

CURRICULUM VITAE

SARAH E. DEEMER

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Education

Doctor of Philosophy (2008 – 2017)

Texas Woman's University (2013 – 2017)

Concentration: Exercise Physiology, Nutrition, and Endocrinology

Advisor: Dr. Kyle Biggerstaff

Dissertation: *The Acute Effect of High Intensity Interval Exercise Compared to Moderate Intensity or No Exercise on Growth Hormone Secretion in Overweight, Sedentary, Young Women.*

Date Completed: May 2017

Colorado State University (2008 – 2013)

Concentration: Human Bioenergetics – Nutrition and Metabolism

Co-Advisors: Dr. Matt Hickey & Dr. Chris Melby

Note: Suspended due to medical injury and treatment.

Master of Science (2004 – 2008)

The University of Texas at El Paso

Concentration: Applied Exercise Science

Advisor: Dr. George A King

Thesis: *Relationship of Leptin, Resting Metabolic Rate, and Body Composition in Pre-menopausal Hispanic and Caucasian Women.*

Bachelor of Science (2000 – 2004)

The University of Texas at El Paso

Major: Kinesiology (concentration in Exercise Science)

Minor: Biology

Professional Certification/Licensure

Medtexx Medical Corporation – Phlebotomy Certification (May 2008)

National Strength and Conditioning Association – Certified Strength and Conditioning Specialist (February 2006)

Membership in Professional Organizations

American College of Sports Medicine (2004 – present)

National Strength & Conditioning Association (2004 – present)

American Physiological Society (2014 – present)

Endocrine Society (2008 – present)

American Society for Nutrition (2011 – 2013)

SCHOLARSHIP/CREATIVE ACHIEVEMENTS

Refereed Publications or Other Creative Achievements

King, GA, **SE Deemer**, DL Thompson. Adiponectin is associated with risk of the metabolic syndrome and insulin resistance in women. *Acta Diabetologica* 49(Suppl 1): 41-49, 2012.

Deemer, SE, GA King, S Dorgo, CA Vella, JW Tomaka, & DL Thompson. Relationship of Leptin, Resting Metabolic Rate, and Body Composition in Pre-menopausal Hispanic and non-Hispanic White Women. *Endocrine Research* 35(3): 95-105, 2010.

King, GA, **SE Deemer**, & DL Thompson. Relationship between Leptin, Bone Mineral Density, and Measures of Adiposity among Pre-menopausal Hispanic and Caucasian Women. *Endocrine Research* 35(3): 106-117, 2010.

Manuscripts in Peer Review

Deemer, SE. T Castleberry, C Irvine, M Oldham, DE Newmire, DL Nichols, V Ben-Ezra, BA Irving, & KD Biggerstaff. High-Intensity Interval Exercise Does Not Influence Overnight GH Secretion in Overweight Sedentary Young Women. *Journal of Physiology – Endocrinology & Metabolism* (in review)

Manuscripts in Preparation

Deemer, SE, GA King, TL Nelson, MS Hickey, & CL Melby. Effect of Omega-3 Fatty Acids on Insulin Action, Adiponectin, Lipid Profile, and Lipoprotein Particle Size in Non-Diabetic Mexican American Women.

Deemer, SE, MS Hickey, GA King, & CL Melby. The relationship between small LDL particle concentration and insulin sensitivity in Mexican-American women.

King, GA, **SE Deemer**, BB Parr, SA Conger, AM Swartz, K Bielak, J Langley, JE McLaughlin, ET Howley, DR Bassett, Jr., EC Fitzhugh, & DL Thompson. Effect of Body Composition on the Growth Hormone Response to Exercise in Post-Menopausal Women.

Deemer, SE, GA King, & DL Thompson. The Effect of an Acute Exercise Bout on Insulin Concentration of Obese and Non-Obese Post-Menopausal Women.

SE Deemer & GA King. Association of Sex-Hormone Binding Globulin with Markers of the Metabolic Syndrome and Cardiovascular Disease.

Non-Refereed Publications or Other Creative Achievements

King, GA, S Dorgo, & **SE Deemer**. Body Composition: How to measure it; What does it mean. ACSM Fit Society Page, Winter 2006-2007 – “The Health Club” p. 5-6.

King, GA & **SE Deemer** (2005). Encouraging Physical Activity in the Elderly. *El Paso Physician* 28(5):5.

