

Subject Information Form

Objective of Project: The effect of eccentric and concentric exercise on relieving pain associated with delayed onset muscle soreness (DOMS).

Investigators: Aaa Bbb, Cccc Dddd and Eeee Ffff, Master of Physiotherapy Students, School of Physiotherapy, Curtin University of Technology, Western Australia.

Project Supervisor: Stuv Wxyz. Senior Lecturer, School of Physiotherapy, Curtin University of Technology. Telephone: 9266 XXXX.

Background of Study

Everyone is familiar with the feeling of sore muscles that appears a day or two after unaccustomed exercise. This is known as delayed onset muscle soreness (DOMS). Although extensive research has been done regarding methods to reduce the effects of DOMS, this topic remains very controversial. There is some evidence that engaging in active exercise within 48 hours following the induction of DOMS reduces the severity of its effects. However, very little research has been done as to what type of active exercise, concentric or eccentric, is most beneficial in reducing the effects of DOMS.

Procedures

If you agree to be involved in this study, you will be required to visit Curtin University of Technology, School of Physiotherapy on four occasions within one week. It is important that no analgesic medication be taken prior to these sessions or during the course of the study.

Visit #1 – DOMS Induction Session

On arrival, you will be allocated an identification number to be used for all data collection. You will receive instructions about what you must do to induce DOMS and be able to ask questions of the investigators. The active and passive range of movement in your ankles will be measured and then you will be required to perform 50 calf raises on a staircase in time with a metronome. This visit should take 15 minutes.

Visit #2 – 48 hours - Recovery Training Session

Twenty eight hours after your first visit you will need to return to the School of Physiotherapy. Upon arrival you will be asked to rate your pain in each calf independently, using a Visual Analogue Scale (VAS) procedure. Standardised instructions regarding the use of this scale will be given prior to each rating. You will then perform a sit to stand task and be asked to rate the level of pain during this task. Your range of motion will be measured again. You will then start your recovery training program. You will be randomly allocated to perform concentric exercises with either the right or left leg, and eccentric exercises with the other leg. Recovery training procedures will be described using standardised instructions and a demonstration, with ample opportunity to seek clarification. You will again be required to perform 2 sets of 50 calf raises on a staircase; however, you will be instructed to perform the rise-up with the concentric leg only, and lower-down with the eccentric leg only in time with a metronome. All ratings will be documented using your identification number. This visit should take 20 minutes.

Visit #3 – 96 hours (ie four days after induction of DOMS) – Data collection

On this visit you will be asked to rate your resting pain and pain during the functional sit to stand task. Your VAS pain scale and your ankle range of motion will be measured. This visit should only take 15 minutes.

Visit #4 – 144 hours (ie seven days after induction of DOMS) – Data collection

for visit #3

Risks, Discomforts and Benefits:

The aim of the study is to look at the effects of active exercise on DOMS, we will need to induce mild to moderate muscle soreness in your calves. Testing will be terminated upon your request, if you feel you are experiencing any undue discomfort, fatigue or abnormal responses to the exercise. The symptoms of MS are self limiting and disappear within a week of induction.

If you decide to take part in this study you will have the opportunity to be educated about concentric and eccentric exercise and about delayed onset muscle soreness (DOMS). The results from the study will be very important as DOMS is a very prominent problem affecting many individuals in numerous situations. This study will determine what type of exercise provides the most benefit in reducing the negative consequences of DOMS.

Confidentiality:

You will be allocated an identification number that will remain confidential to the investigators and the project supervisor. All recorded data will be entered in an excel program, on a Curtin School of Physiotherapy computer using your identification number only, no names will be used. Access to the recorded data will be restricted by a password known only by the investigators and the project supervisor. All data collected and consent forms will be stored safely in a locked cupboard at the Curtin School of Physiotherapy.

The results of the study will be reported on, although it will not be possible to identify individual subjects or identification numbers or names will be included in report material. On completion of the study, all data will be stored in a secure and confidential location with the project supervisor for five years. After this time, all data will be destroyed. This is a Curtin University of Technology requirement.

Request for Further Information:

You are encouraged to discuss and/or express any concerns or questions regarding this study with the investigators at any time. You should feel confident and secure about your involvement in the study.

Consent or Withdrawal:

You may refuse to participate in the study and if you do consent to participate then you will be free to withdraw from the study at any time without fear or prejudice.

If you do decide to withdraw from the study at any time please contact the investigators at the earliest possible convenience. All data will be destroyed if you do decide to withdraw.

Approval

This study has been approved by the Curtin University Human Research Ethics Committee. If needed, confirmation of approval can be obtained by either writing to the Curtin University Human Research Ethics Committee, c/- Office for Research and Development, Curtin University of Technology, GPO Box U1987 Perth, 6845 or by telephoning (08) 9266 2784.

Subject Consent Form

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Principal Investigator: Aaa Bbb, School of Physiotherapy, Curtin University of Technology, Western Australia. Tel TTTT TTTT

Project Supervisor: Stu Vwxyz. Senior Lecturer, School of Physiotherapy, Curtin University of Technology. Tel 9266 XXXX

I am participating in this study of my own accord making a decision whether or not to participate in this research study. Your signature verifies that you have decided to participate in the study, having read and understood all the information accessible. Your signature also officially states that you have had adequate opportunity to discuss this study with the investigators and all your questions have been answered to your satisfaction. I will be given a copy of this consent document to keep.

I have read and understood the above information and I have signed this form (I am the undersigned) _____

Please PRINT

My mobile phone number is _____ Phone _____

I have given my informed consent to involvement in this study and give my authorisation for any results from this study to be used in research paper, on the understanding that confidentiality will be maintained. I understand that participation in this study will cause me to feel mild to moderate discomfort in my calves for up to seven days. I comprehend that I may withdraw from the study at any time without discrimination. If so, I undertake to contact Aaa Bbb (Tel. TTTT TTTT) at the earliest opportunity.

Signature _____ Date _____

Subject

I have explained to the subject the procedures of the study to which the subject has consented their involvement and have answered all questions. In my appraisal, the subject has voluntarily and intentionally given informed consent and possesses the legal capacity to give informed consent to participate in this research study.

Principal Investigator: _____ Date: _____