

ALUMNI NEWSLETTER

ISSUE #12

DECEMBER 2023

HEALTH EQUITY FOR ALL IOWANS

How can PTs improve healthcare access for all lowans? Thoughts from the 10th annual lowa Educational Summit. p.5

ALUMNI SPOTLIGHT: DR. GEORGE SOPER

1966 PTRS graduate Dr. George Soper ushered in PT clinical specialties and transformed healthcare systems. p.6

PTRS COMMUNITY MILESTONES

Faculty promotion, publications and grants, PhD conferral, Foundation for PT PODS II award, DPT graduation. p.7-11



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Staffing shortages threaten quality patient care - but high-value PT education can make a difference.

4 Construction Begins on Health Sciences Academic Building

Our new Department home will feature student-focused learning spaces and world-class research laboratories in the heart of the UI Health Care campus.

5 Iowa Educational Summit: Healthcare Equity for all Iowans

Physical therapists are key players in the effort to create health equity for patients from every background.

6 Alumni Spotlight: Dr. George Soper

Meet an Iowa PT alumnus who steered the evolution of PT practice and became a health-systems leader.

7 PTRS Department Milestones

Faculty promotion, PhD conferral, and Foundation for Physical Therapy Research PODS-II Award

8 DPT Commencement

We congratulate the 2022 DPT class and thank the many donors who provided student scholarships.

9 Faculty Grants and Publications



Alumni, we want to hear from you!

Scan the code or email us (physicaltherapy@uiowa.edu) to keep us posted on all your latest personal and professional milestones!

UI PTRS Reception at CSM 2024

University of Iowa PT alumni and friends are invited to a reception at the 2024 APTA Combined Sections Meeting (CSM) in Boston.

If you'll be at CSM, please plan to attend!

February 15, 2024 7:00 - 9:00 PM

Westin Boston Seaport Marina Ballroom I, Harbor Wing Lobby Level



In February 2023, the DPT2 class attended CSM in San Diego, CA. As part of their professionalism development training, they attended poster and platform sessions and engaged with APTA career resources.



AMIDST CHALLENGE IS OPTIMISM

An attention-grabbing headline, "Physical Therapists Face Staffing Shortages, and Kids Are Paying the Price", hit my inbox last week. Factors contributing to these shortages are increased student debt, stagnant clinical starting salaries, and reduced insurance reimbursement rates in healthcare.

Students today have a conundrum: Do they fulfill their dream to care for those who need their services, or do they look for more lucrative landscapes to secure their personal financial health? Importantly, if they stay in healthcare, but disengage and eventually burn out, then the staffing shortage challenge escalates in the future.

We recently published a paper entitled "Healthcare Educational Debt in the United States: Unequal Economic Impact within Interprofessional Team Members"², which highlights the net present value of various medical specialties and health-related professions, including physical therapy. As the title suggests, healthcare is a "team sport," and a team's success relies on the health of its various partners. I believe that students who have a positive academic experience, at a reasonable cost, are more likely to become a resolute partner with a commitment to the success of their healthcare team.

Despite the physical therapist staffing challenges we face; academic leaders are already initiating goals to improve the value of the Doctor of Physical Therapy (DPT) degree. Over 125 academic programs nationwide are participating in the University of Iowa's Benchmarking in Physical Therapist Education study. By monitoring benchmarks like educational quality, student experience, and student debt, we can assess novel interventions to understand the value of the DPT degree (Quality/Cost). Coupled with the excellent work from our American Physical Therapy Association, we know the economic cost savings that physical therapists bring to the care of several high impact patient populations.

We have much to be optimistic about as we close out this year. Enjoy our newsletter and I wish you all happy holidays and a peaceful and productive New Year!

Rich Shields PT, PhD, FAPTA

Chair and Department Executive Officer
Department of Physical Therapy and Rehabilitation Science

 $^{1.\} https://nypost.com/2023/12/03/lifestyle/physical-therapist-face-staffing-shortages-and-kids-are-paying-the-price/physical-therapist-face-staffing-shortages-and-kids-are-paying-the-price/physical-therapist-face-staffing-shortages-and-kids-are-paying-the-price/physical-therapist-face-staffing-shortages-and-kids-are-paying-the-price/physical-therapist-face-staffing-shortages-and-kids-are-paying-the-price/physical-therapist-face-staffing-shortages-and-kids-are-paying-the-price/physical-therapist-face-staffing-shortages-and-kids-are-paying-the-price/physical-therapist-face-staffing-shortages-and-kids-are-paying-the-price/physical-therapist-face-staffing-shortages-and-kids-are-paying-the-price/physical-the-physical-t$

^{2.} Shields et al. BMC Medical Education (2023) 23:666 doi:10.1186/s12909-023-04634-1



Student-focused learning spaces and state of the art research in the heart of the UI Health Care campus

On October 31, PTRS faculty attended the groundbreaking ceremony for the Department's future home, the Health Sciences Academic Building. This stateof-the-art learning and research facility is being built at the northeast corner of Melrose Avenue and South Grand Avenue, just steps from the University of Iowa Hospitals and Clinics.

This new facility will offer flexible spaces and technology resources that instructors can use to seamlessly integrate lecture, handson practical training, and patient simulation. Student well-being is a priority in the building design, with dedicated spaces for study and



The groundbreaking ceremony was led by University President Dr. Barbara Wilson (3rd from left), Iowa PT Chair Dr. Rich Shields (center) and dignitaries from the University and academic departments.

team learning and with nearby access to greenspace and exercise facilities. Research laboratories will feature collaborative spaces that facilitate discovery, as well as convenient access for research

participants with mobility impairments.

The building is scheduled for occupancy in 2026. We look forward to carrying forward our Department's rich history of excellence in this new space.

IOWA EDUCATIONAL SUMMIT: HEALTHCARE EQUITY FOR ALL IOWANS

On September 15, students, faculty, and members of Iowa's PT clinical community attended the 10th-annual Iowa Educational Summit. This year's event focused on "Healthcare Equity: Are We Meeting the Needs of All Iowans?"



Dr. Paul Gilbert

Paul Gilbert, PhD, ScM, from the University of Iowa College of Public Health opened the session with a discussion of key principles from public health research, including

the distinction between health equality and health equity (See Figure). He described how public health research distinguishes between health differences, which are caused by biological factors (eq. the much

higher rate of breast cancer in women than in men) and health disparities, which are "a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage."

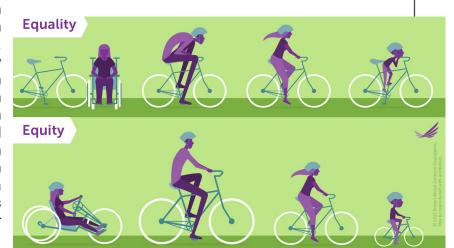


Photo: Robert Wood Johnson Foundation



Dr. Katie Imborek

Katie Imborek, MD from the Carver College of Medicine Department of Family Medicine described the work of the University of Iowa Hospitals and Clinics LGBTQ+ clinic to address health disparities experienced by members of sexual and gender minority communities throughout Iowa.

Dr. Imborek described barriers to health care access that are especially steep for the transgender community, such as uncomfortable clinic environments, providers with insufficient knowledge and expertise, legislation that limits access to care, and electronic medical records that perpetuate mis-gendering. She highlighted the importance and effectiveness of allyship, in which providers can use their position and voice to support their LGBTQ+ patients.

The session concluded with a panel discussion led by Iowa PTs whose clinical work addresses issues of equity in rehabilitation care. **Charlotte Bailey BS, MPT, DPT** described a systems-level approach to increasing equity, focused on forging relationships and trust across health systems, communities, and

interprofessional teams. Mary Hausler, DPT described major barriers to pelvic healthcare access in lowa, emphasizing that access to pelvic PT is essential for populations of any gender, across the lifespan, and across all activity levels. Marcie Becker DPT, GCS highlighted ways to reduce barriers to healthcare equity for lowans living in rural areas, emphasizing the power of reflective PT practice that examines and regulates unintentional biases and that addresses cultural barriers to exercise among rural populations.

Save the Date!

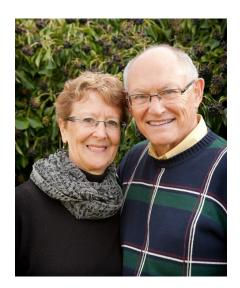
The next Iowa Educational Summit will be held on **Friday, October 4, 2024**.

A golf outing supporting student scolarships will follow in the afternoon. Mark your calendars!

ALUMNI SPOTLIGHT

DR. GEORGE SOPER

A high-impact career doesn't always begin with a master plan.



George and Sandra Soper

Over the past 45 years, lowa PT alumnus **Dr. George Soper** witnessed some of the most momentous changes in our profession's history, and he played a pivotal leadership role in several. But his career followed anything but a conventional path.

As a native of Mason City and growing up near Hampton, Iowa, George Soper excelled as an athlete but not as a student. He laughingly relates that his high school principal advised his parents not to bother sending him to college. But after setting a state record in the 440-vard dash, he received a scholarship to the University of Northern Iowa, where he thrived, earning a degree in Physical Education. A mentor suggested that he'd make a great PT. He joined lowa's program and completed a certificate in PT in 1966, just a year after the inception of Medicare.

Ushering in Change at UIHC

Dr. Soper practiced briefly in Harlan, IA and then returned to The University of Iowa to take a leadership position at the Hospital School, the forerunner of today's Center for Disabilities and Development. It was there that he met his wife Sandra, an occupational therapist, with whom he has celebrated 53 years of marriage.

He continued his education by completing a Master's degree, then became the director of rehabilitation services University of Iowa Hospitals and Clinics (UIHC). Charles Tipton, a professor in Exercise Science, encouraged him to seek PhD training, which he completed while employed full-time at UIHC. Former Iowa PT chair and current Professor Emeritus Dr. Garv Soderberg was a member of his dissertation committee.

Dr. Soper estimates that at the beginning of his leadership tenure, the UIHC rehab department consisted of fewer than 12 staff, all of whom practiced as generalists seeing inpatients and a small number of outpatients. Over the next 9 years, Dr. Soper instituted changes that permitted staff to practice in chosen specialty areas, an uncommon arrangement for the era.

Applying Iowa Lessons Nationally

Dr. Soper was satisfied with the effect of promoting specialized practice at Iowa and he believed this approach would benefit patients and clinicians if applied more broadly. He was elected to the APTA National Board of Directors and in 1975 became a founding member of the Task Force on Clinical Specialization (photo below).

This group, which included other profession leaders such as Stanley Paris and Sandy Burkart, recommended four initial areas of specialization: cardiopulmonary, neurology, orthopedics, and pediatrics – and developed guidelines for



1975: Task
Force on Clinical
Specialization
members Dr.
Stanley Paris (left)
and Dr. George
Soper (right).
Photo: APTA

specialist certification. Dr. Soper served as a founding member of the Commission for Certification of Advanced Clinical Competence, which today is known as the American Board of Physical Therapy Specialties (ABPTS). Dr. Soper looks back with satisfaction on this era and views his contributions to the genesis of clinical specialization, both in Iowa and nationally, as among his proudest professional achievements.

New Directions as a Leader

In 1980. Dr. Soper received an invitation to come to South Bend, IN to develop a Rehabilitation Institute at Memorial Hospital and Health System. He went on to have a long and productive career as a hospital executive at Memorial, noting that it was very unusual for someone in this field to have roots in PT. Over the next 31 years he became Senior Vice President and helped to found heart and cancer institutes within the Memorial system. In the final 5 years of his career, he oversaw Memorial's Human Resources department, enacting many changes that improved services for employees. He became a Life Fellow of the American College of Health Care Executives, and upon retiring in 2011, this group conferred on him its Regents Award, one of their highest honors.

Dr. Soper's career provides a vivid illustration of how a career in physical therapy can follow unexpected paths, including leadership far beyond the traditional bounds of the profession. Our program is proud to recognize Dr. Soper's leadership contributions and the impact he has made to the practice of PT and to vital healthcare systems that benefit tens of thousands of patients.

PTRS FACULTY PROMOTED



Dr. Carol Vance

We are proud to announce that Carol Vance PT, PhD was recently promoted to Clinical Associate Professor of Physical Therapy and Rehabilitation Science.

Dr. Vance has been a member of the faculty since 1995 and is the director and primary instructor for three courses in the DPT curriculum: Differential Diagnosis in Physical Therapy, Physical Therapy

Management of the Integument System, and Therapeutic Physical Agents. She teaches in the PhD curriculum in the Scholarly Integrity and Responsibility of Research course sequence.

Dr. Vance is a long-standing team scientist within Dr. Kathleen Sluka's Neurobiology of Pain Laboratory. She currently contributes to two NIH-funded clinical trials: the "Fibromyalgia TENS in Physical Therapy" study and the "Acute to Chronic Pain Signatures" multisite trial.

PHD DEGREE CONFERRED



Dr. Brady Hanson

Brady Hanson was awarded the PhD degree in Physical Rehabilitation Science in August of 2023.

His dissertation was entitled "Impact of Intermittent Elevations in Shear Rate on Peripheral Endothelial Function." Dr. Hanson was mentored by Dr. Darren Casey and is pursuing postdoctoral research training at the University of Utah Department of Internal Medicine.

PODS II SCHOLARSHIP



Adam Janowski

The Foundation for Physical Therapy Research has announced that Iowa PhD student Adam Janowski, DPT, has been selected to receive a Promotion of Doctoral Studies II (PODS II) award. The highly competitive PODS awards recognize the potential shown by PhD students to make important contributions as future rehabilitation researchers.

Adam is mentored by Dr. Kathleen Sluka. Dr. Sluka's Neurobiology of Pain Laboratory works to improve the management of pain for people with musculoskeletal conditions by discovering the underlying mechanisms that lead to chronic pain, discovering new therapies for pain management, and improving

the use of currently available treatments for pain. Janowski's

research project is entitled "The development and validation of a

translational model of Myalgia Encephalomyelitis/Chronic Fatigue Syndrome using animal and human designs."

CLASS OF 2022 COMMENCEMENT



Commencement exercises for our department's 81st graduating class took place on December 15, 2022. Dr. Brooks Jackson, Vice President for Medical Affairs and Dean of the Carver College of Medicine (former), provided the keynote address.

Thanks to the generosity of many individual and corporate donors, each student in the class received Departmental scholarship support during their studies. Recipients of these awards are:

Alumni Scholarships: Nathanael Seaberg, Emma Van Meeteren **Boldt Family Professional Service Award:** Emma Van Meeteren

First in Family Honor: Dana Bailey

Frank and Marion Hazelton Memorial Scholarships: Caitlin Purpi, Hannah Van Roekel

Global Interprofessional Scholarships: Sara Dekkers, Jacob Dupre, Ben Martin, Emma Van Meeteren

ILEND Trainee Scholarship Award: Kylie Kelchen, Louisa Schweigel **Jean Hammill Scholarship for Physical Therapy:** Jacob Carey

Kepros Physical Therapy Scholarship: Ben Martin
Kincart Family Rural PT Scholarship: Melania Torchalski

Louis & Dorothy Laubenthal Memorial Scholarships: Zoe Hicks, Haley Keller, Zoe Kienenberger, Louisa Schweigel

Marilyn M. McCoid Scholarships: Katrina Grevengoed, Caitlin Purpi, Makenzy Schick

Mary Lou Fairchild Clinical Excellence Award: Nicole Colonna

Norman and Ruth Goldman Scholarships: Sara Dekkers, Kylie Kelchen, Adriana Printy

