

Winter 2018

Alumni Newsletter

University of Iowa Department of Physical Therapy & Rehabilitation Science

IN THIS ISSUE

Shields Delivers McMillan Lecture (pg. 1) Sluka Receives Helen Hislop Award (pg. 2)
New College of Medicine Dean (pg. 3) Spotlight on Veterans (pg. 3) Iowa Educational Summit (pg. 6)
Regents Award for Faculty Excellence (pg. 6) 2017 Commencement (pg. 7) PhD Graduation (pg. 8)

Shields Delivers 2017 Mary McMillan Lecture



Iowa Physical Therapy and Rehabilitation Science at the 2017 Mary McMillan Lecture

Dr. Richard Shields, Chair of the Department of Physical Therapy and Rehabilitation Science, delivered the 48th Mary McMillan Lecture at APTA's annual convention in Boston (viewable online at <http://www.apta.org/NEXT/2017/McMillanLecture/>).



Shields with previous McMillan lecturers

According to the APTA: "The Mary McMillan Lecture is the most distinguished honor an active APTA member can receive." "This award recognizes those who have demonstrated exemplary skills in the areas of administration, education, patient care, management, and research."

13% of all past McMillan lecturers attended the University of Iowa; Shields is the 6th speaker from our institution.

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Mary McMillan Lecture (continued):

Addressing an audience of 2,000 clinicians and educators, Shields highlighted ways that physical therapists "turn over the hourglass" for their patients by facilitating longevity-promoting cellular changes. Shields introduced the new frontier of Precision Physical Therapy, in which physical therapists expertly dose movement interventions to elicit healthful genetic and epigenetic adaptations.

Dr. Shields also highlighted the opposite end of the patient care continuum, the science of measuring patient expectation and clinical outcomes. Through advances at both frontiers of clinical rehabilitation science, physical therapists will achieve the APTA's vision to "Transform society by optimizing movement to improve the human experience."



Richard K. Shields PT, PhD, FAPTA



Dr. Shields with Dr. Geneva Johnson

Attendees of the McMillan Lecture also commemorated the career of Dr. Geneva Johnson, one of the profession's most cherished leaders. Dr. Johnson gave the Mary McMillan Lecture in 1985. She served as a PT in the U.S. Army during WWII and the Korean War, then studied at the University of Iowa. She founded one of the profession's first entry-level Master's degree programs in 1960 and she championed educational innovation throughout her career. Dr. Johnson celebrated her 95th birthday during the APTA NEXT conference. She continues to be active in the APTA's Federal PT section and regularly attends APTA national meetings.

The full text of the 2017 McMillan Lecture is available in the October issue of *Physical Therapy*.

Sluka Receives Helen Hislop Award



Dr. Sluka and APTA President Sharon Dunn

The APTA honored Professor Kathleen Sluka, PT, PhD, FAPTA with the 2017 Helen J. Hislop Award for Outstanding Contributions to Professional Literature.

Dr. Sluka received the award at the APTA NEXT Conference in Boston. The award commemorates Dr. Helen Hislop, an Iowa PT graduate whose long career as an academic leader included a seven-year term as the editor of *Physical Therapy*.

Dr. Sluka received the award in recognition of her extensive contributions to the scientific literature in physical therapy, particularly in pain management and the neurobiology of pain. Over her career, Dr.

Sluka has published over 195 scientific papers advancing the evidence for non-pharmacologic management of pain. Her work is of vital importance to physical therapists and other healthcare providers looking for therapeutic options in the current national opioid abuse crisis.

Our Department congratulates Dr. Sluka on receiving this prestigious award and thanks her for her important contributions to the profession.

Jackson Named Dean of Carver College of Medicine



Brooks Jackson MD, MBA

In November, Brooks Jackson, MD, MBA was named Dean of the Carver College of Medicine and Vice President of Medical Affairs. Dr. Jackson is a board-certified pathologist and internationally-recognized AIDS researcher. He previously served as Vice President for Health Sciences and Dean of the medical school at the University of Minnesota.

In his new role at Iowa, Dr. Jackson will oversee University of Iowa Health Care, which encompasses the University of Iowa Hospitals and Clinics, the Carver College of Medicine, and UI Physicians, the state's largest physician practice group.

Dr. Jackson is an avid runner, with a daily running streak dating back to 1979. We hope this extremely healthful habit continues uninterrupted here in our community, and we warmly welcome him to the University of Iowa.

Iowa Alumni: Spotlight on Veterans

Our Department's history stretches back to 1942, when the United States Army initiated an emergency course to address a wartime shortage of trained physical therapists. Each class completed six months of didactic coursework followed by six months of practical training in the Army. Since that era, a number of our graduates have either preceded or followed their PT training with military service. In this Alumni Spotlight edition, we highlight three alumni whose military experiences helped shape their careers in PT.

Are you a veteran? Our Department is compiling a roster of alumni who served in any era and in any capacity. We invite you to add your name to this list of individuals who served. Please contact us at physicaltherapy@uiowa.edu to provide us with your service information.

Donald "Jake" Jacobusse, PT, CRT ('71)

Donald "Jake" Jacobusse served in the United States Marine Corps from 1966 to 1969. Between 1967 and 1968 he served as an artillery officer in Vietnam. Upon his discharge from the Marine Corps, Mr. Jacobusse enrolled in the University of Iowa's PT program.

Mr. Jacobusse recalls that this was an era of extreme unrest on campus, with many students protesting the Vietnam War. The intensity of the protests escalated in the week following the Kent State student shootings in May of 1970.

"It became so violent that state troopers patrolled the campus and all classes were suspended 2 weeks before the end of the semester. No finals were taken." He continues, "It was not a pleasant time for a Vietnam veteran....My challenge was remaining rather incognito and just concentrating on my studies. Not many people knew that I was a veteran except for my good friends."



Donald "Jake" Jacobusse, PT, CRT ('71)

Mr. Jacobusse graduated from PT school in 1971 and began a therapy career in north-central Iowa. He currently serves as Director of PT services at Kossuth Regional Health Center in Algona, Iowa.

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Spotlight on Veterans (continued):

Raymond Crallé, PT ('71)



Raymond Crallé, PT ('71)

One friend who knew Mr. Jacobusse's history of military service was a classmate, Raymond Crallé. He was a Florida native who enlisted in the Marine Reserves after the Cuban Missile Crisis in 1964. He served in the Marine Reserves for 6 years, including during his PT studies. His time in the program was punctuated by Reserve drills in Moline on weekends until his graduation in 1971.

Mr. Crallé's mother was one of the first licensed PTs in Florida and owned her own private practice. Mr. Crallé followed suit, opening thirteen sports rehabilitation centers in the 1980s. He served two terms as the Chair of the Private Practice Section of the Florida Physical Therapy Association.

In the early 2000's, Mr. Crallé began to collaborate with neurosurgeons to administer hyperbaric oxygen (HBO) to victims of near-drowning incidents and to veterans with brain trauma from concussive injury. In November of 2017, the VA approved the use of hyperbaric oxygen for veterans suffering from intractable post-traumatic stress disorder (PTSD).

COL (Ret.) Steven Hunte, PT, MPH ('80)

A third alumnus followed his Iowa PT education with a long and productive career as an Army physical therapist. Steven Hunte was a varsity wrestler at Iowa from 1973-1978 and a member of three NCAA Championship wrestling teams. He attended PT school while completing his Army ROTC requirements, graduating in 1980.

He honed his early skills at Brooke Army Medical center and other Army hospitals. In the 1990's he served as Chief of Physical Therapy at the 121st General Hospital in Seoul, Korea and at Womack Army Medical Center at Fort Bragg, NC.

After the 9/11 attacks, he assumed command of the Schweinfurt Clinic in Bavaria, Germany, overseeing PT, Pharmacy, Social Work, Radiology, and a number of other healthcare services for the 2nd Brigade Combat Team and their families. His duties at this time centered around enhancing medical readiness for soldiers preparing for deployment to the Middle East.

In 2004, he was promoted to Colonel and became the first PT in Army history to be an Army Hospital Commander, overseeing operations at Womack Army Medical Center and later at McDonald Army Health Center. Colonel Hunte became the first Installation Management Command Surgeon at the Pentagon, working to improve access to healthcare and related services for soldiers and their families on all Army installations and Joint Bases worldwide. Colonel Hunte retired in 2011 after a 32-year Army career. He completed a Masters of Public Health in Healthcare Administration in 2013. (continued next page...)



COL (Ret.) Steven Hunte, PT, MPH ('80)

Spotlight on Veterans (continued):

Leadership Lessons

Despite their very different career histories, these veterans all learned lessons through military service that enhanced their ability to care for patients and to manage clinical staff.

Raymond Crallé credits his Marine Corps experience with teaching him about overcoming adversity. Of the eighty recruits in his basic training platoon, only 42 completed the training. He remarks that "Having lettered in sports in high school, I thought I was in good shape, but I was never again as fit as I was after boot camp in the Marines." He also credits the Marine Corps with helping him recognize the importance in reaching out to help others in life. Mr. Crallé now runs a non-profit organization that assists patients to obtain access to hyperbaric oxygen treatment at reduced or no cost.

Colonel Hunte remarked that "In Army PT Clinics, therapists were to focus on what worked to reduce pain, increase function, and return to duty...There is an incentive to fix Soldiers as fast as possible to return them to their combat teams." Colonel Hunte pointed out that historically, Army physical therapists had greater practice autonomy than their colleagues in civilian practice. Very early in their history, Army PTs were able to flexibility tailor treatment plans without the strictures of reimbursement limits or mandates from referral sources.

As a clinic supervisor, Colonel Hunte realized that exposure to civilian practice would provide his junior officers with useful perspective. "I always allowed my junior officers to moonlight as civilian physical therapists when they asked. I knew that once they satisfied their curiosity that they would never consider leaving the Army to work in the civilian world as a PT." Through this mentoring strategy, Colonel Hunte equipped many junior officers to fulfill the Army Medical Department's purpose, to "Preserve the Fighting Force."

Jake Jacobusse sees direct parallels between the skills that equip a good military commander and those that mark an effective clinic manager. "I think good leaders are born not made...I have noted that the one thing that is probably the most important in leadership is keeping your troops informed as to the WHY of your order. Troops and staff do like to know why they are being ordered or asked to do something."

However, he acknowledges one key distinction between military and civilian leadership: "Being a military commander...your orders are carried out WITHOUT question; being a civilian manager, your orders are carried out WITH questions."



Veterans Day, 2017. Each flag is attached to a card commemorating a veteran with a connection to the UI.

Enhancing Care for Veterans

Colonel Hunte sees a particular advantage for veterans to provide physical therapy care to fellow veterans. "There is an increased recognition of the mental effects and PTSD on Soldiers. Only one percent of the USA population serves in the military. Soldiers understand what other Soldiers go through. Soldiers seek other Soldiers to talk with about issues."

He also highlights a unifying theme common to both military and civilian PT practice; the need for therapeutic approaches based on sound scientific research. "The advancement of knowledge and science provides advancements in physical therapy and I hope that physical therapy as a profession focuses on evidence-based scientific research to advance physical therapy knowledge and provision of care."

Our Department extends its gratitude to these three veterans and to all our alumni who have served. We would like to connect with veterans in our alumni community; please email us at physical-therapy@uiowa.edu to let us know about your military service.

Iowa Educational Summit



Clinicians and PT educators from around the state attended the Iowa PT Education Summit on September 15. This annual event is designed to trigger discussion of hot-button practice and education issues among Iowa's physical therapy community.

This year's Summit topic was "the movement system," which the APTA has identified as a key unifying concept for the profession. Iowa faculty member Amy Kimball, PT, ATC provided an overview of the movement system concept and led a discussion of the ways it is taught in PT educational programs. Rock Valley Physical Therapy CFO and Iowa adjunct faculty member Randy Boldt, PT described reimbursement issues surrounding movement system-based diagnosis.

The session concluded with a "flipped" panel discussion, in which moderators posed challenging questions about movement system-related care to members of the audience.

In the afternoon, Summit attendees and Iowa alumni gathered for the 2nd Annual Physical Therapy and Rehabilitation Science Golf Outing. Retired Iowa faculty member Byron Bork, PT, MA served as the social center of this event, which raised funds for DPT student scholarships. Summit attendees and friends of the Department gathered in the evening for an alumni social.

The next Iowa Educational Summit and golf outing will be September, 14 2018. Be on the lookout for email updates soon!

Shields Receives Award for Faculty Excellence



Shields with University of Iowa President Bruce Harreld and Interim Executive Vice President and Provost Dr. Sue Curry

Iowa PT Professor and Chair Dr. Richard Shields received the Iowa Board of Regents Award for Faculty Excellence.

