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Clinical Assistant Professor
Annette Caldwell Simmons School of Education and Human Development
Department of Applied Physiology and Wellness
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Education/Training:

Ph.D. Biomedical Sciences Department of Integrative Physiology	University of North Texas Health Science Center Fort Worth, Tx	2003-2008
B.S. Molecular Biology Minor: Chemistry	Texas Lutheran University Seguin, TX	1999-2003

Professional Experience:

Clinical Assistant Professor Simmons School of Education and Human Development Department of Applied Physiology and Wellness	Southern Methodist University Dallas, TX	2011-present
Adjunct Clinical Assistant Professor Department of Healthcare Sciences School of Health Professions	UT Southwestern Medical Center Dallas, TX	2011-present
Postdoctoral Researcher School of Health Professions Department of Physical Therapy	UT Southwestern Medical Center Dallas, TX	2008-2011
Instructor Anatomy and Physiology	UT Southwestern Medical Center Dallas, TX	2011
Instructor Anatomy and Physiology	Tarrant County College Fort Worth, TX	2008-2010
Graduate Teaching Assistant Integrative Physiology	University of North Texas Health Science Center Fort Worth, TX	2003-2008
Clinical Research Coordinator Department of Surgery	University of North Texas Health Science Center Fort Worth, TX	2007-2008
Instructor Anatomy and Physiology	Texas Wesleyan University Fort Worth, TX	2005-2006

Academic and Professional Honors:

- **Beginning Investigator Military Physiology Award Recipient, American Physiology Society Exercise and Environmental Physiology Section,** 2011
- **Recognition Award Recipient, American Physiological Society Exercise and Environmental Physiology Section**, 2009
- **MKITS Fellowship, National Heart Lung and Blood Institute** 2007-2008
- **G-Force mentor, Fort Worth ISD community service project** 2007-2008
- **Second Place Poster Presentation,** Texas Chapter American College of Sports Medicine, 2007
- **NSF SCORE Fellowship, National Science Foundation** 2006-2007, 2004-2005
- **Academic Scholarship,** Texas Lutheran University 1999-2003
- **Welsch Scholarship,** 2001-2002

Membership in Professional Societies:

Sigma Xi Research Society, 2007–present
American Physiological Society, 2003-present
American College of Sports Medicine, 2003-present
Postdoctoral Association, Department Representative, 2008-2011

Peer Review Service:

Ad hoc reviewer, Circulation
Ad hoc reviewer, American Journal of Physiology
Ad hoc reviewer, Experimental Physiology

Volunteer Service:

Judge, Science Fair, Irma Lerma Rangel Young Women's Leadership School 2010

Publications
Articles

Murphy MN, Ichiyama RM, Iwamoto GA, Mitchell JH, Smith SA. *Exercise pressor reflex function following acute hemi-section of the spinal cord in cats.* Frontiers in Exercise Physiology, 2013 (in press).

Leal AK, **Murphy MN**, Iwamoto GA, Mitchell JH, Smith SA. *A role for nitric oxide within the nucleus tractus solitarii in the development of muscle mechanoreflex dysfunction in hypertension.* Experimental Physiology, 97(12): 1292-304.

Murphy MN, M Mizuno, JH Mitchell, SA Smith. *Cardiovascular regulation by skeletal muscle reflexes in health and disease.* American Journal of Physiology: Heart and Circulatory Physiology, 301(4): H1911-204, 2011.

Murphy MN, M Mizuno, J Squiers, K Squiers, SA Smith. *Neuronal nitric oxide synthase protein expression is reduced within brainstem neurons excited by skeletal muscle reflexes in spontaneously hypertensive rats.* American Journal of Physiology: Heart and Circulatory Physiology, 2012(in revision).

Mizuno M, **MN Murphy**, JH Mitchell, SA Smith. *Skeletal muscle reflex-mediated changes in sympathetic nerve activity are abnormal in spontaneously hypertensive rats.* American Journal of Physiology: Heart and Circulatory Physiology, 300(3): H968-H977, 2011.

Mizuno M, **MN Murphy**, JH Mitchell, SA Smith. *Antagonism of the TRPv1 receptor partially corrects muscle metaboreflex overactivity in spontaneously hypertensive rats*. Journal of Physiology, 589: 6191-204, 2011.

Murphy MN. *Remodeling of central sympathetic circuits precedes the development of hypertension.* Journal of Applied Physiology, 109: 2011-12, 2010.

Smith SA, **MN Murphy**. *Endurance exercise performance is determined by both autonomic and psychological factors.* Journal of Applied Physiology, 108: 461, 2010.

SA Smith, AK Leal, **MN Murphy**, JH Mitchell, MG Garry. *The TRPV-1 receptor is a mediator of the exercise pressor reflex in rats.* Journal of Physiology 588(7): 1179-1189, 2010.

Hawkins MN, Q Barnes, S Purkayastha, W Eubank, S Ogoh, PB Raven. *The effects of aerobic fitness and beta-1 adrenergic receptor blockade on cardiac work during dynamic exercise.* Journal of Applied Physiology, 106:486-493, 2009.

Hawkins MN, PB Raven, PG Snell, J Stray Gunderson, BD Levine. *Maximal oxygen uptake as a parametric measure of cardiorespiratory capacity*. Medicine and Science in Sports and Exercise 39: 103-107, 2007.

Ogoh S, MB Brothers, Q Barnes, WL Eubank, **MN Hawkins**, S Purkayastha, A O-Yurvati, PB Raven. *Effects of changes in central blood volume on carotid-vasomotor baroreflex sensitivity at rest and during exercise*. Journal of Applied Physiology, 101(1): 68-75, 2006

Ogoh S, M Brothers, Q Barnes, WL Eubank, **MN Hawkins**, S Purkayastha, A O-Yurvati, PB Raven. *Cardiopulmonary baroreflex is reset during dynamic exercise.* Journal of Applied Physiology, 100(1): 51-59, 2006.