Rock Valley Physical Therapy Scholarship: Tristan Brown

Team Iowa Physical Therapy Award: Melania Torchalski, Kayli Torok

Tracy Dahl Memorial Scholarships: Dana Bailey, Tristan Brown, Jacob Dupre, Michelle Hafner, Jordan Hoyman, Alexandra Kallner, Carly Langhurst, Nicole Lata, McKenna Llyod, Gabriella Pederson, Emily Sagstetter, Makenzy Schick, Taylor Schiebout, Louisa Schweigel, Morgan Straight, Hannah Van Roekel

Experiential Scholarship Awards: Jacob Carey, Nicole Colonna, Jacob Dupre, Anna Fletcher, Katrina Grevengoed, Zoe Hicks, Jordan Hoyman, Kyle Juhl, Kylie Kelchen, Haley Keller, Zoe Kienenberger, Jonathan Klein, Carly Langhurst, Nicole Lata, McKenna Lloyd, Ethan Patterson, Gabriella Pederson, Caitlin Purpi, Emily Sagstetter, Makenzy Schick, Taylor Schiebout, Nathanael Seaberg, Ciera Stitz, Megan Stitz, Morgan Strait, Melania Torchalski, Kayli Torok, Emma Van Meeteren, Hannah Van Roekel, Nicholas Yencer

Leadership Recognition Awards: Reilly Bertram, Cassandra Kerkman, Jonathan Klein, Elaina Peterson, Benjamin Schuff, Ciera Stitz Outstanding Student in Anatomy: Megan Stitz

W.R. Ingram Award for Superior Achievement in Functional Neuroanatomy: Nathanael Seaberg

Professional Development Awards: All members of the class received scholarship support to attend CSM 2022.

In addition, several special scholarship awards were announced at the graduation ceremony:

Judy Biderman Professionalism Scholarship: Anna Fletcher, Cassie Kerkman Byron E. Bork Dedication to Education & Service Scholarship: Kyle Juhl David G. Gerleman DPT Applied Engineering Award: Ethan Patterson

Congratulations to all our 2022 graduates, and best of luck in your PT careers!

RESEARCH GRANT SUPPORT

Principal Investigators

Ruth Chimenti DPT, PhD

Assistant Professor

Johns Hopkins University/NIAMS: \$263,067 (Multi-PI)

A Sequenced-Strategy for Improving Outcomes in

Patients with Knee Osteoarthritis Pain

Laura Frey Law, MPT, MS, PhD

Professor

National Institutes of Health: \$1,501,709 (Multi-PI)

Metabolic Biomarkers for Fibromyalgia

National Institutes of Health: \$14,367,913 (Multi-PI) Clinical Coordinating Center for the Acute to Chronic Pain Signatures Program

National Institutes of Health: \$406,693 (Multi-PI) Novel Insights into Osteoarthritis, Pain, and Function: MOST 4

Richard K. Shields PT, PhD, FAPTA

Professor

Permobil, Inc: \$52,116 (Multi-PI)

Post-Meal Positioning in a Power Wheelchair: Impact on Insulin-Glucose Levels, Muscle Cell Signalling, and Sympathetic Vagal Tone Among People With and Without Spinal Cord Injury Professor

National Institutes of Health: \$2,546,756 (PI)
Role of Macrophages in Activity-Induced Pain and

Analgesia

National Institutes of Health: \$1,501,709 (Multi-PI)

Metabolic Biomarkers for Fibromyalgia

Kathleen Sluka, PT, PhD, FAPTA

National Institutes of Health: \$9,307,793 (Multi-PI) Fibromyalgia TENS in Physical Therapy Study (TIPS): An

Embedded Pragmatic Clinical Trial

National Institutes of Health: \$14,367,913 (Multi-PI) Clinical Coordinating Center for the Acute to Chronic Pain Signatures Program

Jason Wilken PT, PhD

Associate Professor

Department of Defense: \$349,225 (PI)

OP210037 - Carbon Fiber Orthosis Cuff Design

Congressionally Directed Medical Research Programs:

\$3,969,294 (PI)

From Opinion to Evidence: Multi-site Evaluation of Custom

Dynamic Orthosis Best Practices

FACULTY PUBLICATIONS FOR 2023

Turner KD, Kronemberger A, Bae D, Bock JM, Hughes WE, Ueda K, Feider AJ, Hanada S, DeSousa LGO, Harris MP, Anderson EJ, Bodine SC, Zimmerman MB, **Casey DP**, Lira VA. Effects of combined inorganic nitrate and nitrite supplementation on cardiorespiratory fitness and skeletal muscle oxidative capacity in Type 2 diabetes: A pilot randomized controlled trial. Nutrients. 2022 Oct 25;14(21):4479. PMID: 36364742. doi: 10.3390/nu14214479.

Hanson BE, Iwamoto E, Mouser BL, Miller KA, **Casey DP**. Hypoxia offsets the decline in brachial artery flow-mediated dilation after acute inactivity. Am J Physiol Regul Integr Comp Physiol. 2022 Nov 1; 323(5): R787-R796. PMID: 36154488. doi: 10.1152/ajpregu.00161.2022.

