Reviewer's report

Title: Development and Validation of a Prediction Model for Knee Joint Line Orientation after High Tibial Osteotomy

Version: 0 Date: 07 Mar 2019

Reviewer: Ken Kumagai

Reviewer's report:

The manuscript entitled: "Development and Validation of a Prediction Model for Knee Joint Line Orientation after High Tibial Osteotomy" focused on the relationship between preoperative anatomical alignment parameters and postoperative knee joint line orientation. The study has interesting viewpoint to answer the current clinical questions. However, I cannot agree to be published in the current format. There are some significant issues that should be addressed as listed below.

#1. The authors carried out radiographic measurements using 14 parameters. (P5, L14- ) Are these parameters commonly recognized? If so, please cite the references.

#2. 'Accurate preoperative planning is mandatory in the success of HTO.' (P9, L13) Even if accurate bony correction can be achieved, discrepancy between preoperative planning and postoperative alignment may occur due to change of soft tissue balance. Can alteration of soft tissue balance be preoperatively predicted by radiographic parameters?

#3. 'One notable fact in our equation is that aimed correction angle is the only factor that can be controlled by the surgeon' (P9, L54-57) How can the correction angle be controlled by surgeon?

#4. The authors described that the aimed mechanical axis was the weight bearing line passing 62.5% of the width of the tibial plateau. (P4, L39-44) However, in the discussion, the authors described '….. or consider reducing the amount of correction.' (P10, L42) What amount of correction can be reduced to keep acceptable lower limb alignment? Could the postoperative weight bearing line be achieved just as preoperative planning?
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

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

Unable to assess

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

Yes

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

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