

Student: Jessica Smith

Department: Physical Therapy

Mentor: Sandra Tremblay

Summary of Experience:

Of all my volunteer and research experiences, participation in Lehigh Valley Hospital's Research Scholar Program has been the most rewarding. An aspiring Doctor of Physical Therapy, my position in the Department of Physical Therapy, provided exposure to a wide variety of areas within this rapidly growing field and strengthened my ambition to pursue such a career. My time was divided between clinical observations, educational lectures, and research.

The clinical observations allowed exploration of physical therapists' roles in acute, sub-acute, and outpatient settings. I shadowed therapists at various sites as they applied tissue mobilization, stretching, exercise, and other therapeutic techniques to control pain, increase range of motion, and strengthen injured or degenerative body parts. I also had the opportunity to observe two bilateral total knee replacement surgeries.

My most interesting experience was following a stroke patient's course of hospital treatment as he was admitted, diagnosed, underwent surgery, received rehabilitation, and was discharged to home. It was rewarding to see the patient and his doctors, nurses, therapists, and family work together toward a common goal and have their efforts pay off with incremental progress leading to recovery of function and discharge.

My research involvement included performing literature reviews for PI projects and an upcoming exhibit at the Da Vinci Science Center as well as assisting with a pilot study regarding patient falls. This study aimed to identify relationships between patients' fall risk, fall prevention education, fear of falling and fall occurrence. Such relationships could be applied in future research and patient care. My role in this study consisted of helping therapists perform fall risk assessments and provide fall prevention education, designing and conducting a post-discharge follow-up phone survey, and compiling and reviewing the recorded data.

Summary of Research:

In the acute care setting, physical therapists are often consulted to evaluate patients' functional appropriateness for discharge. Physical therapists must gauge patients' ability to ambulate the distances and

obstacles they will encounter at home as well as establish patient safety in performing such tasks. This is an especially challenging duty with the neuroscience and geriatric patient populations, which have the highest risk of falling. Examination of patterns in fall risk, distribution of fall prevention education, fear of falling, and post-discharge fall occurrence among these patients would fuel further research and provide direction to improve fall prevention efforts.

Over a four month period, March – June 2007, 48 patients from Lehigh Valley Hospital's Neuroscience and Geriatric Units received the Timed Up and Go (TUG) test prior to discharge. This test provided an objective measure of fall risk because the time taken to complete the test is strongly correlated to an individual's level of functional mobility. Therapists provided fall prevention education to patients indicated at risk for falls. Patients were contacted 4-8 weeks after discharge to complete a follow-up phone survey to determine whether they had fallen since their hospital stay, the helpfulness of fall prevention education, and their fear of falling. Recent research suggests that psychological factors, such as fear of falling, may affect one's fall risk by interfering with physical performance if too high, or provoking dangerous behavior if too low.

Many aspects of the data were analyzed. Of particular interest were findings regarding fear of falling per setting and situation as well as the correlation between TUG scores and fear of falling. Patients rated their fear of falling on a scale of 0-5, 0 being no fear and 5 a lot of fear. Results showed that patients experience more fear of falling around their community than at home. With regard to situation, patients admitted the most fear of falling while walking, in crowds, and showering or bathing. These findings pinpoint areas for therapists to focus on as they work with patients to prevent falls. Analysis of patients' fear of falling in relation to their TUG score revealed a correlation between greater fear of falling and increased TUG score. This relationship may allow therapists to judge objectively the appropriateness of a patient's fear of falling and whether the fear will affect his or her fall risk. Further research may determine the influence that functional mobility, as tested by the TUG test, and psychological factors, like fear of falling, have on each other.