

Name: Greg Meloy

Major: Health and Rehabilitation Sciences

Honors and Awards:

- Brackenridge Fellowship
- National Football Foundation College Hall of Fame Scholarship
- Brandon Ledford Memorial Scholarship
- Freddie Fu Undergraduate Scholarship
- Golden Key International Honor Society

Experience and Community Outreach:

- Presenter, World Union of Wound Healing Societies, Paris France
- Member, National Athletic Trainers' Association
- Certified, American Red Cross Child and Adult CPR/AED

Publications:

- Penny HL, Meloy GF. The use of dermagraft for difficult-to-heal diabetic ulcers. *Podiatry Management*. 2005: 117-122.

Future Plans

"After graduation I will be attending the Drexel University College of Medicine to pursue my MD"

Voting Information

79th District for State House and the 30th Senatorial District

Project Abstract

The long-term goal of the study is to reduce the incidence of pressure ulcers in people with spinal cord injury (SCI). The general objective of the proposed study is to better understand the relationship between sacral skin blood flow and transcutaneous oxygenation in response to causative factors of pressure ulcers (i.e. thermal stress, mechanical stress, and sympathetic modulations) in neurologically intact subjects. Findings from this study will provide insight into the mechanisms of oxygenation control and its relationship with skin blood flow and control mechanisms.

A computer controlled indenter with a combined sensor head consisting of FDA-approved laser Doppler flowmetry probe and transcutaneous oximetry probe will be used to study skin microcirculation in response to various stimuli proposed in the study on the skin over the right sacrum. Three additional transcutaneous oximetry probes will be placed on the left sacrum and left and right heels to study systemic regulation of skin microcirculation. Blood pressure and heart rate will be monitored through the study. Wavelet-based power spectrum will be used to quantify changes of power at each characteristic frequency embedded in the skin blood flow and oxygen signals. Regression and coherence analyses will be implemented to analyze the relationship between skin blood flow and transcutaneous oxygenation in the time and frequency domains, respectively.

Project Faculty Advisor: David M. Brienza, Department of Rehabilitation Science and Technology, School of Health and Rehabilitation Sciences, Pittsburgh Campus