Bock JM, Hanson BE, Miller KA, Seaberg NT, Ueda K, Feider AJ, Hanada S, Lira VA, Casey DP. Eight weeks of inorganic nitrate/nitrite supplementation improves aerobic exercise capacity and the gas exchange threshold in patients with type 2 diabetes. J Appl Physiol. 2022 Dec 1;133(6):1407-1414. PMID: 36326473. doi: 10.1152/japplphysiol.00478.2022.

Hanson BE, Feider AJ, Hanada S, Aldrich AW, Casey DP. Muscle blood flow and vasodilation are blunted at the onset of exercise following an acute bout of ischemia-reperfusion. J Appl Physiol. 2023 Sep 28. PMID: 37767553. doi: 10.1152/japplphysiol.00314.2023.

Hanson BE, **Casey DP**. Intermittent vs. continuous handgrip exercise and peripheral endothelial function: Impact of shear rate fluctuations. J Appl Physiol. 2023 Oct 1;135(4):892-901. PMID: 37650140. doi 10.1152/japplphysiol.00362.2023.

Post AA, Rio EK, **Sluka KA**, Moseley GL, Bayman EO, Hall MM, de Cesar Netto C, **Wilken JM**, Danielson J, **Chimenti RL**. Efficacy of telehealth for movement-evoked pain in people with chronic achilles tendinopathy: A noninferiority analysis. Phys Ther. 2023;pzac171. doi: 10.1093/ptj/pzac171

Hall MM, Kliethermes SA, Henning T, Hoffman DF, Mautner K, Obunadike E, Onishi K, Pourcho AM, Sellon JL, **Chimenti RL**. Three-month complication rate of ultrasound-guided soft tissue surgical procedures across six sports medicine clinics. J Ultrasound Med. 2023. PMID: 37376744. doi: 10.1002/jum.16298.

(Continued next page)

FACULTY PUBLICATIONS FOR 2023 (CONT.)

Dao M, Mosby H, Westphalen E, Post AA, **Wilken JM**, de Cesar Netto C, Hall MM, Danielson J, **Sluka KA, Chimenti RL**. Reliability and validity of two-dimensional motion capture to assess ankle dorsiflexion motion and heel raise work. Phys Ther Sport. 2023 Jul;62:10-16. PMID: 37300968. doi: 10.1016/j.ptsp.2023.05.006.

Janowski AJ, Post AA, Heredia-Rizo AM, Mosby H, Dao M, **Frey Law LA**, Bayman EO, **Wilken JM, Sluka KA, Chimenti RL**. Patterns of movement-evoked pain during tendon loading and stretching tasks in Achilles tendinopathy: A secondary analysis of a randomized controlled trial. Clin Biomech (Bristol, Avon). 2023 Aug 18;109:106073. PMID: 37657267. doi: 10.1016/j.clinbiomech.2023.106073.

Stubbs C, Mc Auliffe S, **Chimenti RL**, Coombes BK, Haines T, Heales L, de Vos, R-J, Lehman G, Mallows A, Michner LA, Millar NBW, O'Neill S, O'Sullivan K, Plinsinga M, Rathleff M, Rio E, Ross M, Roy J-S, Gravare Silbernagel K, Thomson A, Trevail T, Akker-Scheek I, Vicenzino B, Vlaeyen JWS, Zambelli Pinto R, Malliaras P. Which psychological and psychosocial constructs are important to measure in future tendinopathy clinial trials? A modified international Delphi study with expert clinician/researchers and people with tendinopathy. J Orthop Sports Phys Ther. 2023 Sep 20;1-29. PMID: 37729020. doi: 10.2519/jospt.2023.11903.

Murphy MC, Newsham-West R, Cook J, **Chimenti RL**, de Vos R-J, Maffulli N, Malliaras P, Mkumbuzi, N, Purdam C, Vosseller JT, Rio EK. TENDINopathy Severity Assessment – Achilles (TENDINS-A): Development and content validity assessment of a new patient-reported outcome measure for achilles tendinopathy. J Orthop Sports Phys Ther. 2023 Nov;0(11):1-16. PMID: 37615161. doi: 10.2519/jospt.2023.11964.

Chimenti RL, Post AA, Rio EK, Moseley GL, Dao M, Mosby H, Hall M, De Cesar Netto C, Wilken JM, Danielson J, Bayman EO, Sluka KA. The effects of pain science education plus exercise on pain and function in chronic Achilles tendinopathy: A blinded, placebo-controlled, explanatory, randomized trial. Pain. 2023 Jan 1;164(1):e47-65. PMID: 36095045. doi: 10.1097/j.pain.000000000000002720.

Chimenti RL, Hall MM, Vosseller JT. Diagnostic imaging for achilles tendinopathy: Unnecessary scans or valuable insights? Journal of Orthopaedic & Sports Physical Therapy. 2023 Nov 16:1-11. (In Press) PMID: 37970634. doi: 10.2519/jospt.2023.12255.

Bisson JA, Dupre JR, **DeJong SL**. Training of isometric force tracking to improve motor control of the wrist after incomplete spinal cord injury: a case study. Physiother Theory Pract. 2023 Aug 3;39(8):1777-1788. PMID: 35287525. doi: 10.1080/09593985.2022.2049405.

Young BM, Holman EA, Cramer SC; STRONG Study Investigators[**DeJong SL**]. Rehabilitation therapy doses are low after stroke and predicted by clinical factors. Stroke. 2023 Mar;54(3):831-839. PMID: 36734234. doi: 10.1161/STROKEAHA.122.041098.

