Reviewer's report

Title: Temporary clamping of drains combined with tranexamic acid reduce blood loss after total knee arthroplasty: A Prospective Randomized Controlled Trial.

Version: 3 Date: 29 April 2012

Reviewer: Matthijs Krijnen

Reviewer's report:

Most revisions are minor, however together it leads to a major revision:

page 1 Background
An essential error in the English language has been made in the abstract
"we investigated the efficacy of clamping temporarily the drain with tranexamic acid to control bleeding" means that tranexamic acid has been used to clamp the drain. I think it should be: We investigated the efficacy of clamping the drain either or not in combination with the use of tranexamic acid to control bleeding.

page 2 No difference was found between B and C. Please only state significant differences in the abstract.

Page 9-10 Methods
Why did you use your present in and exclusion criteria. What were they based upon?
Why did you use a block design (which is inferior to a randomization by a computer) and how was the randomization executed, this is not clear. It was done by a second year resident, please elaborate.
Please state who was blinded for what. Clamping cannot be blind to the patient or the nurse that notes the blood loss. The ward doctor who orders the

Please (page 10) clarify the paragraph in which the medication regime is explained. It is very unclear. My suggestion would be to incorporate this paragraph (Six ampoules etc) into the groups explained in the next paragraph.

Page 11
To my knowledge the indication for transfusion is not only based upon the haemaglobin level but also on the comorbidity and clinical presentation of the patient. This doesn't seem to be reflected in this research. Is that correct? And what what is the reason to choose this transfusion regime?

Page 12
The my humble opinion the use of a tourniquet is not a standardized procedure (anymore) because there is evidence that the use of a tourniquet does not influence the total amount of bloodloss and has a negative influence on post operative pain.
Is the intra-articular drain a foley catheter? Please use one term not both, if so, to avoid confusion.

Why is the total amount of blood loss measures 48 hours after surgery of the drain was already removed on the first day after surgery. Was a standard protocol used to remove the drain, or at least determine the time of removal?

Why is patient satisfaction or at least VAS scores not measured. I can imagine that a clamped drain can reduce blood loss but also can cause a very painful joint which can lead to a slower rehabilitation and maybe an inferior result.

Page 13
"there were no significant differences between them in regards to the data presented"

Did you only present data which was not significantly different? Or did you find no significant differences between the four groups in respect to age, gender, time of surgery and preop hemaglobin level.

Page 17 Discussion
Jones Blandage should be Bandage

In the discussion is confusing.

Several different methods of clamping are discussed however it becomes not clear why the presented clamping strategy is chosen. This is similar for the use of tranexamic acid. Moreover both the clamping and the use of tranexamic acid have already been proven to be effective in reducing post operative blood loss. This raises the question what the additional value is of the presented research. This should be discussed and the answer to this question should be clearly mentioned.

Following this section again all results are mentioned. The discussion section should be used to compare and discuss the results which are stated in the result section in relation to the published evidence. This is a very important feature of the discussion which is unfortunately lacking. The authors mention a lot of publications but refrain from the discussion why differences or similarities occur between their results and the published evidence.

Is an ANOVA sufficient for all statistics?

It is an interesting study which should be clarified more and discussed better.

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

**Quality of written English:** Needs some language corrections before being published
**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

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