Reviewer’s report

Title: The effect of necrotic lesion size and orientation of femoral component on stress alteration of proximal femur in hip resurfacing- a finite element simulation

Version: 1 Date: 9 May 2014

Reviewer: Kang Li

Reviewer’s report:

Major Compulsory Revisions

General Comments:
This study investigated how necrotic lesion size and orientation of femoral component affect stress alteration of proximal femur after hip resurfacing through finite element analysis. Although this study is potentially valuable, the manuscript was poorly written. Grammatical errors and typos can be found throughout the manuscript. In addition, validation and verification of the FE models were weak.

Introduction
1. Page 4, paragraph 2, “ ...The natural history of the disease is usually progressive, often leads to collapse of the femoral head and... ”
2. Page 4, paragraph 2, which includes a reduction of risk of dislocation due to the lager femoral head, lower wear of metal-on-metal interface and the bone-conserving”. What is “lager”?
3. Page 4, paragraph 2, “Although promising results have been reported in some short-term follow-up studies [1-2], however”. Please correct all the grammatical errors of the manuscript.

Methods
1. Page 5, paragraph 1 “Commercially available synthetic femur ” should be “A commercially available synthetic femur”.
2. Page 7, paragraph 2, the validation process has not been described in detail. It the reviewer was wondering why the project was only comparing the displacements at the inferior aspect of the femoral heads. Is this displacement a vertical displacement or a horizontal displacement?
3. No description about the data analysis.

Results
1. Will the type of element node affect the stress value?

Figure 2
1. Page 15, the caption of Figure 2 is missing the information for (b)

Level of interest: An article of limited interest
Quality of written English: Not suitable for publication unless extensively edited

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests