Recent Research in Concordia’s Exercise Physiology Lab

Collaborative studies between Exercise Physiology, Physical Therapy, Biomedical Science and the School of Pharmacy are ongoing. Details on recent research are included below.

Research Projects from 2013 & 2014

- Reliability and Minimal Detectable Change for Two Sit to Stand Tests and the Functional Gait Assessment and the Hemodynamic Response during Treadmill Exercise for Individuals with Parkinson Disease

  Cheryl Petersen, PT, DPT, DHS; Liz Paly, PT, DPT GSC; Terry Steffen, PT, PhD, Reid Nelson, PhD

  Part of the functional gait assessment test with Parkinson participant

  Parkinson participant walking backward and monitored for cerebral oxygen, HR & BP changes

- Comparison of brief high-intensity exercise vs traditional moderate-intensity exercise timing of peak salivary cortisol level

  Vince Denor, Alex Johnson, Ally Pinkos, Catherine Schotte, Michael Schraufnagel, Rachel Spaeth, Courtney Wiedenhoeft

  Collaborative work with the Exercise Physiology students and the School of Pharmacy.

- Salivary cortisol response to three different kettlebell loading schemes

  Anthony Moro, Lisa Wishman, Ben Kempen
Collaborative work with the Exercise Physiology students and the School of Pharmacy.

- The effect of high-intensity interval training with or without beetroot juice on endurance performance in male college soccer players
  
  Emily Pacheco, graduate thesis

- Metabolic response of shod vs barefoot running at moderately intense treadmill running
  
  Annika Ferber, graduate thesis

- Very Long Chain Fatty Acid Response to an Acute Bout of Exercise with and without an Amino Acid Supplement.
  
  Anna DeBoer, Eric Einerson, Matt Gould, Kevin Gries, Michaela Hanson, Brian Rego, Merideth Riemann, Catherine Schotte, Jorden Valleskey, James Lokken
  
  Collaborative work with the Exercise Physiology students and the School of Pharmacy.

- Comparison of Hemodynamic Effects of Body Weight Resistance Exercise with and without Whole Body Vibration
  
  Kevin Anderson, Sheri Weidner, Catherine Schotte, Cara Landherr, Kayla Konen, Carley Goelz, Jennifer Schnieder

Research Projects Prior to 2013

- Parkinson drug timing effect on cardiovascular response during treadmill exercise in a client with Parkinson disease
  
  CM Petersen, T Steffen, J Anderson, J Hrdina, R Nelson
  
  Case Report: Manuscript accepted for publication by Physiotherapy Journal Canada, 2012

- The Effect of 30 Minutes of Cycling Exercise on Omega-3 and Omega-6 Fatty Acids With and Without Vespa Amino Acid Supplementation
  
  
  Department of Health and Human Performance and Department of Pharmacy, Concordia University Wisconsin, Mequon, WI
Senior Seminar students: Carl Haynes, Dan Fecht, Ben Pape presenting their poster at CUW’s Health Sciences Research Day, spring 2012

- **Effect of an Acute Intake of Vespa Amino Acid Mixture on Physiologic Responses During Cycle Ergometer Exercise**


  Department of Health and Human Performance, Concordia University Wisconsin, Mequon, WI

Senior Seminar students: Joelle Yaggie, Ryan Zaporski, Chelsie Strosina, Aubree Reimer, Krystle Eiting presenting their poster at CUW’s Health Sciences Research Day, spring 2012

Blood draw and ECG preparation for Senior Seminar research in spring 2012.
• **Effects of L-arginine/L-citrulline Supplementation on Blood Pressure and Cerebral Oxygen Response during Acute Postural Change**


Department of Health and Human Performance, Concordia University Wisconsin, Mequon, WI

• **The Effect of L-Arginine/L-Citrulline Supplementation on Muscle Oxygen Saturation and Maximal Cycle Exercise**


Department of Health and Human Performance, Concordia University Wisconsin, Mequon, WI

• **The Effect of 20% and 40% Body Weight Supported Treadmill Exercise on Heart Rate, Ventilation, Respiratory Exchange Ratio and Oxygen Consumption**

*J. Dulmes, A. Murphy, E. Pfeiffer, J. Pfeiffer, K. Plautz, M. Resop, E. Waldorf and R. Nelson*

Department of Health and Human Performance, Concordia University Wisconsin, Mequon, WI
Senior Seminar students: Aubrey Murphy, Liz Pfeiffer, Matt Resop, Jennifer Dulmes, Klarissa Plautz, Emily Waldorf presenting their poster at CUW’s Health Sciences Research Day, spring 2010

- Comparison of VE/VCO2 and Oxygen Uptake Efficiency Slopes During Maximal Testing Using Two Different Modes of Exercise.
  

Senior Seminar students: Emily Rusch, Jessica Bogard, Luke Kiel, and Nate (Raccoon-man) Tanny, presenting their group’s research at the CUW Health Services research seminar spring 2009.

Use of Select Wii Fit Exercises in Attaining Heart Rate and Oxygen Uptake Intensity Recommendations in College-Age Adults

  C. Boettcher, M. Bredeson, D. Conway, K. Courvoisier, D. Crowley, E. Nelson, N. Paschke, R. Nelson
Senior Seminar students: Kevin Courvoisier, Dave Conway, Dan Crowley, and Chris Boettcher presenting their group’s research at the CUW Health Services research seminar spring 2009.

- **Effect of Anti-Parkinson Drug Timing on Tissue Oxygen Saturation and Ventilatory Threshold during Treadmill Exercise.**


  DPT students and MSRS student’s research project abstract accepted and poster presented May 28th, 2009 at ACSM annual meeting in Seattle.

  *Parkinson study participant’s treadmill CG recording, ventilatory gas analysis, and Near Infrared Spectroscopy measurement in the Exercise Physiology laboratory, fall 2008.*

**Masters Student’s Theses Completed from Parkinson Disease Research:**

- **The Effect of Dopaminergic Medication Timing on Oxygen Uptake Efficiency and VE/VCO2 slopes in Individuals with Parkinson’s disease.**

  Ms. Shannon Haley (2012), graduate student thesis

- **Hemodynamic Effect of Timing of Primary Dopaminergic Medication during Head Up Tilt Testing in Individuals with Parkinson’s Disease.**
Ms. Shalini NFN (2011), graduate student thesis

- **Cerebral and Skeletal Muscle Oxygen Response to Two Brief High Intensity Exercise Trials.**

  Melissa Crabb, Megan Crowe, Angela Davis, Nicole Kusko, Kathryn Reith, Carly Schneeberg, Reid Nelson.

  Undergraduate Exercise Physiology student’s research project abstract accepted and poster presented May 28th, 2009 at ACSM annual meeting in Seattle.

  [Image: Kathryn Reith, Carly Schneeberg, Angie Davis presenting the spring 2008 undergraduate Exercise Physiology Senior Seminar research study at the CUW Health Services session]

  Senior Exercise Physiology student
  Kathryn Reith monitoring the Wingate Anaerobic Power test for the Senior Seminar research project with one of the study’s participants.

- **Test Retest Repeatability of the Ventilatory Threshold and Skeletal Muscle Oxygenation during Incremental Bicycle Ergometry**

  P. Andres, A. Doebert, S. Schultz, and R. Nelson
Effects of Dopamine-Agonist Medication Timing on Heart-Rate Variability and Orthostatic Hypotension in Parkinson Disease

A. Carns, SPT; M. Gaunt, SPT, ATC; M. Wilson, SPT; R. Nelson, Ph.D.

Physical Therapy student research presented at the spring 2007 ACSM annual meeting in New Orleans

The Effect of Varying Intensity of Treadmill work on Cerebral and Skeletal Muscle Oxygenation in Individuals with Parkinson Disease

Jen Hrdina, Lee Panzer, Jodi Anderson, Jessica Wolter, Laura Huss, and Craig Schneider presenting original research at the WPTA Spring 2008

Second year Physical Therapy students Craig Schneider and Jessica Wolter studying tissue oxygen response in one of the study’s Parkinson participants

Jessica Wolter observing the near infrared sensors while Laura Huss watches the Parkinson participant’s ECG all under the guidance of Dr. Cheryl Peterson, Physical Therapy faculty.