

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
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NAME Paul C. LaStayo		POSITION TITLE Associate Professor of Physical Therapy	
eRA COMMONS USER NAME paullastayo			
EDUCATION/TRAINING (<i>Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.</i>)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
The Colorado College, Colorado Springs, CO	BA	1984	Anthropology
Hahnemann University, Philadelphia, PA	MS	1988	Physical Therapy
Northern Arizona University, Flagstaff, AZ	PhD	2000	Biology
University of Arizona-Sarver Heart Center	Post-Doc	2001	Applied Physiology

A. Professional Positions; Honors/Awards; Editorial Positions; Grant ReviewerProfessional Positions

1989-95 Adjunct Professor, Dept of Orthopaedics, University of Florida, Gainesville, FL
 1989-95 Instructor, University of Florida Department of Physical Therapy, Gainesville, FL
 1995-2001 Lead Physical Therapist, DeRosa Physical Therapy, Flagstaff, AZ
 1995-2001 Adjunct Professor, Northern Arizona University Department of Physical Therapy, Flagstaff, AZ
 2001-2003 Assistant Professor, Northern Arizona University Department of Physical Therapy, Flagstaff, AZ
 2001-present Research Associate-Member, University of Arizona, Sarver Heart Center, Tucson, AZ
 2003-present Associate Professor, Department of Physical Therapy, University of Utah, Salt Lake City, UT
 2003-present Adjunct Assoc Professor, University of Utah Dept Exercise Sport Sciences, Salt Lake City, UT
 2003-present Adjunct Associate Professor, University of Utah Dept of Orthopedics, Salt Lake City, UT

Honors/Awards

Research Development Award, University of Florida, 1994
 Graduate Student Research Award, American Heart Association, 1996
 Most Outstanding Achievement Reward for College Scientists (ARCS) Scholar, 1999
 International Olympic World Congress, Finalist-Prince Alexandre de Merode Award, Salt Lake City, UT, 2001
 Mary Lipscomb Hamrick Research Abstract Award-United States Army, 2006
 New Investigator Award-University of Utah, College of Health, Salt Lake City, UT, 2006
 Excellence in Geriatric Research Award-American Physical Therapy Association, Section on Geriatrics, 2009

Editorial Positions

Editor-in-Chief: *Journal of Hand Therapy* (2007-present)
 Associate Editor: *Journal of Orthopaedic and Sport Physical Therapy* (2003-2008)

External Grant Review Panel (present)

National Institutes of Health- MRS Study Section- ad hoc member
 Swiss National Science Foundation-NRP: Musculoskeletal Health—Chronic Pain
 American Physical Therapy Association: Orthopaedic Section Research Grant

B. Selected Publications (*Muscle and Mobility Related Papers Only*)

LaStayo PC, Lindstedt SL: The effect of high altitude on the ventilatory muscles. *Acta Andina* VI(2):29-35; 1997
LaStayo PC, Wright T, Jaffe R, Hartzel J: Continuous passive motion after repair of the rotator cuff: A prospective outcome study. *J Bone Joint Surg* 80-A(7): 1002-1011, 1998.
 Thomas RG, **LaStayo PC**, Hoppeler H, Favier R, Ferretti G, Kayser B, Desplanches D, Spielvogel H, Lindstedt SL: Exercise training in chronic hypoxia has no effect on ventilatory muscle function in humans. *Respir. Physiol* 112:195-202, 1998.
 Dockery ML, Wright TW, **LaStayo PC**: EMG of the shoulder: An analysis of passive modes of exercise. *Orthopedics* 21:1181-1184, 1998
LaStayo PC, Reich TE, Urquhart M, Hoppeler H, Lindstedt SL: Chronic eccentric exercise: improvements in muscle strength can occur with little demand for oxygen. *Am J Physiol (Regulatory Integrative Comp. Physiol)* 45(N2):R611-R615, Feb 1999.

- LaStayo PC**, Pierotti DJ, Pifer J, Hoppeler H, Lindstedt SL: Eccentric ergometry: Increases in locomotor muscle size and strength at low training intensities. *Am J Physiol (Regulatory Integrative Comp Physiol)* 278:R1282-1288, 2000.
- Reich TE, Lindstedt SL, **LaStayo PC**, Pierotti D: Are muscle springs plastic? *Am J Physiol (Regulatory Integrative Comp Physiol)* 278:R1661-1666, 2000.
- Alba CD, **LaStayo PC**: Postoperative management of functionally restrictive muscular adherence, a corollary to surgical tenolysis. *J Hand Ther* 14:43-50, 2001.
- Lindstedt SL, **LaStayo PC**, Reich TE: When active muscles lengthen: properties and consequences of eccentric contractions. *News Physiol Sci* 16:256-261, 2001
- Lindstedt SL, Reich T, Keim P, **LaStayo PC**: Do muscles function as adaptable locomotor springs? *J Exp Biol* 205:211-2216, 2002.
- LaStayo PC**, Ewy GA, Pierotti DD, Johns RK, Lindstedt SL: The positive effects of negative work: increased muscle strength and decreased fall risk in a frail elderly population. *J Gerontol A Biol Sci Med Sci* 58(5):M419-24, 2003.
- Meyer K, Steiner R, **LaStayo PC**, Lippuner K, Allemann Y, Eberli, JP. Schmid, Saner S, Hoppeler H: Eccentric exercise in coronary patients: Central hemodynamic and metabolic responses. *Med Sci Sports Exerc* 35(7):1076-1083, 2003.
- LaStayo PC**, Woolf J, Lewek M, Snyder-Mackler L, Reich T, Lindstedt SL: Eccentric muscle contractions: Their contribution to injury, prevention, rehabilitation, and sport. *J Ortho Sport Phys Ther* 33:557-571, 2003.
- Gerber, JP, Marcus RL, Dibble L, Greis P, **LaStayo PC**: Early Application of Negative Work via Eccentric Ergometry Following Anterior Cruciate Ligament Reconstruction: A Case Report. *J Ortho Sport Phys Ther* 36(5): 298-307 2006.
- Dibble L, Hale TF, Marcus RL, Droge J, Gerber JP, **LaStayo PC**: High Intensity Resistance Training Amplifies Muscle Hypertrophy and Functional Gains in Persons with Parkinson Disease. *Movement Disorders* 21:1444-1452, 2006.
- Dibble L, Hale TF, Marcus RL, Droge J, Gerber JP, **LaStayo PC**: The Safety and Feasibility of a High Intensity Negative Work Exercise Regime in Persons with Parkinson's Disease. *Arch Phys Med Rehabil* 87:1280-1282, 2006.
- Gerber JP, Marcus RL, Dibble L, Greis P, Burks R, **LaStayo PC**: Safety, feasibility and efficacy of negative work exercise via eccentric muscle activity following anterior cruciate ligament reconstruction. *J Ortho Sport Phys Ther* 37:10-18, 2007
- Gerber JP, Marcus RL, Dibble L, Greis P, Burks R, **LaStayo PC**: Effects of early progressive eccentric exercise on muscle structure after anterior cruciate ligament reconstruction. *J Bone Joint Surg* 89:559-570.
- Marcus, RL, Graybill CS, **LaStayo PC**: Impaired Muscle and Mobility: The Road From Menopause to Frailty *Clin Obstet and Gynecol* 50(3):776-789, 2007.
- LaStayo PC**, McDonagh P, Napoles P, Bartholomew A, Lindstedt SL: Aging adults and high force resistance exercise: a descriptive report of whether an anabolic, muscle growth response can occur without a muscle damage or inflammatory response. *J Geriatric Phys Ther* 30(3):128-134. 2007
- Meier W, Mizner R, Marcus R, Dibble L, Peters, C, **LaStayo PC**: Total knee replacement: muscle impairments, functional limitations, and the related rehabilitation approaches. *J Ortho Sport Phys Ther* 38(5):246-56. 2008
- LaStayo, PC**, Pifer J, Pierotti DJ and SL Lindstedt: EMG adaptations elicited by sub-maximal work in those naïve-to and in those adapted-to eccentric exercise. *J Strength Cond Res* 22(3):833-8. 2008
- Marcus RL, Smith S, Morrel G, Addison O, Dibble LE, **LaStayo PC**: Comparison of combined aerobic and high-force eccentric resistance exercise to aerobic-only exercise for people with type 2 diabetes mellitus. *Phys Ther* 88:1345-1354. 2008
- Gerber JP, Marcus RL, Dibble L, Greis P, Burks R, **LaStayo PC**: Effects of Early Progressive Eccentric Exercise on Muscle Size and Function 1 Year After Anterior Cruciate Ligament Reconstruction: A Follow-up Study. *Phys Ther* 89:51-59, 2009
- Marcus RL, **LaStayo PC**, Dibble LE, Hill L, McClain DA: Increased Strength and Physical Performance With Eccentric Training In Women With Impaired Glucose Tolerance: A Pilot Study. *J Woman's Health* 18(2):253-60, 2009
- Gerber JP, Marcus RL, Dibble L, **LaStayo PC**: The Use of Eccentrically-biased Resistance Exercise to Mitigate Muscle Impairments Following Anterior Cruciate Ligament Reconstruction: A Short Review. *Sports Health* 1(1):31-38, 2009.

