

## JOHN M. MAYER

### CURRICULUM VITAE

#### Contact:

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#### Education

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

#### Licenses (active)

Doctor of Chiropractic:  
State of California (license # 26637), State of New York (license # 006788)

#### Positions (Current)

*The Vert Mooney Research Foundation (dba U.S. Spine & Sport Foundation), San Diego, CA*

2001-2012 Director of Research  
2016-present Member, Board of Directors  
2016-present Director of Research & Innovation  
2018-present Scientific Officer  
Services: Conduct research and related knowledge translation efforts to improve quality of life and physical function.

*Northeast College of Health Sciences, Seneca Falls, NY*

2008-present Adjunct Associate Professor (volunteer)

*Mayer Clinical and Consulting Services, San Diego, CA*

Founder and Owner  
1991-present Licensed Clinician - Doctor of Chiropractic  
2000-2018 Consultant

*2019-present Mayer Health Consulting LLC*

Services: Clinical and research consulting services for neuromusculoskeletal conditions and health promotion including procedures and guidelines development, clinical trial design, expert witness, independent examination, education, and instruction.

**Positions (Past)**

1989-1990 Physical Therapy Aide  
Good Samaritan Hospital, Downers Grove, IL

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

2001-2007 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

2018-2020 Chief Scientific Officer, Chief Financial Officer  
Excellcior LLC, Tampa, FL

*Morsani College of Medicine, University of South Florida, Tampa, FL*

October 2007 - June 2018

School of Physical Therapy & Rehabilitation Sciences:

2007-2018 Lincoln College Endowed Chair in Biomechanical & Chiropractic Research

2007-2015 Associate Professor (tenured August 2010)

2011-2018 Coordinator of Research

2014-2018 Coordinator, PhD program in Rehabilitation Sciences

2015-2018 Professor

Center for Neuromusculoskeletal Research:

2012-2014 Co-Director

2015-2016 Director

2017-2018 Executive Director

**Certifications (current)**

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

**Professional Memberships (active)**

American College of Sports Medicine  
Florida Chiropractic Association (honorary member)

## **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	Researcher of the Year Award American Chiropractic Association
2015	Faculty Outstanding Research Achievement Award University of South Florida
2016	Fellow American College of Sports Medicine
2018	Impact Award Exceptional service as Lincoln College Endowed Research Chair 2007-2018 Florida Chiropractic Association

## **TEACHING**

### **Courses Taught**

#### *University of Montana*

Graduate -

PHT 7399: Capstone Project - Transitional DPT Program (via Rehab Essentials); Project Advisor (2013-2025)

#### *University of South Florida*

Graduate -

BCC 7184: Primary Care Clerkship - Low Back Pain; Lecturer (2009-2012)

BMS 5005: Professions of Health; State of the Art - Presenter, Faculty Consultant, and Facilitator (2013-2017)

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, 2017), Course Director, Instructor (2013-2016)

PHT 7540B: Patient/Client Management Seminar 2; Course Co-Director and Instructor (2015-2018)

PHT 7618: Critical Inquiry 3; Instructor (2008-2011); Course Director (2011)

PHT 7959: Peer to Peer Mentoring (Capstone Seminar) in Physical; Instructor (2013-2017); Research Track Leader (2014-2017)

SPA 6906: Independent Study; Mentor/Instructor (2015)

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, 2014-2017)

*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)

**Guest Lecturer**

Adult Health Concerns (Onondaga Community College)

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

Analysis of Human Motion (Syracuse University)

Clinical Problem Solving 2 - lecture - spinal muscular strength testing (PHT 7625, spring 2010,  
University of South Florida)

Community Health Studies (Onondaga Community College)

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

Exercise Leadership (Syracuse University)

Occupational Medicine Residency Program (fall 2017, University of South Florida)

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 and Dissertation Committees**

Committee Member: Jun San Juan

Thesis - Master of Arts (completed 2003)

Effect of pelvic stabilization on lumbar muscle activity during dynamic exercise

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

Research Mentor: Nissa Casuga

Thesis - Doctor of Physical Therapy (completed 2003)

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

Department of Physical Therapy, Loma Linda University, CA

Research Mentor: Bita Shahidi

Thesis - Doctor of Physical Therapy (completed 2003)

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

Department of Physical Therapy, Loma Linda University, CA

Committee Member: Christine Ahlff

Thesis - Master of Arts (completed 2005)

Validity and factor structure of the Multidimensional Task Ability Profile

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

Research Mentor: John Varghese

Thesis - Master of Physical Therapy (completed 2006)

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

Research Co-Mentor: Jeannie Stephenson

K30 Directed Research - Master of Science (completed 2008)

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

Committee Member: Jason Martuscello

Thesis - Master of Science (completed 2012)

Core muscle activation during trunk exercise: a systematic review

School of Physical Education & Exercise Science, University of South Florida, FL

Examiner: Gregory J. Thiel

Dissertation - Master of Technology (completed 2014)

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

Committee Member: Brittany VB Johnson  
Dissertation - Doctor of Philosophy (completed 2020)  
An exploratory analysis of firefighters' nutrient intake related to obesity, musculoskeletal injury, sleep, and physical fitness  
ProQuest number: 27741097  
Concordia University, Chicago, IL

Committee Member: Charity L. Lane  
Dissertation - Doctor of Philosophy (completed 2022)  
An exploration of administrative and shift leaders' perceptions on barriers and facilitators to adoption and maintenance of firefighter physical fitness programs  
ProQuest number: 29165496  
Concordia University, Chicago, IL

### **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, FL

### **Other Student Research Mentorships**

2014-2017 Various Doctor of Physical Therapy (DPT) capstone projects - USF  
2014-present Various transitional DPT capstone projects - University of Montana

### **Other Research Mentorships**

2014-2016 Co-Mentor: Douglas Haladay, DPT, PhD, OCS, CSCS  
Young Investigators Initiative, 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.

Organization: Syracuse University. 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. Organization: Syracuse University 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

Organization: BackStrong International LLC. Project Period: 1999-2000

Purpose: To develop and conduct pilot testing on a new exercise device 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.

Organization: The Vert Mooney Research Foundation (TVMRF). 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: unavailable.

Organization: TVMRF. 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

Organization: TVMRF. 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.

Organization: TVMRF. 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.

Organization: TVMRF. 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: unavailable. Type: unavailable (non-refereed). Total Amount Funded: unavailable.

Organization: TVMRF. 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: unavailable.

Organization: University of Wisconsin LaCrosse. 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

Organization: TVMRF. 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

Title: 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.

Organization: TVMRF. 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, FY2003 Assistance to Firefighters Grants. Type: Federal (refereed); awarded to the City of San Diego with subsequent competitive request for proposal received by San Diego Sports Medicine. Total Amount Funded: \$1,050,000 (federal award: \$750,000, city match: \$300,000).

Organization: TVMRF (sub-contract from San Diego Sports Medicine). 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, FY2005 Assistance to Firefighters Grants. Type: Federal (refereed); awarded to the City of Chula Vista. Total Amount Funded: \$147,716 (federal award \$118,173, city match: \$29,545).

Organization: TVMRF (sub-contract from San Diego Sports Medicine). 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 Director (Medical Director: Mooney V)

Title: Development, implementation, and assessment of SpineZone

Sponsor: Sharp Community Medical Group. Type: Industry. Total Amount Funded: \$100,000.

Organization: TVMRF. Project Period: 2005-2008

Purpose: To implement and assess the effectiveness of standardized exercise therapy at SpineZone on clinical outcomes and costs for the treatment of spinal pain disorders.

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: unavailable). Total Amount Funded: unavailable.

Organization: self. 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: unavailable.

Organization: CAM Research Institute. 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: unavailable.

Organization: TVMRF. 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 loan repayment, \$67,252 federal / state income tax reimbursement).

Organization: TVMRF. Project Period: July 2005 - June 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.

Organization: CAM Research Institute. 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.

Organization: CAM Research Institute. 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.

Organization: TVMRF. 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.

Organization: University of South Florida (USF). 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

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).

Organization: USF. 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

Title: Disc restorative solution for discogenic headache - a retrospective case series

Sponsor: TVMRF (USF award #: 6140100600). Type: Foundation (non-refereed). Total Amount Funded: \$8,004 (\$6,253 direct, \$1,751 indirect).

Organization: USF. 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 - FY2017-2018: \$681,833.

Organization: USF. Project Period: October 2007 - June 2018

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

Role: Principal Investigator

Sponsor: Florida Chiropractic Foundation for Education and Research

Title: Research operations support. Type: Foundation (non-refereed - unrestricted research gift).

Total Amount Funded: total donation FY2008-2009 - FY2015-2016: \$242,380.

Organization: USF. Project Period: October 2007- June 2016

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

Role: Principal Investigator

Title: 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, Research & Development (EMW-2009-FP-00418). Type: Federal (refereed). Total Amount Funded: \$701,173 (\$487,860 direct, \$213,313 indirect).

Organization: USF. 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).

Organization: USF. 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: Director

Title: Interdisciplinary Center for Neuromusculoskeletal Research

Sponsor: State of Florida - legislative award - Education and General. Type: State - legislative (non-refereed). Total Amount Funded: \$2.4 M total awarded (FY2012-2013 through FY2017-2018).

Organization: USF. Project Period: July 2012 -June 2018

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: \$70,000  
Organization: USF. Project Period: May 2013 - June 2016  
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.  
Organization: USF. Project Period: May 1, 2014 - April 30, 2016  
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, Research & Development (EMW-2013-FP-00723). Type: Federal (refereed). Total Amount Funded: total award including 5% match from Florida Chiropractic Foundation for Education and Research: \$1,332,106 (\$898,656 direct, \$433,450 indirect).  
Organization: USF. Project Period: August 1, 2014 - April 30, 2018  
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.

Role: Co-Principal Investigator (PI: Hardwick D)  
Title: A new herbal-based topical ointment for treatment of exercise induced delayed onset muscle soreness of the elbow flexor muscles  
Sponsor: Aldali Inc, Tampa, FL and Florida High Tech Corridor (FHTC). Type: Industry (non-refereed). Total Amount Funded: \$99,631 (Aldali: \$50,277 - \$33,630 direct, \$16,647 indirect; FHTC: \$49,354 direct; participants enrolled as of 12/31/2016: 18).  
Organization: USF. Project Period: July 1, 2015 - June 30, 2017  
Purpose: To assess the efficacy of a new herbal-based topical ointment (Asteeza) on relieving pain associated with exercise-induced DOMS of the elbow flexor muscles.

Role: Principal Investigator  
Title: Critical assessment of management of low back pain in individuals with lower extremity amputation  
Sponsor: Lincoln College Education and Research Fund. Type: Foundation (non-refereed - unrestricted research gift). Total Amount Funded: \$50,000  
Organization: USF. Project Period: January 2016 - December 2017  
Purpose: To critically assess the management of low back pain in individuals with lower extremity amputation in order to develop resources for healthcare providers and patients.

