

UNIVERSITY OF FLORIDA
Department of Physical Therapy
COLLEGE OF HEALTH PROFESSIONS
Curriculum Vitae
June 3, 2008

Krista Vandenborne, PhD.

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Tel: (352) 273-6085

Education:

1984-1988 Licentiate Physical Therapy and Motoric Revalidation
Free University of Brussels, Brussels, Belgium

1988-1993 Ph.D. Physical Therapy
Free University of Brussels, Brussels, Belgium

Postgraduate Training and Fellowship Appointments:

1988-1989 Research Fellow, Sports Medicine
Department of Human Physiology
Free University of Brussels, Brussels, Belgium

1989-1990 Research Fellow, Belgian American Educational Foundation
Department of Biochemistry and Biophysics
University of Pennsylvania, Philadelphia

1990-1992 Research Fellow, Belgian National Funds for Scientific Research
Department of Human Physiology
Free University of Brussels, Brussels, Belgium
Department of Biochemistry and Biophysics
University of Pennsylvania, Philadelphia

1992-1993 Research Fellow, Belgian National Funds for Scientific Research
Department of Human Physiology
Free University of Brussels, Brussels, Belgium
Department of Radiology
University of Pennsylvania, Philadelphia

1993-1994 NIH-Post-Doctoral Fellow, Neurorehabilitation
Department of Rehabilitation Medicine
University of Pennsylvania, Philadelphia

Faculty Appointments:

1994-1999 Research Assistant Professor
Department of Rehabilitation Medicine
University of Pennsylvania, Philadelphia

1997-1999 Visiting Professor

1998-1999	Department of Sports Medicine Free University Brussels, Belgium Chair of Research
1998-2001	Department of Rehabilitation Medicine University of Pennsylvania, Philadelphia Research Assistant Professor
1999-2001	Department of Radiology (Secondary appointment) University of Pennsylvania, Philadelphia Research Assistant Professor
2001-2002	Department of Physiology (Primary appointment) University of Pennsylvania, Philadelphia Associate Professor
2002-2007	Department of Physical Therapy University of Florida, Gainesville Chair & Associate Professor
2003-2005	Department of Physical Therapy University of Florida, Gainesville Associate Director for Human Imaging Advanced Magnetic Resonance Imaging and Spectroscopy Center
2007 -	University of Florida, Gainesville Chair & Professor
2007-2010	Department of Physical Therapy University of Florida, Gainesville Research Foundation Professor University of Florida, Gainesville

Specialty Certification:

1988 Licentiate in Physical Therapy and Motoric Revalidation

Licensure: Belgium

Awards, Honors and Membership in Honorary Societies:

1988 Summa Cum Laude, Licentiate in Physical Therapy and Motoric Revalidation
 1989 Fulbright Award, Belgian American Educational Foundation Fellow
 1990-1992 Fellowship of the Belgian National Funds for Scientific Research
 1992 Fellowship for long study periods in a foreign country (NFWO)
 1992-1994 Fellowship of the Belgian National Funds for Scientific Research
 1993 Summa Cum Laude, Ph.D. in Physical Therapy and Motoric Revalidation
 1994 Scientific Astra-Prize from the Belgian Association of Sports Medicine and Sports Science
 1994 McCabe Fund Pilot Project Award
 1995 NIH FIRST Award (R29-HD33738)
 1995 First NCMRR funded T-32 fellow to receive funding as independent investigator
 1996 APTA: *Eugene Michels Researcher's Forum* speaker
 1998 Member of the Pennsylvania Muscle Institute
 1999 Associate Member, Institute for Human Gene Therapy, University of Pennsylvania
 2003- Member, National High Magnetic Field Laboratory

Memberships in Professional and Scientific Societies:

National Societies:

American Society of Sports Medicine
American Physiological Society

Local Societies:

Fellow, Institute of Aging, University of Pennsylvania
Member, Pennsylvania Muscle Institute
Associate Member, Institute for Human Gene Therapy, University of Pennsylvania
Member, McKnight Brain Institute, University of Florida
Member, Brooks Rehabilitation Center, University of Florida
Member, Institute on Aging, University of Florida
Member, Advanced Magnetic Resonance Imaging and Spectroscopy Center

International Societies:

International Society for Educators in Physiotherapy
National Federation for Doctors and Licentiates in Physical Therapy (Belgium Association)
Belgian American Education Foundation (BAEF)

Editorial Positions:

1996- Ad hoc Reviewer for American Journal of Applied Physiology
1996- Ad hoc reviewer for Journal of Gerontology: Biological Sciences
1999- Reviewer for Magnetic Resonance in Medicine
1999- Ad hoc reviewer for Exercise & Sports Science Reviews
2000- Ad hoc Reviewer for NMR in Biomedicine
2000- Ad hoc reviewer for Acta Physiologica Scandinavica
2002- Ad hoc Reviewer for Physical Therapy

Reviewer in scientific committees:

1999- NIH: Ad hoc Reviewer Chronic Fatigue Syndrome study section
2000 NASA: Reviewer Nutrition, Physical Fitness Rehabilitation study section
2000- NIH: Ad hoc reviewer Geriatrics and Rehabilitation Medicine study section
2000 Ad hoc reviewer Moss Rehabilitation Research Institute
2003 Reviewer Special Emphasis Panel: Molecular and Cellular Basis of Contractures of the Design of Therapeutic Interventions
2004- NIH: Ad hoc reviewer: Skeletal Muscle and Exercise Physiology study section
2004- Ad hoc Reviewer: Special Emphasis Panel-ZHD1 DSR-T BMS
2005-09 Permanent reviewer: "Function, Integration and Rehabilitation Sciences Subcommittee" NIH study section.
2006 Chair Special Emphasis panel Session (August 2006): ZHD1 DSR-T BMS.

Principal Investigator of Grants (Direct cost):

Muscular Atrophy - Noninvasive Quantitative Assessment Using NMR, McCabe Fund Pilot Project Award, 1994, \$20,000, (Principal Investigator)

Restoration of Muscle Function during Rehabilitation, NIH-First Award, 1-R29-HD33738-01, 1995-2000, \$349,896, (Principal Investigator)

Gene Therapy for Neuromuscular Disorders, Muscular Dystrophy Association, 1998-1999, \$25,000, (Principal Investigator)

Mechanisms of Muscle Dysfunction and Recovery after Limb Disuse, NIH-R01 HD37645-01, 1999-2004, \$800,769, (Principal Investigator)

IGF-I Gene Transfer to Accelerate Recovery Following Disuse, NIH RO1HD042955, 2001-2006, \$742,500 (Principal Investigator)

Interdisciplinary Training in Rehabilitation and Neuromuscular AR Plasticity, NIH-T32HD043730A, 2003-2008, \$797,980, (Principal Investigator)

Molecular Signatures of Muscle Rehabilitation After Limb Disuse, NIH-R01HD048051, 2004-2009 \$1,250,000, (Principal Investigator)

IGF-1 Gene Transfer and Locomotor Training After SCI, Paralyzed Veterans Administration-2347, 2005-2006, \$137,595, (Principal Investigator)

Validation of MRI for Clinical Trials in Muscular Dystrophy, Muscular Dystrophy Association, 2006-2009, \$391,876 (Principal Investigator)

Co-PI on Grants (Direct cost):

A Resource for Magnetic Resonance and Optical, NIH-2P41-RR02305-12, 1994-1999, \$3,222,291 (PI: John S. Leigh, Role Co-Investigator)

Testosterone and Reconditioning in Elderly Man, ALZA, 1999-2000, \$80,906, (PI: Peter Snyder; Role:Co-PI)

The effect of Estrogen and DHEA supplementation on serum Lipids, Muscle Mass, Muscle and Endurance: A Pilot RCT, Berlex Foundation, 1999-2000, \$50,000, (PI: Kurt Barnhart; Role: Co-PI)

Energy Homeostasis in Human Obesity, NIH RO1-DK30583, 1996-2001, \$1,324,500, (PI: Rudolph Leibel; Role: PI on subcontract to Columbia University)

Metabolic and Transport Pathways in Skeletal Muscle, NIH-R01AR045394, 2001-2006, \$980,346 (PI: Robert Forster; Role: PI on subcontract to University of Pennsylvania)

Physiological Basis of Muscle Functional MRI, NIH-RO1AR043903, 2001-2006, \$900,000, (PI: Ronald Meyer; Role: PI on subcontract to Michigan State University in 2001 until transfer to UF).

Gradient Upgrade on 2T Human MRI/MRS system, 1S10RR015709-01, 2001, \$326,750, (PI: John S. Leigh, Role: Co-PI)

NMES after total knee arthroplasty, NIH-RO1 subcontract to University of Delaware, 2001-2006, \$1,125,000 (PI: Lynn Snyder-Mackler; Role PI on subcontract to University of Delaware in 2001-2002)

Noninvasive Monitoring and Tracking of Muscle Stem Cells, NIH-R01HL078670, 2004-2008, \$1,108,000, (PI: Glenn Walter; Role: Co-PI)

Modulation of Muscle Growth for Muscle Dystrophies, Subcontract to the University of Pennsylvania NIH-U54AR052646, 2006-2011, \$5,000,000, (PI: Lee Sweeney, Role: PI on subcontract)

Weight loss in older obese African American Women, University of Florida Funding Opportunity, 2006-2007, \$81,876 (PI: Michael Perri; Role : Co-PI)

Claude D. Pepper Older Americans Independence Center, NIH, 2006-2011, \$6,121,206 (PI: Marco Pahor; Role: Co-Investigator – Note: awaiting budget approval by council)

Rehabilitation Research Career Development Program, K12 HD055929-01, 2007-2012, \$595,461 (PI: Kenneth Ottenbacher; Role: PI on subcontract, deputy director)

Mentor/Sponsor on Grants (Direct cost):

Restoration of Muscle Function During Rehabilitation, NIH Research Supplement for Under-represented Minorities, 3-R29-HD-337838-01-S1, 1996-1997, \$33,527, (Principal Investigator: Richard Williams)

PODS Level I Scholarship, Foundation for Physical Therapy, American Physical Therapy Association, 2002-2003 (PI: Tiffany Frimel).

Muscle Damage during Reloading, PODS Level II Scholarship, Foundation for Physical Therapy, American Physical Therapy Association, 2003-2004, (Principal Investigator: Tiffany Frimel)

Anti-oxidants to promote muscle recovery following limb disuse, predoctoral fellowship, Department of Veterans Affairs, \$20,000, 2003-2004, (PI: Tiffany Frimel)

Muscle Plasticity in Spinal Cord Injury, VA postdoctoral fellowship, 2003-2005, \$102,000, (PI: Jennifer Stevens)

Perineural Local Anesthetic Infusion Following Total Knee and Hip Replacement, Foundation For Anesthesia Education Research (FAER), 2005-2007, \$255,000, (PI: Brian Ilfeld)

Muscle Function and Locomotor Recovery after CNS injury, VA postdoctoral fellowship, 2005-2007, \$108,000 (PI: Chris Gregory)

Perineural Anesthetic Infusion after Joint Replacement, NIH-K23GM077026, 2005-2010, \$571,250, (PI: Brian Ilfeld)

Development of a Lyapunov-based control framework for NMES applications", NSF Career award, 2006-2009, \$350,000 (PI: Warren Dixon)

Consultant on Grants (Direct cost):

Strength Training using NMES in Children with CP, NIH-R01HD043859, 2004-2009, \$750,000, (PI: Samuel Lee)

NCMRR Integrated Molecular Core for Rehabilitation Medicine Infrastructure grant, R24HD050846, 2005-2010, \$5,340,450, (PI: Eric Hoffman)

Academic Committees:

1997 Member, Review Committee, Pennsylvania Muscle Institute
1998-1999 Chair, Research Committee, Department of Rehabilitation Medicine

- 1999 Member, Faculty- 2000, Special Opportunities Working group.
2002- Member, Leadership Committee, College of Public Health and Health Professions

Major Teaching and Research Training Activities:

Supervision of students and research fellows:

- Faruk Ficqbal, Undergraduate, Computer Science, 1994
- Sachin Sachida, Masters Student, Biomedical Engineering, 1996
- Heather Gullish, Medical student, 1996
- William Jaffe, Medical student, 1997
- Sadi Abdus, Research Fellow, 1997
- Alexandria Robinsky, Medical student, 1997
- David Tahernia, resident, Orthopedic Surgery, 1996-1998
- William Luchetti, resident, Orthopedic Surgery, 1996-1997
- Naveen Ramineni, Medical student, 1998
- William Shull, research fellow, Rehabilitation Medicine, 1995
- Emad Al-Farre, Masters student, Oral Biology, 1997-1998
- Richard Williams, Graduate Student, 1997-1998
- Matthew Muskett, Undergraduate, Biology, 1998-1999
- David Russ, Graduate Student, Biomechanics and Movement Science, 1998
- Chris Gregory, Graduate Student, 1996-1999
- Mark Kurish, Undergraduate, Biology, 1998-1999
- Peter Yeh, Undergraduate, Electrical Engineering, 1999
- Fatema Kapadia, Masters Student, Physical Therapy, 2002-2004
- Kayla Vallerand, undergraduate student 2004-2005

Mentor of Post-doctoral fellows and Junior Faculty:

Samuel Lee, Post-doctoral fellow, 1999

Current Position: Assistant Professor, Department of Physical Therapy, University of Delaware

Funding: NIH-R01HD043859

Jennifer Stevens, 2002-2005

Current Position: Assistant Professor, Department of Physical Therapy, University of Denver

Funding: VA-postdoctoral Fellowship, intramural grant University of Denver, submitted K-award

Chris Gregory, 2004-2006

Current Position: Postdoctoral fellow

Funding: VA-postdoctoral Fellowship

Brian Ilfeld, 2002-

Current Position: Assistant Professor, Department of Anesthesiology, University of Florida

Funding: Foundation for Anesthesia Education Research (FAER), NIH-K23 award

Teresa Chmielewski, 2005-

Current Position: Assistant Professor, Department of Physical Therapy, University of Florida

Funding: K01 award submitted (score 198; revision submitted)

Warren Dixon, 2004-

Current Position: Assistant Professor, Department of Mechanical and Space Engineering, University of Florida

Funding: NSF Career award

Sunita Mathura, start date January 2007
Current Position: Postdoctoral Fellow

Preceptor of the following PhD students:

Tiffany Frimel, Graduate Student, Rehabilitation Science, 2001-2005
Dissertation Project: "Muscle atrophy and reloading in a mouse model"
Current Position: Post-doctoral fellow
Funding: PODS Level I Scholarship, Viva J. Erickson Scholarship, PODS Level II Scholarship, VA predoctoral fellowship, APTA post-doctoral fellowship

Neeti Pathare, Graduate Student, Rehabilitation Science, 2002-2005
Dissertation Project: "Muscle adaptations following limb disuse"
Current Position: Assistant Professor, Department of Physical Therapy, Russell Sage Colleges, Troy, New York
Funding: Alumni fellowship, Outstanding International Student Award, Frederick RSD scholarship

Min Liu, Graduate Student, Rehabilitation Science, 2003-2006
Dissertation Project: "Muscle Plasticity following Spinal Cord Injury in Rats"
Current Position: Post-doctoral Fellow, Department of Physiological Genomics, University of Florida
Funding: Alumni fellowship, Frederick RSD scholarship

Prithvi Shah, Graduate Student, Rehabilitation Science, 2004-
Dissertation Project: "Implementation of MRI to study skeletal muscle in patients with SCI"
Funding: Black Scholarship

Arun Jayaraman, Graduate Student, Rehabilitation Science, 2003-
Dissertation Project: "Functional assessments and locomotor recovery in incomplete SCI"
Funding: Charlotte Liberty and Ellen Black Scholarship

Ye Fan, Graduate Student, Rehabilitation Science, 2005-
Dissertation Project: "Role of IGF-I to modulate muscle plasticity during limb disuse"
Funding: Alumni Fellowship

Ravneet Singh Vohra, Graduate Student, Rehabilitation Science
Starting Date August 2006

Member of Dissertation committees:

- Emad Al-Farra, Masters degree candidate Oral Biology, School of Dental Medicine, University of Pennsylvania "Magnetic Resonance Spectroscopy of the Masseter Muscle.", 1997-1998
- David Russ, Doctoral Candidate, Biomechanics and Movement Science, University of Delaware, "Metabolic Optimization of Functional Electrical Stimulation.", 1998-2001
- Nicole Tester, Doctoral Candidate, Medical Sciences, University of Florida, "Effects of CS GAG Degradation on Motor Recovery Post-SCI.", 2002-2006
- Ira Smith, Graduate Student, Health and Human Performance, University of Florida, "Calpain Activation during muscle atrophy.", 2001-2005
- Darin Falk, Graduate Student, Health and Human Performance, University of Florida, "Mechanical Ventilation and Respiratory Muscles.", 2003-
- Joel Bialosky, Graduate Student, Rehabilitation Science, University of Florida, "Manipulation for Treatment of Lower Back Pain.", 2004-2008

Training mentor:

- T32-HD07425 "Research Training in Neurologic Rehabilitation Grant, " 1996-2001
- T32-AR07584 "Training in Muscle Biology, " 1998-2001
- NIH-HL07614-05 "Metabolic Magnetic Resonance Training, " 1998-2001
- T-32- HD043730A "Interdisciplinary Training in Rehabilitation and Neuromuscular Plasticity", 2003-2008.

Other teaching activities

Academic Year 1997-1998

- 993 MRS applications
Department of Rehabilitation Medicine,
University of Pennsylvania
- 998 Muscle Metabolism
Department of Rehabilitation Medicine,
University of Pennsylvania

Academic Year 1998-1999

- Physiology course
Physical Therapy and Physical education Program
Free University Brussels
- Coordinator, Rehabilitation Medicine Research Seminars
Department of Rehabilitation Medicine,
University of Pennsylvania

Academic Year 1999-2000

- Neurophysiology course
Physical Therapy and Physical education Program
Free University Brussels

Academic Year 2002-2003

- Advanced research Course, RSD Program
- Supervised Research, RSD program

Academic Year 2003-2004

- Seminar Course: Magnetic Resonance I
- Seminar Course: Magnetic Resonance II: Muscle Analysis II
- PHT6935: Rehabilitation Seminar Course: The Art of Scientific Presentation

Academic Year 2004-2005

- Seminar Course: Magnetic Resonance I
- Seminar Course: Magnetic Resonance II: Muscle Analysis II
- Supervised Teaching

Academic Year 2005-2006

- Seminar Course: Magnetic Resonance I
- Seminar Course: Magnetic Resonance II: Muscle Analysis II
- PHT6935: Rehabilitation Seminar Course: The Art of Scientific Presentation

Academic Year 2006-2007

- PHT6935: Rehabilitation Seminar Course: The Art of Scientific Presentation

Lectures by Invitation:

- Sept. 1990 "Non-Invasive Detection of Muscle Fiber Types in Man."
Colloque Fatigue Musculaire, Cretail, France
- Oct. 1990 "New Horizons in Medical Magnetic Resonance."
PRIMIS Symposium, Belgium
- Mar. 1991 "Non-Invasive Detection of Muscle Fiber Types - a Tool for Event Selection in the Future?", International Symposium On: Running Science, Belgium
- May 1991 "An Approach to Fiber Typing in Athletes and Non-athletes Using ³¹P-MRS.", American College of Sports Medicine Conference, Orlando, Florida
- Sept. 1991 "Muscle Metabolism in the Medial and Lateral Gastrocnemius Using a Simple Localization Procedure.", Biochemistry of Exercise Conference, Japan
- Sept. 1991 "Multiple pH Values in Individual Muscles.", Biochemistry of Exercise Conference, Japan
- Sept. 1992 "Energy Rich Phosphates in Muscles with a Different Fiber Type Mixture using Localized NMR Spectroscopy.", American College of Sports Medicine Conference, Dallas, Texas
- Apr. 1993 "Phosphate Content in Fast and Slow Twitch Muscles. ", Belgian Sports Medicine and Sports Science Conference, Belgium
- Apr. 1994 "Spatial Localization of Skeletal Muscle during Exercise. ", *In Vivo* Magnetic Resonance Spectroscopy Symposium: An Advanced Participation Workshop, California
- Apr. 1994 "Localized Spectroscopy of Skeletal Muscle. ", VA Medical Center, San Francisco, California
- June 1994 "*In Vivo* Metabolic and Contractile Properties of Single Human Skeletal Muscles. ", Joint Workshop: Magnetic Resonance Imaging and Spectroscopy of Muscle, Liverpool, England
- Nov. 1995 "Skeletal Muscle in Persian Gulf Veterans. ", World Congress on Chronic Fatigue Syndrome, Brussels, Belgium
- Jan. 1996 "Evaluation of Skeletal Muscle in Persian Gulf Veterans. ", New Jersey Medical School, East Orange, New Jersey
- Apr. 1996 "Restoration of Muscle Function during Rehabilitation. ", National Center for Medical Rehabilitation Research, NIH, Bethesda, Maryland
- Sept. 1996 "Effects of Surgery and Cast Immobilization on Muscle Metabolism and Function.", European Society for Magnetic Resonance in Medicine and Biology, Tsjeche, Prague Republic
- Feb. 1997 "Magnetic Resonance Spectroscopy." Beaver College, Pennsylvania
- Feb. 1998 "Magnetic Resonance Imaging and Spectroscopy of Skeletal Muscle.", University of Delaware, Delaware
- Feb. 1999 "The Evaluation of Skeletal Muscle Following Disuse: Cast Immobilization As A Model." Eugene Michels Researcher's Forum, Seattle, Washington
- May 2000 "Degeneration - Regeneration of Skeletal Muscle.", Dept. of Physical Medicine and Rehabilitation, Harvard Medical School, Boston, Massachusetts
- Aug. 2000 "Muscular rehabilitation: A pathophysiological approach.", Moss Rehabilitation Institute, Philadelphia, Pennsylvania
- Oct. 2000 "Muscular atrophy and regeneration.", Biomedical Exercise Research Group, University of California Irvine, California
- Oct. 2000 "Muscle degeneration and regeneration following disuse.", Dept. of Physiology, University of Pennsylvania, Philadelphia, Pennsylvania
- Feb. 2001 "Pathophysiology of muscle disuse.", Dept. of Physical Therapy, Washington University, St. Louis.
- Sept. 2001 "Muscle Dysfunction and Regeneration Following Limb Disuse.", NIH- NICHD Advisory panel, Bethesda, Washington DC

- Dec. 2001 "Muscle Atrophy and Rehabilitative Interventions.", Exercise Science and Sports Medicine, University of Florida, Gainesville, Florida
- Jan. 2002 "Loss and Recovery of Muscle Function following Limb Disuse.", Highlighted Presentation, NIH-National Institute of Child Health and Human Development Advisory panel, Bethesda, Washington DC
- Mar. 2002 "Research Efforts to study Muscle Disuse from Pathophysiology to Impairment.", RSD Research Seminar, University of Florida, Gainesville, Florida
- Oct. 2002 "NIH-R01 grants: Practical tips.", College of Public Health and Health Professions, University of Florida, Gainesville, Florida
- Apr. 2003 "Techniques and Tools to Assess Muscle Function.", RSD Research Seminar, University of Florida, Gainesville, Florida
- Jun. 2003 "Where does Physical Therapy fit in this era of genetics and genomics? What are the implications for practice, education, and research? ", American Physical Therapy Conference, Washington DC
- Jan. 2005 "Muscle Plasticity following incomplete SCI. ", First Annual Locomotor Recovery Retreat, Brooks Center, University of Florida, Gainesville, Florida
- Oct. 2005 "Magnetic Resonance Assessment of Muscle Function: The Future", American College of Sports Medicine Workshop, Vanderbilt University, Nashville
- June 2006 "Molecular Signatures Associate with Skeletal Muscle Disuse in Humans.", American College of Sports Medicine, National Conference, Denver, Colorado
- June 2006 Moderated Session: "New Frontiers on Rehabilitation Research." APTA, Annual Conference, Orlando, Florida
- May 2007 "Muscle Plasticity after Spinal Cord Injury", Keynote Speaker Research Day, Department of Physical Therapy, University of Maryland, Baltimore

Bibliography:

Research Publications, peer reviewed:

- Joos E, De Meirleir K, **Vandenborne K**, Neirinck P. ^{31}P magnetic resonance muscle spectroscopy in fibromyalgia. *J Rheumatol.* 1993; 20(11):1985-6.
- McCully KK, Kakihira H, **Vandenborne K**, Kent-Braun J. Noninvasive measurements of activity-induced changes in muscle metabolism. *J Biomech.* 1991; 24(Suppl 1):153-61.
- Vandenborne K**, McCully K, Kakihira H, Prammer M, Bolinger L, Detre J, De Meirleir K, Walter G, Chance B, Leigh JS. Metabolic heterogeneity in human calf muscle during maximal exercise. *Proc Natl Acad Sci USA.* 1991; 88(13):5714-18.
- McCully K, **Vandenborne K**, De Meirleir K, Posner J, Leigh JS. Muscle metabolism in track athletes, using ^{31}P magnetic resonance spectroscopy. *Can J Physiol Pharmacol.* 1992; 7(10):1353-9.
- Vandenborne K**, Walter G, Leigh JS, Goelman G. pH heterogeneity during exercise in localized spectra from single human muscles. *Am J Physiol.* 1995; 268(4 Pt 1):C869-76.
- Vandenborne K**, Walter G, Ploutz-Snyder L, Staron R, Fry A, De Meirleir K, Dudley GA, Leigh JS. Energy-rich phosphates in slow and fast human skeletal muscle. *Am J Physiol.* 1995; 268(4 Pt 1):C869-76.

