Author's response to reviews

Title: Factors affecting aseptic loosening of 4750 total hip arthroplasties: multivariate survival analysis.

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Version: 3 Date: 5 June 2007

Author's response to reviews:

Dear Sir,

I wish to thank again you and the reviewers for the attention and for the professional help you are giving us.

Please find our answers to points raised mainly by Dr. Roddam, one of the two reviewers:

Reviewer's report

Title:
Factors affecting aseptic loosening of 4750 total hip arthroplasties: multivariate survival analysis.

Version: 2 Date: 2 May 2007
Reviewer: Andrew Roddam

Reviewer's report:

General

This revised manuscript is much improved from the first version but I still have some relatively minor comments/suggestions.

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

1. With regard to the response to the comments of the other referee and to satisfy some issues that I have with the analysis it is important that the authors present some information on the relationship between type of stem/cup used and possible indications for use - such as age, hip score, surgeon experience etc. The arguments presented that the Cox model controls for all of these inter-relationships are not true - if it were the case that there were strong correlations between the various explanatory variables then parameter estimates could be biased. I would suggest that the authors include either as a table or in the text a summary of the other confounding variables by type of cup and stem implanted (similar to table 1 but split by type of implant).

Table 1 was revised on the basis of the suggestion and a sentence was added in the discussion to clarify
2. In a number of the analyses the chosen reference group for comparison is often that with very low numbers of cases and controls making it somewhat unstable for the comparisons - see for example age and type of cup. For these two groups I would strongly suggest choosing a different reference group (40-69 for age and press fit for type of cup).

Analysis was repeated following the suggestion and the results are presented in the revised Tables 4 and 5 Statistical significance remains unchanged.

3. As very few people have a Charnley's hip score Class C I would suggest merging Class B and Class C and form a single group.

Done

4. The authors present some results a p-trend when it is very unclear why a trend would be appropriate. For example for type of cup are the authors looking for a trend with cost? In this case it would be more statistically reliable to quote an overall p-heterogeneity which would say whether or not including the relevant variable into the model improved model fit.

P trend was added to clarify the Tables. As we failed in this, p-trend has been removed from Tables 4 and 5.

5. The authors might consider the use of floated confidence intervals particularly for the effects of type of cup and type of stem. Such an analysis/presentation would allow the authors the ability to directly compare any two types and be able to say for example that press fit polythene was (or was not) different from press fit ceramic.

Floated confidence intervals were not calculated as the Authors are aware of limits of the method outlined by Arbogast in his paper (Patrick G. Arbogast. Performance of floating absolute risks. Am J Epidemiol. 2005 Sep 1;162(5):487-90).

6. Although the authors have added a sentence explaining about those patients who suffered both a cup and stem failure simultaneously they have not been treated any differently in the analysis. I would have thought that they would represent a group of patients for whom a separate analysis/description would be merited in the text as they might have characteristics different from those patients who suffer just a stem or a cup failure?

Aim of our paper is to separately assess the risk factor affecting survivorship of cups and of stems. They have been deliberately treated as separated entities. All analyses have been performed considering separately cup and stem without taking in account the articulating components. Too many classes would have been obtained if we had chosen that hypothesis and number of cases would not have allowed us stable comparisons.

That is why we decided to analyse the single component, and not the prosthesis. Anyway, referee suggestion was accepted and it has been verified that variables entering Cox models are not significantly different in the two groups.
A sentence was added in the text to explain this concept.

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

1. In the tables can the authors state what the adjusted column is adjusted for - i.e. mutually adjusted for all variables.

DONE

Discretionary Revisions (which the author can choose to ignore)

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: 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'

Here are the answers to the other reviewer:

Reviewer's report

Factors affecting aseptic loosening of 4750 total hip arthroplasties: multivariate survival analysis. Title:

Version:2 Date 3 May 2007

Reviewer: Richie Gill

Reviewer's report:

General

The revision has addressed the main concerns I had with the original manuscript, I still think the abstract could be made clearer, but that is a language issue. There are other small language issues that still need to be addressed.
in the abstract last paragraph:
a lower cost prosthesis is associate with a higher risk

DONE

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

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:

My institution has received research funding from DuPuy, Stryker and Zimmer; products of these companies are included in the reviewed work.