Role: Co-Principal Investigator (PI: Patel T)

Title: Analysis of surgeon physical stress during open and robotic radical cystectomy with electromyography and motion sensor analysis

Sponsor: USF New Researcher Grant. Type: Internal (refereed). Total Amount Funded: \$4,000

Organization: USF. Project Period: May 1, 2016 - April 30, 2017

Purpose: The compare robotically-assisted laparoscopic radical cystectomy to open radical cystectomy on surgeon physical strain as assessment by kinematics and myoelectric activity.

Role: Principal Investigator

Sponsors: Lincoln College Education and Research Fund; Florida Chiropractic Foundation for Education and Research

Title: Head of Operations support - Lincoln Chair Research Program. Type: Foundation (non-refereed - unrestricted research gift). Total Amount Funded: \$100,000

Organization: USF. Project Period: April 2016 - June 2018

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

Role: Project Leader (along with Lane CL)

Title: Implementation of a fitness and injury prevention program for firefighters

Sponsor: City of St. Petersburg, FL (via U.S. Department of Homeland Security, Federal Emergency Management Agency, FY 2016 Assistance to Firefighters Grants. Type: Federal (referred). Competitive request for proposal received by TVMRF for sub-contract. Total Amount Funded (for sub-contract): \$95,750

Organization: TVMRF. Project Period: January 2018 - November 2018

Role: Site Principal Investigator (PI: Farrokhi S - Naval Medical Center, San Diego)

Title: Resolving the burden of low back pain in military service members and veterans: a multi-site pragmatic clinical trial

Sponsor: US Department of Defense (W81XWH-18-2-0007) - NIH-DoD-VA Pain Management Collaboratory - Pragmatic Clinical Trials Demonstration Projects. Type: Federal (refereed). Total Amount Funded to Site: \$1,068,236 allocated to: TVMRF - \$164,212 (\$149,284 direct, \$14,928 indirect) and USF - \$904,024 (\$565,255 direct, \$338,769 indirect).

Organization: TVMRF (sub-contract with the Henry Jackson Foundation for the Advancement of Military Medicine). Project Period: May 2018 - April 2024

Purpose: To plan (UG3 phase) and execute (UH3 phase) a multi-site cluster randomized pragmatic trial to evaluate the comparative effectiveness of Psychologically Informed Physical Therapy versus usual physical therapy care for low back pain in military service members and veterans.

Role: Principal Investigator / Project Leader

Title: Implementation of a regional firefighter wellness initiative

Sponsor: US Department of Homeland Security, Federal Emergency Management Agency, Assistance to Firefighters Grant Program, FY 2017 Fire Prevention and Safety Grants (EMW-2017-FP-00711). Type: Federal (refereed). Total Amount Funded: total project cost \$1,227,681 (federal share \$1,169,220; match \$58,461).

Organization: TVMRF. Project Period: September 14, 2018 - September 13, 2021.

Purpose: To implement and assess an intervention-based regional wellness program for career firefighters targeting 3 critical issues that impact safety and health of firefighters: low back injury and related musculoskeletal disorders, obesity (cardiovascular disorders), and sleep disorders.  
Project Period: September 14, 2018 - September 13, 2021. Organization: TVMRF

Role: Project Leader - for outcomes management component of contracted services

Title: Workers' Compensation Medical and Psychological Services for City Employees

Sponsor: City of Sacramento. Type: City (competitive request for proposal received by Spine & Sport Physical Therapy)

Organization: TVMRF (sub-contract with Spine & Sport Physical Therapy). Project Period: September 29, 2023 - present).

Purpose (for outcomes management component): To assist the recipient organization with augmenting its primary physical therapy services by providing advanced, evidence-based clinical outcomes management and client-centered educational services for City of Sacramento employees with work-related musculoskeletal disorders.

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

### *Books*

1. Gherscovic ED, Mayer JM. *Healthy Buildings and Musculoskeletal Disorders: Advances in Occupant Health and Wellbeing*. 1st ed. Healthy Buildings LLC: Malibu, California, USA; 2025. [https://publicrecords.copyright.gov/detailed-record/siebel\\_TXu002512188](https://publicrecords.copyright.gov/detailed-record/siebel_TXu002512188)

### *Book Chapters*

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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:28-29.

19. Verna J, Stowell S, Parker R, Duran A, Mayer JM. Firefighters & back injuries: the new study. Published by *Fire Rescue Magazine* online November 3, 2010 at:  
<http://my.firefighternation.com/profiles/blogs/firefighters-amp-back-injuries>.
20. Mayer JM. What is the safest way to lift? *FCA Journal*, 2011;January:21-22.
21. Mayer JM. Lincoln Endowed Chair in Chiropractic Research: annual update 2011. *FCA Journal*, 2011;July:15-16.
22. Mayer JM. Dr. Haldeman receives inaugural Lincoln Research Prize. *FCA Journal*, 2011;October:14-16.
23. Mayer JM. Dr. Haldeman presents inaugural distinguished lecture in USF International series. *FCA Journal*, 2012;January:23-24.
24. Mayer JM, Nuzzo JL. Worksite exercise improves back and core muscular endurance in firefighters. *Firework*, 2012;1(45):3,9.
25. Mayer JM. Lincoln College Endowed Chair in Chiropractic & Biomechanical Research: annual update 2012. *FCA Journal*, 2012;July:38-40.
26. Mayer JM. Bronfort receives 2012 Lincoln Research Prize. *FCA Journal*, 2012;October:40-41.
27. Mayer JM. Does maintenance spinal manipulation therapy offer additional benefits for patients with chronic low back pain? *FCA Journal*, 2013;January:23-25.
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:20-21.
29. Mayer JM. Lincoln College Endowed Chair in Chiropractic & Biomechanical Research - annual update 2013. *FCA Journal*, 2013;July:22-24.
30. Mayer JM. Goertz receives 2013 Lincoln Research Prize. *FCA Journal*, 2013;October:15-16.
31. Mayer JM. Improving low back muscular strength and core muscular endurance in US Army Soldiers: preliminary findings from the DOD-funded research grant at the University of South Florida. *FCA Journal*, 2014;January:14,16.
32. Mayer JM. What is the most effective dose of spinal manipulation therapy for patients with chronic low back pain? *FCA Journal*, 2014;July: 32-33.
33. Mayer JM. Lincoln College Endowed Chair in Chiropractic & Biomechanical Research - annual update 2014. *FCA Journal*, 2014;October;30-32.
34. Mayer JM, Libous JL. University of South Florida hosts the Inaugural Neuromusculoskeletal Research Summit. *FCA Journal*, 2015;January:18,20.