- Walter G, **Vandenborne K**, McCully KK, Leigh JS. Noninvasive measurement of phosphocreatine recovery kinetics in single human muscles. *Am J Physiol*. 1997; 272(2 Pt 1):C525-34.
- Elliott MA, Walter GA, Gulish H, Sadi AS, Lawson DD, Jaffe W, Insko EK, Leigh JS, **Vandenborne K**. Volumetric measurement of human calf muscle from MRI. *Magma*. 1997; 5(2):93-8.
- Greenman RL, Elliott MA, **Vandenborne K**, Schnall MD, Lenkinski RE. Fast imaging of phosphocreatine using a RARE pulse sequence. *Magn Reson Med*. 1998; 39(5):851-4.
- Vandenborne K**, Elliott MA, Walter GA, Abdus S, Okereke E, Shaffer M, Tahernia D, Esterhai JL. Longitudinal study of skeletal muscle adaptations during immobilization and rehabilitation. *Muscle Nerve*. 1998; 21(8):1006-12.
- De Becker P, Dendale P, De Meirleir K, Campine I, **Vandenborne K**, Hagers Y. Autonomic testing in patients with chronic fatigue syndrome. *Am J Med*. 1998; 105(3A):22S-6S.
- Elliott MA, Walter GA, Swift A, **Vandenborne K**, Schotland JC, Leigh JS. Spectral quantitation by principle-component analysis using complex singular value decomposition. *Magn Reson Med*. 1999; 41(3):450-5.
- Walter G, **Vandenborne K**, Elliott M, Leigh JS. In vivo ATP synthesis rates in single human muscles during high-intensity exercise. *J Physiol (London)*. 1999; 519(3):901-10.
- Vandenborne K**, Walter G, Ploutz-Snyder L, Dudley G, Elliott MA, De Meirleir K, Leigh JS. Relationship between muscle T₂ relaxation properties and metabolic state: a combined localized ³¹P-spectroscopy and ¹H-imaging study. *Eur J Appl Physiol*. 2000; 82(1-2):76-82.
- Shaffer M, Okereke E, Esterhai J, Elliott M, Walter GA, Yim S, **Vandenborne K**. The effects of immobilization on plantar flexion strength, endurance, and functional ability following an ankle fracture. *Physical Therap*. 2000; 80(8):769-80.
- Gregory CM, **Vandenborne K**, Dudley GA. Metabolic enzymes and phenotypic expression among human locomotor muscles. *Muscle Nerve*. 2001; 24(3):387-93.
- Al-Farra ET, **Vandenborne K**, Swift A, Ghafari J. Magnetic resonance spectroscopy of the masseter muscle in different facial morphological patterns. *Am J Orthod Dentofacial Orthop*. 2001; 120(4):427-34.
- Russ DW, Elliott MA, **Vandenborne K**, Walter GA, Binder-Macleod SA. Metabolic costs of isometric force generation and maintenance of human skeletal muscle. *Am J Physiol Endocrinol Metab*. 2002; 282(2):E448-57.
- Russ DW, **Vandenborne K**, Walter GA, Elliot M, Binder-Macleod SA. Effects of muscle activation on fatigue and metabolism in human skeletal muscle. *J Appl Physiol*. 2002; 92(5):1978-86.
- Russ DW, **Vandenborne K**, Binder-Macleod SA. Factors in fatigue during intermittent electrical stimulation of human skeletal muscle. *J Appl Physiol* 2002; 93(2):469-78.
- Gregory CM, **Vandenborne K**, Huang HFS, Ottenweller JE, Dudley, GA. Effects of testosterone replacement therapy on skeletal muscle after spinal cord injury. *Spinal Cord*. 2003; 41(1):23-8.

