CURRICULUM VITAE (Required Form) (April 2015)

Matthew C. Kostek
Duquesne University

Education:

post high school, from most recent to earliest

BS
Youngstown State University (Youngstown Ohio)
Exercise Science
6/1997

MS
Ball State University
Cardiac Rehabilitation / Exercise Physiology
1999

PhD
University of Maryland
Kinesiology
2004

Postdoctoral Fellowship
George Washington University School of Medicine
Molecular Genetics of Muscle
2007

Licensure Information:
State and Registration Number: N/A

Certifications (eg, ABPTS): N/A

Employment and Positions Held: from most recent to earliest

Associate Professor
Tenured
Duquesne University
Pittsburgh, PA
2012- present

Assistant Professor
Tenure track
University of South Carolina
Columbia, SC
2007 – 2012

Peer Reviewed Publications:

Integrated Meditation and Exercise Therapy: A Randomized Controlled Pilot of a Combined Nonpharmacological Intervention Focused on Reducing Disability and Pain in Patients with Chronic Low Back Pain. Anna M Polaski, Amy L Phelps, Thomas J Smith, Eric R Helm, Natalia E Morone, Kimberly A Szucs, Matthew C Kostek, Benedict J Kolber. Pain Med. 2021 Feb; 22(2): 444–458.

Polaski AM, Phelps AL, Szucs KA, Ramsey AM, Kostek MC, Kolber BJ (2019). The dosing of aerobic exercise therapy on experimentally-induced pain in healthy female participants. Sci Rep Oct 16;9(1):14842

Polaski AM, Phelps AL, Kostek MC, Szucs KA, Kolber BJ (2019). Exercise-induced hypoalgesia: A meta-analysis of exercise dosing for the treatment of chronic pain. PLoS One Jan9;14(1).

Kostek MC, Gordon B (2018). Exercise Is an Adjuvant to Contemporary Dystrophy Treatments. Exerc Sport Sci Rev Jan;46(1): 34-41.

Aaron SE, Delgado-Diaz DC, Kostek MC. Continuous Ultrasound Decreases Pain Perception and Increases Pain Threshold in Damaged Skeletal Muscle. Clin J Sport Med. 2016 Jul 18 (Epub ahead of print)

Kostek MC, Polaski A, Kolber B, Szucs, K. A Protocol of Manual Tests to Measure Sensation and Pain in Humans J Vis Exp. 2016 Dec

Ketcham CJ, Hall E, Bixby WR, Vallabhajosula S, Folger SE, Kostek MC, Miller PC, Barnes KP, Patel K. A neuroscientific approach to the examination of concussions in student-athletes. J Vis Exp. 2014 Dec 8;(94).

Gordon BS, Delgado-Diaz DC, Carson J, Fayad R, Wilson LB, Kostek MC. Resveratrol improves muscle function but not oxidative capacity in young mdx mice. Can J Physiol Pharmacol. 2014 Mar;92(3):243-51.

Hetzler KL, Collins BC, Shanely RA, Sue H, Kostek MC The homoeobox gene SIX1 alters myosin heavy chain isoform expression in mouse skeletal muscle. Acta Physiol (Oxf). 2014 Feb;210(2):415-28

Joseph Alemany, Diana Delgado Diaz, Stacey Aaron, Matthew C. Kostek. Comparison of acute responses to isotonic or isokinetic eccentric muscle action: differential outcomes in skeletal muscle damage and implications for rehabilitation, International Journal of Sports Medicine, Jun 18, 2013.

Gordon BS, Delgado Díaz DC, Kostek MC. Resveratrol decreases inflammation and increases utrophin gene expression in the mdx mouse model of duchenne muscular dystrophy. Clinical Nutrition, 32(1):104-11, 2013.

Matthew Kostek, Kanneboyina Nagaraju, Ed Pistilli, Arpana Sali, San-Hui Lai, Brad Gordon, Tadamitsu Kishimoto and Yi-Wen Chen. IL-6 signaling blockade increases inflammation but does not improve muscle function in the mdx mouse. BMC Musculoskeletal Disorders. 20:13-106, 2013.

