



ROCKY MOUNTAIN
UNIVERSITY *of*
HEALTH PROFESSIONS

SCHOLARSHIP SYMPOSIUM 2019



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BIOGRAPHIES

Dr. Richard Bohannon is an adjunct professor of physical therapy in the College of Pharmacy and Health Sciences at Campbell University. He is also the Principal of Physical Therapy Consultants (Fuquay-Varina, NC). Dr. Bohannon is a licensed physical therapist with 40 years of clinical experience in diverse settings: acute care, rehabilitation, outpatient, and home-care. He is a prolific writer with over 450 publications in more than 50 different journals to his credit. His work has been cited more than 28,000 times. In 1996, he received the American Physical Therapy Association's Helen Hislop Award for Outstanding Contributions to the Professional Literature. In 2005, he was awarded the Association's Marian Williams Award for Research in Physical Therapy and in 2008 he was honored with the Association's Jules Rothstein Golden Pen Award for Scientific Writing. Dr. Bohannon serves on numerous editorial boards; he was the Founding Editor of the Journal of Human Muscle Performance and was Editor in Chief of the Journal of Geriatric Physical Therapy for over 10 years. Currently, Dr. Bohannon's research and teaching is focused primarily on the measurement, implications, and treatment of impairments (most notably muscle weakness) and activity limitations (primarily mobility) in older adult and neurologic populations.



Tyler Sommer is a Certified Physician Assistant (PA-C) with experience in neurosurgery, spine surgery, emergency medicine, and family medicine. He received a bachelor's degree in neuroscience from Brigham Young University (BYU). He also earned a Master of Physician Assistant Studies degree from AT Still University of Health Sciences in Mesa, Arizona. He practiced primarily with Mayo Clinic Health System in Minnesota before joining Rocky Mountain University of Health Professions in 2015 as one of the founding faculty members in the PA program. During his time at RMUoHP, Tyler has served as the Director of Didactic Education, Assistant Program Director, and currently works as the Academic Director and Associate Program Director. In addition to his work with the PA program, he is also working toward completion of a Doctor of Philosophy (PhD) degree in Health Science, with a concentration in Health Promotion and Wellness.



SCHEDULE

12:00 p.m. **Registration and Lunch**
12:30 p.m. **Keynote Address: "Scholarly Productivity: Status, Barriers, and Strategies"** presented by Dr. Richard Bohannon, EdD, DPT, NCS, FAHA, FAPTA, FASNR, FGSA, FAACPD, CEEAA

1:30 p.m. **Poster Session**
2:45 p.m. **Rapid-Fire Platform Presentations**
Moderated by Tyler Sommer, MPAS, PA-C

Psychometric comparisons of computer and standard functional mobility tests in people with MS
Hina Garg, PT, MS, PhD, NCS¹; Andres Scholes, PT Candidate¹
¹Rocky Mountain University of Health Professions

Determining Near Point of Convergence: An Exploration of the Vestibular-Ocular Motor Screen
John Heick, PT, DPT, PhD,^{1,2}; Curt Bay, PhD²
¹Rocky Mountain University of Health Professions, ²Northern Arizona University

Examining Alcohol Withdrawal Syndrome Practices
Griffith Jones, PA-S¹
¹Rocky Mountain University of Health Professions

Hypertensive Crisis: A Primary Care Approach
Joshua Smith, PA-S¹
¹Rocky Mountain University of Health Professions

Relationship of Pain Frequency, Activity Level, Walking Activity, and Participation among Children with Sickle Cell Disease
Janet B. Tankersley, PT, DPT, PhD candidate¹; Jane K Sweeney, PT, PhD, PCS, FAPTA¹; Kristie Bjornson, PT, PhD, MS²; Robert Gibson, PhD, MSOTR/L, FAOT³
¹Rocky Mountain University of Health Professions, ²Seattle Children's Research Institute, ³Augusta University

A Qualitative Study of Job Satisfaction in Physical Therapy and its Relationship with Debt
Misti Timpson, PT, DPT, NCS1; Malissa Martin, EdD, ATC¹; Jeffrey Lau, PT, DPT, PhD¹; William A. Pitney, EdD, FNATA, ATC²
¹Rocky Mountain University of Health Professions, ²Northern Illinois University

Rocky Mountain University of Health Professions
3rd Annual Scholarship Symposium, August 9, 2019
ABSTRACTS

Peer Review and Professionalism in SLP Graduate Students

Wendy Chase MA, CCC-SLP, Rocky Mountain University of Health Professions

Background/Introduction: The need for skills in professionalism is well established in graduate student education (Hancock and Brundage, 2010, ASHA, 2017). SLP graduate programs must develop teaching methodologies that support acquisition or reinforcement of these skills. **Purpose/Hypothesis/Aim:** Would a formal peer review system provide a measure of teamwork and collaboration skills, essential components of professionalism? Additionally, how do peer review results compare to student self-assessment in the area of professionalism? **Design/Methods:** Students were placed into 5 person teams at the outset of their graduate education. At the beginning of the second semester, the CATME peer review system was disseminated. The results were then tabulated and provided back to the students. **Results/Outcomes:** The results indicated that some teams had better working relationships within the team. Results reflected a range of ability in professionally stating constructive criticism. The relationship between peer review and self-assessment was not expected. **Discussion/Conclusions:** Students improved in their peer review ratings in team process from the end of semester one to the beginning of semester 3. Self-assessment ratings for professionalism declined over the same time frame.

The Use of Ketamine for the Management of Acute Pain in the Emergency Department

Kristina Davis, DNP, AGACNP-BC, FNP-C, ENP-C Rocky Mountain University of Health Professions, Wesley Davis, DNP, AGACNP-BC, FNP-C, ENP-C, CEN University of South Alabama; Katie Hooper PharmD

Introduction: Ketamine has been used as an anesthetic agent for over 50 years. New guidelines were published in July 2018 by the American Society of Regional Anesthesia and Pain Medicine, the American Academy of Pain Medicine, and the American Society of Anesthesiologists that provide a framework for identifying patients who are likely to benefit from the use of Ketamine in an acute pain setting. **Purpose:** Ketamine has been used as an anesthetic agent for over 50 years. Ketamine is used in the emergency department (ED) for procedural sedation and intubation. However, recent guidelines discuss the use of Ketamine for patients who present with acute pain (Cohen et al., 2018). This article discusses the guidelines in relation to the emergency setting and acute pain management. **Indications:** Specific guidelines vary in relation to the recommended dose of Ketamine for acute pain. The Consensus Guidelines on the Use of Intravenous Ketamine. **Results:** The role of nondissociative ketamine in the treatment of pain has been the subject of intense interest, especially as pressure mounts to curb opioid misuse and abuse (De Kock, Loix, & Lavandière, 2013). As the use of ketamine continues to increase, more studies are being conducted to assess its efficacy in acute pain management outside of the surgical setting (Halpern, 2018). **Conclusions:** Ketamine is a unique drug with many potential applications in the ED. Benefits of ketamine have been demonstrated as an analgesic in a variety of settings, including analgesia prior to awake procedures, acute exacerbations of chronic conditions, and in the setting of hemodynamic instability. The low cost and large therapeutic window of ketamine make it a good choice for the ED.

The Initiation of a HIV Screening Protocol and Pathway in the Emergency Department

Kristina Davis, DNP, ENP-C, AGACNP-BC, FNP-C, Co-Director of Clinical Education Nursing Department, Rocky Mountain University of Health Professions

Introduction: An estimated 240,000 people in the United States are unaware they are infected with human immunodeficiency virus ([HIV], McFee et al., 2013). The emergency department (ED) is a critical venue in the prevention and treatment of HIV. A quality improvement (QI) was implemented in an 80-bed ED based on the CDC's (2015) HIV screening recommendations. Aim: Early HIV diagnosis and subsequent early ART have been shown to decrease mortality, morbidity, and transmission rates by decreasing a patient's viral load (McFee et al., 2013; Schmidt et al, 2012). The ED can no longer be viewed as a place for emergent/urgent care only, but as the safety net for patients who otherwise do not seek alternative healthcare resources (Haukoos & Hopkins, 2013). Design/Methods: The project was guided by a needs assessment, comprehensive literature review, and stakeholder analysis while a clinical question, QI and EBP model, and nursing theory provided the project framework. Patients aged 19 to 64 with possible STD-related complaints were offered an HIV screening. Outcomes: Twenty-eight patients were offered screening with 13 patients accepting HIV screening; two patients had a reactive result. Notably, one of the patients with a reactive result had a history of multiple ED visits and hospitalizations. Provider reluctance to offer HIV screening impacted the overall effectiveness of the project which was evaluated with a perspective survey. Discussion: Despite existing obstacles related to HIV screening in the ED, the need for screening is evident. The role of the ED in the fight against HIV/AIDS is significant. Additionally, there was a visible shift in the ED providers' practice behavior in relation to HIV screening.

Athletic Training Educators' Attitudes Toward and Use of Technology in Education: Barriers to Course Design and Instruction Delivery

Ryan Davis, DSc, ATC, PES, Rocky Mountain University of Health Professions, Emily Davie, PhD, ATC, Miami University; Jennifer Doherty-Restrepo, PhD, ATC, Florida International University; Malissa Martin, EdD, ATC, Rocky Mountain University of Health Professions

Context: To date, no research examines athletic training educators' (ATE) attitudes, or perceived barriers, toward technology use in course design and instructional delivery. Objective: To investigate relationships between ATE attitude toward, and use of, technology and to explore barriers of technology use in course design and instructional delivery. Design: A two-phase sequential, explanatory, mixed-methods design was used. Phase I included quantitative survey procedures. Phase II involved qualitative interview procedures. Results: A positive relationship ($r = .593$, $p < .04$) exists between ATE use of technology and instructional delivery. No significant findings were observed for ATE attitude toward, and use of, technology as it relates to course design. Qualitative analysis exposed barriers to technology use including time needed to learn technology and lack of budget and institutional support for technology. Conclusions: ATEs attitude toward, and use of, technology vary widely as it relates to course design and instructional delivery. Educators should seek professional development opportunities to better meet student expectations for technology use in course design and instructional delivery.

Coping Strategies Among Doctor of Physical Therapy Students

Erin Faraclas, PT, DPT, MSCS, Rocky Mountain University of Health Professions, Christa Young, PT, PhD, NCS, Rocky Mountain University of Health Professions; Steve Wilkinson, PT, PhD, Rocky Mountain University of Health Professions; Tim Stevenson, PT, DPT, OCS, Rocky Mountain University of Health Professions

Background: The effects of stress in the lives of university and post-professional students is well-documented. Health care students have consistently shown higher stress levels than other academic fields. There is little literature about coping skill use or selection within health care students. In addition, neither the curriculum nor the students within the DPT program at RMU are typical. **Aim:** The purpose of this study was to describe the coping strategies that are used in the DPT program at Rocky Mountain University and how those strategies differ depending on various demographics. **Methods:** This study used a longitudinal cohort design utilizing entry-level DPT students at RMU. Participants completed an online survey at the beginning and end of each semester during their didactic eDPT training. Students receive coping skill training in courses through the DPT program. **Results:** The 3 most commonly used coping strategies were sleeping, eating, and tv/reading activities. The 3 least-used coping strategies were yoga, progressive muscle relaxation, and massage. When stratifying by gender, men used exercise more often than women while women used sleep more often than men. Students who were married used time with family and friends more often than single students.

Assessment of taekwondo athletes' knowledge of and attitude toward sport-related concussions

Scott Freer, PhD, ATC, LAT, Rocky Mountain University of Health Professions, Duncan Simpson, PHD, CMPC, IMG Academy; Belinda Sue Shapiro, EdD, ATC, LAT, Barry University

Background: Sports-related concussions have been recognized as a public health concern among athletes with contact or collision sports have a higher incidence of concussions than non-contact sports. Taekwondo, a combat sport, has been reported to have a concussion rate, per 1000 A-E (95%CI), to range from 1.0 (0.9,2.9) to 55.2 (27.2,83.1) in males and 2.4 (0.0,4.8) to 49.3 (12.3,85.8) in females. **Purpose:** The overall purpose of this study was to assess the current knowledge of and attitude toward sport-related concussions in a population of taekwondo (TKD) athletes. **Design:** The present study used a mixed methodological design which included a modified Rosenbaum Concussion Knowledge and Attitude Survey (RoCKAS) and a semi-structured interview. **Results:** The overall mean scores for the CKI and CAI were 18.71 ± 3.93 and 56.25 ± 8.70 , respectively. Educational format had a significant effect on athlete's knowledge and attitudes. During the interview, participants endorsed several accurate signs and symptoms of concussions; however, responses identified discrepancies in risks and both safe and risky attitudes towards concussion. **Conclusion:** Overall, the results of the current study indicated moderate concussion knowledge with potentially risky attitudes. Most taekwondo athletes had a good general sense and practical understanding of signs and symptoms of concussions. However, there are some deficiencies in concussions knowledge and risks along with misconceptions towards concussions bringing their attitude into question.

Psychometric comparisons of computer and standard functional mobility tests in people with MS

Hina Garg, PT, MS, PhD, NCS, Rocky Mountain University of Health Professions, Andre Scholes, PT candidate 2019, Rocky Mountain University of Health Professions

Background/Introduction: The Computer-Adaptive Tests (CAT) can minimize patient burden due to fewer administered question items. However, the CAT and other self-reported functional mobility scales have never been directly compared in patients with Multiple Sclerosis (MS). Background/Introduction: The Computer-Adaptive Tests (CAT) can minimize patient burden due to fewer administered question items. However, the CAT and other self-reported functional mobility scales have never been directly compared in patients with Multiple Sclerosis (MS). Purpose/Hypothesis/Aim: This study compared the floor and ceiling effects, concurrent criterion validity, and construct discriminant validity of patient-reported functional status from the CAT to other self-reported functional mobility scales. hods: 13 ambulatory individuals diagnosed with MS [age mean(SD)= 51.2(11.3) yrs, gender= 10F/3M, n=8 reporting no assistive device], without concurrent relapses were recruited. Data was extracted from the CAT, ABC and MSWS scales. Results/Outcomes: No floor or ceiling effects were noted for CAT, while 15% and 23% for ABC and 7.8% each for MSWS were found. Significant ($p < 0.05$) correlations between CAT and ABC ($r = 0.61$), and MSWS ($r = -0.75$), and lack of difference in faller vs non-faller scores were seen. Discussion/Conclusions: : The CAT demonstrated no floor or ceiling effects, good concurrent validity and limited discriminant validity in people with MS, thus warranting further investigation using larger and neurologically diverse samples.

An Assessment of the Provisions of Appropriate Medical Care in Secondary School Athletics in South Carolina

Christopher Greenleaf, PhD Candidate 2019, Rocky Mount University of Health Professions, Jaynesh Patel, PhD, CSCS, George Wham, EdD, SCAT, ATC, Malissa Martin, EdD, ATC

The medical care associated with secondary school athletics continues to be a growing concern. As athletic participation at the secondary school level in South Carolina continues to grow, so does the need for appropriate medical care for those participating. Understanding the role of the certified athletic trainer and the reasons why differences exist in providing services at the va. This investigation is a two-part mixed methods study to assess the prevalence of athletic training services as a part of the overall medical service provisions within the secondary school setting in South Carolina. Secondly, the study sought to explore certified athletic trainers' perceptions of differences that exist related to the appropriate medical care of athletes within South Carolina. This investigation is a two-part mixed methods study. The quantitative aspect of this investigation was a cross-sectional design utilizing an electronic survey. This study utilized the 136-item AMCAT, or the Appropriate Care Assessment Tool this assessed medical care standards related to (AMCSSAA) consensus statement. The qualitative inquiry utilized a phenomenological approach to gain perspectives. The results of the AMCAT found that in South Carolina public schools' source of certified athletic trainers, presence of certified athletic trainers, budget for supply and equipment, and school size were associated with higher levels of medical care provided to athletes at the secondary school level. The qualitative investigation found that the medical care athletes in SC was limited due to funds. The major barriers influencing the medical care of athletes within South Carolina schools are financial support and the individuals who determine the allocation of funds to athletic and medical programs. These factors directly influence the decision to hire, and retain certified athletic trainers, and to expand the number of certified athletic trainers within an athletic program.

Determining Near Point of Convergence: An Exploration of the Vestibular-Ocular Motor Screen

John Heck, PT, DPT, PhD; Northern Arizona University, Curt Bay, PhD; A.T. Still University

Background/Introduction: The Vestibular Ocular Motor Screening Assessment appears to be useful in evaluating concussion. Investigators have reported that abnormal near point of convergence (NPC), a component of the VOMS, is associated with prolonged concussion recovery. **Purpose/Hypothesis/Aim:** The purpose of this study was to compare four commonly used clinical approaches (tip of a pen, 12-point font, 14-point font, and 9-point font) to estimate NPC. **Design/Methods:** Four methods of measuring NPC were evaluated. A GEE approach was used to compare NPC measures with 1 practice trial then 3 test trials. A sequential Bonferroni adjustment was used for pairwise comparisons. NPC was modestly correlated with age. **Results/Outcomes:** Seventy-five healthy adults (16 males, 59 females; 21 ± 6.12 years) were tested. The mean for NPC was 7.13 ± 0.36 (95% CI, 6.45, 7.88). The smaller targets yielded significantly larger estimates of NPC than both the 12- and 14-point font targets, $p < 0.001$. **Discussion/Conclusions:** Evaluation of NPC in the clinical environment uses non-standardized items of convenience that vary in size. The results of this study suggest that size is an important consideration when measuring NPC and precision is needed.