- Meier W, Marcus R, Dibble L, Foreman KB, Peters CL, Mizner R, **LaStayo PC**: The long-term contribution of muscle activation and muscle size to quadriceps weakness following total knee arthroplasty. *J Geriatric Phys Ther* 32(2):35-38, 2009
- LaStayo PC**, Meier W, Marcus R, Mizner R, Dibble L, Peters, C: Resistance Exercise For Muscle Impairments and Functional Limitations 1-2 Years Following Total Knee Arthroplasty. *Clin Orthop Rel Res* 467(6):1493-500, 2009
- Mitchell SA, Kline Leidy N, Mooney KH, Dudley WN, Beck SL, **LaStayo PC**, Cowen EW, Palit P, Comis L, Gerber LH, Krumlauf M, Avila D, Atlam N, Fowler D, Pavletic SZ: Determinants of functional performance in long-term survivors of allogeneic hematopoietic stem cell transplantation with chronic graft-verses-host disease (cGVHD). *Bone Marrow Transplantation* (in press)
- Dibble LE, Hale T, Marcus RL, Gerber JP, **LaStayo PC**: High intensity resistance exercise decreases bradykinesia and improves quality of life in persons with Parkinson's disease. *Parkinsonism and Related Disorder* (in press)
- Kidde JP, Marcus R, Dibble L, Smith S, **LaStayo PC**: Regional muscle and whole body composition factors related to an older individual's level of mobility: A review. *Physiother Can* (in press)
- Hansen PA, Dechet CB, **LaStayo PC**: Eccentric Resistance Exercise in Prostate Cancer Survivors On and Off Hormone Therapy: A Pilot Study. *Phys Med Rehabil* (in press).
- Marcus RL, Addison O, Kidde JP, Dibble LE, **LaStayo PC**: Skeletal muscle fat infiltration: Impact of age, inactivity and exercise. *J Nutr Health and Aging* (in press)
- Elmer SJ, Madigan ML, **LaStayo PC**, Martin JC: Joint-Specific Power Absorption during Eccentric Cycling. *Clinical Biomechanics* (in press)
- Dibble LE, Hale T, Marcus RL, Gerber JP, **LaStayo PC**: High intensity resistance exercise decreases bradykinesia and improves quality of life in persons with Parkinson's disease. *Parkinsonism and Related Disorder* (in press)

C. Research Support (ongoing or completed during last three [3] years)

Ongoing

Grant #: 1R01 AG031255-01A1

Dates: 2008-2013

Funding Agency: NIA- National Institute on Aging

Role: Principal Investigator

Title: Reducing Falls with RENEW in Older Individuals Who Have Fallen

Aims: To test the effectiveness of eccentric exercise in mitigating fall risk and the incidence of falls and to determine if muscle conditioning is a mediator.

Grant #: 3R01 AG031255-02S1

Dates: 2009-2011

Funding Agency: NIA- National Institute on Aging

Role: Principal Investigator

Title: Administrative Supplements for Translational Research Leading to New Interventions, Health Practices and Policies. Parent grant, "Reducing Falls with RENEW in Older Individuals Who Have Fallen.

Aims: To determine if submaximal muscle force steadiness is impaired in older individuals who have fallen and if it is amenable to change following RENEW.

Grant # 1R21 CA135250-01A1

Dates: 2009-2011

Funding Agency NCI- National Cancer Institute

Role: Co-Investigator (Kinney-PI)

Title: Biobehavioral Effects of Tai Chi Chih Among Elderly Breast Cancer Survivors

Aims: To determine the effectiveness of Tai Chi Chih on physical outcomes and quality of life among women 65 years and older who have been treated for breast cancer.

Grant #: 1R15 HD056478-01

Dates: 2007-2010

Funding Agency: NIH- NICHD / NCMRR

Role: Co-Investigator (Dibble-PI)

Title: Dopamine Replacement and Resistance Training Effects on Hypokinesia in Parkinson Disease.

Aims: To determine the relative contribution of CNS mediated changes and peripherally mediated changes on hypokinesia in older individuals with Parkinson Disease.

Completed

Grant #: 1R21 CA114523-01A1

Dates: 2006-2009

Funding Agency: NIH- National Cancer Institute

Role: Principal Investigator

Title: A RENEW intervention for elderly cancer survivors.

Aims: To pilot the effectiveness of eccentric exercise in improving muscle structure, their overall fatigue and perception of weakness as well as mobility in and elderly population that has survived cancer.

Grant #: R21 AG18701

Dates: 2002-05

Funding Agency: NIH, National Institute on Aging

Role: Co-PI (Lindstedt, PI)

Title: High Force Eccentric Exercise for Sarcopenia

Aims: To explore an eccentric intervention in frail elderly individuals with sarcopenia and a high risk for falling.

Grant #: PP1150

Dates: 2006-07

Funding Agency: National Multiple Sclerosis Society

Role: Principal Investigator

Title: High Force, Low-Cost Resistance Training in Individuals with Multiple Sclerosis High-Force.

Aims: To pilot the effectiveness of eccentric exercise in improving muscle structure/function and mobility in an population that has multiple sclerosis and impaired mobility.

Grant #: N/A

Dates: 2005-06

Funding Agency: American Physical Therapy Association

Role: Co-Principal Investigator

Orthopedic Section Clinical Research Grant

Title: Eccentric resistance following ACL reconstruction: Can improvements in muscle size, strength and function be amplified in the early postoperative period?

Aims: To determine if eccentric exercise can amplify the improvements in muscle size and function, as compared to traditional post-operative rehabilitation following ACL reconstruction.

D. Time and Effort Statement

Research 65%; Teaching 20%; Administration 15%