Reviewer's report

Title: Anteroposterior glide versus rotating platform low contact stress (LCS) knee arthroplasty: a randomised controlled trial

Version: Date: 3 23 May 2007

Reviewer: Ching-Chuan Jiang

Reviewer's report:

General

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The protocol will be better if following issues can be addressed.

Please add single blind and single site study to the protocol. Single blind means patients are blinding about the operation procedure. Single site study means generalization of the results to other institutes should be cautious.

Although the estimated sample size is correct according to the power analysis. I’m afraid a sample size of 22 for each arm is too small in terms of statistical power. Theoretically, statistical significance can be achieved with a small sample size if the effect size is big. For an equivalent study like in the present protocol, there should be a larger sample size to ensure an enough power for the negative results. Actually, though a 20° difference of ROM in TKR operation may be small in a clinical point of view, it can be significant in other points of view, especially for the operation procedures with a standard deviation of only 20°. For instance, an increase of 20° ROM may be very helpful in climbing stairs. It would be more convincing to say these two operations are not significant different if the sample size could be larger.

The FASTRAK system for measurement of ROM is accurate, but the authors had better describe in more detail about how to measure it. For example, it should be more specified that active ROM or passive ROM is to be measured. The difference between active ROM and passive ROM can be up to 20°. Blinding of the evaluator is important.

This is an ITT analysis, but the authors do not describe how the patients who drop out prematurely are evaluated at the final analyses.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

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