

Research Report Poster Presentation**Number: RR-PO-22-06-Sat****Saturday 2 May 2015 13:00****Exhibit halls 401-403****THE EFFICACY OF DYNAMIC CONTRACT-RELAX STRETCHING ON CALF MUSCLE WITH DELAYED-ONSET MUSCLE SORENESS IN HEALTHY INDIVIDUALS: A RANDOMIZED CLINICAL TRIAL**Y. Wang¹, Y. Xie², B. Feng¹, K. Chen¹

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Background: Delayed-onset muscle soreness (DOMS), a sensation of pain and muscle soreness, is a common phenomenon after unaccustomed strenuous exercises especially eccentric exercises. Stretching is usually recommended to relieve symptoms induced by DOMS; however, its effect of muscle stretching on DOMS is still controversial and previous research mainly focused on static and passive stretching. The efficacy of dynamic contract-relax stretching on DOMS has not yet been investigated hitherto.

Purpose: The present study aimed to evaluate the efficacy of dynamic contract-relax stretching on delayed-onset muscle soreness (DOMS) in the calf muscle of healthy individuals.

Methods: A total of 48 healthy individuals were recruited and randomly allocated into three groups,

- 1) dynamic contract-relax stretching group (DS group, $n = 16$),
- 2) static stretching group (SS group, $n = 16$), or
- 3) control group without intervention ($n = 16$).

All participants were asked to perform 3 sets of maximal eccentric exercise until exhaustion to induce DOMS in the calf muscles. Subjects in the DS and SS groups were instructed to perform dynamic contract-relax stretching or static stretching for the calf muscles of the dominated foot twice a day at 24, 48, 72, 96, 120 hours after eccentric exercise respectively. Muscle soreness, lower leg girth, pressure pain threshold (PPT), range of motion (ROM), and muscle strength were measured at baseline, 24, 48, 72, 96 and 120 hours after DOMS induction.

Results: Between-group comparison found that DS group demonstrated a significant higher PPT of gastrocnemius at 96 hours, compared with the control group ($p = 0.027$). As for within-group analysis, significant improvements were found in the stretched leg in the DS group compared with the non-stretched leg in parameters of range of dorsiflexion at 48, 72, 96, 120 hours, PPT of gastrocnemius at 96 hours, PPT of soleus at 96, 120 hours and gastrocnemius muscle strength at 48 hours as well as in muscle soreness at 96, 120 hours.

Conclusion(s): Dynamic contract-relax stretching was shown to have an effect to decrease muscle tenderness induced by DOMS by increasing pressure pain threshold of gastrocnemius. Dynamic contract-relax stretching appeared to be an effective way to alleviate DOMS symptoms in calf muscle.

Implications: This study provides new evidence to the application of dynamic contract-relax stretching on the common disorder of DOMS after physical exercises. With dynamic contract-relax stretching, the symptoms of pain and muscle soreness induced by DOMS could be alleviated.

Keywords: Dynamic contract-relax stretching; Static stretching; Delayed-onset muscle soreness

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Ethics approval: The study was approved by the ethics committee of Sun Yat-sen University.

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Special Interest Report Poster Presentation**Number: SI-PO-07-22-Mon****Monday 4 May 2015 13:00****Exhibit halls 401–403****THE CHALLENGE OF GLOBAL MENTAL HEALTH – WHAT CAN WE DO AS PHYSIOTHERAPISTS?**

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Background: Global mental health is considered as one of the greatest health challenges in the world today. When seen as Disability adjusted life years it is the greatest cause of years out of working life. Low and middle income countries have a great lack of health personnel to meet this challenge. Physiotherapists generally have little involvement in Mental Health work, although we have a powerful tool in using physical activities in working with non communicable diseases. As mental illness is a big risk factor for developing other Non communicable diseases, and the life span for psychiatric patients is 10 to 20 years less than the average, physical activities both as prevention and intervention will be important.

Purpose: This presentation will focus on the evidence for using physical activity as intervention for mental health patients, and advocate for increased involvement by physiotherapists in Mental Health work. The global mental health situation, psychiatric problems as a risk factor for developing somatic conditions will also be addressed.

Methods: 2 methods included;

1. Systematic literature search in PEDro, Pubmed, Cochrane Library, PsychINFO.