35. Mayer JM. The Global Spine Care Initiative. Improving the lives of those suffering from spinal disorders around the world. *FCA Journal*, 2015;April:34-35.
36. Mayer JM. Lincoln College Endowed Chair in Chiropractic & Biomechanical Research - annual update 2015. *FCA Journal*, 2015;July.
37. Mayer JM, Lane CL. Can technology be used to enhance exercise outcomes? *FCA Journal*, 2016;January:20-21.
38. Lane CL, Mayer JM. Why you should properly train the posterior chain. *FCA Journal*, 2016;April:24-26.
39. Mayer JM, Lane CL. Lincoln College Endowed Chair in Chiropractic & Biomechanical Research - annual update 2016. *FCA Journal*, July;2016:24-25.
40. Lane CL, Mayer JM. Firefighter wellness and fitness programs in the State of Florida. *FCA Journal*, 2016;October.
41. Lane CL, Mayer JM. Firefighter wellness and fitness programs in the State of Florida. *Florida Fire Service Magazine*, 2016;October:10-11.
42. Lane CL, Mayer JM. Current perspectives on exercise management of back pain in lower extremity amputees. *FCA Journal*, 2017;January:22-24.
43. Lane CL, Mayer JM. Matching exercise programs to job demands. *FCA Journal*, 2017;October:20-22.
44. Lane CL, Mayer JM. Chiropractic physicians as leaders in first responder wellness. *FCA Journal*, 2018, January;20-23.
45. Mayer JM, Andres A, Lane CL. Implementation of a regional firefighter wellness initiative during a global pandemic. *Fire Engineering*, 2021;September:2-6.  
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#### *Technical Reports*

1. Mayer JM, Hollingsworth H, Leggett S, Logan S, Matheson L, Stiles B, Verna JL, 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 JL, 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, Mooney V, Harris D, Verna JL. 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.
8. Mayer JM, Quillen WS, Dagenais S, Verna JL, et al. Final performance report: Low back injury prevention in firefighters (EMW-2009-FP-00418); submitted to sponsor (FEMA, Department of Homeland Security) on February 6, 2013.
9. Mayer JM, Quillen WS. Final performance report: Reduction of risk for low back injury in theater of operations (W81XWH-11-2-0170); submitted to sponsor (US Department of Defense, Congressionally-Directed Medical Research Program) on December 10, 2015.
10. Hardwick D, Klein A, Mayer JM. A new herbal-based topical ointment for treatment of exercise induced delayed onset muscle soreness of the elbow flexor muscles. Submitted to sponsor (Aldali Inc) on February 2018.
11. Mayer JM, Lane CL, H. C, Brady O, Dagenais S, et al. Final performance report: Worksite exercise interventions for low back injury prevention in firefighters (EMW-2013-FP-00723); submitted to sponsor (FEMA, Department of Homeland Security) on October 30, 2018.
12. Mayer JM, Lane CL, Dagenais S, Verna JL, et al. Final performance report: Implementation of a regional firefighter wellness initiative (EMW-2017-FP-00711; submitted to sponsor (FEMA, Department of Homeland Security) on May 26, 2022.
13. Wolfinger C, Verna JL, Mayer JM. Sacramento Regional Fire Academy 2024-1 Cohort - Baseline Summary Report; submitted to City of Sacramento on February 15, 2024.
14. Wolfinger C, Verna JL, Mayer JM. Sacramento Regional Fire Academy 2024-1 Cohort: Summary Report - Changes in Back Muscular Endurance Following Academy Training; submitted to City of Sacramento on August 2, 2024.

*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. Editions 1, 2, and 3*. University of South Florida, Tampa, FL, 2012-2016.
4. Mayer JM, Santos N, Janus T, Brady O, Lane CL. *Exercise Training Manual: Back and Core Exercises for Firefighters. 4th Edition*. University of South Florida, Tampa, FL, 2017.
5. Mayer JM, Stout A. Popular exercises for low back pain: swimming. North American Spine Society - Exercise Booth materials. 2014.
6. Lane CL, Mayer JM. *Firefighters' Guide to Health and Wellness*, 2016.
7. Mayer JM, Hsu A, Miller EK. Recommended seated posture while driving. North American Spine Society - Exercise Booth materials. 2017.
8. Mayer JM, Lane CL. *Web-Based Exercise Instructional Manual*. 2018.
9. Lane CL, Mayer JM. *First Responder Exercise Manual*. 2019.
10. Lane CL, Mayer JM. *First Responder Guide to Wellness and Fitness*. 2019.
11. Mayer JM, Lane CL. *First Responder Exercise Manual: Low Back Injury Prevention*. 2019.
12. Johnson BVB, Mayer JM. *Tactical Athlete Nutrition Score*. 2020.
13. Mayer JM. *Four Foundational Levels: Firefighter Injury Prevention and Functional Fitness - On-Duty Exercise*. 2020.
14. Gherscovici ED, Mayer JM. *Building Certification Systems: A Closer Look at Healthy Buildings*. Healthy Buildings LLC: Malibu, California, USA; 2024.
15. Gherscovici ED, Mayer JM. *Healthy Buildings LLC Recognition Plaque - Theoretical Framework and Benefits: Infographic*. Healthy Buildings LLC: Malibu, California, USA; 2024.

*Software and Other Creative Activities*

1. Matheson LN, Mayer JM, Mooney V, Verna JL, Leggett S, Dreisinger T. The *Multidimensional Task Ability Profile* - software versions 1.1-2.1: computerized patient-reported outcome instruments (pictorial activity and task sorts) to assess physical functioning. Copyright 2003-2025: The Vert Mooney Research Foundation, San Diego CA.
2. Matheson LN, Verna JL, Mayer JM. The *Multidimensional Task Ability Profile Short Form Lift & Carry* - software version 1.0. Copyright 2024: The Vert Mooney Research Foundation, San Diego CA.
3. Mayer JM, Libous JL. Web-based back and core exercise system. Copyright 2015-2018: University of South Florida, Tampa, FL, and WebExercises, Inc, Novato, CA.
4. Lane CL, Mayer JM. *Firefighter Functional Task Questionnaire*. 2018.
5. Lane CL, Mayer JM. *Tactical Athlete Exercise Habit Survey*. 2019.
6. Mayer JM, Lane CL. *First Responder Wellness Initiative*: [www.FirstResponderInitiative.com](http://www.FirstResponderInitiative.com) - educational series and resource guide. San Diego, CA, 2019-2023 (initial development funded, in part, by DHS/FEMA grant: EMW-2017-FP-00711).

**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. 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.
6. Mayer JM. Heat, physical, and chiropractic therapies for low back pain. GlaxoSmithKline Consumer Healthcare Back Pain Scientific Session, Parsippany, NJ, October 2007.
7. 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.
8. 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.
9. 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.

10. 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.
11. 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.
12. Mayer JM. Strengthening for prevention and treatment of spinal athletic injuries. American Chiropractic Association Sports Council Annual Conference, St. Louis, MO, July 2008.
13. 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.
14. 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.
15. 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.
16. Mayer JM. Firefighter wellness and fitness: current understanding and future directions. Annual Firefighter Health and Safety Conference, Orlando, FL, December 2008.
17. 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.
18. 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.
19. Mayer JM. Evidence-based management of low back pain in older adults. 12<sup>th</sup> Annual USF Geriatrics Institute, Tampa, FL, June 2010.
20. Mayer JM. Low back injury prevention in firefighters. FEMA Assistance to Firefighters Grants Research & Development Annual Meeting, Chicago, IL, August 2010.
21. 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.
22. 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.
23. 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.
24. 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.

25. 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.
26. 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.
27. Mayer JM. What other health professionals learn about chiropractic. FCA National Convention, Orlando, FL, August 2012.
28. Mayer JM. Exercise options in chronic low back pain. The 9th Annual Sarasota Winter Pain Symposium, Sarasota, FL, February 2013.
29. 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.
30. 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.
31. 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.
32. Mayer JM. Worksite exercise interventions for low back injury prevention in firefighters. FEMA Assistance to Firefighters Grants Research & Development Annual Meeting, National Harbor, MD, August 2015.
33. Mayer JM, Lane CL. Risk management considerations for telehealth delivery of exercise. FCA Southeast Convention, Miami, FL, June 2016.
34. Mayer JM, Lane CL. Worksite exercise interventions for low back injury prevention in firefighters. FEMA Assistance to Firefighters Grants Research & Development Annual Meeting, San Antonio, TX, August 2016.
35. Mayer JM, Lane CL. Risk management considerations for telehealth delivery of exercise. The National - FCA Convention, Orlando, FL, August 2016.
36. Lane CL, Mayer JM. First responder wellness and fitness programs: practical applications and future directions. Firefighter Safety and Health Conference, Florida Fire Chiefs Association, Orlando, FL, December 2016.
37. Haladay D, Mayer JM. Evidence-based practice in physical therapy. Physical Therapy Department, St. Joseph's Hospital, Tampa, FL, July 2017.
38. Mayer JM, Lane CL. First responders as tactical athletes: occupational health considerations. University of South Florida Occupational Medicine Residency Program, Tampa, FL, September 2017.
39. Mayer JM. Alternatives to opioids for non-cancer pain management. Multidisciplinary Board Fact Finding Work Group Controlled Substances, State of Florida Department of Health. Orlando, FL, November 2017 (public presenter).
40. Mayer JM, Lane CL. Back injury prevention in firefighters: optimizing fitness programs to match job demands. Firefighter Safety and Health Conference, Florida Fire Chiefs Association, December 2017.

41. Mayer JM. Worksite exercise interventions for low back injury prevention in firefighters. FEMA Assistance to Firefighters Grants Research & Development Annual Meeting, Dallas, TX, August 2018.
42. Johnson C, Kopansky-Giles D, Mayer JM, Haldeman S. Expanding chiropractic practice opportunities: incorporating the Global Spine Care Initiative (GSCI) classification and care pathway into daily practice. The National - FCA Convention, Orlando, FL, August 2018.
43. Mayer JM. Outcomes of comparative effectiveness. in session: Exercise Committee Presents: Muscle Imbalance in Back Pain: Chicken, Egg or Red Herring (moderator Tauzell R). North American Spine Society Annual Meeting, Los Angeles, CA, September 2018.
44. Mayer JM, Diulus C, Stout A, Tauzell R. Nutrition considerations you need to know for spine disorders. North American Spine Society Annual Meeting, Los Angeles, CA, September 2018.
45. Mayer JM. Chiropractic considerations. in Exercise Committee Session: Exercise Recommendations/Guidelines for LBP Consensus or Conflict? (Tauzell R - moderator). North American Spine Society Evidence & Technology Spine Summit, Park City, UT, February 2019.
46. Mayer JM. General introduction to nutrition for spine care. in Nutritional Considerations in Spine Care (Tauzell R - moderator). North American Spine Society Evidence & Technology Spine Summit, Park City, UT, February 2019.
47. Highsmith MJ (moderator), Farrokhi S, Hill O, Klenow T, Mayer JM. Contemporary Perspectives on Low Back Pain in the Population with Limb Loss. American Academy of Orthotists & Prosthetists National Assembly, San Diego, CA, September 2019.
48. Mayer JM, Johnson BVB. Back injuries in first responders. San Diego Orthopaedic Surgery Spine Fellowship Program - Monthly Open Spine Conference. San Diego Spine Foundation, Scripps Green Hospital, La Jolla, CA, January 2020.
49. Mayer JM (moderator), Croucher M, Haddas R, Johnson BVB, Murphy DR, Perez Y, Tauzell R. Exercise Committee Symposium: The role of exercise as medicine in spine care - matching exercise programs to the patient. North American Spine Society Annual Meeting (virtual), October 2020.
50. Mayer JM, Lane CL, Verna J. Firefighter Wellness Programs: Past, Present, & Future. Improving health & resiliency of those who protect us. San Bernardino County Fire Chiefs Association Monthly Meeting (virtual). January 2021.
51. Mayer JM. Introduction, Implementation of Telehealth for Spine Care during a Pandemic: Clinical and Research Lessons Learned. in Mayer JM (moderator), Clifford B, Croucher M, Murphy D. NASS Exercise Committee: Virtual Delivery of Spine Care. North American Spine Society Annual Meeting, Boston MA, September 2021.

*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. 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.

4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.

17. 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.
18. 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.
19. 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.
20. 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.
21. 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).
22. 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.
23. 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.
24. Klein AB, Quillen WS, Morris ML, Lynch K, Libous JL, Faillace ES, Huster M, Koenig J, Morrissey B, Veeneman J, Welch A, Mayer JM. USF Dance Wellness Program: an interprofessional, student oriented initiative. Performing Arts Medical Association Regional Meeting. Tampa, FL, March 2015.
25. Lane CL, Hardwick D, Janus T, Brady O, Mayer JM. Comparison of the Firefighter Candidate Physical Ability Test to weight lifting exercises in firefighters. American College of Sports Medicine Annual Meeting, Minneapolis, MN, June 2018.
26. Mayer JM, Verna JL, Lane CL. Implementation of a firefighter wellness initiative during record wildfires and a global pandemic. Association Chiropractic Colleges - Research Agenda Conference, San Diego, CA, July 2022.
27. Schwartz S, Lane CL, Duong A, Phelps B, Verna JL, Mayer JM. Physical Therapy engagement in a regional firefighter wellness initiative: implementation and preliminary outcomes. American Physical Therapy Association Combined Sections Meeting. San Diego, CA, February 2023.

*Plenary/Platform (other, virtual)*

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).
12. Mayer JM. Impact of a supervised worksite exercise program on back and core muscular endurance in firefighters. Webinar - "Sneak Peek" Jan/Feb 2015 issue, American Journal of Health Promotion. January 2015 (invited webinar presentation).
13. Mayer JM (moderator), Lane CL, Campbell B, D'Agostino D. Sports Nutrition Expert Panel. University of South Florida, Tampa, FL, September 2016.
14. Mayer JM (moderator), Diulus C, Lane CL, Stout A, Tauzell R. Nutrition considerations you need to know for spine disorders - CME Webinar. North American Spine Society, May 2018.
15. Mayer JM (moderator), Clifford B, Haddas R, Murphy D, Perez Y, NASS Exercise Committee: How to incorporate psychologically-informed practice into exercise management of spine care: behavioral approaches. CME Pre-Conference Webinar. North American Spine Society, August 2021.
16. Mayer JM. Occupational readiness and wellness programs in first responders: implications for the chiropractic profession. ATE In-Service Presentation. Northeast College of Health Sciences, June 2022.
17. Verna JL, Matheson LN, Mayer JM. The future of physical rehabilitation is now: psychologically informed practice and patient centered care. Continuing Education Course. Spine & Sport Physical Therapy, San Diego, CA, November 2022.
18. Verna JL, Wolfinger C, Katz R, Mayer JM. Introduction to first responder industrial athlete certification. Continuing Education Course. Spine & Sport Physical Therapy, Sacramento, CA, April 2024.

19. Mayer JM. Shop Talk: Influence of active, passive, and manual therapy interventions on escalation of health care events after physical therapist care in veterans with low back pain. Available at: <https://sites.duke.edu/ceemt/dr-john-mayer/> Duke University Center of Excellence in Manual and Manipulative Therapy. October 2024.

