Reviewer's report

**Title:** Redistribution of joint moments is associated with changed plantar pressure in diabetic polyneuropathy

**Version:** 2 **Date:** 27 February 2008

**Reviewer:** Dieter Rosenbaum

**Reviewer's report:**

Major Compulsory Revisions:
The paper has been revised but some issues have not been addressed to my full agreement.

The statistical treatment with parametric tests, i.e. ANOVA, is not well justified by stating that non-parametric tests are too weak or less powerful. This rather underlines that the authors "artificially" try to strengthen their statistics by using inappropriate tests. I find this non-acceptable.

Minor Essential and Discretionary Revisions:
- The authors clarified that one test for maximum strength was carried out in each of the 25 knee/ankle angle position. Did they ever check the reproducibility if only one trial was used?
- Please change "sensibility" to "sensitivity" in the whole manuscript! (e.g. page 9, 11, 15).
- If only one camera was used for the sagittal plane analyses, the issue of errors should be discussed. This is not related to the accuracy of the system but rather to potential errors in 2-D motion analysis with out-of-plane motions.
- I am surprised to read that the gluteus maximus was used as a muscle for detection of stride time. From my experience, the gluteus medius is not highly active in gait but the gluteus medius is a muscle that show a distinct pattern as it stabilizes the pelvis is single leg stance. Please comment.
- The reason for the threshold of 300 N has been explained but this explanation is not very satisfactory. If the GRF vector is inaccurate up to 300 N (more than one third of a normal person's body weight!) then I don't understand how it become accurate above this threshold and how reliable the whole approach is. This does not sound very trustworthy.
- With respect to the CoP data which is not shown: I still find it strange to read about results without seeing them in some way or another. The figure is not necessary but the authors might want to consider whether they could add a short table with the relevant figures. From my point of view, this is highly interesting for the reader or even important as the authors later discuss the differences in the roll-over process ("faster forward transfer of the center of pressure").
- With respect to the spatial resolution: I am also concerned about the spatial
resolution of the platform. The authors refer to Cavanagh et al (1994) for justification but there is a more recent paper by Davis et al (J Biomech 1996) that states a minimal requirement of 2.5 sensors/sq.cm especially for investigations in diabetic feet.

âªPage 5: There is still something missing: perception threshold >25 V determined Please add was

âªPage 6: marker position not marker positioned

âªPage 12: retarded nerve function might be better expressed as loss of nerve function

âªFigure 6: Thank you for adding this figure. However, I would prefer the use of SI units, i.e. pressure values in kPa.

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

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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