James P White, Melissa J Puppa, Shuichi Sato, Song Gao, Robert L Price, John W Baynes, Matthew C Kostek, Lydia E Matesic and James A Carson Title. IL-6 regulation on skeletal muscle mitochondrial remodeling during cancer cachexia in the ApcMin/+ mouse. Skeletal Muscle. 6:2-14, 2012.

Brad Gordon, Diana Delgado, James White, James Carson, Matthew Kostek. Six1 and Six1 cofactor expression is altered during early skeletal muscle overload in mice. The Journal of Physiological Sciences. 62(5):393-401, 2012.

Kostek MC and Delmonico MJ. Age related changes in adult muscle morphology. Current Aging Science.. 2011 Apr 29.

Sood S, Hanson ED, Delmonico MJ, Kostek MC, Hand BD, Roth SM, Hurley BF. Does insulin-like growth factor 1 genotype influence muscle power response to strength training in older men and women? European Journal of Applied Physiology, 112(2):743-53, 2012.

White JP, Baynes JW, Welle SL, Kostek MC, Matesic LE, Sato S, Carson JA. The regulation of skeletal muscle protein turnover during the progression of cancer cachexia in the Apc(Min/+) mouse. PLoS One. 2011;6(9).

Delgado-Diaz DC, Gordon BS, Dompier T, Burgess S, Dumke C, Mazoué C, Caldwell T, Kostek MC. Therapeutic ultrasound affects IGF-1 splice variant expression in human skeletal muscle. Am J Sports Med. 39(10):2233-41, 2011.

Kostek MC, Joseph M. Devaney, Heather Gordish-Dressman, et al. A polymorphism in the promoter region of IGF1 is associated with body composition and muscle function in women from the Health, Aging, and Body Composition Study and FMS cohort. European Journal of Applied Physiology. 2010 Sep;110(2):315-24

Delmonico MJ, Kostek MC, Johns J, Hurley BF, Conway JM. Can Dual Energy X-Ray Absorptiometry Provide a Valid Assessment of Changes in Thigh Muscle Mass with Strength Training in Older Adults? European Journal of Clinical Nutrition. 2008 Dec; 62(12): 1372-8.

Hand BD, Kostek MC, Ferrell RE, Delmonico MJ, Douglass LW, Roth SM, Hagberg JM, Hurley BF. Influence of promoter region variants of insulin-like growth factor pathway genes on the strength-training response of muscle phenotypes in older adults. Journal of Applied Physiology. 2007 Nov; 103(5):1678-87.

Kostek MC, Chen YW, Cuthbertson DJ, Shi R, Fedele MJ, Esser KA, Rennie MJ. Gene expression responses over 24h to lengthening and shortening contractions in human muscle: major changes in CSRP3, MUSTN1, SIX1 and FBXO32. Physiological Genomics. 2007 Sep;31(1):42-52.

Delmonico MJ, Kostek MC, Doldo NA, Hand BD, Walsh S, Conway JM, Carignan CR, Roth SM, Hurley BF. Alpha-actinin-3 (ACTN3) R577X polymorphism influences knee extensor peak power response to strength training in older men and women. Journals of Gerontology: Series A, Biological and Medical Sciences. 2007 Feb.;62(2):206-12.

N Doldo, MJ Delmonico, JA Bailey, BD Hand, MC Kostek, KM Rabon-Smith, KS Menon, JM Conway, CR Carignan, Hurley B. Muscle Power Quality: Does sex or race affect movement velocity in older adults? Journal of Aging and Physical Activity. 2006 Oct;14(4):411-22.

Hand BD, Roth SM, Roltsch MH, Park JJ, Kostek MC, Ferrell RE, Brown MD. AMPD1 gene polymorphism and the vasodilatory response to ischemia. Life Sci. 2006 Sep 5;79(15):1413-8. Epub 2006 May 16.

Delmonico MJ, Kostek MC, Doldo NA, Hand BD, Bailey JA, Rabon-Stith KM, Conway JM, Carignan CR, Lang J, Hurley BF. Effects of moderate-velocity strength training on peak muscle power and movement velocity: do women respond differently than men?
Journal of Applied Physiology. 2005 Nov;99(5):1712-8.

Kostek MC, Delmonico MJ, Reichel JB, Roth SM, Douglass L, Ferrell RE, Hurley BF. Muscle strength response to strength training is influenced by insulin-like growth factor 1 genotype in older adults. Journal of Applied Physiology. 2005 Jun;98(6):2147-54.

Delmonico MJ, Ferrell RE, Meerasahib A, Martel GF, Roth SM, Kostek MC, Hurley BF. Blood pressure response to strength training may be influenced by angiotensinogen A-20C and angiotensin II type I receptor A1166C genotypes in older men and women.
Journal of the American Geriatric Society. 2005 Feb;53(2):204-10.

Roltsch MH, Brown MD, Hand BD, Kostek MC, Phares DA, Huberty A, Douglass LW, Ferrell RE, Hagberg JM. No association between ACE I/D polymorphism and cardiovascular hemodynamics during exercise in young women Int J Sports Med. 2005 Oct;26(8):638-44.

Rabon-Stith KM, Hagberg JM, Phares DA, Kostek MC, Delmonico MJ, Roth SM, Ferrell RE, Conway JM, Ryan AS, Hurley BF.Vitamin D receptor FokI genotype influences bone mineral density response to strength training, but not aerobic training. Exp Physiol. 2005 Jul;90(4):653-61.

Roth SM, Ivey F, Martel GF, Lemmer J, Hurlbut D, Siegel E, Metter J, Fleg J, Fozard J, Kostek MC, Wernick D, Hurley BF. Muscle size responses to strength training in young and older men and women. Journal of the American Geriatric Society. 2001 Nov;49(11):1428-33.

Peer Reviewed Scientific and Professional Presentations: From the most recent to the earliest

Siyu Liu, Kostek M
Fatty gastrocnemius muscle full histological characterization
American Physiological Society, National Conference
2022

Sweetnich R, Kostek M
Can controlled muscle contractions improve function in muscular dystrophy?
Undergraduate Research and Scholarship Symposium, Duquesne University
2015

Vomer R, Durham E, Ross E, Kostek M
The Effect of Shortening Muscle Contractions on Dystrophic Muscle
Graduate Research Symposium, Duquesne University
2014

Hall, E.E., Ketcham, C.J., Bailey, S.P., Bixby, W.R., Folger, S.E., Kostek, M.C., Miller, P.C., Vallabhajosula, S., & Barnes. K.
Elon BrainCARE: A neuroscience approach to examine the impact of concussions in college student-athletes.
Concussions in Athletics Conference, State College, PA,
2012.

Sundman, M.H., Hall, E.E., Gardner, R.A., Bixby, W.R., Miller, P.C., Folger, S.E., Kostek, M.C., Gordon B.S., & Barnes, K.P.
Catechol-o-methyltransferase genotype influences cognitive performance and concussion history in college football players.
Southeast American College of Sports Medicine Meeting, Jacksonville, FL,
2012

Vallabhajosula, S. Kostek M, & Hall, E.E.
"ELON BrainCARE: Concussion Assessment, Research and Education in college student athletes.
American Medical Society for Sports Medicine Meeting, San Diego, CA,
2013.

Devaney J, Kostek M
Genetic variant in FTO gene is not associated with concussion in college age sports participants

National Capital Area TBI (Tramautic Brain Injury) Research Symposium
2014

Brandauer J, Kostek M
Effect of exercise training and resveratrol on skeletal muscle Nampt in mdx mice.
Copenhagen Biosciences Conference: Genomics in Metabolism, Denmark
2013

Kostek M
High Powered Laser Therapy Enhances Muscle
Healing

American College of Sports Medicine National Meeting,
2013

Wilson D, Kostek M
Associations Among Genetic and Environmental Risk Factors for Obesity and Cardiometabolic Outcomes in Underserved African-American Adults.
The Obesity Society National Meeting
2013

Gordon B, Diaz D, Kostek M
Exercise Increases Utrophin Protein Expression in mdx Mice.
Mid-Atlantic, American College of Sports Medicine
2012

Hetzler K, Gordon, B, Kostek M
The Homeobox gene Six1 alters Myosin Heavy Chain Isoform Expression during Skeletal Muscle Regeneration
Annual Symposium on Regenerative Medicine, University of Pittsburgh School of Medicine
2012

Funded/In Review Grant Activity:

PI: Matt Kostek
$10,000
A Combined Treatment Therapy to Reduce Inflammation, Increase Utrophin and Improve Function in Duchenne Muscular Dystrophy
Source: Hunkele Dreaded Disease Award, 2013 – 2015

