

**JOHN M. MAYER**  
**CURRICULUM VITAE**

**DEMOGRAPHICS**

**Address**

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**Personal**

Date of Birth: July 21, 1964  
Place of Birth: Rochester, New York, United States  
Citizenship: United States  
Marital Status: Married (wife: Debra; son: Samuel)

**Education**

B.S.	Biology	S.U.N.Y. College at Brockport, NY	1987
B.S.	Human Biology	National College of Chiropractic, IL <i>(currently National University of Health Sciences)</i>	1989
D.C.	Chiropractic	National College of Chiropractic, IL <i>(currently National University of Health Sciences)</i>	1991
M.S.	Exercise Science/Physical Education	Syracuse University, NY	1998
Ph.D.	Exercise Science/Science Education	Syracuse University, NY	2000

**Positions**

*Current (University of South Florida, Tampa, FL)*

2007-present Lincoln College Endowed Chair in Biomechanical & Chiropractic Research  
College of Medicine

2007-present Associate Professor (tenured August 2010)  
School of Physical Therapy & Rehabilitation Sciences, College of Medicine

2011-present Coordinator of Research  
School of Physical Therapy & Rehabilitation Sciences, College of Medicine

2012-present Co-Director, Interdisciplinary Center for Neuromusculoskeletal Research  
School of Physical Therapy & Rehabilitation Sciences, College of Medicine

2014-present Coordinator, PhD program in Rehabilitation Sciences  
School of Physical Therapy & Rehabilitation Sciences, College of Medicine

## **Positions**

### *Other*

- 1989-1990 Physical Therapy Aide  
Good Samaritan Hospital, Downers Grove, IL
- 1991-2007 Chiropractic Clinician  
Various multidisciplinary, outpatient, physical rehabilitation centers  
Rochester, NY (sole proprietor) and San Diego, CA (Spine & Sport Inc)
- 1997-1999 Research/Teaching Assistant  
Department of Exercise Science, School of Education, Syracuse University, NY
- 1998-1999 Teaching Associate  
Future Professoriate Program, Graduate School, Syracuse University, NY
- 1998-1999 Adjunct Instructor  
Department of Exercise Science, School of Education, Syracuse University, NY
- 2001-2012 Director of Research  
US Spine & Sport Foundation, San Diego, CA  
(currently *Vert Mooney Research Foundation*)
- 2001-2007 Adjunct Research Associate/Professor  
Department of Biology, College of Sciences, San Diego State University, CA
- 2002-2006 Adjunct Instructor  
College of Extended Studies, San Diego State University, CA
- 2008-present Adjunct Associate Professor (volunteer)  
New York Chiropractic College, Seneca Falls, NY

## **Honors and Awards**

- 2001 The Doctoral Prize, School of Education, Graduate School, Syracuse University  
Awarded for exemplifying excellence in scholarship and research at the graduate level related to doctoral dissertation: "Lumbar musculature and exercise."
- 2012 Safety Award, Tampa Fire Rescue, FL  
Awarded by Mayor Bob Buckhorn and Fire Chief Tom Forward for support of Tampa Fire Rescue related to the research project:  
"Low back injury prevention in firefighters"
- 2014 George B. McClelland Researcher of the Year Award  
American Chiropractic Association

### **Licenses (current)**

Chiropractic: State of California (license# DC26637)  
State of Florida (license# CH 10305)  
State of New York (license# X006788)

### **Certifications (current)**

Certified Clinical Research Professional, Society of Clinical Research Associates  
Cervical & Lumbar Exercise Testing & Rehabilitation, University of Florida / MedX Corp  
Basic Life Support for Healthcare Providers (CPR and AED), American Heart Association

## **TEACHING**

### **Courses Taught**

#### *University of South Florida*

##### Graduate -

BCC 7184: Primary Care Clerkship - Low Back Pain; Lecturer (2009-2012)  
PHT 6609: Critical Assessment of the Literature and Evidence-Based Practice; Instructor (2013)  
PHT 7151: Health Promotion and Wellness; Course Co-Director, Instructor (2008-2012),  
Course Director, Instructor (2013-2014)  
PHT 7618: Critical Inquiry 3; Instructor (2008-2011); Course Director (2011)  
PHT 7959: Peer to Peer Mentoring in Physical Therapy; Instructor (2013-2014);  
Research Track Leader (2014)  
Professions of Health; State of the Art - Presenter, Faculty Consultant, and Facilitator (2013-2014)

##### Other instructional activities at University of South Florida -

Doctor of Physical Therapy preview activity - Evaluation of Campus and Community Resources  
for Promotion of Health, Wellness, and Physical Fitness: Instructor (2010-2012, 2014)

#### *San Diego State University*

##### Professional Certificate Programs -

9401 CF: Exercise Science 1 - Kinesiology (on-campus); Instructor (2002-2003)  
9404 CF: Designing Exercise Prescriptions (on-campus); Instructor (2002-2003)  
99412 CF: Exercise Science 1 - Kinesiology (on-line); Instructor (2003-2006)  
99413 CF: Exercise Science 2 - Exercise Physiology (on-line); Instructor (2003-2006)  
99424 CF: Designing Exercise Prescriptions (on-line); Instructor (2003-2006)

#### *Syracuse University*

##### Undergraduate -

PPE 486: Prevention and Care of Athletic Injuries; Instructor (1999)

##### Graduate -

PPE 500: Advanced Athletic Training; Instructor (1998-1999)

#### *University of Montana*

##### Graduate -

PHT 7399: Capstone Project - Transitional DPT Program; Project Advisor (2013, 2014)

## **Guest Lecturer**

*University of South Florida*

PHT 7265: Clinical Problem Solving 2 - lecture - spinal muscular strength testing (spring 2010)

*Other institutions (2007-present):*

Evidence-Based Practice III (National University of Health Sciences)

*Other institutions (-2006):*

Adult Health Concerns (Onondaga Community College)

Advanced Biomechanics Lab and Kinesiotherapy Lab (San Diego State University)

Analysis of Human Motion (Syracuse University)

Community Health Studies (Onondaga Community College)

Exercise Leadership (Syracuse University)

Physiology of Exercise (Syracuse University)

Physiological Therapeutics (Southern California University of Health Sciences)

Research Problems in Exercise and Sport Science (Syracuse University)

Stress Management (Syracuse University)

## **Graduate Thesis Committees**

2002-2003 Committee Member: Jun San Juan

Thesis (Master of Arts)

Effect of pelvic stabilization on lumbar muscle activity during dynamic exercise

Department of Exercise and Nutritional Sciences, San Diego State University, CA

2003 Research Mentor: Nissa Casuga

Thesis (Doctor of Physical Therapy)

Trunk and lower extremity muscle activity in multiple planes of motion using surface electromyography

Department of Physical Therapy, Loma Linda University, CA

2003 Research Mentor: Bitu Shahidi

Thesis (Doctor of Physical Therapy)

Trunk and lower extremity muscle activity in multiple planes of motion using surface electromyography

Department of Physical Therapy, Loma Linda University, CA

2004-2005 Committee Member: Christine Ahlff

Thesis (Master of Arts)

Validity and factor structure of the Multidimensional Task Ability Profile

Department of Exercise and Nutritional Sciences, San Diego State University, CA

2004-2006 Research Mentor: John Varghese

Thesis (Master of Physical Therapy)

The use of the Multidimensional Task Ability Profile as a functional outcome measure in the management of spinal disorders

School of Physiotherapy, University of Otago, Dunedin, New Zealand

- 2008            Research Co-Mentor: Jeannie Stephenson  
 K30 Directed Research (Master of Science)  
 Locomotor training on a treadmill with bodyweight support compared with  
 proprioceptive neuromuscular facilitation training in adults with chronic stroke  
 College of Medicine, University of South Florida, FL
- 2011-2012      Committee Member: Jason Martuscello  
 Thesis (Master of Science)  
 Core muscle activation during trunk exercise: a systematic review  
 School of Physical Education & Exercise Science, University of South Florida, FL
- 2014-present   Examiner: Gregory J. Thiel  
 Dissertation (Master of Technology)  
 The effectiveness of spinal manipulation at L3 on lumbar paraspinal muscle  
 endurance in asymptomatic males  
 Faculty of Health Sciences, Durban University of Technology, South Africa

### **Undergraduate Research Projects**

- 2008-2009      Thesis Director: Samantha Smith  
 Honors Thesis Project  
 Characteristics of elective orthopedic surgeries in older adults  
 Honors College, University of South Florida

### **Other Mentorships**

- 2014-present   Co-Mentor: Douglas Haladay  
 Young Investigators Initiative, Spring 2015 Workshop  
 U.S. Bone and Joint Initiative

## **RESEARCH AND CREATIVE ACTIVITY**

### **Research: Grants, Contracts, Donations, and other Extramural Support**

#### *Funded:*

Role: Project Manager (PI: Graves JE)  
 Title: Effect of prophylactic ibuprofen on exercise-induced soreness of the lumbar musculature  
 Sponsor: Whitehall-Robins Inc  
 Type: Industry (non-refereed)  
 Total Amount Funded: \$40,000  
 Project Period: 1997-1998  
 Purpose: To assess the efficacy of prophylactic ibuprofen compared with placebo on  
 experimentally-induced delayed onset muscle soreness of the lumbar musculature.

Role: Project Manager (PI: Graves JE)

Title: Effect of heat therapy on exercise-induced soreness of the lumbar musculature

Sponsor: The Procter & Gamble Company

Type: Industry (non-refereed)

Total Amount Funded: \$35,254

Project Period: 1999

Purpose: To assess the efficacy of three temperatures of topical heat wrap therapy compared with control on experimentally-induced delayed onset muscle soreness of the lumbar musculature.

Role: Investigator (PI: Verna JL)

Title: Development of a variable angle Roman chair

Sponsor: US Department of Health and Human Services, National Institutes of Health, National Institute of Arthritis and Musculoskeletal and Skin Diseases (1R43AR046342-01)

Type: Federal (refereed)

Total Amount Funded: \$99,891

Project Period: 1999-2000

Purpose: To develop and conduct pilot testing on a new exercise device (BackStrong) for exercise training of the lumbar musculature.

Role: Principal Investigator (PIs: Mayer JM, Mooney V)

Title: Effect of postural training on musculoskeletal pain and disability

Sponsor: Life Mechanics Institute Inc

Type: Industry (non-refereed)

Total Amount Funded: gift-in-kind equipment valued at \$15,000

Project Period: 2001

Purpose: To assess the reliability, validity, and effectiveness of a new postural testing and training device (Posture Point).

Role: Consultant (PI: Lane J)

Title: Post-operative infusion pump for shoulder pain

Sponsor: I-Flow Inc

Type: Industry (non-refereed)

Total Amount Funded: not available

Project Period: 2001

Purpose: To assess the efficacy of post-operative infusion pump intervention on post-operative shoulder pain.

Role: Project Manager (PIs: Eek B, Mooney V, O'Neill C)

Title: Injection of disc restorative solution combined with nucleoplasty: effect on discogenic low back pain and disability

Sponsor: ArthroCare Inc

Type: Industry (investigator-initiated trial protocol; non-refereed)

Total Amount Funded: \$10,000

Project Period: 2001-2003

Purpose: To conduct pilot testing on injection of a new disc restorative solution for discogenic low back pain and disability.

Role: Principal Investigator (PIs: Mayer JM, Mooney V)  
Title: Reliability and validity of a non-radiographic method to evaluate sagittal alignment of the spine  
Sponsor: Aditus Inc  
Type: Industry (non-refereed)  
Total Amount Funded: gift-in-kind equipment valued at \$5,000  
Project Period: 2002  
Purpose: To assess the reliability and validity of a new non-radiographic device (Spinal Mouse) to evaluate sagittal alignment of the spine.

Role: Principal Investigator (PIs: Mayer JM, Mooney V)  
Title: Endurance training of the respiratory muscles  
Sponsor: Aditus Inc  
Type: Industry (non-refereed)  
Total Amount Funded: gift-in-kind equipment valued at \$1,500  
Project Period: 2002  
Purpose: To support human subjects research on endurance training of the respiratory muscles at the US Spine & Sport Foundation (San Diego, CA).

Role: Consultant (PI: O'Neill C)  
Title: Anti-tumor necrosis factor for discogenic low back pain  
Sponsor: not available  
Type: not available (non-refereed)  
Total Amount Funded: not available  
Project Period: 2002  
Purpose: To conduct pilot testing on anti-tumor necrosis factor for discogenic low back pain.

Role: Consultant (PI: Udermann BE)  
Title: The influence of cup stacking on hand-eye coordination and reaction time of second-grade students  
Sponsor: Speed Stacks Inc  
Type: Industry (non-refereed)  
Total Amount Funded: not available  
Project Period: 2002-2003  
Purpose: To examine the influence of cup stacking on hand-eye coordination and reaction time of second-grade students.

Role: Principal Investigator  
Title: Continuous low level heat wrap therapy alone and combined with active exercise for acute low back pain: effect on functional ability  
Sponsor: The Procter & Gamble Company  
Type: Industry (investigator-initiated; non-refereed)  
Total Amount Funded: \$106,145  
Project Period: 2003-2004

Purpose: To evaluate the efficacy of combining continuous low-level heat wrap therapy with directional preference-based exercise on physical function and pain in patients with acute low back pain.

Role: Principal Investigator; Continuous low level heat wrap therapy for the prevention and treatment of exercise-induced delayed onset muscle soreness of the low back muscles

Sponsor: The Procter & Gamble Company

Type: Industry (investigator-initiated; non-refereed)

Total Amount Funded: \$66,325

Project Period: 2003-2004

Purpose: To evaluate the effects of continuous low-level heat wrap therapy for the prevention and early phase treatment of experimentally-induced delayed onset muscle soreness of the lumbar musculature.

Role: Supervisor - Data Collection and Research (PI: Parker R in cooperation with City of San Diego)

Title: San Diego Fire-Rescue Wellness-Fitness Program

Sponsor: U.S. Department of Homeland Security, Federal Emergency Management Agency, Assistance to Firefighters Grant Program, FY 2003 Assistance to Firefighters Grants

Type: Federal (refereed)

Total Amount Funded: \$1,050,000 (federal award: \$750,000, city match: \$300,000)

Project Period: 2004-2005

Purpose: To develop, implement, and assess the San Diego Fire-Rescue Wellness-Fitness Program.

Role: Consultant (PI: not applicable)

Title: Chula Vista Firefighter Wellness-Fitness Program - Partnership with San Diego Firefighter Regional Wellness Center

Sponsor: U.S. Department of Homeland Security, Federal Emergency Management Agency, Assistance to Firefighters Grant Program, FY 2005 Assistance to Firefighters Grants

Type: Federal (refereed)

Total Amount Funded: \$147,716 (federal award \$118,173, city match: \$29,545)

Project Period: 2005

Purpose: To assist the Chula Vista Fire Rescue department with preparing a federal grant application for the department to join the San Diego Firefighter Regional Wellness Center.

Role: Research Associate (President: Haldeman S)

Title: The Bone and Joint Decade 2000–2010 Task Force on Neck Pain and its Associated Disorders

Sponsor: World Health Organization

Type: Foundation (information regarding refereed vs. non-refereed: not available)

Total Amount Funded: not available

Project Period: 2005-2007

Purpose: To conduct a comprehensive systematic review of the literature and best evidence synthesis on neck pain and its associated disorders.



Role: Consultant (PI: Dagenais S)  
Title: Interligamentous injection of Proliferol for chronic low back pain  
Sponsor: CAM Research Institute  
Type: Foundation (non-refereed)  
Total Amount Funded: not available  
Project Period: 2005-2008  
Purpose: To conduct animal research and human subjects research on interligamentous injection of Proliferol (prolotherapy technique) for chronic low back in a multi-phase research project.

Role: Consultant (PIs: Eek B, Mooney V)  
Title: Physiological effects of disc restorative solution on rodent spinal discs  
Sponsor: Eek B; Skoll Foundation  
Type: Foundation (non-refereed)  
Total Amount Funded: not available  
Project Period: 2005-2008  
Purpose: To assess the physiological effects of a new disc restorative solution on rodents spinal discs.

Role: Principal Investigator - recipient of award (Mentors: Mooney V, Matheson L)  
Title: Medical rehabilitation research - Development of precise and efficient strategies to measure functional outcomes  
Sponsor: US Department of Health and Human Services, National Institutes of Health, National Institute for Child Health and Human Development, Clinical Research Loan Repayment Program Grant (2L30HD051358-02)  
Type: Federal (refereed)  
Total Amount Funded: \$207,252 (\$140,000 direct, \$67,252 federal / state income tax reimbursement)  
Project Period: 07/2005-06/2009  
Purpose: To continue the development of a multidimensional self-report instrument that assesses physical function and disability, and to test the instrument's clinical validity.

Role: Principal Investigator  
Title: Double-blind, placebo controlled, randomized, cross-over study evaluating the efficacy of oral cat's claw supplementation on endurance performance of experienced cyclists  
Sponsor: CAM Research Institute / Michael Markus  
Type: Foundation (non-refereed)  
Total Amount Funded: \$66,200  
Project Period: 2006  
Purpose: To assess the relative efficacy of an oral cat's claw supplementation, caffeine, and placebo on cardiovascular endurance.

Role: Principal Investigator  
Title: i) Complications of cervical injection procedures. ii) Doctors' and patients' perceptions of outcomes of treatment for spinal disorders  
Sponsor: NCMIC Inc  
Type: Foundation (non-refereed)

Total Amount Funded: \$18,000

Project Period: 2006-2007

Purposes: 1) To conduct a literature review on complications of cervical injection procedures for spinal disorders. 2) To compare the perceptions of treatment outcome for spinal disorders among various healthcare providers and patients.

Role: Principal Investigator

Title: Surface electromyographic analysis of the trunk muscles during dynamic exercise on a new medical device for home low back exercise

Sponsor: MedX Corp

Type: Industry (investigator-initiated; non-refereed)

Total Amount Funded: \$10,000

Project Period: 2006-2007

Purpose: To assess the surface electromyographic activity of the lumbar paraspinal muscles during dynamic exercise on a new home exercise device.

Role: Recipient (PI: not applicable)

Title: lumbar and cervical exercise testing and training equipment

Sponsor: MedX Corp

Type: Industry (non-refereed)

Total Amount Funded: gift-in-kind equipment valued at \$66,390

Project Period: 2008

Purpose: To support human subjects research on lumbar spine exercise testing and training conducted at the USF Human Functional Performance Laboratory.

Role: Principal Investigator (PI: Mayer JM)

Title: A pilot study to evaluate the efficacy and safety of a novel topical cream to relieve acute low back pain

Sponsor: Johnson & Johnson Inc (USF award #: 6140100900)

Type: Industry (clinical trial protocol developed jointly by industry and investigator; non-refereed)

Total Amount Funded: \$136,880 (\$107,780 direct, \$29,100 indirect) (\$54,752 contractually-guaranteed distribution; participants enrolled: 0)

Project Period: 2008-2009

Purpose: To evaluate the efficacy of a novel topical cream on physical function and pain in patients with acute low back pain.

Role: Principal Investigator; Disc restorative solution for discogenic headache - a retrospective case series

Sponsor: US Spine & Sport Foundation (USF award #: 6140100600)

Type: Foundation (non-refereed)

Total Amount Funded: \$8,004 (\$6,253 direct, \$1,751 indirect)

Project Period: 2008-2009

Purpose: To describe the clinical procedures, safety, and outcomes related to intradiscal injection of a disc restorative solution for the treatment of cervicogenic headache.

Role: Principal Investigator; Lincoln Eminent Scholar Chair - Research operations support for endowed chair

Sponsor; USF Foundation (endowment established through donations from Florida Chiropractic Foundation for Education and Research and Lincoln College Education and Research Fund, along with State of Florida match)

Type: Foundation and State (non-refereed - disbursed annual earnings from endowment principal)

Total Amount Funded: approximate disbursement FY2008-2009 - FY2014-2015: \$464,000

Project Period: October 2007-present

Purpose: To conduct human subjects research in order to advance the understanding of spinal biomechanics and chiropractic care.

Role: Principal Investigator; Research operations support

Sponsor: Florida Chiropractic Education and Research Foundation

Type: Foundation (non-refereed - unrestricted research gift; annual recurring donation)

Total Amount Funded: total donation FY2008-2009 - FY2014-2015: \$217,380

Project Period: October 2007-present

Purpose: To conduct human subjects research in order to advance the understanding of spinal biomechanics and chiropractic care.

Role: Principal Investigator; Low back injury prevention in firefighters

Type: US Department of Homeland Security, Federal Emergency Management Agency, Assistance to Firefighters Grant Program, FY 2009 Fire Prevention and Safety Grants (EMW-2009-FP-00418)

Type: Federal (refereed)

Total Amount Funded: \$701,173 (\$487,860 direct, \$213,313 indirect)

Project Period: April 30, 2010 - February 8, 2013

Purpose: To assess the safety and effectiveness of supervised worksite exercise compared with control on back and core muscular endurance in firefighters.

Role: Project Leader and Co-Principal Investigator (PI: Quillen WS)

Title: Reduction of risk for low back injury in theater of operations

Sponsor: US Department of Defense, Congressionally-Directed Medical Research Program (10193004)

Type: Federal (non-refereed)

Total Amount Funded: \$715,256 (\$488,140 direct, \$227,152 indirect)

Project Period: September 30, 2011-March 29, 2015

Purpose: To compare the effectiveness of lumbar extensor high intensity progressive resistance exercise versus core stability exercise on lumbar extension muscular strength and core muscular endurance in US Army Soldiers.

Role: Co-Director (Executive Director: Quillen WS)

Title: Interdisciplinary Center for Neuromusculoskeletal Research

Sponsor: State of Florida - legislative award - Education and General

Type: State - legislative (non-refereed)

Total Amount Funded: \$500,000 FY2014-2015 (annually recurring with \$1.5 M total awarded since inception)

Project Period: July 2012-present

Purpose: To conduct research for the prevention and management of neuromusculoskeletal disorders in order to reduce their burden within society.

Role: Principal Investigator

Title: Development of a web-based system to enhance delivery of back exercise and education programs

Sponsor: Lincoln College Education and Research Fund

Type: Foundation (non-refereed - unrestricted research gift)

Total Amount Funded: \$50,000

Project Period: May 2013 - April 2015

Purpose: To develop and conduct initial pilot testing of a web-based system for delivery of back and core exercise programs.

Role: Co-Principal Investigator (PI: Dayicioglu D)

Title: Quantitative analysis of core performance following autologous breast reconstruction

Sponsor: USF Women's Health Collaborative

Type: Internal (refereed)

Total Amount Funded: \$7,600

Project Period: May 1, 2014 - April 30, 2015

Purpose: To assess the effect of autologous breast reconstruction on back and core muscular performance.

Role: Principal Investigator

Title: Worksite exercise interventions for low back injury prevention in firefighters

Sponsor: US Department of Homeland Security, Federal Emergency Management Agency, Assistance to Firefighters Grant Program, FY 2013 Fire Prevention and Safety Grants (EMW-2013-FP-00723)

Type: Federal (refereed)

Total Amount Funded: total award including 5% match from other extramural source \$1,332,106 (\$898,656 direct, \$433,450 indirect)

Project Period: August 1, 2014-July 31, 2017

Purpose: To compare the effectiveness of 2 worksite exercise interventions relative to control on lost work days, incidence of low back pain, physical function, quality of life, and costs related to low back injury and illness in firefighters.

**Publications** (underline indicates Mayer is senior author)

*Book Chapters*

1. Graves JE, Mayer JM. Chapter 11: Considerations for the development of back extensor muscle strength. in *Exercise Prescription and the Back*. editor: Liemohn W. McGraw-Hill, New York, 2001, pp 215-28.
2. Graves JE, Mayer JM, Dreisinger T, Mooney V. Chapter 19: Resistance training for low back pain and dysfunction. in *Resistance Training for Health, Disease Prevention, and Rehabilitation*. editors: Graves JE, Franklin B. Human Kinetics, Champaign, IL, 2001, pp 357-83.
3. Mayer JM. Chapter 7: Anatomy, kinesiology, and biomechanics. in *American College of Sport Medicine's Resources for the Personal Trainer, 2<sup>nd</sup> Edition*. editor: Baldwin K. Lippincott Williams & Wilkins, Baltimore, 2006, pp. 109-76.
4. Mayer JM, Udermann BE (most recent contributors to chapter). Chapter 1: Anatomy and biomechanics. in *American College of Sport Medicine's Certification Review, 3<sup>rd</sup> Edition*. editor: American College of Sport Medicine. Lippincott Williams & Wilkins, Baltimore, 2009, pp. 1-30.
5. Dagenais S, Mayer JM. Chapter 8: Lumbar stabilization exercises. in *Evidence-Based Management of Low Back Pain*. editors: Dagenais S, Haldeman S, Elsevier, St. Louis. 2011, pp. 93-103.
6. Mayer JM, Mooney V, Dagenais S. Chapter 9: Lumbar strengthening exercises. in *Evidence-Based Management of Low Back Pain*. editors: Dagenais S, Haldeman S, Elsevier, St. Louis. 2011, pp. 104-21.
7. Dagenais S, Mayer JM, Haldeman S. Chapter 18: Medicine-assisted manipulation. in *Evidence-Based Management of Low Back Pain*. editors: Dagenais S, Haldeman S, Elsevier, St. Louis. 2011, pp. 248-57.
8. Dagenais S, Mayer JM, Haldeman S, Borg-Stein J. Chapter 25: Prolotherapy. in *Evidence-Based Management of Low Back Pain*. editors: Dagenais S, Haldeman S, Elsevier, St. Louis. 2011, pp. 340-50.
9. Mayer JM, Haldeman S. Chapter 25: Complementary and alternative medicine for neuropathic pain. in *Neuropathic Pain: Mechanisms, Diagnosis and Treatment*, editors: Simpson D, McArthur J, Dworkin B. Oxford University Press, New York. 2012, pp. 430-71.

*Articles (refereed)*

1. Mayer JM, Graves JE, Robertson VL, Pierra EA, Verna JL, Ploutz-Snyder LL. Electromyographic activity of the lumbar extensor muscles: effect of angle and hand position during Roman chair exercise. *Archives of Physical Medicine and Rehabilitation*, 1999;80:751-5. (2013 impact factor: 2.441; 5-year impact factor: 3.011; impact factor category rank: 9/62)
2. Mayer JM, Druger M, Ploutz-Snyder R. The quality of chiropractic college education: a survey of practicing chiropractors. *Journal of Chiropractic Education*, 1999;13(2):131-6. (impact factor information: unavailable)
3. Udermann BE, Mayer JM. Efficacy of low back pain educational programs: a critical review. *International Sports Journal*, 2000;4:129-38. (impact factor information: unavailable)
4. Udermann BE, Mayer JM, Graves JE, Ploutz-Snyder LL. Inter-investigator variability during isometric lumbar extension dynamometry. *International Sports Journal*, 2001;5(2):118-22. (impact factor information: unavailable)

5. Mayer JM, Graves JE, Udermann BE, Ploutz-Snyder LL. Development of lumbar extension strength: effect of pelvic stabilization during resistance training. *Journal of Back and Musculoskeletal Rehabilitation*, 2002;16(1):25-31. (2013 impact factor: 1.041; 5-year impact factor: 1.029; impact factor category rank: 45/62)
6. Udermann BE, Mayer JM, Graves JE, Ploutz-Snyder LL. Development of an exercise protocol to elicit delayed onset muscle soreness in the lumbar extensors. *International Sports Journal*, 2002;6(2):128-35. (impact factor information: unavailable)
7. Matheson LN, Leggett S, Mooney V, Schneider K, Mayer JM. The contribution of aerobic fitness and back strength to lift capacity. *Spine*, 2002;27(11):1208-12. (2013 impact factor: 2.447; 5-year impact factor: 3.003; impact factor category rank: 15/67)
8. Verna JL, Mayer JM, Mooney V, Pierra EA, Robertson VL, Graves JE. Back extension endurance and strength: the effect of variable angle Roman chair exercise training. *Spine*, 2002;27(16):1772-7. (2013 impact factor: 2.447; 5-year impact factor: 3.003; impact factor category rank: 15/67)
9. Mayer JM, Graves JE, Udermann BE, Ploutz-Snyder LL. Quantification of the loading characteristics of the upper body and back extension strength on a variable angle Roman chair. *Journal of Back and Musculoskeletal Rehabilitation*, 2002;16(2):95-104. (2013 impact factor: 1.041; 5-year impact factor: 1.029; impact factor category rank: 45/62)
10. Mayer JM, Verna JL, Manini T, Mooney V, Graves JE. Electromyographic activity of the trunk extensor muscles: effect of varying hip position and lumbar posture during Roman chair exercise. *Archives of Physical Medicine and Rehabilitation*, 2002;83(11):1543-6. (2013 impact factor: 2.441; 5-year impact factor: 3.011; impact factor category rank: 9/62)
11. Clark BC, Manini TM, Mayer JM, Ploutz-Snyder LL, Graves JE. Electromyographic activity of the lumbar and hip extensors during dynamic trunk extension exercise. *Archives of Physical Medicine and Rehabilitation*, 2002;83(11):1547-52. (2013 impact factor: 2.441; 5-year impact factor: 3.011; impact factor category rank: 9/62)
12. Mayer JM, Udermann BE, Graves JE, Ploutz-Snyder LL. Effect of Roman chair exercise training on the development of lumbar extension strength. *Journal of Strength and Conditioning Research*, 2003;17(2):356-61. (2013 impact factor: 1.858; 5-year impact factor: 2.400; impact factor category rank: 29/81)
13. Mayer JM, Ploutz-Snyder LL, Graves JE, Udermann BE, Verna JL, Miller J, Druger M. Exercise therapy for low back pain: chiropractors' patterns of use and perceptions of educational quality. *Journal of Chiropractic Education*, 2003;17(2):105-12. (impact factor information: unavailable)
14. Udermann BE, Mayer JM, Graves JE, Murray SR. Quantitative assessment of lumbar paraspinal muscular endurance. *Journal of Athletic Training*, 2003;38(3):259-62. (2013 impact factor: 1.509; 5-year impact factor: 2.455; impact factor category rank: 38/81)
15. Udermann BE, Mayer JM, Donelson RG, Graves JE, Murray SR. Combining lumbar extension training with McKenzie therapy: effects on pain, disability, and psychosocial functioning in chronic low back pain patients. *Gundersen Lutheran Medical Journal*, 2004;3(1):7-12. (impact factor information: unavailable)
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*Articles (non-refereed)*

1. Mayer JM. Lumbar musculature and exercise. Doctoral Dissertation - Syracuse University. Published by UMI ProQuest, Ann Arbor MI, 2000, 180 pages, publication number AAT 3009870.
2. Casuga N, Shahidi B, Mayer JM, Lohman EB. Trunk and lower extremity muscle activity in multiple planes of motion using surface electromyography. *Doctor of Physical Therapy Research Reports 2003*, Loma Linda University, School of Allied Health Professions, 2003:37-53.
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4. Mayer JM. Low level heat wrap therapy can minimize back pain from exercise. *www.Spine-Health.com*, March 2007.
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6. Mayer JM. Research sidebar. For treating acute low back pain, is a McKenzie-style exercise program enhanced by adding low-level heat wrap therapy? *FCA Journal*, 2008;January:13.
7. Mayer JM. Evidence-informed management of chronic low back pain without surgery. *FCA Journal*, 2008;April:24-6.
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9. Mayer JM. Research sidebar. How to assess outcomes in chiropractic clinical care and research. *FCA Journal*, 2008;July:31.
10. Mayer JM. Lincoln Chair: year one update, *FCA Journal*, 2008;October:25-6.
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17. Verna J, Mooney V, Stowell C, Parker R, Mayer JM. Back muscle strength, endurance, and flexibility characteristics of firefighters. Proceedings of the 7<sup>th</sup> Interdisciplinary World Congress on Low Back & Pelvic Pain; 2010:390-4.
18. Mayer JM. Spinal manipulation therapy for acute low back pain: summary of findings from the North American Spine Society contemporary concepts in spine care. *FCA Journal*, 2010;October:28-9.
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27. Mayer JM. Does maintenance spinal manipulation therapy offer additional benefits for patients with chronic low back pain? *FCA Journal*, 2013;January:23-5.
28. Mayer JM. Back and core exercise in firefighters: Summary of findings from the FEMA-funded research grant at the University of South Florida. *FCA Journal*, 2013;April:20-1.
29. Mayer JM. Lincoln College Endowed Chair in Chiropractic & Biomechanical Research - annual update 2013. *FCA Journal*, 2013;July:22-4.
30. Mayer JM. Goertz receives 2013 Lincoln Research Prize. *FCA Journal*, 2013;October:15-6.
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32. Mayer JM. What is the most effective dose of spinal manipulation therapy for patients with chronic low back pain? *FCA Journal*, 2014;July: 32-3.

#### *Technical Reports*

1. Mayer JM, Hollingsworth H, Leggett S, Logan S, Matheson L, Stiles B, Verna J, Mooney V. Continuous low level heat wrap therapy for the prevention and treatment of exercise-induced delayed onset muscle soreness of the low back muscles; submitted to sponsor (The Procter & Gamble Company) on June 23, 2004.
2. Mayer JM, Hollingsworth H, Leggett S, Logan S, Look M, Matheson L, Ralph R, Verna J, Mooney V. Continuous low level heat wrap therapy alone and combined with active exercise for acute low back pain: effect on functional ability; submitted to sponsor (The Procter & Gamble Company) on September 17, 2004.
3. Mayer JM, Harris D. San Diego Firefighter's Regional Wellness Center - Year 1 Summary Report 2005; submitted to City of San Diego in May 2006.
4. Mayer JM, Wooley J, Dagenais S. Double-blind, placebo controlled, randomized, cross-over study evaluating the efficacy of oral cat's claw supplementation on endurance performance of experienced cyclists; submitted to sponsor (CAM Research Institute) and donor (Michael Markus) in November 2006.
5. Mayer JM, Mooney V. Surface electromyographic analysis of the trunk muscles during dynamic exercise on a new medical device for home low back exercise; submitted to sponsor (MedX Corp) on December 11, 2006.
6. Mayer JM, Eek BJ, Mooney V, Derby R, Dagenais S, Wheeler P. Injection of disc restorative solution for discogenic headache - a retrospective case series; submitted to sponsor (US Spine & Sport Foundation) on November 26, 2008.
7. Mayer JM. Assessment of the MedX home exercise device; submitted to sponsor (MedX Corp) on November 21, 2012.

### *Other Scholarly Publications*

1. Mooney V, Leggett S, Verna JL, DeFilippo G, Nadeau B, Mayer JM. *Clinical Guidelines: Post-Surgical Rehabilitation for the Thoraco-Lumbar Spine: Selective Endoscopic Discectomy*. Measurement Driven Rehabilitation Systems, San Diego CA, 2000.
2. Mooney V, Leggett S, Verna JL, DeFilippo G, Nadeau B, Mayer JM. *Clinical Guidelines: Post-Surgical Rehabilitation for the Thoraco-Lumbar Spine: Intradiscal Electrothermal Therapy*. Measurement Driven Rehabilitation Systems, San Diego CA, 2000 (clinical procedure manual).
3. Mayer JM. *Exercise Training Manual: Back and Core Exercises for Firefighters*. University of South Florida, Tampa, FL, 2012. p 1-22.

### *Software and Other Creative Activities*

1. Matheson LN, Mayer JM, Mooney V, Verna JL, Leggett S, Dreisinger T. The *Multidimensional Task Ability Profile (MTAP)* - software versions 1.1-2.1: computerized patient-reported outcome instruments (pictorial activity and task sorts) to assess physical functioning. Copyright 2003-2014; Vert Mooney Research Foundation, San Diego CA.

### **Presentations** (underline indicates Mayer is presenting author / senior author)

#### *Plenary/Platform (invited)*

1. Mooney V, Mayer JM. The Multidimensional Task Ability Profile. Disability and Impairments Committee, International Association of Industrial Accidents Boards and Commissions Annual Convention, Detroit, MI, September 2002.
2. Mayer JM. Non-radiographic postural assessment. Spine & Sport Annual Symposium, La Jolla, CA, October 2002.
3. Mayer JM. Assessment of perceived functional ability. American Kinesiotherapy Association Annual Conference, San Diego, CA, July 2003.
4. Mooney V, Mayer JM. Can true function and disability be measured by a single test? American Academy of Minimally Invasive Spinal Surgery and Medicine Fourth Global Congress, Thousand Oaks, CA, November 2003.
5. Mayer JM. Measuring core stability, strength, and endurance with dynamometric and non-dynamometric means. in mini-symposium: Quantifying core stability (Liehmohn W - symposium director). American College of Sports Medicine Annual Meeting, Indianapolis, IN, June 2004.
6. Mayer JM. Acute toxicity of Proliferol in rats. 3<sup>rd</sup> Annual Prolotherapy Research Forum, University of Wisconsin, School of Medicine and Public Health, Madison, WI, October 2007.
7. Mayer JM. Heat, physical, and chiropractic therapies for low back pain. GlaxoSmithKline Consumer Healthcare Back Pain Scientific Session, Parsippany, NJ, October 2007.
8. Mayer JM. Physical modalities. in concurrent session: Evidence-informed management of chronic low back pain without surgery (Dagenais S – session director). Association of Chiropractic Colleges - Research Agenda Conference, Washington, DC, March 2008.
9. Mayer JM. Lumbar extensor strengthening exercises. in concurrent session: Evidence-informed management of chronic low back pain without surgery (Dagenais S - session director). Association of Chiropractic Colleges - Research Agenda Conference, Washington, DC, March 2008.
10. Mayer JM, Haldeman S. Management of neuropathic pain with manipulation and

mobilization. Treatment guidelines consensus meeting: non-pharmacologic, non-interventional treatment of neuropathic pain. Special Interest Group on Neuropathic Pain, International Association for the Study of Pain. Tampa, FL, May 2008.

11. Mayer JM. Physical modalities. in pre-course workshop: Evidence-informed management of chronic low back pain without surgery (Haldeman S - workshop director). American Back Society Annual Conference, Las Vegas, NV, June 2008.
12. Mayer JM. Lumbar extensor strengthening exercises. in pre-course workshop: Evidence-informed management of chronic low back pain without surgery (Haldeman S - workshop director). American Back Society Annual Conference, Las Vegas, NV, June 2008.
13. Mayer JM. Strengthening for prevention and treatment of spinal athletic injuries. American Chiropractic Association Sports Council Annual Conference, St. Louis, MO, July 2008.
14. Mayer JM. How does chiropractic work, scientifically? in breakout session: Chiropractic care (Frawley M - session director). Florida Workers' Compensation Institute Annual Educational Conference, Orlando, FL, August 2008.
15. Mayer JM. Manual and exercise therapies. in plenary session: Evidence-informed management of chronic low back pain (Mayer JM - session director). FCA National Convention, Orlando, FL, August 2008.
16. Mayer JM, Dagenais S. Acute local and systemic toxicity of Proliferol (P2G) injections in a porcine model: a placebo controlled study and associated regulatory issues. 4<sup>th</sup> Annual Prolotherapy Research Forum, University of Wisconsin, School of Medicine and Public Health, Madison, WI, October 2008.
17. Mayer JM. Firefighter wellness and fitness: current understanding and future directions. Annual Firefighter Health and Safety Conference, Orlando, FL, December 2008.
18. Mayer JM. Risks - low back pain - manual and physiotherapies. in plenary session: Requirements of a spine care super specialist (Haldeman S, Dagenais S, Mayer JM). FCA National Convention, Orlando, FL, August 2009.
19. Mayer JM. Benefits - low back pain - manual and physiotherapies. in plenary session: Requirements of a spine care super specialist (Haldeman S, Dagenais S, Mayer JM). FCA National Convention, Orlando, FL, August 2009.
20. Mayer JM. Evidence-based management of low back pain in older adults. 12<sup>th</sup> Annual USF Geriatrics Institute, Tampa, FL, June 2010.
21. Mayer JM. Low back injury prevention in firefighters. FEMA Assistance to Firefighters Grants Research & Development Annual Meeting, Chicago, IL, August 2010.
22. Mayer JM, Dagenais S. Keynote presentation - Evidence based management of low back pain. New York Chiropractic College Annual Research Symposium, Seneca Falls, NY, January 2011.
23. Mayer JM. Exercise therapy for low back pain: a review of the evidence. Veterans Health Administration, Chiropractic Service 6th Annual Meeting. Las Vegas, NV, March 2011.
24. Mayer JM. Improving back muscle endurance and core stability in firefighters: a randomized trial. FEMA Assistance to Firefighters Grants Research & Development Annual Meeting, New York, NY, August 2011.
25. Mayer JM. Spinal manipulation and modalities. in plenary session: Shared decision making and informed consent for people with spinal disorders (Dagenais S, Haldeman S, Mayer JM). FCA National Convention, Orlando, FL, August 2011.

26. Mayer JM. Therapeutic exercise. in plenary session: Shared decision making and informed consent for people with spinal disorders (Dagenais S, Haldeman S, Mayer JM). FCA National Convention, Orlando, FL, August 2011.
27. Mayer JM. Improving back muscular endurance and core stability in firefighters: a randomized trial - preliminary findings. FEMA Assistance to Firefighters Grants Research & Development Annual Meeting, Denver, CO, August 2012.
28. Mayer JM. What other health professionals learn about chiropractic. FCA National Convention, Orlando, FL, August 2012.
29. Mayer JM. Exercise options in chronic low back pain. The 9th Annual Sarasota Winter Pain Symposium, Sarasota, FL, February 2013.
30. Mayer JM. Worksite exercise and education programs for prevention of musculoskeletal injuries in firefighters. Firefighter Safety and Health Conference, Florida Fire Chiefs Association, Orlando, FL, December 2013.
31. Mayer JM. Worksite exercise interventions for low back injury prevention in firefighters. FEMA Assistance to Firefighters Grants Research & Development Annual Meeting, Dallas, TX, August 2014.
32. Mayer JM. Comparative effectiveness: how does directional preference stack up? in session: Collaborative Concepts in Spine Care - Directional preference: an interdisciplinary guide to decision-making (Tauzell RA - session director). North American Spine Society Annual Meeting, San Francisco, CA, November 2014 (accepted).

*Plenary/Platform (refereed - with concurrent published abstract)*

1. Verna JL, Graves JE, Mayer JM, Mooney V. Effects of hip and torso position on trunk on lumbar extensor muscle activity. Interdisciplinary World Congress on Spinal Surgery and Related Disciplines, Berlin, Germany, August 2000.
2. Mooney V, Matheson LN, Mayer JM. Can disability be objectively measured without physical testing? American Orthopaedic Association Annual Convention, Charleston, SC, June 2003.
3. Mayer JM, Mooney V, Verna JL, Logan S, Stiles B, Matheson LN. Continuous low-level heat wrap therapy for the prevention and treatment of delayed onset muscle soreness of the low back muscles. World Congress of Family Doctors, Orlando, FL, October 2004.
4. Mooney V, Mayer JM, Verna JL, Matheson LN. Improvements in self-reported functional ability following a restorative exercise program for spinal disorders. North American Spine Society Annual Meeting, Philadelphia, PA, October 2005.
5. Mayer JM, Mooney V. Treating acute low back pain with continuous low-level heat wrap therapy and/or exercise: a randomized controlled trial. Interdisciplinary World Congress on Low Back & Pelvic Pain. Barcelona, Spain, November 2007.
6. Mooney V, Mayer JM, Akbarnia B, Bagheri R. How and when do you measure clinical benefit after lumbar fusion surgery? Interdisciplinary World Congress on Low Back & Pelvic Pain. Barcelona, Spain, November 2007.
7. Mooney V, Mayer JM. The role of exercise equipment in the treatment of chronic spinal problems. Interdisciplinary World Congress on Low Back & Pelvic Pain. Barcelona, Spain, November 2007.
8. Mayer JM. Comparing the evidence of lumbar strengthening and core stabilization exercises. in pre-meeting course: Evidence-informed management of chronic low back pain without

- surgery (Haldeman S - course chair). North American Spine Society Annual Meeting, Toronto, Canada, October 2008.
9. Mayer JM. Comparing the evidence of spinal manipulation and medically-assisted manipulation. in pre-meeting course: Evidence-informed management of chronic low back pain without surgery (Haldeman S - course chair). North American Spine Society Annual Meeting, Toronto, Canada, October 2008.
  10. Mayer JM. Complementary and alternative medicine therapies. in concurrent session: Evidence-informed management of chronic low back pain without surgery - Part I (Gay R - session director). American Academy of Physical Medicine and Rehabilitation Annual Assembly, San Diego, CA, November 2008.
  11. Mayer JM. Lifestyle and behavior modification therapies. in concurrent session: Evidence-informed management of chronic low back pain without surgery - Part II (Gay R - session director). American Academy of Physical Medicine and Rehabilitation Annual Assembly, San Diego, CA, November 2008.
  12. Mooney V, Dreisinger T, Raiszadeh K, Verna J, Mayer JM. Can exercise-only, protocol-driven spinal care be as effective as standard physical therapy? International Society for the Study of the Lumbar Spine Annual Conference, Miami, FL, May 2009.
  13. Mayer JM. Manipulation. in educational session: Evidence-informed management of low back pain (Quillen WS - session director). Combined Sections Meeting - American Physical Therapy Association. San Diego, CA, February 2010.
  14. Mayer JM. Surgery. in educational session: Evidence-informed management of low back pain (Quillen WS - session director). Combined Sections Meeting - American Physical Therapy Association. San Diego, CA, February 2010.
  15. Mayer JM. Strengthening exercise. in educational session: Evidence-informed management of low back pain (Quillen WS - session director). Combined Sections Meeting - American Physical Therapy Association. San Diego, CA, February 2010.
  16. Mayer JM. Stabilization exercise. in educational session: Evidence-informed management of low back pain (Quillen WS - session director). Combined Sections Meeting - American Physical Therapy Association. San Diego, CA, February 2010.
  17. Verna J, Mooney V, Stowell C, Parker R, Mayer JM. Back muscle strength, endurance, and flexibility characteristics of firefighters. Interdisciplinary World Congress on Low Back & Pelvic Pain. Los Angeles, CA, November 2010.
  18. Mayer JM, Haldeman S. Complementary and alternative medicine for neuropathic pain: a literature review. Association of Chiropractic Colleges - Research Agenda Conference. Las Vegas, NV, March 2011.
  19. Klein AB, Quillen WS, Morris ML, Kim SH, Pignataro R, Mayer JM. USF Dance Wellness Program: an interprofessional, student oriented initiative. Performing Arts Medical Association Regional Meeting. Tampa, FL, March 2014.
  20. Mayer JM, Childs JD\*, Neilsen B, Koppenhaver SL, Quillen WS. Effects of lumbar extensor progressive resistance exercise versus core stabilization exercise on low back strength and endurance in soldiers: preliminary results of a randomized clinical trial. American Occupational Health Conference, American College of Occupational and Environmental Medicine, San Antonio, TX, April 2014 (\*presenting author).
  21. Mayer JM, Child JD, Quillen WS. Tutorial lecture: Physical fitness interventions for low back pain in the military. American College of Sports Medicine Annual Meeting, Orlando, FL, May 2014.

22. Mayer JM, Childs JD, Libous JL, Chen H, Quillen WS. Effect of lumbar extensor progressive resistance exercise versus core stability exercise on lumbar extension muscular strength and core muscular endurance in soldiers. North American Spine Society Annual Meeting, San Francisco, CA, November 2014 (accepted).

Plenary/Platform (other)

1. Mayer JM. Effect of specific lumbar training on EMG activity of the lumbar, gluteal, and hamstring muscles. Central NY Exercise Science Research Symposium, Cortland, NY, April 1996.
2. Mayer JM. The effect of pelvic stabilization during resistance training on lumbar strength and EMG activity. Central NY Exercise Science Research Symposium, Syracuse, NY, April 1997.
3. Mayer JM. Effect of angle and arm position on lumbar muscle activity during Roman chair exercise. Central NY Exercise Science Research Symposium, Ithaca, NY, April 1998.
4. Mayer JM. Quantification of upper body mass and lumbar extension strength using a variable angle Roman chair: Reliability and validity. Central NY Exercise Science Research Symposium, Cortland, NY, April 1999.
5. Mayer JM. Evidence-informed management of low back pain with exercise therapy. James A. Haley Veteran's Hospital, Tampa, FL, April 2008 (invited).
6. Mayer JM. Chiropractic from a scientific standpoint. in CEU course for case managers: Chiropractic care (Wasserman A - course director). Heritage Summit HealthCare, Lakeland, FL, July 2008 (invited).
7. Mayer JM, Quillen WS. The burden of musculoskeletal disease. Grand Rounds, Department of Internal Medicine, College of Medicine, University of South Florida, Tampa, FL, February 2009 (invited).
8. Mayer JM. General overview of the evidence from clinical practice guidelines for low back pain including strengthening & stabilizing exercises with emphasis on functional improvement. Utilization Reviewers' Monthly Meeting, State Compensation Insurance Fund of California. March 17, 2010 (invited tele-presentation).
9. Mayer JM. Strength training for optimal health, disease prevention, and treatment. Pinellas County Chiropractic Society Monthly Meeting, St. Petersburg, FL, September 2010 (invited).
10. Edgeworth R, Mayer JM. Conservative management of low back pain: physical therapy interventions for the neurosurgical candidate. University of South Florida, Department of Neurosurgery and Brain Repair, Grand Rounds, Tampa, FL, October 2011 (invited).
11. Mayer JM. Neuromusculoskeletal research initiatives at the University of South Florida. Annual Joint Meeting of the Hillsborough County and Pinellas County Chiropractic Societies, Tampa, FL, October 2012 (invited).

*Poster (refereed - with concurrent published abstract)*

1. Udermann BE, Graves JE, Reider LR, Mayer JM, Li YH, King GH, Hill CW. Evaluation of three protocols to elicit delayed onset muscle soreness in the lumbar extensor muscles. American College of Sports Medicine Annual Meeting, Denver, CO, June 1997.
2. Li YH, Ploutz-Snyder LL, Graves JE, Mayer JM. Neuromuscular adaptations to lumbar extension strength gain. American College of Sports Medicine Annual Meeting, Orlando, FL, June 1998.



3. Mayer JM, Graves JE, Li YH, Ploutz-Snyder LL. Specificity of training and the development of lumbar extension strength. American College of Sports Medicine Annual Meeting, Orlando FL, June 1998.
4. Udermann BE, Mayer JM, Ploutz-Snyder LL, Graves JE. Quantitative assessment of lumbar paraspinal muscular endurance. American College of Sports Medicine Annual Meeting, Orlando, FL, June 1998.
5. Bulbulian R, Seaman D, Mayer JM, Burke J. Shoulder and trunk EMG during a modified golf swing: Sparing the spine. 5<sup>th</sup> Congress of the World Federation of Chiropractic, Auckland NZ, May 1999.
6. Manini TM, Mayer JM, Sagendorf KS, Graves JE, Ploutz-Snyder LL. Ratio of leg to back isometric torque changes with age. American College of Sports Medicine Annual Meeting, Indianapolis, IN, June 2000.
7. Mayer JM, Graves JE, Udermann BE, Ploutz-Snyder LL. Quantification of upper body mass and lumbar extension strength using a variable angle Roman chair. American College of Sports Medicine Annual Meeting, Indianapolis, IN, June 2000.
8. Sagendorf KS, Mayer JM, Manini TM, Graves JE, Ploutz-Snyder LL. Low back strength and endurance characteristics and age. American College of Sports Medicine Annual Meeting, Indianapolis, IN, June 2000.
9. Udermann B, Donelson R, Graves J, Mayer JM. The effect of McKenzie therapy and lumbar strengthening exercises on physiological and quality of life measures in patients with low back pain. American College of Sports Medicine Annual Meeting, Indianapolis, IN, June 2000.
10. Udermann B, Donelson R, Mayer JM, Graves J, Tillotson J. Can an educational booklet change behavior and pain in low back pain patients? National Athletic Training Association Annual Meeting, Nashville, TN, June 2000.
11. Udermann B, Donelson R, Mayer JM, Graves J, Tillotson J. Eighteen-month follow-up: can an educational booklet change behavior and pain in low back pain patients? International Society for the Study of the Lumbar Spine Annual Conference, Edinburgh, Scotland, May 2001.
12. Clark BC, Manini TM, Mayer JM, Ploutz-Snyder LL, Graves JE. Lumbar extensor muscle recruitment as assessed by EMG during variable angle Roman chair exercise at varying intensities. American College of Sports Medicine Annual Meeting, Baltimore, MD, June 2001.
13. Mayer JM, Ploutz-Snyder LL, Caruso R, Formikell M, Graves JE. The use of magnetic resonance imaging to evaluate lumbar muscle activity during symmetric and asymmetric lifts. American College of Sports Medicine Annual Meeting, Baltimore, MD, June 2001.
14. Ploutz-Snyder LL, Mayer JM, Caruso R, Formikell M, Graves JE. The use of magnetic resonance imaging to evaluate lumbar muscle activity during Roman chair exercise. American College of Sports Medicine Annual Meeting, Baltimore, MD, June 2001.
15. Udermann BE, Mayer JM, Murray SR, Babbel DM. Quantification of isometric lumbar extension strength using a BackUP lumbar extension dynamometer. American College of Sports Medicine Annual Meeting, Baltimore, MD, June 2001.
16. Mayer JM, Mooney V, Verna JL, Udermann BE, Matheson LN. Reliability and validity of the Multidimensional Task Ability Profile. American College of Sports Medicine Annual Meeting, San Francisco, CA, May 2003.

