**Reviewer's report**

**Title:** The Effect of Warm-up, Static Stretching and Dynamic Stretching on Hamstring Flexibility

**Version:** 1  **Date:** 18 December 2008

**Reviewer:** Arnold G Nelson

**Reviewer's report:**

**Major Compulsory Revisions**

1. The title needs to better reflect the intent of the research. In the abstract, the stated intent of the research is to “examine the short-term effects on hamstring flexibility of warm-up, static stretching and dynamic stretching in individuals with previous hamstring injury and matched healthy controls.” The title needs to indicate the injury portion of the research.

1. Note: the phrase ‘on hamstring flexibility’ in the above sentence quoted from the Abstract should be repositioned after ‘dynamic stretching’.

2. In the Conclusion portion of the Abstract there is a sentence that claims the current research contrasts with the studies on the effects of dynamic stretching on performance measures. This sentence should be dropped. You did not do any performance measurements so you do not know if your work contrasts with previous performance-based research.

3. In the last sentence of the first paragraph of the Background you state that dynamic stretching is carried out in a slow controlled manner. I am not familiar with chiropractic literature, but this definition appears quite different from the ones with which I am familiar. The textbook Essentials of Strength Training and Conditioning by Baechle and Earle, states: “Dynamic stretching - also called mobility drills - places an emphasis on the movement requirements of the sport or activity rather than on individual muscles. This type of exercise can closely duplicate the movement requirements of a sport or activity; for example, a walking knee lift stretch mimics the knee lift of a sprinter. Essentially, one can think of dynamic stretching as actively moving a joint through the ROM required for sport.” While dynamic stretching may be done slower than the actual performance, it is not really that slow. Most dynamic stretches are limb swings or hops, skips, lunges etc. and these are done at less than maximal speed but not necessarily slow. I guess my main confusion arises from the description you provide in the Methods for the dynamic stretch. From the description the reader has no idea how many times during the 30 s the leg movement occurred. If the person just did one movement, I would argue that dynamic stretching did not occur. WITHOUT A CLEARER PICTURE OF WHAT WAS DONE IT IS DIFFICULT TO ASCERTAIN WHAT WAS ACTUALLY DONE.

4. In the Background portion of the Abstract, in the last sentence of the second
paragraph of the Background, and various other places the term ‘healthy’ is used. This is probably a poor term to use since I doubt a thorough exam was done on each person to verify that they were free from disease. A better term for your control subjects would be ‘uninjured’. Also, since all subjects were at least one month post-injury, instead of ‘injured muscle’, ‘previously injured muscle’ would be better terminology.

Terminology adds further confusion starting on the bottom of the page and continuing on to the top of page 9. Here you refer to previously injured muscle as one group and injured muscle as the other group. What happened to the control?

5. What is your rationale for limiting subjects to the 1-12 months post injury? Did this time frame having any influence on the results?

6. After stretching the subjects were seated for 15 minutes. Did you control how they were seated/ Were they on a chair or floor? Were the knees bent at ~90 degrees or kept straight? Was any shifting of position allowed? Since position could influence ROM, more information is needed.

7. I was disappointed in the discussion. I could find nothing in the discussion relative to the intent of the study, i.e., the effect on previously injured muscle. Just because there was no difference between injured and non-injured does not mean it should be ignore. There are questions to answer. For example was the lack of difference due to the length of time post injury? Was it related to the severity of the injury?

This would be more pertinent to the study than covering the effect of stretching on other performance variables and possible future research. You should stick to things that are known, i.e., ROM. These other two topics need only be noted in single sentences in the Conclusion section.

8. In Reference 61 the authors’ names are all in capital letters, and such treatment is not done for any others. Why?

**Level of interest:** An article of limited interest

**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