Reviewer's report

Title: Alterations in the vimentin cytoskeleton in response to single impact load in an in vitro model of cartilage damage in the rat

Version: 2 Date: 5 January 2008

Reviewer: Andrew C Hall

Reviewer's report:

MS: 8286696191469344
Alterations in the vimentin cytoskeleton in response to single impact load in an in vitro model of cartilage damage in the rat
Frances M D Henson and Thea A Vincent
BMC Musculoskeletal Disorders

While there has been some improvement in this m/s there are still some issues which do not seem to have been adequately resolved. I would urge the authors to consider the points below and amend the m/s accordingly. My view is that these are major essential points, but it should be relatively straightforward to make the changes required.

1. The authors state (p. 2 para 1) that a key reason for developing this model is because of difficulties with equine cartilage. However the rat model contains thin cartilage and a growth plate (GP) whereas the equine cartilage is thick and presumably does not have a GP. Clearly, the mechanical sensitivity of the rat cartilage to SIL might well be quite different from equine cartilage and therefore comment on these limitations of the rat model should be addressed head on and described.

2. I am still puzzled by the assessment of vimentin labelling. The authors state that "this study was a description of the distribution of vimentin not a quantitative study of the amount of vimentin." Despite this the authors have performed a statistical analysis of the results. Is this justified? Again I feel that the authors should be open and straightforward about this and describe the limitations and difficulties of making these measurements. It is stated in the abstract that SIL caused vimentin disassembly but there is no comment on whether this was statistically significant. My reading of the text was that this was not significant but the authors are trying to argue that there is a trend. Again it would be helpful if the position was stated clearly.

3. Titles for axes are still missing from Figs 2 & 3.

4. page 8 last para Proteoglycan loss. There is no information in the text as to where these data are to be found.

There are still typographical errors (e.g. Abstract, para 4 should be
â##disassemblyâ##), and in the references (e.g. #24, #34). The m/s should be checked thoroughly.

**What next?:** Accept after minor essential 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, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests.