

Orthopaedic Academy of the APTA Grant Program Annual Progress Report Form

Date: 8-31-21

Name of Investigators: Daniel Safford, PT, DPT, MAT, OCS, CSCS (PI), Philip McClure PT, PhD, Kshamata Shah, PT, PhD

Name of Grant: Reliability, Validity and Responsiveness of the Functional Arm and Shoulder Test (FAST) in Patients with Shoulder Problems

Award Period: 3/22/17 to 4/30/19 (Initial award date – date on contract as start date) –
provided 2 year no-cost extension to 4/30/2021

Current Year of Award completed (circle one): 1st, 2nd, **no-cost extension year (3rd)** – **no-cost extension year (4th)**

Progress reports are due no later than 1 year plus 10 days after the initial award date. Failure to submit a timely progress report may result in the termination of your award.

1. Summary of accomplishments in the past year:

- Completion of all data collection
- Preparation of Manuscript
- Submission of manuscript for review

2. Provide a one-paragraph summary of results or abstract suitable for posting on the Orthopaedic Section website.

Background: The purpose of this study was to determine the feasibility, reliability, validity, and responsiveness of the Timed Functional Arm and Shoulder Test (TFAST) in patients with shoulder problems.

Methods: This was a repeated measures clinical measurement observational cohort study. 104 symptomatic individuals participated in this study. The TFAST was collected as part of a patient's outpatient physical therapy care at 6 different sites. The test and data collection were performed at 3 time points; baseline (initial evaluation), follow-up at the patient's first return visit within 7 days of evaluation, and discharge at the patient's final visit for care.

Results: All participants were able to perform the TFAST at baseline with one exception, and 67 participants completed data collection at all 3 time points. There were no adverse effects in any participants related to performing the TFAST. Intra-rater inter-session reliability ICC(2,1) (95%CI) was 0.91(0.79, 0.95). The mean difference in TFAST scores for the affected arm was 23.2 repetitions (77.4 at baseline to 100.6 at discharge, $p < 0.01$). The Cohen's d effect size was 1.02 and the standardized response mean was 0.95. The minimal clinically important difference was determined to be 21 repetitions.

Conclusion: The TFAST seems to be feasible and appropriate for use in a wider population than other existing shoulder performance measures. The TFAST has demonstrated adequate reliability, validity, and responsiveness in patients with shoulder complaints. Clinicians may consider using the TFAST to objectively assess patient performance and this may add information beyond patient self-report.

3. Attach a list of your publications published or accepted during the past year, or currently being written. Send reprints when available. List presentations made and abstracts accepted for presentation based on this work. Indicate with an asterisk (*) those publications supported by Orthopaedic Section funding.

1. Safford DW, Shah KM, McClure PW. Application of Blood Flow Restriction Training as Adjunct to Conventional Care in a Male with Adhesive Capsulitis and Rotator Cuff Tendinopathy: A Case Report. *Journal of Orthopaedic & Sports Physical Therapy - Cases*. Accepted - Pending publication.
2. Safford DW, Pontillo M, Sennett B. Traumatic hip dislocation in a NCAA DI football player with occult sequelae: A Case Study. *International Journal of Sports Physical Therapy*. Conditionally Accepted – Pending publication.

4. Provide a budget, using the original approved budget. Indicate total funds spent to date per major categories. If there was $\geq 25\%$ deviation (greater or less spent) of use of funds for any of the budget category, please BRIEFLY indicate the rationale.

Please see attached budget spreadsheet.

1. Discrepancies for salaries and benefits were a result of reallocation of funds from other lines during last year's no cost extension of the grant.
2. A biostatistician was engaged to support manuscript preparation, however associated fees were lower than originally predicted.
3. Utilization of graduate student assistance was far below expectations throughout the grant and no-cost extension periods.
4. All the funds were not used and the remainder along with a cover letter has been returned to the funding agency.

5. Objectives for the next year:

- Complete peer-review process for publication (already submitted)


Your Signature

9.27.21
Date