Reviewer's report

Title: The relative timing of VMO and VL in anterior knee pain: a systematic review and meta-analysis.

Version: 1 Date: 17 July 2007

Reviewer: lee herrington

Reviewer's report:

General

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

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

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Discretionary Revisions (which the author can choose to ignore)

The relative timing of VMO and VL in anterior knee pain: systematic review and meta-analysis
R. Chester, T Smith, D Sweeting, J Dixon, S Wood, F Song
The authors attempted to undertake a systematic review of the literature relating to relative timing of individual Vasti of the quadriceps in patients with anterior knee pain. In undertaking this study they clearly defined the problem. The study was well attempted using an established method for the systematic review of the literature. The methods used for collecting, scoring and reporting the literature were appropriate and well described
With regard to the method, I feel the authors should consider their use of mean difference when comparing controls to symptomatic individuals muscle activation timing, though an appropriate tool, the significance of its use needs clearly explaining especially in light of the large between subject variability found in all the papers reported in this review, simplistically they have smoothed out these differences by only comparing the mean value.
I would also question if it is appropriate to include studies which include insufficient data e.g. the absence of standard deviation which is then either estimated from graphs or expropriated from the data of other studies, this surely should exclude these studies in line with the rigor the authors have used elsewhere and the rationale for there inclusion may need consideration
The data was very well reported, a large amount of data was concisely presented in a easy to follow manner.
The discussion was appropriate and reflected the data presented. I feel that the discussion of the clinical implications of these very small and highly variable timing differences could have been expanded further. You pointed out that treatment appears to change activation timing, but failed to mention these improvements are within the reported test-retest variability by the Cowan and Crossley group.

Likewise, the discussion of the between subject and between mode of testing variability is mostly avoided in the discussion and again this is significant, at the very least the question of why are there timing differences between different modes of contraction for the same muscles requires some consideration. You have shown significant heterogeneity between groups and yet are happy with pooled data, this needs consideration within the discussion as well.

**What next?:** Accept after discretionary revisions

**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:**

I declare that I have no competing interests

Lee Herrington