- Rosenbaum M, **Vandenborne K**, Goldsmith R, Simoneau JA, Heymsfield S, Joannisse DR, Hirsch J, Murphy E, Matthews D, Segal KR, Leibel RL. Effects of experimental weight perturbation on skeletal muscle work efficiency in human subjects. *Am J Physiol Regul Integr Comp Physiol*. 2003; 285(1):R183-92.
- Gregory CM, **Vandenborne K**, Castro MJ, Dudley GA. Human and rat skeletal adaptations to spinal cord injury. *Can J Appl Physiol*. 2003; 28(3):491-500.
- Stevens JE**, Walter GA, Okereke E, Scarborough MT, Esterhai JL, Kelley ME, Tillman S, Gibbs JD, Elliot M, Gibbs CP, George S, **Vandenborne K**. Longitudinal study of skeletal muscle adaptations during immobilization and rehabilitation after ankle fracture. *Med Sci Sports Exerc*. 2004; 36(10):1695-701.
- White LJ, McCoy S, Castellano V, Gutierrez G, Stevens JE**, Walter GA, **Vandenborne K**. Lower extremity resistance training in multiple sclerosis. *Multiple Sclerosis*. 2004; 10(6): 668-74.
- Pathare N*, Walter GA, Stevens JA**, Yang Z, Okereke E, Gibbs JD, Esterhai JL, Scarborough MT, Gibbs CP, Sweeney HL, **Vandenborne K**. Changes in inorganic phosphate and force production in human skeletal muscle following cast immobilization. *J Appl Physiol*. 2005; 98(1):307-14.
- Mizner RL, Petterson SC, Stevens JE**, **Vandenborne K**, Snyder-Mackler L. Early quadriceps strength loss after total knee arthroplasty. The contributions of muscle atrophy and failure of voluntary muscle activation. *J Bone Joint Surg Am*. 2005; 87(5):1047-53
- Frimel TM*, Walter GA, Gibbs JD, Gaidosh GS, **Vandenborne K**. Noninvasive monitoring of muscle damage during reloading following limb disuse. *Muscle & Nerve* 2005; 32(5):605-12.
- Frimel TN*, Kapadia F, Gaidosh GS, Li Y, Walter GA, **Vandenborne K**. A model of muscle atrophy using cast immobilization in mice. *Muscle Nerve*. 2005; 32(5):672-4.
- Gregory CM**, Williams RH, **Vandenborne K**, Dudley GA. Metabolic and phenotypic characteristics of human skeletal muscle fibers as predictors of glycogen utilization during electrical stimulation. *Eur J Appl Physiol*. 2005; 95(4):276-82.
- Ifeld BM**, Wright TW, Enneking FK, Mace JA, Shuster JJ, Spadoni EH, Chmielewski TL, **Vandenborne K**. Total shoulder arthroplasty as an outpatient procedure using ambulatory perineural local anesthetic infusion: a pilot feasibility study. *Anesth Analg*. 2005; 101(5):1319-22.
- Jayaraman A*, Gregory CM**, Bowden M, Stevens JE**, Shah P*, Behrman AL, **Vandenborne K**. Lower extremity skeletal muscle function in persons with incomplete spinal cord injury. *Spinal Cord*. 2005;1-8.
- Ifeld BM**, Gearen PF, Enneking FK, Berry LF, Spadoni EH, George SZ, **Vandenborne K**. Total knee arthroplasty as an overnight-stay procedure using continuous femoral nerve blocks at home: a prospective feasibility study. *Anesth Analg*. 2006; 102(1):87-90. Erratum in: *Anesth Analg*. 2006; 102(3):875.
- Ifeld BM**, Gearen PF, Enneking FK, Berry LF, Spadoni EH, George SZ, **Vandenborne K**. Total hip arthroplasty as an overnight-stay procedure using an ambulatory continuous psoas compartment nerve block: a prospective feasibility study. *Reg Anesth Pain Med*. 2006; 31(2):113-8.

** Postdoctoral fellow or clinical fellow mentored by Dr. Vandenborne

* Graduate student mentored by Dr. Vandenborne

- Ilfeld BM**, Wright TW, Enneking FK, **Vandenborne K**. Total elbow arthroplasty as an outpatient procedure using a continuous infraclavicular nerve block at home: a prospective case report. *Reg Anesth Pain Med*. 2006; 31(2):172-6.
- Liu M*, Bose P, Walter GA, Anderson DK, Thompson FJ, **Vandenborne K**. Changes in muscle T (2) relaxation properties following spinal cord injury and locomotor training. *Eur J of Appl Physiol*. 2006; 1-7.
- Shah P*, Stevens JE**, Gregory CM**, Pathare NC*, Jayaraman A*, Bickel C, Bowden M, Behrman AL, Walter GA, Dudley GA, **Vandenborne K**. Lower extremity muscle cross-sectional area after incomplete spinal cord injury. *Arch Rehab Med*. 2006; 722-8.
- Stevens JE**, Pathare NC*, Tillman SM, Scarborough MT, Gibbs CP, Shah P*, Jayaraman A*, Walter GA, **Vandenborne K**. Relative contributions of muscle activation and muscle size to plantarflexor torque during rehabilitation after immobilization. *J Orthop Res*. 2006 Aug; 24(8):1729-36.
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