Dudley-Javoroski S, Cooper CS, Jackson JB, Zorn A, Carter KD, **Shields RK**. Tolerance for ambiguity in healthcare trainees: Interprofessional correlates among medical and physical therapy students. Academic Medicine. 2023 (in press).

Carlesso LC, Jafarzadeh SR, Stokes A, Felson DT, Wang N, **Frey-Law L**, Lewis CE, Nevitt M, Neogi T, Multicenter Osteoarthritis Study Group. Depressive symptoms and multi-joint pain partially mediate the relationship between obesity and opioid use in people with knee osteoarthritis.

Osteoarthritis Cartilage. 2022 Sep;30(9):1263-1269. PMID: 35700904. doi: 10.1016/j.joca.2022.06.002

Lee S, Neogi T, Costello KE, Senderling B, Stefanik JJ, **Frey Law L**, Kumar D. Association of mechanical temporal summation of pain with muscle co-contraction during walking in people with knee osteoarthritis. Clinical Biomechanics. 2023 Dec:110:106105. PMID: 37778085. doi: 10.1016/j. clinbiomech.2023.106105.

Michaud F, Frey Law LA, Lugris U, Cuadrado L, Figueroa-Rodriguez J, Cuadrado J. Applying a muscle fatigue model when optimizing load-sharing between muscles for short-duration high-intensity exercise: A preliminary study. Front Physiol. 2023 Apr 24;14:1167748. PMID: 37168228. doi: 10.3389/fphys.2023.1167748. eCollection 2023.

Corrigan P, Neogi T, **Frey Law LA**, Jafarzadeh SR, Segal N, Nevitt MC, Lewis CE, Stefanik JJ. Relation of pain sensitization to self-reported and performance-based measures of physical functioning: the Multicenter Osteoarthritis (MOST) study. Osteoarthritis Cartilage. 2023 Jul;31(7):966-975. PMID: 37003421. PMCID: PMC10330303. doi: 10.1016/j. joca.2023.03.011. Epub 2023 Mar 31.

Raghava Neelapala YV, Neogi T, Kumar D, Jarraya M, Macedo L, Kobsar D, Hanna S, **Frey Law LA**, Lewis CE, Nevitt M, Appleton T, Birmingham T, Carlesso L. Exploring different models of pain phenotypes and their association with pain worsening in people with early knee osteoarthritis: The MOST Cohort Study. Osteoarthritis Cartilage. 2023 Sep 12;S1063-4584(23)00914-7. PMID: 37709187. doi: 10.1016/j.joca.2023.09.003.

Wang D, **Frey-Law LA**. Multisensory sensitivity differentiates between multiple chronic pain conditions and pain-free individuals. Pain. 2023 Feb 1;164(2):e91-e102. PMID: 35588150. doi: 10.1097/j. pain.000000000000002696.

Kosaku A, **Frey Law L**, Carlesso L, Nevitt M, Lewis CE, Wang N, Neogi T. Post-surgical contributors to persistent knee pain following knee replacement: The Multicenter Osteoarthritis Study (MOST). Osteoarthr Cartil Open. 2023 Jan 18;5(1):100335. PMID: 36798734. doi: 10.1016/j. ocarto.2023.100335.

Kimball AL, Petrie MA, McCue PM, Johnson KA, Shields RK. Impaired glucose tolerance and visceral adipose tissue thickness among lean and non-lean people with and without spinal cord injury. J Funct Morphol Kinesiol. 2023 Aug 21;8(3):123. PMID: 37606417. doi: 10.3390/ifmk8030123.

Reelfs AM, Stephan CM, Mockler SRH, **Laubscher KM**, Zimmerman B, Mathews KD. Pain interference and fatigue in limb-girdle muscular dystrophy R9. Neuromuscular Disorders. 2023; 33(6):523-530. PMID: 37247532. doi.org/10.1016/j.nmd.2023.05.005.

Contesse MG, Lowes LP, White MK, Dalle Pazze L, McSherry C, Alfano LN, Iammarino M, Reash N, Bonarrigo K, Kiefer M, **Laubscher K**, McIntyre M, Mockler S, Nelson L, Vogel L, Leffler MG. Development of Duchenne Video Assessment scorecards to evaluate ease of movement among those with Duchenne muscular dystrophy. PLoS One. 2022 Apr 13;17(4):e0266845. PMID: 35417501. doi: 10.1371/journal.pone.0266845.

Petrie MA, Johnson KA, Dubey O, **Shields RK**. Exercise prescription principles among physicians and physical therapists for patients with impaired glucose control: A cross-sectional study. J Funct Morphol Kinesiol. 2023 Aug 7;8(3):112. PMID: 37606407. doi: 10.3390/jfmk8030112.

Shields RK, Suneja M, Shields BE, Tofte JN, **Dudley-Javoroski S**. Healthcare educational debt in the United States: Unequal economic impact within interprofessional team members. BMC Med Educ. 2023 Sep 14;23(1):666. PMID: 27710228. doi: 10.1186/s12909-023-04634-1.

Kelty-Stephen DG, Lee J, Cole KR, **Shields RK**, Mangalam M. Multifractal nonlinearity moderates feedforward and feedback responses to suprapostural perturbations. Percept Mot Skills. 2023 Apr;130(2):622-657. PMID: 36600493. doi: 10.1177/00315125221149147.

