

**Orthopaedic Section of the APTA  
Grant Program  
Annual Progress Report Form**

Date:6-15-14

Name of Investigators: Stephanie Muth, PT, PhD, NCS, Philip McClure, PT, PhD, FAPTA, Scott Stackhouse, PT, PhD

Name of Grant: "Neurosensory Responses to Thrust Mobilization in People with Rotator Cuff Tendinopathy"

Award Period: June 1<sup>st</sup>, 2013 to May 31<sup>st</sup>, 2015

Current Year of Award completed: 1<sup>st</sup> year

1. Summary of accomplishments in the past year:

Study design modifications were completed and final IRB approval of modifications was received in April of 2013. All necessary study equipment was obtained during the summer of 2013. Two orthopaedic clinical specialists have been recruited and trained to perform the study interventions. Through May, 2014, graduate assistants have been managing participant recruitment. In June, 2014 a research assistant was hired to handle subject recruitment and scheduling. To date 29 participants have been recruited and screened, 6 have met all inclusion criteria.

2. Abstract:

Title: Neurosensory Responses to Thrust Mobilization in People with Rotator Cuff Tendinopathy  
Background: Shoulder pain is a common problem and frequently involves rotator cuff tendinopathy (RCT). Rotator cuff tendinopathy may cause pain and difficulty with shoulder function. One evidence-based and frequently employed intervention to address the pain and dysfunction associated with RCT is spinal thrust joint mobilization (TJM). Recent evidence indicates that TJM techniques are associated with immediate decreases in pain and improved force production in people with signs of shoulder impingement. Thrust joint mobilization induced hypoalgesia has been attributed, at least in part, to alterations central pain processing however, mechanisms associated with increased force production are not well understood. The primary goal of this study is to identify neurophysiologic mechanisms associated with increased force production following spinal joint thrust mobilization.

Methods: Fifty-six participants with signs of rotator cuff tendinopathy will be recruited for this study. Dependent variables include the following: Pain with provocative testing, external rotation force production, voluntary activation deficits of the infraspinatus, pain and thermal threshold and thermal temporal summation. These are assessed before and immediately following either a true or sham cervicothoracic spine manipulation. Participants return 5 – 7 days later to have these variables reassessed.

Results: Twenty-nine subjects have been screened for participation. Six subjects have completed participation in the study.

3. Publications and Presentations:

*Muth, S., Toole, C., Thomas, C., Michaels, C., Conaty, D.* (February, 2014) The Effects of Non-fatiguing Exercise on Voluntary Activation. Presented at APTA Combined Sections Meeting, Las Vegas, NV

*Muth, S., Turner, J., Sherry, B., Pope, D., Kohutanyz, R., Collela, D.,* (January, 2013) The Effects of Spinal Manipulation on Pain Processing: A Systematic Review. Presented at APTA Combined Sections Meeting, San Diego, CA

4. Budget:




<b>EXPENSE CATEGORY</b>	<b>Budgeted Amount for Year 1</b>	<b>Actual Amount Spent in Year 1 (June 1 2013- June 1 2014)</b>	<b>Amount Remaining in Year 1 budget</b>	<b>Budgeted for Year 2</b>	<b>Projected Expenditure in Year 2</b>
<b>Personnel</b>	<b>3873.00</b>	<b>150.00</b>	<b>3723.00</b>	<b>4373.5</b>	<b>4373.5</b>
<b>Equipment and Supplies</b>	<b>1831.00</b>	<b>1772.96</b>	<b>58.04</b>	<b>171.50</b>	<b>171.50</b>
<b>Subject recruitment</b>	<b>1000.00</b>	<b>824.70</b>	<b>175.30</b>	<b>1000.00</b>	<b>1000.00</b>
<b>Subject honoraria</b>	<b>1375.00</b>	<b>200.00</b>	<b>1175.00</b>	<b>1375.00</b>	<b>1375.00</b>
<b>TOTAL</b>	<b>8079.00</b>	<b>2947.66</b>	<b>5131.34</b>	<b>6920.00</b>	<b>6920.00</b>

Budget deviations: To date, we have only spent about 37% of our first year budget. Much of the budget allocated for personal and subject honoraria was not spent. There are four reasons for this:

1. Subject recruitment was slower than expected. While we have screened 29 possible participants only 6 met our inclusion criteria, and these 6 have successfully completed the test protocol. At the end of May 2014, we invested \$600.00 into advertising in a more visible newspaper which has substantially improved subject recruitment. We are currently screening 4-8 people per week with 1-2 qualified participants scheduled each week through the month of July 2015.
2. We were able to use graduate assistants to handle some of the recruitment and scheduling through May 2014, thus eliminating the initial need for funding for a research assistant. In June 2014 a paid research assistant was brought on to handle the increased volume of study inquiries and scheduling. We anticipate she will stay on the study for its duration and request that the remaining personnel funds of 2013-2014 be carried over into 2014-2015 to pay for her assistance.
3. Due to low participation, we have not spent our allotted funds to pay therapists to perform the interventions. Therapist participation will increase as we continue to recruit more participants.
4. The PI has donated all of her time in-kind.

5. Objectives for the next year:

1. In the final three months of the first year, we are focusing our energy on recruitment of eligible subjects. Complete data collection by May of 2015.
2. Complete data processing and analysis by July 2015
3. Submit preliminary results of this study for presentation at the APTA's Combined Sections Meeting, 2015
4. Complete manuscript preparation Fall 2015

    
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Your Signature Date

**Return to:**

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