Reviewer’s report

Title: The impact of subacromial impingement syndrome on muscle activity patterns of the shoulder complex: a systematic review of electromyographic studies

Version: 2 Date: 23 November 2009

Reviewer: Rune Mygind Mieritz

Reviewer’s report:

Thank you for letting me review this interesting relevant and well-written systemic review.

I have following comments related to the article “The impact of subacromial impingement syndrome on muscle activity patterns of the shoulder complex: a systematic review of electromyographic studies”

1) Major Compulsory Revisions:

A literature research should be stringent and the essential issues clear, well defined and it should possible to retest. In this relationship I have a few comments.

First:

The definition of SIS is unclear. What characterizes the condition? Why the condition is important? Is there in the literature a uniform description and definition of the condition?

Second:

In relation to the “Assessment of validity” section. How is validity defined in the context? Define validity or refer to a reference.

Third:

In the abstract it seems like there are some modifications of the Critical Appraisal Skills Programme appraisal tool. How was this done and by whom and why is it not mentioned?

If it is your intention to use the modified appraisal tool to assess/score the included articles then this should be mentioned. The criteria causing the score and the modifications should be described. It should be possible and relatively easy to evaluate the method.

2) Minor Essential Revisions

First:

In the “Background section” I would consider applying further information about the reliability of the EMG equipment.
This review focuses on validity and potential clinical relevance but in my opinion it is of higher relevance to investigate if the equipment is estimated as being reliable and reproducible.

In another section in relation to the included studies (line 139-140) it is stated “Three studies indicated that reliability was assessed” – Was it estimated as a reliable instrument then and how? Can this be used as a reliable tool/instrument as indicated by this review?

The presents or absence of any research concerning reliability, reproducibility of the equipment tested on the different shoulder muscles should be mentioned.

Second:

Clarification of concepts should be stated in the background or method section (line 144 and 232).

3) Discretionary Revisions

Related to the Aim/purpose:

“The purpose of this study was to systematically review the literature to determine whether a difference exists in activation of the shoulder complex of people with SIS compared to healthy controls.”

I think it is more appropriate to use the word examine instead of determine.

I would state the aim in the last sentences of the background section.

In relation to the discussion section. Subheadings in the discussion could be preferable especially in relation to limitations.

The conclusion is a little long and should in my opinion only answer the aim and the most important limitations.

In line 19 patients misspelled (patents).

**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.