Invited Presentations

Deemer, SE. High-Intensity Interval Exercise Does Not Influence Overnight GH Secretion in Overweight Sedentary Young Women. President’s Cup Competition at the Annual Meeting of the American College of Sports Medicine; Denver, CO, May 31, 2017.

Deemer, SE. HIIT: Feel the Burn, Lose the Fat? International Symposium in Kinesiology and Exercise Science Research at Baylor University; Waco, TX, October 13, 2016.

Presentations at Professional Meetings

Deemer, SE, T Castleberry, C Irvine, M Mathis, DE Newmire, M Oldham, M Rao, J Yi, DL Nichols, V Ben-Ezra, KD Biggerstaff. High-intensity interval exercise does not influence overnight GH secretion in overweight sedentary young women. Annual Meeting of the Texas Chapter of the American College of Sports Medicine; Waco, TX, February 16-17, 2017. (Poster Presentation).

Deemer, SE. The Influence of high-intensity interval training on basal pulsatile growth hormone secretion patterns in overweight/obese women. Annual meeting of the Texas Chapter of American College of Sports Medicine; Austin, TX, February 27, 2015. (Oral Presentation).

Deemer, SE, MS Hickey, GA King, CL Melby. The relationship between small LDL particle concentration and insulin sensitivity in Mexican-American women. *Medicine & Science in Sports & Exercise*, 46:S305, 2014. National Conference of the American College of Sports Medicine; Orlando, FL, May 29, 2014. (Thematic Poster Presentation).

Deemer, SE, V Ben-Ezra, GS King, MS Hickey, CL Melby. Effect of omega-3 fatty acids on lipid profile and lipoprotein particle size in Hispanic women. *The FASEB Journal*, 28(suppl 1): 642.2, 2014. Experimental Biology 2014; San Diego, CA, April 27, 2014 (Poster Presentation).

Deemer, SE, GA King, MS Hickey, & CL Melby. High Molecular Weight Adiponectin and Fasting Blood Glucose are Predictive of Insulin Sensitivity in Healthy, Hispanic Women. *Medicine & Science in Sports & Exercise*. 45:S333, 2013. National Conference of the American College of Sports Medicine; Indianapolis, IN, May 30, 2013. Free Communication (Poster Presentation).

Deemer, SE, GA King, MS Hickey, CL Melby. Omega-3 fatty acid supplementation does not alter insulin sensitivity or serum adiponectin in healthy Hispanic women. *The FASEB Journal*, 27:1057.8, 2013. Experimental Biology, 2013; Boston, MA, April 23, 2013 (Poster Presentation).

Deemer, SE, GA King, V Castro, F Ibarra, A Jacquez, D Ponce, M Rodriguez, E Venegas, CL Melby, & MS Hickey. Fasting Blood Glucose is Significantly Associated with Metabolic Inflexibility in Hispanic Women. *Medicine & Science in Sports & Exercise*, 44:S421-422, 2012. National Conference of the American College of Sports Medicine; San Francisco, CA, May 31, 2012. Free Communication (Poster Presentation).

SE Deemer & GA King. Association of Sex-Hormone Binding Globulin with Markers of the Metabolic Syndrome and Cardiovascular Disease. *Medicine & Science in Sports & Exercise*, 43:S72, 2011. National Conference of the American College of Sports Medicine; Denver, CO, June 1, 2011. Free Communication (Slide Presentation).

Deemer, SE, GA King, & DL Thompson. Effect of Acute Exercise on Insulin Concentration of Obese and Non-Obese Post-Menopausal Women. *Medicine & Science in Sports & Exercise*, 42:S339-340, 2010. National Conference of the American College of Sports Medicine; Baltimore, MD, June 2, 2010. Free Communication (Poster Presentation).

Deemer, SE, GA King, DL Thompson. Adiponectin is Inversely Associated with Insulin Resistance and Metabolic Syndrome in Premenopausal Non-Diabetic Women. *Medicine & Science in Sports & Exercise*, 41:S54, 2009. National Conference of the American College of Sports Medicine; Seattle, WA, May 28, 2009. Free Communication (Slide Presentation).

King, GA, **SE Deemer**, S Dorgo, DL Thompson. Adiponectin Concentrations are Associated with Cardiovascular Disease Risk Factors in Premenopausal Women. *Medicine & Science in Sports & Exercise*, 41:S54, 2009.