17. Udermann BE, Doberstein ST, Mayer JM, Murray SM. Wrist injury - football. American College of Sports Medicine Annual Meeting, San Francisco, CA, May 2003.
18. Mayer JM, Mooney V, Verna JL, Matheson LN. Reliability and validity of the Multidimensional Task Ability Profile. International Society for the Study of the Lumbar Spine Annual Conference, Vancouver, Canada, May 2003.
19. Udermann BE, Doberstein ST, Mayer JM. Dermatological condition in a college gymnast. National Athletic Training Association Annual Meeting, St. Louis, MO, June 2003.
20. Mayer JM, Mooney V. Measurement-guided postural exercise for spinal disorders. Second Interdisciplinary Congress on Spine Care: World Spine II, Chicago IL, August 2003.
21. Mayer JM, Mooney V, Delar-Higgins D. Development of a computerized measure of perceived ability. North American Spine Society Annual Meeting, San Diego, CA, October 2003.
22. Udermann BE, Murray S, Mayer JM. The influence of cup stacking on hand-eye coordination and reaction time of second-grade students. American Alliance for Health Physical Education Recreation and Dance National Convention, New Orleans, LA, March 2004.
23. Mooney V, Mayer JM. Can exercise be made more effective with passive modalities? International Society for the Study of the Lumbar Spine Annual Conference, New York, NY, May 2005.
24. Mayer JM, Mooney V. Assessing functional outcomes with a new self-report measure: The Multidimensional Task Ability Profile. International Society for the Study of the Lumbar Spine Annual Conference, New York, NY, May 2005.
25. Mayer JM, Udermann BE, San Juan J, Logan S, Delar-Higgins D, Verna JL, Mooney V. Improvements in self-reported functional ability of patients with musculoskeletal complaints following a restorative exercise program. American College of Sports Medicine Annual Meeting, Nashville, TN, June 2005.
26. Udermann BE, Reineke DM, Mayer JM, Murray SR, Martinez RD, Gibson MH, Gillette CM, Doberstein ST. The effect of resistance training on lumbar muscular strength and endurance. American College of Sports Medicine Annual Meeting, Nashville, TN, June 2005.
27. Mayer JM, Mooney V, Verna JL, Ralph L, Look M, Matheson LN. Combining continuous low-level heat wrap therapy with directional preference-based exercise for the treatment of acute low back pain: A randomized controlled study. McKenzie International Annual Conference, Crete, June 2005.
28. Mayer JM, Ahlf C, Mooney V, Verna JL, Levy S, Yaggie J, Udermann BE. Factor structure of a self-report measure of functional ability. American College of Sports Medicine Annual Meeting, Denver, CO, June 2006.
29. Udermann BE, Reineke DM, Mayer JM, Murray SR, Battista RA, Uhrich MA. Developing delayed onset muscle soreness in the lumbar extensor muscles. American College of Sports Medicine Annual Meeting, Denver, CO, June 2006.
30. Mayer JM, Mooney V, Verna JL, Matheson LN. How do you know when a patient is better? North American Spine Society Annual Meeting, Seattle, WA, September 2006.
31. Dagenais S, Mayer JM, Wooley J, Haldeman S. Dose-escalation, placebo-controlled acute toxicity evaluation of a drug commonly used in prolotherapy following spinal injection in rats. North American Spine Society Annual Meeting, Seattle, WA, September 2006.

32. Mayer JM, Verna JL, Mooney V, Udermann BE. Wellness and fitness characteristics of firefighters. American College of Sports Medicine Annual Meeting, New Orleans, LA, June 2007.
33. Udermann BE, Dohlman DA, Reineke DM, Mayer JM, Murray SR. The effect of motivation on achievement and behavior modification in a health and wellness course. American College of Sports Medicine Annual Meeting, New Orleans, LA, June 2007.
34. Eek B, Derby R, Mayer JM, Mooney V, Wheeler P. A novel treatment for cervicogenic headache. International Spine Intervention Society Annual Meeting, Baltimore, MD, July 2007.
35. Akbarnia B, Mayer JM, Bagheri R, Mooney V, Kostial P, Chen T, Hsu V. A novel instrument to assess outcomes of spinal fusion surgery. Scoliosis Research Society, International Meeting on Advanced Spinal Techniques, Bahamas, July 2007.
36. Matheson L, Sarkin A, Mayer JM, Mooney V, Verna J, Leggett S. Calibration of the difficulty of work activities and activities of daily living for patients with spinal pain. North American Spine Society Annual Meeting, Austin, TX, October 2007.
37. Dagenais S, Mayer JM, Wooley J, Haldeman S. Safety and toxicity of prolotherapy for back pain. Interdisciplinary World Congress on Low Back & Pelvic Pain. Barcelona, Spain, November 2007.
38. Mayer JM, Mooney V, Verna J, Udermann BE. Lumbar paraspinal muscle activation during back extension exercise on a new home exercise device. American College of Sports Medicine Annual Meeting, Indianapolis, IN, May 2008.
39. Udermann BE, Durall CJ, Reinecke DM, Gibson BL, Gillette CM, Murray SR, Mayer JM. Ten weeks of a lumbar endurance floor exercise routine improves endurance capacity of the trunk extensors. American College of Sports Medicine Annual Meeting, Indianapolis, IN, May 2008.
40. Dagenais S, Mayer JM, Haldeman S, Hite M, Wooley J. Dose-escalation, placebo-controlled, local histopathology following intraligamentous lumbosacral injections in swine of a drug commonly used in prolotherapy for low back pain. American Academy of Pain Management Annual Meeting, Nashville, TN, September 2008.
41. Dagenais S, Mayer JM, Haldeman S, Hite M, Wooley J. Dose-escalation, placebo-controlled, acute systemic toxicity following intraligamentous lumbosacral injections in swine of a drug commonly used in prolotherapy for low back pain. North American Spine Society Annual Meeting, Toronto, Canada, October 2008.
42. Mooney V, Woodbridge D, Mayer JM. Exercise correction of strength asymmetry and alignment in idiopathic scoliosis. North American Spine Society Annual Meeting, Toronto, Canada, October 2008.
43. Mooney V, Dreisinger T, Raiszadeh K, Verna J, Mayer JM. Can exercise-only, protocol-driven spinal care be as effective as standard physical therapy? North American Spine Society Annual Meeting, San Francisco, CA, November 2009.
44. Mooney V, Dreisinger T, Raiszadeh K, Mayer JM. Effective spinal rehabilitation - an uncomplicated exercise approach. International Society for the Study of the Lumbar Spine Annual Conference, Auckland, New Zealand, April 2010.
45. Matheson L, Mooney V, Verna J, Leggett S, Dreisinger T, Mayer JM. A bi-dimensional approach to measurement of physical function and abilities. International Society for the Study of the Lumbar Spine Annual Conference, Auckland, New Zealand, April 2010.

46. Mayer JM, Dreisinger T, Raiszadeh K, Mooney V. Successful spine care - minimalist approach. American Orthopaedic Association Annual Meeting, San Diego, CA, June 2010.
47. Mayer JM, Quillen WS. Lumbar extensor strengthening exercise for chronic low back pain: a systematic review. American College of Sports Medicine Annual Meeting. Denver, CO, June 2011.
48. Mayer JM, Chen R, Nuzzo JL, Dagenais S, Verna JL, Quillen WS. Relationship of back muscular endurance with anthropometric measures in firefighters. American College of Sports Medicine Annual Meeting. San Francisco, CA, June 2012.
49. Mayer JM, Quillen WS. Effect of worksite exercise on development of back and core muscular endurance in firefighters. American Occupational Health Conference, American College of Occupational and Environmental Medicine. Orlando, FL, April 2013.
50. Mayer JM, Quillen WS, Dagenais S. Effect of worksite exercise on back and core muscular endurance in firefighters. International Society for the Study of the Lumbar Spine Annual Conference, Scottsdale, AZ, May 2013.
51. Martuscello JM, Libous JL, Mayer JM. Systematic review of core muscle activity during physical fitness exercises. National Strength and Conditioning Association Annual Conference, Las Vegas, NV, July 2013.
52. Libous JL, Mayer JM. Development and implementation of a web-based system to enhance delivery of back and core exercise interventions for clinical trials. Society of Clinical Research Associates Annual Conference, Orlando, FL, September 2014.