This award recognizes faculty who have a sustained record of excellence across the spectrum of faculty endeavors (teaching, scholarship, and service). Highlights from Dr. Shields' nomination letters included his federally funded research program in spinal cord injury, his leadership and teaching at Iowa, and his service to the Foundation for Physical Therapy, the American Physical Therapy Association, and the National Institutes of Health. Dr. Shields received the award from Iowa President Bruce Harreld and from Interim Executive Vice President and Provost Dr. Sue Curry. He will be formally honored by the Carver College of Medicine at a February 2018 ceremony.

Congratulations, Class of 2017!



Commencement exercises for our department's 74th graduating class took place on December 15, 2017. Patricia Winokur, MD, Executive Dean of the Carver College of Medicine provided opening remarks, congratulating the students on their achievements. Dr. Shields' closing comments thanked the class for the role they played in shaping the Department's culture of educational excellence. Faculty members Marcie Becker, Amy Kimball, Kelly Sass, Carol Vance and David Williams presented the students with certificates commemorating the completion of their DPT coursework. The students were formally "hooded" later that evening at the Graduate College commencement exercises.

A number of students received recognition for honors and awards earned during their time in the Department:

- Alumni Scholarships: David Harper & Joshua Montague
- Collin's Pediatric Award: Brandilynne Schierland
- Frank Hazelton Memorial Scholarships: Ryan Kauffman & Brandilynne Schierland
- ILEND Traineeships: Kim Richards & Brandilynne Schierland
- Louis & Dorothy Laubenthal Memorial Scholarship: Kim Richards
- Marilyn M. McCoid Scholarship: Joel Ingram
- Mary Lou Fairchild Clinical Excellence Award: Jordan Finch-Smith
- Norman and Ruth Goldman Scholarships: Ryan Tillma & Emily Yann
- Rock Valley Physical Therapy Scholarship: Logan Thompson
- Tracy Dahl Memorial Scholarships: Jenna Goar, Jakob Hummel & Kirsten Maakestad
- Leadership/Mentor Recognition Awards: Cora Claypool, Jenna Goar, Logan Gushiken, David Hagerty, Sarah Jentink, Ryan Kauffman, Caley Medinger, Joshua Montague, Mary O'Connor, Quinlan Syfert, Abbie Wooten, Rachel Zhorne
- Byron E. Bork Dedication to Education & Service Award: Logan Gushiken

Cora Claypool received the 7th-annual Judy Biderman Professionalism Award, commemorating Judy's legacy through 50 years as an administrator in our department. Spanning six directors, several changes of location and for nearly 2,000 students, Judy was the core of our team. The award is given to the graduating DPT student who best exemplifies the principles of professionalism and teamwork on which Judy built her career.

Congratulations to all our graduates! Thank you for the contributions you made to our Department, and all the best as you begin your careers in physical therapy.

Cole Receives PhD Degree



Keith Cole DPT, PhD, OCS

The Department is proud to announce that Keith Cole, DPT, OCS, was awarded the PhD degree at the December 2017 Graduate College Commencement ceremony.

Dr. Cole was mentored by Dr. Richard Shields and previously completed a DPT degree at Iowa. He practiced in the Chicago area for 8 years and returned to Iowa's PhD program in 2013. Dr. Cole's dissertation was entitled "Motor control during a weight-bearing visuomotor task: Single- and dual-task motor performance of young and older healthy humans."

Dr. Cole has accepted a position as Assistant Professor in the Physical Therapy Program at George Washington University, Washington D.C.

Our Department congratulates Keith on achieving this milestone and wishes him success in his future career!

Faculty Publications for 2017

Iwamoto E, Bock JM, **Casey DP**. High-intensity exercise enhances conduit artery vascular function in older adults. *Med Sci Sports Exerc.* 2018 Jan;50(1):124-130. PMID: 28817509

Kruse NT, Hughes WE, Benzo RM, Carr LJ, **Casey DP**. Workplace strategies to prevent sitting-induced endothelial dysfunction. *Med Sci Sports Exerc.* 2017 Nov 7. [Epub ahead of print] PMID: 29117072

Casey DP, Ueda K, Wegman-Points L, Pierce GL. Muscle contraction induced arterial shear stress increases endothelial nitric oxide synthase phosphorylation in humans. *Am J Physiol Heart Circ Physiol.* 2017 Oct 1;313(4):H854-H859. PMID: 28801524

