some markups were not finalized.

Introduction

Well presented. Please describe in more details the two theories for the fracture pattern, i.e. bone density and position of the forearm with literature examples.

Line 95. Problem that all were males.

Line 97. Even though soft tissues may be necessary to be removed the muscle action and load are important for the mechanism of injury and load transmitted via the radial head.

Line 107-109. The force transmission via the spherical head from a hip prosthesis is entirely non-anatomic and cannot correspond to any clinically relevant scenario.

Line 109-110. How was this ensured? Provide details

Line 111. the rate of compressive loading is extremely low and does not correspond to a trauma scenario.

Line 120. Perform and present a proper power analysis

Results

Ok

Discussion

Try to explain your findings and discuss the literature and limitations more
Line 168-172. You did not test rotational forces and you did not test bone d

Note: This reviewer report can be downloaded - see attached pdf file.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

No

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

No

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

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No