Koscik TR, van der Plas E, Long JD, Cross S, Gutmann L, Cumming SA, Monckton DG, **Shields RK**, Magnotta V, Nopoulos PC. Longitudinal changes in white matter as measured with diffusion tensor imaging in adult-onset myotonic dystrophy type 1. Neuromuscul Disord. 2023 Aug;33(8):660-669. PMID: 37419717. doi: 10.1016/j.nmd.2023.05.010.

FACULTY PUBLICATIONS FOR 2023 (CONT.)

Johnson KA, **Petrie MA, Shields RK**. Biomarkers for rapid H-reflex operant conditioning among females. J Neurophysiol. 2023 Mar 1;129(3):685-699. PMID: 36791051. doi: 10.1152/jn.00188.2022.

Yen CL, **Petrie MA**, Suneja M, **Shields RK**. Neuromuscular and gene signaling responses to passive whole-body heat stress in young adults. Journal of Thermal Biology. 2023 Oct 20:118:103730. PMID: 37890230. doi: 10.1016/j.jtherbio.2023.103730.

Sluka KA. Effects of physical activity on laboratory pain: Studies on animals. Routledge Handbook of Physical Activity and Mental Health. (Taylor and Francis.) EID:2-s2.0-85161153366.

Augeard N, Bostick G, Miller J, Walton D, Tousignant-Laflamme Y, Hudon A, Bussières A, Cooper L, McNiven N, Thomas A, Singer L, Fishman SM, Bement MH, Hush JM, **Sluka KA** et. al. Development of a national pain management competency profile to guide entry-level physiotherapy education in Canada.

Can J Pain. 2022 Jan 11;6(1):1-11. PMID: 35036823. doi: 10.1080/24740527.2021.2004103.

Haider S, Janowski AJ, Lesnak JB, Hayashi K, Dailey DL, **Chimenti R, Frey Law LA, Sluka K**A, Berardi G. A comparison of pain, fatigue, and function between post-COVID-19 condition, fibromyalgia, and chronic fatigue syndrome: a survey study. Pain. 2023 Feb 1;164(2):385-401. PMID: 36006296. doi: 10.1097/j.pain.000000000002711.

Lesnak JB, Nakhla DS, Plumb AN, McMillan A, Saha S, Gupta N, Xu Y, Phruttiwanichakun P, Rasmussen L, Meyerholz DK, Salem AK, **Sluka KA**. Selective androgen receptor modulator microparticle formulation reverses muscle hyperalgesia in mouse model of widespread muscle pain. Pain. 2023 Jul 1;164(7):1512-1523. doi: 10.1097/j.pain.00000000000002841.

Lesnak JB, Hayashi K, Plumb AN, Janowski AJ, **Chimenti MS, Sluka KA**. 2022. The impact of sex and physical activity on the local immune response to muscle pain. Brain Behav Immun. 2023 Jul;111:4-20. PMID: 36972744. doi: 10.1016/j.bbi.2023.03.020.

Hayashi K, Janowski A, Lesnak JB, **Sluka KA**. Preoperative exercise has a modest effect on postoperative pain, function, quality of life, and complications: A systematic review and meta-analysis. Phys Ther. 2023 Mar 3;103(3):pzac169. PMID: 37172124. doi: 10.1093/ptj/pzac169.

Lesnak JB, Berardi G, **Sluka KA**. Influence of routine exercise on the peripheral immune system to prevent and alleviate pain. Neurobiol Pain. 2023 Mar 21;13:100126. PMID: 37179769. doi: 10.1016/j.ynpai.2023.100126.

Staman KL, Check DK, Zatzick D, Mor V, Fritz JM, **Sluka KA**, DeBar LL, Jarvik JG, Volandes A, Coronado GD, Chambers DA, Weinfurt KP, George SZ. Intervention delivery for embedded pragmatic clinical trials: Development of a tool to measure complexity. Contemporary Clinical Trials. 2023 Mar 126:107105. PMID: 36708968. doi: 10.1016/j.cct.2023.107105.

Sluka KA, Wager TD, Sutherland SP, Labosky PA, Balach T, Bayman EO, Berardi G, Brummett CM, Burns J, Buvanendran A, Caffo B, Calhoun VD, Clauw D, Chang A, Coffey CS, Dailey DL, Ecklund D, Fiehn O, Fisch KM, Frey Law LA, Harris RE, Harte SE, Howard TD, Jacobs J, Jacobs JM, Jepsen K, Johnston N, Langefeld CD, Laurent LC, Lenzi R, Lindquist MA, Lokshin A, Kahn A, McCarthy RJ, Olivier M, Porter L, Qian W-J, Sankar CA, Satterlee J, Swensen AC, Vance CGT, Waljee J, Wandner LD, Williams DA, Wixson RL, Zhou ZJ, A2CPS Consortium. Predicting chronic postsurgical pain: current evidence and a novel program to develop predictive biomarker signatures. Pain. 2023 Sep 1;164(9):1912-1926. PMID: 37326643. doi: 10.1097/j.pain.00000000000002938.

