Reviewer's report

Title: Association between knee alignment and knee pain in patients surgically treated for medial knee osteoarthritis by high tibial osteotomy A one year follow-up study

Version: 3 Date: 29 July 2009

Reviewer: Andrew Teichtahl

Reviewer's report:

Many thanks for asking me to review this manuscript.

This investigation aimed to determine the association between pre-operative knee alignment and pre-operative knee pain, as well as the association between change in these aforementioned variables after a high-tibial osteotomy.

The authors conclude no association between pre-operative alignment and pain, or change in these parameters post-operatively. They therefore infer that knee pain and alignment are separate entities. Moreover, the degree of preoperative malalignment is not a predictor of knee pain post high tibial osteotomy.

General comments
This is a study that is well presented up until the discussion. I feel the discussion is cursory and severely detracts from the overall quality of this manuscript. This area needs major revision.

Background
Clear. Need to space out paragraph 1 and 2.

Methods
1. Why include an assessment of the patellofemoral joint when it is not an outcome in this study?

Results
1. What should the audience make of a pre-operative KOOS of 42? Is this rather low for a cohort of people undergoing operative intervention?
2. Is a mean change of 13 degrees, in surgical terms, considered a successful outcome? I presume because most knees achieved 4 degrees valgus, this is considered a surgical success?
3. Why, logically, would pre-operative knee pain be associated with change in knee angle post-operatively? I do not understand the rationale for considering this question
4. Can you provide evidence that there was a significant improvement in knee pain from the procedure, independent of angle? This could strengthen your conclusion that it is not necessarily change in angle that is associated with
change in pain. Such data helps to still justify the short-term utility of HTO.

Discussion.
1. Opening paragraph – the last two sentences are clumsy. A better use of this space would be to justify the importance of this study’s findings to potential clinical utility, or in the case of this study, to even disperse certain myths that it is the change in knee angle which may mediate the reduction in pain seen post-operatively from HTO.
2. The second paragraph is out of place and perhaps redundant. It could be incorporated elsewhere, but in its current form, needs to be removed.
3. The third paragraph’s agenda strays away from the aim of the study. I do not understand why the authors have chosen to write their discussion in a disjointed fashion.
4. Paragraph 4 is cursory. This needs to be thoroughly expanded upon.
5. Paragraph 5. Again disjointed.

Xray figures are of poor quality when I view them. Can these be improved?

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**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