Bock JM, Ueda K, Schneider AC 4th, Hughes WE, Limberg JK, Bryan NS, **Casey DP**. Inorganic nitrate supplementation attenuates peripheral chemoreflex sensitivity but does not improve cardiovagal baroreflex sensitivity in older adults. *Am J Physiol Heart Circ Physiol.* 2017 Sep 29;ajpheart.00389.2017. [Epub ahead of print] PMID: 28971842

Kruse NT, Hughes WE, Hanada S, Ueda K, Bock JM, Iwamoto E, **Casey DP**. Evidence of a greater functional sympatholysis in habitually aerobic trained postmenopausal women. *J Appl Physiol (1985).* 2017 Sep 28;jap.00411.2017. [Epub ahead of print] PMID: 28970201

Kruse NT, Hughes WE, Ueda K, **Casey DP**. Vasoconstrictor responsiveness in contracting human muscle: influence of contraction frequency, contractile work, and metabolic rate. *Eur J Appl Physiol.* 2017 Aug;117(8):1697-1706. PMID: 28624852

Hughes WE, Kruse NT, **Casey DP**. Sympathetic nervous system activation reduces contraction-induced rapid vasodilation in the leg of humans independent of age. *J Appl Physiol (1985).* 2017 Jul 1;123(1):106-115. PMID: 28385914

Hughes WE, **Casey DP**. Aortic wave reflection during orthostatic challenges: influence of body position and venous pooling. *Am J Hypertens.* 2017 Feb;30(2):166-172. PMID: 28077421

Harvey RE, Barnes JN, Hart EC, Nicholson WT, Joyner MJ, **Casey DP**. Influence of sympathetic nerve activity on aortic hemodynamics and pulse wave velocity in women. *Am J Physiol Heart Circ Physiol.* 2017 Feb 1;312(2):H340-H346. PMID: 27923789

Ellingson LD, Hibbing PR, Kim Y, **Frey Law LA**, Saint-Maurice PF, Welk GJ. Lab-based validation of different data processing methods for wrist-worn ActiGraph accelerometers in young adults. *Physiol Meas.* 2017 Jun;38(6):1045-1060. PMID: 28481750

Carlesso LC, Segal NA, Curtis JR, Wise BL, **Frey Law L**, Nevitt M, Neogi T. Knee pain and structural damage as risk factors for incident widespread pain: Data from the Multicenter Osteoarthritis Study. *Arthritis Care Res (Hoboken).* 2017 Jun;69(6):826-832. PMID: 27636245

Carlesso LC, Niu J, Segal NA, **Frey Law LA**, Lewis CE, Nevitt MC, Neogi T. The effect of widespread pain on knee pain worsening, incident knee osteoarthritis (OA), and incident knee pain: The Multicenter OA (MOST) study. *J Rheumatol.* 2017 Apr;44(4):493-498. PMID: 28250143

Frey Law LA, Sluka KA. How does physical activity modulate pain? *Pain.* 2017 Mar;158(3):369-370. PMID: 28135214

Felson DT, Niu J, Quinn EK, Neogi T, Lewis CL, Lewis CE, **Frey Law L**, McCulloch C, Nevitt M, LaValley M. Multiple nonspecific sites of joint pain outside the knees develop in persons with knee pain. *Arthritis Rheumatol.* 2017 Feb;69(2):335-342. PMID: 27589036

Faculty Publications for 2017 (continued):