PI: Matt Kostek
$9,000
The Effect of Shortening and Lengthening Contractions on Skeletal Muscle Function and Utrophin Protein Expression in the mdx Mouse
Source: Samuel and Emma Winters Foundation, 2012 – 2013,

PI: Matt Kostek
$40,000
Laser Therapy and Therapeutic Ultrasound Treatment in Human Skeletal Muscle Repair and Rehabilitation
Source: LiteCure, 2010 – 2013

PI: Matt Kostek
$20,000
Effects of Resveratrol in mdx Muscle Pathology
Source: NIH Center for Complementary and Alternative Medicine, University of South Carolina

School of Medicine; 2009-2010

PI: Matt Kostek
$10,000
Effects of Six1 on myotube formation
Source: Promising Investigator Research Award, University of South Carolina, 2010 – 2011

Core PI: Eric Hoffman, Project PI: Matt Kostek
$25,000
Whole genome expression profiling of human muscle exposed to therapeutic ultrasound treatment
Source: Integrated Molecular Core for Rehabilitation Medicine (NIH: 3R24HD050846-05S2); 2010-2011.

PI: Krista Vandenborne, Postdoctoral fellow: Matt Kostek
$ 2,000,000
Molecular signatures of muscle rehabilitation after limb disuse
NIH/NICHD 1R01 HD048051-01, 2004-2009

PI: Angela Murphy, CoI: Matt Kostek
$250,000
Pilot studies on quercetin's effect on health and performance;
Quercegen Pharma, 2008-2009

PI/Mentor: Matt Kostek
$3,000
Magellan Research Scholarship; University of South Carolina: Dosage effect of liposome clodronate treatment in mdx mice, 2008-2009 ()

PI: Matt Kostek
$5,000
Research Advisory Committee Grant, Children's National Medical Center: Characterization of Cardiac Ankyrin Repeat Protein (CARP) in skeletal muscle by Gene Transfection, 2005
(PI: Matt Kostek)

PI: Jim Hagberg
$35,000
Predoctoral Fellowship: Predoctoral Training in Exercise Physiology and Aging
T32-AG00268 HHS-PHS/NIH, 2001-2004

Current/Active Research Activity:

Kostek MC, Potdar S, Ambrosio F.
Mitochondrial changes in skeletal muscle with age, effects of antioxidative agents.
Aging Consortium of Duquesne University

Kostek MC, Kolber B
Molecular mechanisms of analgesia: interactions with anxiety and exercise dose in mice
Faculty Development Fund Duquesne University

Membership in Scientific/Professional Organizations:

American College of Sports Medicine
1996 – Present

Member
Past Chair of Membership Committee
Past Chair of Student Affairs Committee

American Physiological Society
2000 – Present
Member

Consultative and Advisory Positions Held:
Consultant to NASA / CASIS Division of the International Space Station for physiological research aboard the space station

Community Service:
St. Joseph's toolbox: handyman volunteer through St. Bernard's Catholic Church, Pittsburgh PA

Services to the University/College/School on Committees/Councils/Commissions:

University-wide
Academic Learning Outcomes Assessment
2013 – Present
Member

Faculty Advisory Board to the Honors College
2016 – Present
Member

School
Faculty Search Committee's for Departments in School: OT, PA
2013 – Present
Member

Department
Faculty Search Committee
2013
Member

Honors and Awards:

Dean's Award for Excellence in Scholarship
School of Health Sciences
2015

Continuing Education Attended: list ONLY courses taken **within the last five (5) years** that **specifically relate** to responsibilities in the entry-level program.

Being a scientist, I do not take clinical continuing education courses. However, I regularly attend scientific meetings, write and review scientific research grants, conduct research, give invited presentations, write book chapters, and publish peer-reviewed research articles in the area of skeletal muscle, specifically the molecular mechanisms of muscle loss due to injury, aging, or disease, and rehabilitation of muscle.

Current Teaching Responsibilities in the Entry-Level Program for Academic Year of Site Visit: (in sequence, by term; do **NOT** include courses taught at other institutions!)

Histology: Fall of first year of professional phase

Human Physiology I: Fall of first year of professional phase
Human Physiology II: Spring of first year of professional phase
Principles of Research: Spring of first year of professional phase