Lonac, MC, JC Richards, **SE Deemer**, TK Johnson, MM Schweder, RJ Supon, C Bell. Epigallocatechin-3-gallate (EGCG) Advances the Onset of the Ventilatory Threshold but Does Not Affect Maximal Oxygen Uptake. *Medicine & Science in Sports & Exercise*, 41:S368, 2009.

Deemer, SE, BM Franco, C Potter, S Dorgo, GA King. Accuracy of an Armband Type Physiological Body Monitor to Estimate Light/Sedentary Activities of Daily Living. *Medicine & Science in Sports & Exercise*, 40:S207, 2008. National Conference of the American College of Sports Medicine; Indianapolis, IN, May 28, 2008. Free Communication (Poster Presentation).

King, GA, **SE Deemer**, S Dorgo, DL Thompson. Influence of Visceral Adiposity and Triglycerides on Insulin Resistance in Pre-Menopausal Caucasian and Hispanic Women. *Medicine & Science in Sports & Exercise*, 40:S227, 2008.

Dorgo, S, GA King, & **SE Deemer**. Effects of Functional Training in an Older Adult Fitness Program. *Research Quarterly for Exercise and Sport*, 79:A-13, 2008.

Deemer, SE, C Potter, GA King, DL Thompson. Relationship of Leptin, Resting Metabolic Rate, and Body Composition in Pre-Menopausal Hispanic and Caucasian Women. *Medicine & Science in Sports & Exercise*, 39:S455, 2007. National Conference of the American College of Sports Medicine; New Orleans, LA, June 1, 2007. Free Communication (Poster Presentation).

King, GA, **SE Deemer**, C Potter, DL Thompson. Relationship Between Leptin, Bone Mineral Density, and Fat Mass in Pre-Menopausal Hispanic and Caucasian Women. *Medicine & Science in Sports & Exercise*, 39:S456, 2007.

King, GA, S Dorgo, & **SE Deemer**. The Application of Peer-Mentoring in a Physical Fitness Program for Older Adults. *Journal of Strength and Conditioning Research*, 21:e23, 2007.

King, GA, S Dorgo, & **SE Deemer**. Sex Difference in Muscular Strength Initiated by Two Different Resistance Training Programs. *Journal of Strength and Conditioning Research*, 21:e37, 2007.

Deemer, SE, BM Franco, C Potter, CG Sifuentes, CA Spence, GA King. Evaluation of a Foot-to-Foot Bioelectrical Impedance Analyzer in Pre-menopausal Hispanic and Caucasian Women. *Medicine & Science in Sports & Exercise*, 38:S310, 2006. National Conference of the American College of Sports Medicine; Denver, CO, June 1, 2006. Free Communication (Poster Presentation).

King, GA, **SE Deemer**, C Potter, CA Spence, BM Franco, CG Sifuentes. Assessment of Body Fatness by Dual Energy X-ray Absorptiometry and Hydrodensitometry. *Medicine & Science in Sports & Exercise*, 38:S311, 2006.

Potter, C, **SE Deemer**, CG Sifuentes, KJ Coleman, GA King. Accuracy of an Armband Type Physiological Body Monitor to Estimate Walking Energy Expenditure in Children. *Medicine & Science in Sports & Exercise*, 38:S208, 2006.

King, GA, **SE Deemer**, BM Franco, C Potter, & KJ Coleman. Accuracy of Three Physical Activity Monitors to Measure Energy Expenditure during Activities of Daily Living. *Medicine & Science in Sports & Exercise*, 37:S115, 2005.

Honors and Awards

Federation of North Texas Area Universities 8th Annual Graduate Research Symposium – Science, Technology, Engineering, and Math Poster Winner (1st): *High-intensity interval exercise does not influence overnight GH secretion in overweight sedentary young women.* (2017)

Texas Chapter of the American College of Sports Medicine – Doctoral Level Poster Winner (1st): *High-intensity interval exercise does not influence overnight GH secretion in overweight sedentary young women.* (2017)

Texas Chapter of the American College of Sports Medicine– Manuscript Award Winner (4th): *Effect of Omega-3 Fatty Acids on Insulin Action, Adiponectin, Lipid Profile, and Lipoprotein Particle Size in Non-Diabetic Mexican American Women*. (2016)

Texas Chapter of the American College of Sports Medicine – Doctoral Student Research Development Award Winner (top 4): *The Influence of High-Intensity Interval Training on Basal Pulsatile Growth Hormone Secretion Patterns in Overweight/Obese Women*. (2015)