*Poster (other)*

1. Pierra EA, Verna JL, Mayer JM. Development of lumbar extensor endurance following variable angle Roman chair exercise training. American Back Society Annual Conference, Vancouver, Canada, December 2000.
2. Nuzzo JL, Quillen WS, Mayer JM. Relationship between trunk muscular endurance and anthropometric measures in firefighters. University of South Florida Health Research Day. Tampa, FL, February 2012.
3. Quillen WS, Pignataro R, Mayer JM. Reducing the burden of musculoskeletal disease and disability: a global initiative. Showcase of University of South Florida Global Health. Tampa, FL, October 2012.
4. Libous JL, Dagenais S, Quillen WS, Mayer JM. Assessment of barriers and facilitators to worksite exercise in firefighters. University of South Florida Health Research Day. Tampa, FL, February 2013.
5. Neilson BD, Childs JD, Koppenhaver SL, Francis M, Hurley B, Morgan SC, Stoute SM, Quillen WS, Mayer JM. Relationship between time of day tested and lumbar spine strength and endurance. Academy of Health Sciences Graduate School Research Day, San Antonio, TX, 2013.
6. Quillen WS, Childs JD, Mayer JM. Low back pain in the US military: epidemiology, prevention, and future directions. Special Operations Medical Association Annual Scientific Assembly. Tampa, FL, December 2013.
7. Quillen WS, Childs JD, Libous JL, Mayer JM. Low back pain in the US Military: epidemiology, prevention, and current Research. University of South Florida Health Research Day. Tampa, FL, February 2014.

### Scientific Task Forces and Guideline Committees

- 2006-2007 Research Associate, The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders, Haldeman S (president).
- 2008-2009 Committee Member, Recommendations for the Non-Pharmacologic, Non-Interventional Treatment of Neuropathic Pain, Dworkin R (chair), Neuropathic Pain Special Interest Group, International Association for the Study of Pain.
- 2008 Roundtable Participant, Update on Guidelines for the Treatment of Neuropathic Pain, Dworkin R (chair), August, 2008, London, England.
- 2009-2010 Task Force Member, Contemporary Concepts in Manipulation, Mobilization, and Massage for Spinal Pain Disorders, Gay R (chair), North American Spine Society.
- 2012-2013 Technical Expert Panel Member, Comparative Effectiveness Review: Spinal Fusion for the Treatment of Low Back Pain Secondary to Lumbar Degenerative Disc Disease. Effective Health Care Program, US Agency for Healthcare Research and Quality (AHRQ).
- 2012 Expert Panel Member, Spinal Deconditioning Injury Risk Summit, US National Aeronautics and Space Administration (NASA), Johnson Space Center.

### Editorial Boards

- 2006-present Advisory Editorial Board Member, *The Spine Journal*
- 2011-present Editorial Board Member, *Chiropractic & Manual Therapies*

### Reviewer - Research Grant Applications

- 2007 Raine Medical Research Foundation, Department of Health, Western Australia
- 2009 Willy Gepts Research Foundation, Brussels, Belgium
- 2009 Foundation for Chiropractic Education and Research, USA
- 2009-2014 Fire Prevention and Safety Grant Program, Assistance to Firefighters Grants, Federal Emergency Management Agency, US Department of Homeland Security
- 2011 International Mechanical Diagnosis and Therapy Research Foundation, McKenzie Institute, USA

### Reviewer - Manuscripts (refereed journals)

\*frequent periodic reviews

- American Journal of Physical Medicine & Rehabilitation* (2008-present)
- Archives of Physical Medicine and Rehabilitation* (2005-present)\*
- Arthritis Research & Therapy* (2006-present)
- Chiropractic & Manual Therapies* (2013-present)
- European Journal of Applied Physiology* (2001-present)
- Evidence-Based Complementary and Alternative Medicine* (2006-present)
- International Journal of Therapy and Rehabilitation* (2013-present)
- Journal of Applied Biomechanics* (2014-present)
- Journal of Chiropractic Education* (2012-present)
- Journal of Manipulative and Physiological Therapeutics* (2008-present)\*
- Journal of Strength and Conditioning Research* (2013-present)
- Medicine and Science in Sports and Exercise* (2005-present)\*
- Physical Therapy in Sport* (2012-present)
- Physiotherapy Theory and Practice* (2011-present)
- PLOS One* (2013-present)

*Sports Medicine* (2012-present)  
*The Spine Journal* (2006-present)\*

### **Reviewer - Other**

2011 External reviewer, Chapter - Applied Biomechanics, in *American College of Sport Medicine's Resources for the Personal Trainer, 4<sup>th</sup> Edition*. Lippincott Williams & Wilkins, Baltimore.

### **SERVICE**

#### **University Service**

*University of South Florida*

01/2008-present Representative for School of Physical Therapy & Rehabilitation Sciences at the Associate Deans' Research Meetings, USF Health

08/2008 Representative for School of Physical Therapy & Rehabilitation Sciences at the New Student Orientation - 08/22/2008, College of Public Health

09/2008-present Member, Ad Hoc Departmental Annual Evaluation Committee, School of Physical Therapy & Rehabilitation Sciences

02/2009 Judging Committee Member, Best Presentation Award, USF Health Research Day 2009

07/2009-present Committee Member (medical board "01-A"), USF Institutional Review Board, Division of Research Integrity and Compliance

08/2009 Member, Organizational Realignment of Research and Education Task Force, College of Medicine

10/2009-09/2011 Member, Committee on Research, College of Medicine

01/2010-6/2011 Research Representative, Monthly Leadership Meetings, School of Physical Therapy & Rehabilitation Sciences

04/2010-2011 Member, Research Sub-Committee, Executive Committee on Research and Education, College of Medicine

06/2010-11/2012 Member, Investigators/Physicians Advisory Group, Office of Clinical Research Implementation Initiative, College of Medicine

07/2010-present Member, Appointment, Promotion, and Tenure Committee, School of Physical Therapy & Rehabilitation Sciences  
(Chair / Co-Chair: 09/2012-08/2014)

09/2010-present Member, Financial Oversight Committee, College of Medicine

09/2011-08/2014 Research Council, Faculty Senate, University of South Florida

03/2012-present Member, Faculty Search Committee, School of Physical Therapy & Rehabilitation Sciences (Chair, Research Faculty Search Committee, Interdisciplinary Center for Neuromusculoskeletal Research: 10/2012-01/2013)

09/2012-present Chair, Ad Hoc Committee - revision of Appointment, Promotion, and Tenure Guidelines for School of Physical Therapy & Rehabilitation Sciences

10/2012-09/2014 Member, Appointment, Promotion, and Tenure Committee, College of Medicine

*Other*

1998-1999 Faculty Advisor, Weight Training Club, Syracuse University, NY  
2007-present PhD Career Mentor, Syracuse University, NY

**Professional Service**

1994 Clinical Volunteer, Corpus Christi Outreach Health Center, Rochester, NY  
1994-1996 Advisory Panel Member, Chiropractic, Blue Choice HMO, Rochester, NY  
2001, 2002 Sports Medicine Team Volunteer, Rock 'N' Roll Marathon, San Diego, CA  
2002-2003 Committee Member, Charity Golf Tournament  
Golden Triangle Chamber of Commerce, La Jolla, CA  
2002-2007 Committee Member, Board of Practice Standards and Ethics,  
International Collegiate Commission of Exercise Science, West Lafayette, IN  
2005-2007 Member, Human Subjects Institutional Review Board, MedX Inc, Ocala, FL  
2005-2007 Advisory Board Member - ThermaCare, Procter & Gamble, Cincinnati, OH  
2005-2013 Advisory Board Member, National Posture Institute, West Lafayette, IN  
2006-2013 Advisory Board Member, Personal Fitness Trainer Program,  
Educational Fitness Solutions, West Lafayette, IN  
2007-2009 Secretary and Treasurer, CAM Research Institute Inc, Irvine, CA  
2008-present Member, Clinical Policy and Advisory Board, Palladian Health, West Seneca, NY  
2010-present Committee Chair, Lincoln Research Prize for Chiropractic and Biomechanics,  
Florida Chiropractic Foundation for Education and Research, Orlando, FL  
2011-present Member, Clinical and Scientific Advisory Board, World Spine Care, Santa Ana, CA  
2013-present Member, Exercise Committee, North American Spine Society, Burr Ridge, IL  
2013-present Member, Education Council Section on Allied Health, North American Spine  
Society, Burr Ridge, IL  
2014 Moderator - scientific session, Association of Chiropractic Colleges Research  
Agenda Conference, Orlando, FL, March 2014.  
2014-present Scientific Secretariat, Global Spine Care Initiative, Santa Ana, CA

**Professional Memberships**

*Current*

American College of Sports Medicine (1997-1998: student; 2007-present: professional)  
American Physiological Society (1998-present)  
Florida Chiropractic Association (honorary member) (2007-present)  
Florida Chiropractic Association Sports Council (honorary member) (2008-present)  
North American Spine Society (2009-present)  
Society of Clinical Research Associates (2003-present)

*Past*

American Chiropractic Association (1990-1997)  
Human Factors and Ergonomics Association (2000-2001)  
IDEA Health & Fitness Association (2003-2006)  
New York State Chiropractic Association (1991-1997)