Plumb AN, Lesnak JB, Berardi G, Hayashi K, Janowski AJ, Smith AF, Bailey D, Kerkman C, Kienenberger, Martin B, Patterson E, Van Roekel H, **Vance CGT, Sluka KA**. Standing on the shoulders of bias: lack of transparency and reporting of critical rigor characteristics in pain research. Pain. 2023 Aug 1;164(8):1775-1782. PMID: 36877823. doi: 10.1097/j.pain.00000000000002874.

Hayashi K, Lesnak JB, Plumb AN, Rasmussen LA, **Sluka KA**. P2X7-NLRP3-Caspase-1 signaling mediates activity-induced muscle pain in male but not female mice. Pain. 2023 Aug 1;164(8):1860-1897. PMID: 36930885. doi: 10.1097/j.pain.0000000000002887.

Vance CGT, Dailey DL, Chimenti RL, Van Gorp BJ, Crofford LJ, Sluka KA. Using TENS for pain control: Update on the state of the evidence. Medicina (Kaunas). 2022 Sep 22;58(10):1332. PMID: 36295493. doi: 10.3390/medicina58101332

McLaughlin KH, Mitchell SL, Archer KR, Master H, Morshed S, Gary JL, Jones CB, MacKenzie EJ, Reider L, METRC [Wilken JM]. Effect of severe distal tibia, ankle, and mid- to hindfoot trauma on meeting physical activity guidelines 18 months after injury. Arch Phys Med Rehabil. 2022 Mar;103(3):409-417. e2. PMID: 34425087. doi: 10.1026/j.apmr.2021.07.805.

Bui G, Buckwalter J, **Wilken JM**, Davison J, Palmer J, Shurr D, Davidson N, Gracia-Fleury I, Willey M. Comparison of early versus late below knee amputation after trauma with standardized prosthetic care. lowa Orthop J. 2022 Jun;42(1):89-96. PMID: 35821918.

Sheehan RC, Ohm KA, **Wilken JM**, Rabago CA. Novel metrics for assessing mobility during ground-standing transitions. Mil Med. 2022 Jul 23;usac228. PMID: 35869886. doi: 10.1093/milmed/usac228.

Anderson KM, Martens E, Powers O, **Wilken JM**. Novel testing system to determine shoe mechanical properties. Prosthet Orthot Int. 2022 Dec 1;46(6):646-650. PMID: 36515909. doi:10.1097/PXR.000000000000149.

Grunst MM, Wiederien RC, **Wilken JM**. Carbon fiber ankle-foot orthoses in impaired populations: A systematic review. Prosthet Orthot Int. 2023 Feb 10. PMID: 36779973. doi: 10.1097/PXR.000000000000217.

Lalevee M, Anderson DD, **Wilken JM**. current challenges in chronic ankle instability: Review and perspective. Foot Ankle Clin. 2023 Mar;28(1):129-143. PMID: 36822682. doi: 10.1016/j.fcl.2022.11.003.

Wiederien RC, Gari WJ, **Wilken JM**. Effect of crutch and walking-boot use on whole-body angular momentum during gait. Assist Technol. 2023 Jul 27;1-9. PMID: 37499144. doi: 10.1080/10400435.2023.2229879.

Willey MC, Owen EC, Miller A, Glass N, Kirkpatrick T, Fitzpatrick D, **Wilken JM**, Marsh JL, Reider L. substantial loss of skeletal muscle mass occurs after femoral fragility fracture. J Bone Joint Surg Am. 2023 Sep 22. PMID: 37738373. doi: 10.2106/JBJS.23.00353.

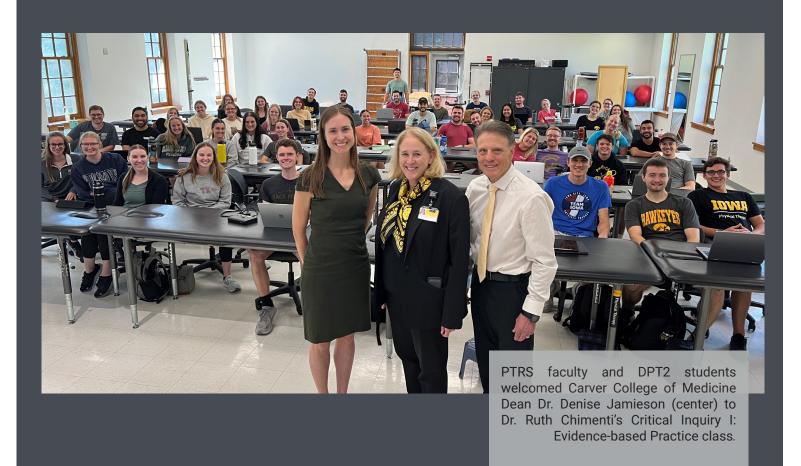
Anderson KM, McGregor AH, Masouros SD, **Wilken JM**. Orthotics. In: Blast Injury Science and Engineering A Guide for Clinicians and Researchers: Second Edition. 2023 (Springer International Publishing). doi: 10.1007/978-3-031-10355-1_42.

Williamson JN, Grunst MM, Lynn J, Williamson GA, Blanck RV, **Wilken, JM.** Predictors of long-term pain and function in individuals who received a custom dynamic orthosis and device-centric care pathway.

Prosthet Orthot Int. 2023 Nov 6. (in press). PMID: 37934175. doi: 10.1097/ PXR.000000000000290.



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