Federation of American Societies for Experimental Biology (FASEB)/ Minority Access to Research Careers (MARC) – Program Poster/Oral Presentation Student Travel Award (\$1,850)

- ACSM Annual Meeting, Orlando, FL (2014)
- Experimental Biology, San Diego, CA (2014)
- ACSM Annual Meeting, Indianapolis, IN (2013)
- Experimental Biology, Boston, MA (2013)
- ACSM Annual Meeting, San Francisco, CA (2012)
- ACSM Annual Meeting, Baltimore, MD (2010)
- ACSM Annual Meeting, Seattle, WA (2009)
- ACSM Annual Meeting, Indianapolis, IN (2008)
- ACSM Annual Meeting, New Orleans, LA (2007)

Texas Chapter of the American College of Sports Medicine – Doctoral Level Poster Winner (3rd): *Effect of Omega-3 Fatty Acids on Lipoprotein Profile and Particle Size in Hispanic Women*. (2014)

Invited to attend the FASEB Leadership Development & Grant Writing Seminar Program for Graduate Students and Postdocs/New Assistant Professors; Virginia Beach, VA: August 26-27, 2011.
Travel award funded by the National Institute of General Medical Sciences (NIGMS).

Invited to attend The HUTEF Institute on Post-doctorate Preparation; El Paso, TX: September 24-26, 2009.
Sponsored by Howard University and the University of Texas at El Paso AGEP Program and in cooperation with the National Postdoctoral Association. Funded by National Science Foundation.

Texas Chapter of the American College of Sports Medicine – Master’s Level Poster Winner (3rd): *Effect of Chronic Hydration Status on Fluid Regulation during Prolonged Cycling in the Heat: Preliminary Data*. (2008)

Texas Chapter of the American College of Sports Medicine – Master’s Level Poster Winner (1st): *Relationship of Leptin, Resting Metabolic Rate, and Body Composition in Pre-Menopausal Hispanic and Caucasian Women*. (2007).

Frank B. Cotton Memorial Graduate Scholarship, University of Texas at El Paso (2005-2006)

University of Texas at El Paso – Graduate Enhancement Scholarship (2005-2006)

Western Athletic Conference (WAC) Scholar-Athlete Award (2001-2002)

Fellowships

National Science Foundation – Alliance for Graduate Education and the Professoriate (AGEP) Fellowship; Colorado State University. National Science Foundation for Graduate Students Award #PO0000062901: \$15,000 (2008-2009).

Grants

National Strength & Conditioning Association – Doctoral Research Grant

The Effect of Exercise Intensity on GH Secretion in Young, Sedentary Women; \$15,000: submitted (not funded)

Texas Woman's University Quality Enhancement Program – Graduate Experiential Student Scholar Program Award. *The Influence of Exercise Intensity on 12-hour Growth Hormone Response Following a Single Bout of Exercise in Sedentary Women*; \$2,000: Student Project Grant (Spring 2016)

Texas Chapter of the American College of Sports Medicine – Student Research Development Award Winner *The Influence of High-Intensity Interval Training on Basal Pulsatile Growth Hormone Secretion Patterns in Overweight/Obese Women*; \$1000: Student Project Grant (February 2015).

United States Department of Agriculture – Agriculture Environmental Station (CO)

Effect of Omega-3 Fatty Acid Feeding on Metabolic Syndrome Risk Factors in Hispanic Women.

\$50,000 Role: Co-Principal Investigator with CL Melby (2009-2011).

Texas Chapter of the American College of Sports Medicine – Student Research Development Award

Effect of Chronic Hydration Status on Fluid-regulatory Hormone Response to Prolonged Exercise in the Heat; \$500: Student Project Grant (2006).

University of Texas at El Paso – Graduate Enhancement Funds Scholarship Award

Effect of Chronic Hydration Status on Fluid-regulatory Hormone Response to Prolonged Exercise in the Heat; \$5,000: Student Project Grant (2005-2006).

Health Oriented Topics – H.O.T. Projects, Collegiate Project Assistance Initiative, Paso del Norte Health Foundation

Effect of Chronic Hydration Status on Fluid-regulatory Hormone Response to Prolonged Exercise in the Heat; \$5,000: Student Project Grant (2005-2006).