*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, Greece, 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 (finalist - best poster presentation).
53. Mayer JM, Childs JD, Libous JL, Neilson BD, Koppenhaver SL, Quillen WS. Factors influencing lumbar extension strength gains in soldiers. American College of Sports Medicine Annual Meeting. San Diego, CA, May 2015.
54. Haladay D, Swisher LL, Mayer JM. The use of a word cloud to assess DPT student perceptions of evidence based practice. American Physical Therapy Association Combined Sections Meeting. Anaheim, CA, February 2016.
55. Lane CL, Mayer JM. Considerations for telehealth delivery of therapeutic exercise by federal health professionals. Society of Federal Health Professionals - AMSUS Annual Meeting, National Harbor, MD, November 2016.
56. Mayer JM, Lane CL, Highsmith MJ. Current perspectives in management of low back pain in lower extremity amputees. Society of Federal Health Professionals - AMSUS Annual Meeting, National Harbor, MD, November 2016.

57. Lane CL, Mayer JM. Factors impacting adherence to worksite exercise programs in firefighters. Art and Science of Health Promotion Conference. Colorado Springs, CO, March 2017.
58. Mayer JM, Lane CL. Departmental variations in wellness, fitness, and occupational injury characteristics of firefighters. American Occupational Health Conference, American College of Occupational and Environmental Medicine, Denver, CO, April 2017.
59. Lane CL, Mayer JM. Departmental variations in wellness and fitness characteristics of firefighters. American College of Sports Medicine Annual Meeting. Denver, CO, May 2017.
60. Lane CL, Brady O, Mayer JM. Prevention strategies for low back pain in the military: a systematic review. Society of Federal Health Professionals - AMSUS Annual Meeting, National Harbor, MD, November 2017.
61. Lane CL, Mayer JM. Comparison of core muscle activity during occupational tasks and weightlifting exercises in firefighters. Art and Science of Health Promotion Conference. San Diego, CA, March 2018.
62. Lane CL, Mayer JM. Relationship between injuries, fitness, and dietary habits in firefighters Art and Science of Health Promotion Conference. San Diego, CA, March 2018.
63. Mayer JM, Brady O, Lane CL. Worksite interventions for prevention of occupational low back pain: a systematic review. American Occupational Health Conference, American College of Occupational and Environmental Medicine, New Orleans, LA, April 2018.
64. Lane CL, Brady O, Janus T, Mayer JM. Factors influencing firefighters' perceptions of worksite exercise. American College of Sports Medicine Annual Meeting, Minneapolis, MN, June 2018.
65. Hardwick D, Klein A, Mayer JM. A new herbal-based topical ointment for treatment of exercise induced delayed onset muscle soreness of the elbow flexor muscles. National Strength and Conditioning Association Annual Conference, Indianapolis, IN, July 2018.
66. 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. Medical Health System Research Symposium, Orlando, FL, August 2018.
67. Hardwick D, Klein A, Mayer JM. A new herbal-based topical ointment for treatment of exercise induced delayed onset muscle soreness of the elbow flexor muscles. Combined Sections Meeting - American Physical Therapy Association, Washington, DC, January 2019.
68. Johnson BVB, Mayer JM. Association of caloric intake with physical fitness and low back pain in firefighters. American College of Sports Medicine Annual Meeting, San Francisco, CA, June 2020 (e-poster).
69. Lane CL, Mayer JM. Worksite exercise adherence in firefighters: findings during a global pandemic and record wildfire season. American College of Sports Medicine Annual Meeting, San Diego, CA, June 2022 (e-poster).
70. Mortimer DJ, Schwartz S, Phelps B, Katz R, Verna JL, Mayer JM. Telehealth delivery of therapeutic exercise for musculoskeletal disorders during a global pandemic. American College of Sports Medicine Annual Meeting, San Diego, CA, June 2022.
71. Matheson LN, Verna JL, Mayer JM. Pictorial self-report lift capacity test validation. American College of Sports Medicine Annual Meeting, Denver, CO, June 2023 (e-poster).
72. Jimenez M, Mortimer DJ, Rheaume A, Weinberg N, Lopez A, Verna JL, Mayer JM. Implementation of function-based outcomes systems in physical rehabilitation: a quality improvement project. American College of Sports Medicine Annual Meeting, Denver, CO, June 2023 (e-poster).

73. Katz R, Schwartz S, Walls M, Verna JL, Mayer JM. Long term follow up from implementation of telehealth in physical therapy practice: an administrative case report. American Physical Therapy Association Combined Sections Meeting. Boston, MA, February 2024.
74. Walls M, Katz R, Schwartz S, Verna JL, Mayer JM. Long term follow up from implementation of telehealth in physical therapy practice: an administrative case report. California Physical Therapy Association Annual Conference. Burlingame, CA, September 2024.
75. Haddas R, Remis A, Rubery P, Vasalos K, Puvanesarajah V, Mayer JM. Is therapeutic exercise a necessary component of surgical interventions? Review of post-surgical exercise for lumbar spine care. International Society for the Study of the Lumbar Spine Annual Conference, Atlanta, GA, May 2025.