Femoral Chondral Lesions Increase in Severity with Aging Equally Between the Sexes and Present in Comparable Locations

Jessica Immonen Ph.D., M.S., Rocky Mountain University of Health Professions, Alexa Albin B.S., University of Utah, Kelsey Stevens M.S., Rocky Mountain University of Health Professions, Lesley Gilmer Ph.D., Rocky Mountain University of Health Professions

Background: The CDCP states that approximately 14% of Americans 25-65 years old and 33.6% of Americans 65+ experience symptoms of osteoarthritis (OA). Gross signs and symptoms of OA that can be viewed in cadaveric knee joints include articular cartilage erosions, linear cracks, fibrillations, cortical bone mass exposure, loss of menisci surface area and thinning of the anterior cruciate ligament. **Purpose/Hypothesis/Aim:** The objective of this study was to determine if visible, femoral chondral lesions on cadaveric knee joints exacerbate differently with aging between the sexes. **Design/Methods:** 85 cadaveric femurs were assessed for chondral pathology overlying the femoral condyles and patellar fossa using a 0-4 qualitative grading scale for gross signs of osteoarthritis (OA). Each specimen was blinded to two raters and the raters' scores were averaged to provide each specimen a Disease Severity Score (DSS). **Results:** The DSS for the 80+ years old population was significantly greater than the DSS of the 70-79 years old population ($p < 0.05$) and the below 70 years old population ($p < 0.01$). The most severe degeneration on the femoral articular cartilage was consistently on the patellar fossa. The second most degenerated sites of degeneration related to age. **Conclusions:** Increased severity of OA with aging was seen yet, there was no difference between the sexes in the severity or location of degeneration. Patients 80-plus experience muscle atrophy to joint support and can no longer resist degenerative shearing. Half of the population 70-79 years old may be affected by obesity and the other half by muscular atrophy.

Assessment of Aging and Osteoarthritis in a Cadaveric Model: What We've Learned in 5 Years of Study

Jessica Immonen Ph.D., M.S., Rocky Mountain University of Health Professions, Alexa Albin B.S., University of Utah, David Chaus B.S., University of Utah, Chris Sieftring M.S., Ohio State University, Andrew Hansen B.S., University of Utah

Approximately 14% of Americans 25-65 years old and 33.6% of Americans 65+ experience symptoms of osteoarthritis (OA). Aging and altered biomechanics can give rise to signs of OA such as visible chondral lesions, thinning of the ACL, and erosion of the menisci on the tibial plateau. Purpose: The objective of this five-year longitudinal study was to determine how aging and OA affect the morphometric cadaveric anatomy of the knee joint. The study aims to determine if visible chondral lesions, thinning of the ACL, and erosion of the menisci have age-based hallmarks of disease and if they exacerbate differently with aging between the sexes. Methods: 106 cadaveric knee joints have been dissected and analyzed for signs of OA at the ACL, menisci and articular cartilage. Quantitative metamorphic analyses to surface area losses of articular cartilage, ACL circumference and menisci plateau coverage were performed using Image Pro on three age populations. Investigators supported findings using a qualitative assessment of chondral pathology. Results: The cartilage of the medial tibial plateau in the 80+ specimens showed a statistical increase in surface area degeneration compared to 70-79 years old specimens ($p < .05$). The ACL experienced significant degenerative thinning with aging ($p < .001$). Qualitative disease findings for the 80+ population were greater than the 70-79 years population ($p < .05$) and the below 70 population ($p < .01$). Conclusions: This study displayed increased severity of disease with aging by several quantitative and qualitative methods. We have found no differences in severity of disease or location between the sexes by these specific measures. The most prevalent sites of degeneration per each age group should be considered for public health advisory committees and research on stem cell therapy.