- Oza PD, **Dudley-Javoroski S, Shields RK**. Modulation of h-reflex depression with paired-pulse stimulation in healthy active humans. *Rehabil Res Pract*. 2017;2017:5107097. PMID: 29225972
- Tseng SC, **Shields RK**. limb segment load inhibits the recovery of soleus h-reflex after segmental vibration in humans. *J Mot Behav*. 2017 Nov 15:1-12. PMID: 29140761
- Shields RK**. Turning over the hourglass. *Phys Ther*. 2017 Oct 1;97(10):949-963. PMID: 29029555
- Gollie JM, Herrick JE, Keyser RE, Chin LMK, Collins JP, **Shields RK**, Panza GS, Guccione AA. Fatigability, oxygen uptake kinetics and muscle deoxygenation in incomplete spinal cord injury during treadmill walking. *Eur J Appl Physiol*. 2017 Oct;117(10):1989-2000. PMID: 28744558
- Becker M, Dudley-Javoroski S, Shields RK**. Professionalism values in health science education: Self- and peer-assessment of faculty, staff, and students. *J Allied Health*. 2017 Fall;46(3):178-184. PMID: 28889168
- Oza PD, **Dudley-Javoroski S, Shields RK**. Dynamic fatigue does not alter soleus h-reflexes conditioned by homonymous or heteronymous pathways. *Motor Control*. 2017 Jul;21(3):345-358. PMID: 27736308
- Woelfel JR, **Kimball AL**, Yen CL, **Shields RK**. Low-force muscle activity regulates energy expenditure after spinal cord injury. *Med Sci Sports Exerc*. 2017 May;49(5):870-878. PMID: 28009786
- Yen CL, McHenry CL, **Petrie MA, Dudley-Javoroski S, Shields RK**. Vibration training after chronic spinal cord injury: Evidence for persistent segmental plasticity. *Neurosci Lett*. 2017 Apr 24;647:129-132. PMID: 28315725
- Tseng SC, Cole KR, Shaffer MA, **Petrie MA**, Yen CL, **Shields RK**. Speed, resistance, and unexpected accelerations modulate feed forward and feedback control during a novel weight bearing task. *Gait Posture*. 2017 Feb;52:345-353. PMID: 28043056
- Resende L, Merriwether E, Rampazo ÉP, Dailey D, Embree J, Deberg J, Liebano RE, **Sluka KA**. Meta-analysis of transcutaneous electrical nerve stimulation for relief of spinal pain. *Eur J Pain*. 2017 Dec 27. [Epub ahead of print] PMID: 29282846
- Bobinski F, Teixeira JM, **Sluka KA**, Santos ARS. Interleukin-4 mediates the analgesia produced by low-intensity exercise in mice with neuropathic pain. *Pain*. 2017 Nov 15. [Epub ahead of print] PMID: 29140923
- Hadlandsmyth K, Dailey DL, Rakel BA, Zimmerman MB, **Vance CG**, Merriwether EN, Chimenti RL, Geasland KM, Crofford LJ, **Sluka KA**. Somatic symptom presentations in women with fibromyalgia are differentially associated with elevated depression and anxiety. *J Health Psychol*. 2017 Oct 1:1359105317736577. [Epub ahead of print] PMID: 29076404
- Teixeira JM, Bobinski F, Parada CA, **Sluka KA**, Tambeli CH. P2X3 and P2X2/3 receptors play a crucial role in articular hyperalgesia development through inflammatory mechanisms in the knee joint experimental synovitis. *Mol Neurobiol*. 2017 Oct;54(8):6174-6186. PMID: 27709491
- Lima LV, DeSantana JM, Rasmussen LA, **Sluka KA**. Short-duration physical activity prevents the development of activity-induced hyperalgesia through opioid and serotonergic mechanisms. *Pain*. 2017 Sep;158(9):1697-1710. PMID: 28621702
- Merriwether EN, Rakel BA, Zimmerman MB, Dailey DL, **Vance CGT**, Darghosian L, Golchha M, Geasland KM, Chimenti R, Crofford LJ, **Sluka KA**. Reliability and construct validity of the Patient-Reported Outcomes Measurement Information System (PROMIS) instruments in women with fibromyalgia. *Pain Med*. 2017 Aug 1;18(8):1485-1495. PMID: 27561310
- Inoue S, Johaneck LM, **Sluka KA**. Lack of analgesic synergy of the cholecystokinin receptor antagonist proglumide and spinal cord stimulation for the treatment of neuropathic pain in rats. *Neuromodulation*. 2017 Aug;20(6):534-542. PMID: 28393429
- Lima LV, Abner TSS, **Sluka KA**. Does exercise increase or decrease pain? Central mechanisms underlying these two phenomena. *J Physiol*. 2017 Jul 1;595(13):4141-4150. PMID: 28369946
- Hadlandsmyth K, Zimmerman MB, Wajid R, **Sluka KA**, Herr K, Clark CR, Noiseux NO, Callaghan JJ, Rakel BA. Longitudinal postoperative course of pain and dysfunction following total knee arthroplasty. *Clin J Pain*. 2017 Jul 20. [Epub ahead of print] PMID: 28731957
- Hadlandsmyth K, Sabic E, Zimmerman MB, **Sluka KA**, Herr KA, Clark CR, Noiseux NO, Callaghan JJ, Geasland KM, Embree JL, Rakel BA. Relationships among pain intensity, pain-related distress, and psychological distress in pre-surgical total knee arthroplasty patients: a secondary analysis. *Psychol Health Med*. 2017 Jun;22(5):552-563. PMID: 27216314
- Cooper NA, Rakel BA, Zimmerman B, Tonelli SM, Herr KA, Clark CR, Noiseux NO, Callaghan JJ, **Sluka KA**. Predictors of multidimensional functional outcomes after total knee arthroplasty. *J Orthop Res*. 2017 May 4. [Epub ahead of print] PMID: 28471509

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Quintans-Júnior LJ, Brito RG, Quintans JS, Santos PL, Camargo ZT, Barreto PA, Arrigoni-Blank MF, Lucca-Júnior W, Scotti L, Scotti MT, Kolker SJ, **Sluka KA**. Nanoemulsion thermoreversible pluronic F127-based hydrogel containing Hyptis pectinata (Lamiaceae) leaf essential oil produced a lasting anti-hyperalgesic effect in chronic noninflammatory widespread pain in mice. *Mol Neurobiol*. 2017 Feb 13. doi: [Epub ahead of print] PMID: 28194646

Harper NG, **Wilken JM**, Neptune RR. Muscle function and coordination of stair ascent. *J Biomech Eng*. 2018 Jan 1;140(1). PMID: 28857115

Ikeda AJ, Ferguson JR, **Wilken JM**. Effects of altering heel wedge properties on gait with the Intrepid Dynamic Exoskeletal Orthosis. *Prosthet Orthot Int*. 2017 Sep 1:309364617728116. [Epub ahead of print] PMID: 28870146

Sheehan AJ, Schmitz MR, Ward CL, Barrow AE, Tennent DJ, Roach CJ, Burns TC, **Wilken JM**. Assessment of disability related to femoroacetabular impingement syndrome by use of the Patient-Reported Outcome Measure Information System (PROMIS) and objective measures of physical performance. *Am J Sports Med*. 2017 Sep;45(11):2476-2482. PMID: 28609640

Salinas MM, **Wilken JM**, Dingwell JB. How humans use visual optic flow to regulate stepping during walking. *Gait Posture*. 2017 Sep;57:15-20. PMID: 28570860

Brown SE, Russell Esposito E, **Wilken JM**. The effect of ankle foot orthosis alignment on walking in individuals treated for traumatic lower extremity injuries. *J Biomech*. 2017 Aug 16;61:51-57. PMID: 28736080

Ranz EC, **Wilken JM**, Gajewski DA, Neptune RR. The influence of limb alignment and transfemoral amputation technique on muscle capacity during gait. *Comput Methods Biomech Biomed Engin*. 2017 Aug;20(11):1167-1174. PMID: 28650686

Russell Esposito E, Ranz EC, Schmidtbauer KA, Neptune RR, **Wilken JM**. Ankle-foot orthosis bending axis influences running mechanics. *Gait Posture*. 2017 Jul;56:147-152. PMID: 28577470

Ebrahimi A, Goldberg SR, **Wilken JM**, Stanhope SJ. Constituent Lower Extremity Work (CLEW) approach: A novel tool to visualize joint and segment work. *Gait Posture*. 2017 Jul;56:49-53. PMID: 28494322

Pickle NT, Silverman AK, **Wilken JM**, Fey NP. Segmental contributions to sagittal-plane whole-body angular momentum when using powered compared to passive ankle-foot prostheses on ramps. *IEEE Int Conf Rehabil Robot*. 2017 Jul;2017:1609-1614. PMID: 28814050

Russell Esposito E, Stinner DJ, Ferguson JR, **Wilken JM**. Gait biomechanics following lower extremity trauma: Amputation vs. reconstruction. *Gait Posture*. 2017 May;54:167-173. PMID: 28314214

Bosse MJ, Morshed S, Reider L, Ertl W, Toledano J, Firoozabadi R, Seymour RB, Carroll E, Scharfstein DO, Steverson B, MacKenzie EJ; **METRC (group includes Wilken JM)**. Transtibial Amputation Outcomes Study (TAOS): Comparing transtibial amputation with and without a tibiofibular synostosis (Ertl) procedure. *J Orthop Trauma*. 2017 Apr;31 Suppl 1:S63-S69. PMID: 28323804