*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.
8. Singleton A, Taricska J, Meservey J, Mayer JM, Haladay DE. Systematic review and meta-analysis of the consequences of undergoing TRAM or DIEP breast reconstruction surgery on core abdominal muscle performance in adult women. University of South Florida Health Research Day. Tampa, FL, February 2016.
9. Robison J, Hardwick D, Strakosha R, Mayer JM, Patel T. Analysis of surgeon physical stress during open and robotic radical cystectomy with electromyography and motion sensor analysis. USF Health Research Day, Tampa, FL, February 2017.
10. Oawster M, Whelchel J, Gartman G, Lane CL, Santos N, Janus T, Mayer JM. Relationship between dietary habits and anthropometric, injury, and fitness characteristics of firefighters. USF Health Research Day, Tampa, FL, February 2018.

### **Scientific Task Forces, Guideline Committees, and Related Scholarly Activities**

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.
2011-present	Member, Clinical and Scientific Advisory Board, World Spine Care, Santa Ana, CA.
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.
2014-present	Scientific Secretariat, Global Spine Care Initiative, Santa Ana, CA.
2014-2015	Member, Firefighter Health Research Alliance, US.
2019-2023	Member, Coverage Committee Recommendations Project: Physical Therapy - Exercise (with Tauzell R), North American Spine Society.

### **Editorial Boards**

2006-present	Advisory Editorial Board Member, <i>The Spine Journal</i>
2011-present	Editorial Board Member, <i>Chiropractic &amp; Manual Therapies</i>
2018-present	Editorial Board Member, <i>Journal of Manipulative and Physiological Therapeutics</i>

### **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
2009-2024	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) (start year in parentheses)

- American Journal of Physical Medicine & Rehabilitation (2008)
- Archives of Physical Medicine and Rehabilitation (2005)
- Arthritis Research & Therapy (2006)
- Chiropractic & Manual Therapies (2013)
- Cureus Journal of Medical Science (2022)
- Disability and Rehabilitation (2016)
- European Journal of Applied Physiology (2001)
- Evidence-Based Complementary and Alternative Medicine (2006)

International Journal of Therapy and Rehabilitation (2013)  
Journal of Applied Biomechanics (2014)  
Journal of Chiropractic Education (2012)  
Journal of Chiropractic Medicine (2024)  
Journal of Manipulative and Physiological Therapeutics (2008)  
Journal of Strength and Conditioning Research (2013)  
Manual Therapy (2015-present)  
Medicine and Science in Sports and Exercise (2005)  
Nutrients (2021)  
Physical Therapy in Sport (2012)  
Physiotherapy Theory and Practice (2011)  
PLOS One (2013)  
Preventive Medicine (2022)  
Sports Medicine (2012)  
The Spine Journal (2006)

#### **Reviewer - Other**

2011	External reviewer, Chapter - Applied Biomechanics, in <i>American College of Sport Medicine's Resources for the Personal Trainer, 4<sup>th</sup> Edition</i> . Lippincott Williams & Wilkins, Baltimore.
2015	Expert reviewer, report EHC-2014-11-0076 - Noninvasive Treatments for Low Back Pain, US Agency for Healthcare Quality and Research.
2021, 2022	Abstract reviewer, North American Spine Society Annual Meeting.

## **SERVICE**

#### **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
2008-2018	Member, Clinical Policy and Advisory Board, Palladian Health, West Seneca, NY
2010-2017	Committee Chair, Lincoln Research Prize for Chiropractic and Biomechanics, Florida Chiropractic Foundation for Education and Research, Orlando, FL
2013-2023	Member, Exercise Committee, North American Spine Society, Burr Ridge, IL
2013-2016	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.
2016-present	Board of Directors, The Vert Mooney Research Foundation, San Diego, CA (DBA US Spine & Sport Foundation).
2018-present	Member, Implementation Science Work Group, NIH-DoD-VA Pain Management Collaboratory
2019-2023	Chair, Exercise Committee, North American Spine Society, Burr Ridge, IL
2022	Participant, e-Delphi Study: Expert consensus on a standardised definition and severity classification for adverse events associated with spinal and peripheral joint manipulation and mobilisation. Funabashi M, et al.
2024	Co-Chair and Member, Section on Interdisciplinary Spine, North American Spine Society, Burr Ridge, IL

#### **University Service**

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

#### *University of South Florida*

01/2008-2017	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
09/2008-06/2018	Member (Co-Chair, 09/2012-06/2018), 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
07/2009-04/2015	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
07/2010-06/2018	Member, Appointment, Promotion, and Tenure Committee, School of Physical Therapy & Rehabilitation Sciences (Chair or Co-Chair: 09/2012-06/2018)
09/2010-8/2016	Member, Financial Oversight Committee, College of Medicine
09/2011-08/2014	Research Council, Faculty Senate, University of South Florida
03/2012-12/2016	Member, Faculty Search Committee, School of Physical Therapy & Rehabilitation Sciences

10/2012-01/2013	Chair, Research Faculty Search Committee, Interdisciplinary Center for Neuromusculoskeletal Research, School of Physical Therapy & Rehabilitation Sciences
09/2012-05/2015	Chair, Ad Hoc Committee - revision of Appointment, Promotion, and Tenure Guidelines for School of Physical Therapy & Rehabilitation Sciences
10/2012-09/2014, 5/2015-8/2016	Member, Appointment, Promotion, and Tenure Committee, College of Medicine (Vice Chair: 09/2015-8/2016)
01/2015-06/2018	Chair, Research Committee School of Physical Therapy & Rehabilitation Sciences
09/2016 - 07/2017	Member, Appointment, Promotion, and Tenure Revision Task Force College of Medicine
02/2017-06/2017	Chair, PhD Program Committee School of Physical Therapy & Rehabilitation Sciences
09/2017-01/2018	Member, Planning Committee - 2018 USF Health Research Day