Health Oriented Topics – H.O.T. Projects, Collegiate Project Assistance Initiative, Paso del Norte Health Foundation

Effect of a non-transdermal protein patch on metabolism, substrate utilization, and body composition; \$5,000: Student Project Grant (2005-2006).

Health Oriented Topics – H.O.T. Projects, Collegiate Project Assistance Initiative, Paso del Norte Health Foundation

Cross-Validation of Accelerometric Based MET Prediction Equations During Daily Activities Compared to Indirect Calorimetry;

\$2,238: Student Project Grant (2005-2006).

TEACHING

Courses Taught at Texas Woman's University

Instructor for KINS 3601: Physiology of Exercise Laboratory

- Developed current lab manual and taught exercise physiology lab techniques to sophomore- and junior-level undergraduate kinesiology majors.

Instructor for KINS 4601: Advanced Exercise Physiology Laboratory

- Taught exercise stress testing, ECG placement and interpretation, and blood pressure techniques to senior-level undergraduate kinesiology majors.

Instructor for KINS 4701: Exercise Testing and Prescription for General and Special Populations Laboratory

- Developed current lab manual and taught fitness assessment techniques to senior-level undergraduate kinesiology majors.

Instructor for KINS 4933: Internship in Cardiac Rehabilitation

- Supervise undergraduate students completing their 350-h internship in a hospital-based cardiac rehabilitation setting and related activities.

Instructor for KINS 4943: Internship in Corporate Fitness

- Supervise undergraduate students completing their 350-h internship in a corporate fitness setting and related activities.

Courses Taught at Colorado State University

Instructor for HES 332F: Techniques of Teaching Individual Sports-Weight Training

- Taught personal training and strength and conditioning techniques to undergraduate students with an emphasis on teaching techniques, assessment and analyzing skills, and program design for both athletes and special populations.

Courses Taught at the University of Texas at El Paso

Instructor for KIN 4323: Current Issues: Exercise & Nutrition

- Taught undergraduate senior-level kinesiology students integrative physiology of energy metabolism and fuel utilization at rest and during exercise. Students were also asked to develop and design a nutrition- or exercise-centric simple research project, collect data and analyze using basic statistics, and have both a written and oral dissemination of results.

Instructor for KIN 3331: Anatomical Kinesiology

- Taught human anatomy and movement analysis to undergraduate kinesiology majors

Instructor for KIN 3313: Statistics and Measurement in Kinesiology

- Taught research design and statistical methods to undergraduate junior- and senior-level kinesiology majors. Statistical tests included: mean, median, mode, standard deviations, correlations, t-tests, and ANOVA.

Instructor for KIN 4301: Personal Training

- Taught personal training to undergraduate senior-level kinesiology students preparing for the NSCA's Certified Personal Training (CPT) Exam

Mentoring

Federation of American Societies for Experimental Biology (FASEB)/Maximizing Access to Research Careers (MARC) Peer Mentoring Program (2010-present)

- *Mentor undergraduate/graduate students at the Annual Biomedical Research Conference for Minority Students (ABRCMS), Experimental Biology, and the regional and national meeting(s) of the American College of Sports Medicine on presenting their scientific data, conference professionalism and networking skills. Additionally, as a peer mentor, I discuss the benefit of summer research opportunities and provide guidance and support to underrepresented minority students interested in pursuing careers in the biomedical sciences.*

Texas Woman's University Exercise Physiology Laboratory Coordinator (2014 – 2017)

- *Mentor M.S. and Ph.D. students in specific biochemistry lab techniques (pipetting, basic phlebotomy skills, I.V. catheter insertion, colorimetric assays and ELISAs, MAGPIX, etc...) that are required to accurately collect thesis and dissertation data*
- *Mentor undergraduate laboratory volunteers and teach them basic laboratory techniques and data collection procedures*
- *Review and edit student IRB proposals*
- *Maintain organization of the exercise physiology lab and laboratory equipment as well as troubleshoot equipment malfunctions*

PROFESSIONAL SERVICE

Service to the Profession

Manuscript Reviewer:

PALAESTRA, Manuscript #15-002RA – August 2015

PLOS One, Manuscript #PONE-D-14-19984R1 – August 2014

International Journal of Exercise Science, Manuscript #1543 – August 2013

International Journal of Exercise Science, Manuscript #1393 – December 2011

TWU Exercise Science Faculty Search Committee student member

Fall 2016/Spring 2017