Reviewer’s report

Title: Are cervical multifidus muscles active during whiplash and startle? An initial experimental study.

Version: 4 Date: 11 April 2008

Reviewer: Paul Ivancic

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The average EMG amplitudes (% MVC) are less at the C6 level, as compared to C4, for both sled perturbation and startle. These differences are quite large (40% at C6 vs 137% at C4 for sled perturbation; 57% at C6 vs 136% at C4 for startle). Peak capsular ligament strains during simulated whiplash are generally larger at the lower cervical spine, as compared to middle. It would be expected that dynamic neck loads during whiplash would be largest at the lower cervical spine. Please comment in the discussion as to why lower EMG amplitudes were observed at C6, as compared to C4. Does this result indicate that multifidus loads may potentially contribute to injurious capsular ligament strains at the middle cervical spine, but not at the lower neck?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

1. I also conduct whiplash biomechanics research.
2. I know two of the authors of this manuscript.