Hsu JR, Owens JG, DeSanto J, Ferguson JR, Kuhn KM, Potter BK, Stinner DJ, Sheu RG, Waggoner SL, Wilken JM, Huang Y, Scharfstein DO, MacKenzie EJ; **METRC (group includes Wilken JM)**. Patient Response to an Integrated Orthotic and Rehabilitation Initiative for Traumatic Injuries: The PRIORTI-MTF study. *J Orthop Trauma*. 2017 Apr;31 Suppl 1:S56-S62. PMID: 28323803

Bosse MJ, Teague D, Reider L, Gary JL, Morshed S, Seymour RB, Toledano J, Cannada LK, Steverson B, Scharfstein DO, Luly J, MacKenzie EJ; **METRC (group includes Wilken JM)**. Outcomes After Severe Distal Tibia, Ankle, and/or Foot Trauma: Comparison of limb salvage versus transtibial amputation (OUTLET). *Orthop Trauma*. 2017 Apr;31 Suppl 1:S48-S55. PMID: 28323802

Russell Esposito E, Choi HS, Darter BJ, **Wilken JM**. Can real-time visual feedback during gait retraining reduce metabolic demand for individuals with transtibial amputation? *PLoS One*. 2017 Feb 9;12(2):e0171786. PMID: 28182797

Research Grant Support

Kathleen Sluka, PT, PhD

Professor

NIH-R01, \$2,203,874 (PI)

Central Mechanisms Involved in the Interactions Between Muscle Pain and Exercise

NIH-UM1, \$3,218,011 (PI)

FAST: Fibromyalgia Activity Study with TENS

Medtronic, \$118,245 (PI)

Frequency-Related Mechanisms of Spinal Cord Stimulation in Rodent Model of Neuropathic Pain

Laura Frey Law, PT, PhD

Associate Professor

NIH-R03, \$302,000 (PI)

Phenotyping Evoked Central Sensitivity to Painful Stimuli

Darren Casey, PhD

Assistant Professor

American Diabetes Association, \$302,862 (PI)

Nitrate Supplementation and Exercise Tolerance in Patients with Type 2 Diabetes

Neogenesis Laboratories, \$12,207 (PI)

Blood Pressure Responsiveness in Older Adults Following Dietary Nitrate Supplementation

Stacey DeJong PT, PhD

Assistant Professor

NIH K-12: Multicenter Career Development Program for Physical and Occupational Therapy, \$125,620 (PI)

Comprehensive Opportunities in Rehabilitation Research Training (CORRT): Cortical Mapping with Transcranial Magnetic Stimulation after Stroke

Carver Medical Research Initiative, \$30,000 (PI)

Operant Conditioning to Decrease Hypertonia and Improve Wrist Motor Control after Stroke

Department of Physical Therapy & Rehabilitation Science

University of Iowa Carver College of Medicine

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UNIVERSITY OF IOWA
CARVER COLLEGE
OF MEDICINE

University of Iowa Health Care

Please share this newsletter with your classmates and remind alumni to update their contact information with Carol Leigh (carol-leigh@uiowa.edu).

Richard Shields, PT, PhD

Professor

NIH-R01, \$1,566,625 (PI)

Musculoskeletal Plasticity after Spinal Cord Injury

NIH-R01, \$1,566,625 (PI)

Long Duration Activity and Metabolic Control after Spinal Cord Injury

American Diabetes Association, \$302,862 (Co-Investigator)

Nitrate Supplementation and Exercise Tolerance in Patients with Type 2 Diabetes

NIH-R01, \$1,265,331 (Co-Investigator)

Longitudinal Assessment of Brain Structure and Function in Myotonic Dystrophy

Jason Wilken PT, PhD

Associate Professor

Congressionally Directed Medical Research Programs (CDMRP) Peer Reviewed Orthopedic Research Program; Co-Investigator for:

-Maximizing Outpatient Rehabilitation Effectiveness (MORE) (\$300,000)

-Development of an Engaging Training Tool to Provide Superior Muscle Computer Interfaces for Rehabilitation of Neuromusculoskeletal Injuries (\$1,500,000)

-REPAIR: Rehabilitation Enhanced by Partial Arterial Inflow Restriction (\$3,999,105)

-MORE Resiliency (\$166,666)

-The Major Extremity Trauma and Rehabilitation Research Consortium (\$3,600,000)

Joint Warfighter Medical Research Programs (Co-Investigator), \$1,066,666

Improved Training Program for Fall Prevention of Warfighters with Lower Extremity Trauma

Defense Health Program (Co-Investigator), \$9,910,490

Center for Rehabilitation Sciences Research II