Ogoh S, M Brothers, Q Barnes, WL Eubank, **MN Hawkins**, S Purkayastha, A O-Yurvati, PB Raven. *The effect of changes in cardiac output on middle cerebral artery mean blood velocity at rest and during exercise*. Journal of Physiology 569(2): 697-704, 2005.

Keller DM, PJ Fadel , S Ogoh, RM Brothers, **M Hawkins**, A Olivencia-Yurvati, PB Raven. *Carotid baroreflex control of leg vasculature in exercising and non-exercising skeletal muscle in humans*. Journal of Physiology, 561(1): 283-293, 2004.

Poster Presentations and Abstracts:

1. Mizuno M, **MN Murphy**, JH Mitchell, SA Smith. *Exaggerated sympathetic responses to metaboreflex activation during ischemic muscle contraction in hypertensive rats*. Medicine and Science in Sports and Exercise, 2011 (in press).

2. **Murphy MN,** M Mizuno, JH Mitchell, SA Smith. *Neuronal nitric oxide synthase expression within the nucleus tractus solitarius of normotensive and spontaneously hypertensive rats.* Medicine and Science in Sports and Exercise, 2011 (in press).

3. Mizuno M, **MN Murphy**, JH Mitchell, SA Smith. Skeletal muscle metaboreflex overactivity is mediated by the TRPv1 receptor in spontaneously hypertensive rats. *FASEB Journal*, 2011 (in press).

4. **Murphy MN,** M Mizuno, SA Smith. *Exercise pressor reflex (EPR)induced FOS expression is co-localized with neurons containing neuronal nitric oxide synthase (nNOS) in the nucleus tractus solitarius (NTS).* FASEB Journal, 2011 (in press).

5. Leal AK, BH Cherry, **MN Murphy**, JJ Squires, JH Mitchell, SA Smith. *Quantification of the in vivo production of nitric oxide in the rat brainstem.* Medicine and Science in Sports and Exercise, Abst# 1591, 42(5): S231, 2010.

6. Mizuno M, **MN Murphy**, JH Mitchell and SA Smith. *Sympathetic nerve responses to activation of chemically-sensitive skeletal muscle afferent fibers in hypertensive rats*. Medicine and Science in Sports and Exercise, Abst # 1590, 42(5): S231, 2010.

7. **Murphy MN,** JJ Squiers, KE Squiers, JH Mitchell, SA Smith. *Skeletal Muscle Reflex induced Fos Expression within the NTS of Normotensive and Hypertensive Rats.* Med Sci Sports Exerc 42(5): S231, 2010.

8. Leal, AK, BH Cherry, **MN Murphy**, JJ Squiers, SA Smith. *Quantification of the in vivo production of nitric oxide within the nucleus tractus solitarius during activation of the skeletal muscle mechanoreflex*. FASEB Journal, Abst # 807.2, 24: 2010.

9. Mizuno M, **Murphy MN**, JH Mitchell, SA Smith. *The sympathetic response to activation of the skeletal muscle mechanoreflex is enhanced in spontaneously hypertensive rats.* FASEB Journal, Abst # 619.5, 24: 2010.

10. **Murphy MN,** M Mizuno, SA Smith. *Skeletal muscle metaboreflex overactivity is partially corrected by decreasing superoxide within the nucleus tractus solitarius of hypertensive rats.* FASEB Journal 24:619.2, 2010.

11. **Hawkins MN**, AK Leal, JH Mitchell, SA Smith. *Decreasing superoxide within the nucleus tractus solitarius partially corrects skeletal muscle mechanoreflex overactivity in hypertension.* Medicine in Science and Sports and Exercise, Abst# 2392, 41(5): S442, 2009.

12. **Hawkins MN**, J Squiers, AK Leal, JH Mitchell, SA Smith. *Neuronal nitric oxide synthase (nNOS) and c-Fos expression in the nucleus tractus solitarius (NTS) of normotensive and hypertensive rats*. FASEB Journal, Abst# 608.2, 23:2009.

13. **Hawkins MN**, WL Eubank, S Purkaystha, Q Barnes, PB Raven C*ardiac work during steady state dynamic exercise with and without metoprolol.* Research Appreciation Day for the University of North Texas Health Science Center, 2008.

14. **Hawkins MN**, WL Eubank, S Purkaystha, Q Barnes, PB Raven C*ardiac work during steady state dynamic exercise with and without metoprolol.* Texas Chapter of American College of Sports Medicine, 2008.

15. **Hawkins MN**, WL Eubank, Q Barnes, PB Raven *The effects of metoprolol on total cardiac cork during submaximal exercise.* Texas Chapter of American College of Sports Medicine, 2007.

16. **Hawkins MN**, PB Raven, BD Levine. *Maximal oxygen uptake as a parametric measure of cardiopulmonary capacity*. Texas Chapter of American College of Sports Medicine, 2006.

17. **Hawkins MN**, S Ogoh, PB Raven. *The effects of pulse pressure on the carotid baroreflex during mild exercise.* Texas Chapter American College of Sports Medicine, 2005.

18. **Hawkins MN**, DM Keller, K Caldwell, J Kurschner, PB Raven. *The reproducibility of acetylene re-breathe method for determining cardiac output of humans during exercise.* Research Appreciation Day for the University of North Texas Health Science Center, 2004.

19. **Hawkins MN**, DM Keller, K Caldwell, J Kurschner, PB Raven. *The reproducibility of acetylene re-breathe method for determining cardiac output of humans during exercise*, Texas Chapter American College of Sports Medicine, 2004.