Reviewer's report

Title: Influence of bi- and tri-compartmental knee arthroplasty on the kinematics of the knee joint

Version: 2 Date: 8 November 2010

Reviewer: Jose C Alcerro

Reviewer's report:

I believe the investigation is well conceived although I do have some concerns:

Major Compulsory Revision

There are certain statements provided throughout the manuscript that need to be revised. I will try to point out the location even though it might be difficult considering there is no line numbering for precise referencing.

In the results of the abstract the authors mention "TKA and BKA+ were similar in translation compared to the intact knee". I dont think this statement is appropriate and could lead to misinformation considering that with no ACL the greatest differences in translation would be more evident in full extension, which was not evaluated in this study.

In the background the authors mention "UKA has been reported with excellent results comparable to those of TKA in longitudinal studies". I believe this statement should be revised considering there is certainly many articles published that show high revision rates for unicompartmental knee compared to TKA. As a reference example a recent article published in 2010 (Clin Orthop Relat Res (2010) 468:64–72) by Parratte demonstrated a revision rate at about 15 years of almost 50%.

Through out the manuscript when the authors compare translational and rotational knee joint kiniematics amongst the native knee and other designs it is important to not mislead the reader and mention the degrees at which the evaluations were performed (30-90). The term "similar" as a comparison between two devices, specifically when it comes to TKA, shouldnt be used. As mentioned previously the greatest translation has been seen in full extension, data that wasnt evaluated in this investigation.

Minor Essential Revisions

I suggest that to better observe and follow the purpose of the study the authors should focus on following a structured design. After stating the objectives (1,2, and 3), the description of the results and discussion should follow the same pattern and address the stated objectives in that same order.

Level of interest: An article of importance in its field
Quality of written English: Acceptable

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