Reframing Lower-Level Bloom's Taxonomy Exam Questions in Applied Anatomy Alters Statistical Outcomes for Item Performance

Jessica Immonen Ph.D., M.S. Rocky Mountain University of Health Professions, Emily Dykstra Ph.D., Rocky Mountain University of Health Professions, Kelsey Stevens M.S., Rocky Mountain University of Health Professions

Background: Bloom's Taxonomy is a hierarchical model designed to categorize course learning objectives based on the complexity of learning associated with the task. Little is known about performance and abilities of entry-level allied health students related to Bloom's Taxonomy within anatomy education. Objective: The objective of this assessment was to use exam reviews from 2018's PAS 501 Applied Anatomy course to re-create exam items at higher levels of Bloom's learning. Cohort performance at the Remembering level of Bloom's was compared to 2019 reconstructed questions to determine if graduate-level PA students are most capable of memorizing anatomy or interpreting more detailed applications. Methods: Four Remembering questions were selected from the 2018 PAS 501 Abdomen written exam. The regional concepts in these questions were reframed in clinical scenarios and questions where regional anatomy needed to be applied at higher levels of thinking. Statistics of cohort performance in the form of the DI, PBC and the Disl were used to compare the lower- and higher-level Bloom's questions. Results: Two questions reframed as clinical scenarios and demonstrated decreases in the DI and an increase in the PBC. Two questions were initially

written as basic definition questions and reconstructed to represent a discussion of regional anatomy that required the student to understand and reinterpret the information. One of these questions displayed an increase in the DI and the PBC. Conclusions: Higher level Bloom's questions framed as clinical scenarios displayed noted increases in the PBC implying these questions are quality discriminators for students who do well overall and those who do not. Reframing Remembering definition questions to Understanding level questions may increase item success for clinically-minded graduate-level students. Additional work is required.

Examining Alcohol Withdrawal Syndrome Practices

Griffith Jones, PA-S 2019, Rocky Mountain University of Health Professions

Background/Introduction: Clinic-screening protocols, treatment optimization, and patient education techniques are common failing points for primary care providers treating Alcohol Withdrawal Syndrome (AWS). Purpose/Hypothesis/Aim: A review of AWS best practices will facilitate advancement in these areas and will improve patient outcomes. Design/Methods: An updated review of AWS is presented, including: epidemiology, etiology, pathophysiology, presentation, treatment, and patient education regarding the disorder. Key points are reviewed for easy application into a generalized clinical setting. Results/Outcomes: Motivational techniques should be used when Alcohol Use Disorder (AUD) is determined by annual screening or when AWS is determined by standardized assessment. Patients should be given diagnostic placement testing. Discussion/Conclusions: Patients should be fully educated regarding the pharmaceutical options for AUD after receiving AWS treatment. Advancement in areas of treatment, screening, and patient education will improve patient outcomes.

Suicide Prevention and Healthcare Professionals: A Call to Action

Amy Kashiwa, OTD, OTR/L

Background/Introduction: Suicide in the United States affects people of all ages, socio-economic levels, and sub-populations, such as the U.S. veteran population, and the LGBTQ community. Suicide prevention training for healthcare professionals should be a requirement. Purpose/Hypothesis/Aim: To increase awareness of suicide as a public health crisis that all healthcare professionals can help to mitigate through evidence-based suicide prevention interventions. Design/Methods: Literature review to demonstrate the benefits of evidence-based suicide prevention interventions among healthcare professionals. Utilization of the scholarship of integration supports use of current research and application to suicide prevention. Results/Outcomes: Death by suicide is preventable, beginning with the application of evidence-based suicide prevention interventions. Every healthcare professional can advocate for the adoption of state legislative policies mandating suicide prevention training. Discussion/Conclusions: By engaging in evidence-based training, all healthcare professionals play a vital role in suicide prevention, and contribute to mitigating a public health crisis.

Raising Awareness in Kenya: Improving Occupational Performance in Kenya

Abigail Lunzalu, OTD/L

Background/Introduction: The main objective of this capstone project is to utilize marketing avenues in Kenya to raise widespread awareness of the need for evidence-based lymphedema.

Purpose/Hypothesis/Aim: There is a lack of awareness of comprehensive complete decongestive therapy, an effective evidence-based intervention for lymphedema, among health professionals and the community of Kenya. **Design/Methods:** Lymphedema has no cure but can be effectively managed using the complete decongestive therapy (CDT). This comprehensive lymphedema intervention combines four different intervention modalities with an emphasis of educating the patient. **Results/Outcomes:** There is a keen deficit of knowledge among Kenyan health professionals, whom lack evidence-based skills and are mostly unaware of the complete decongestive therapy. The long term goal is to train master trainers to help combat lymphedema in Kenya. **Discussion/Conclusions:** There is a need to bridge the gap among health professionals and community members with a lymphedema awareness campaign. I urge lymphedema therapist to join this campaign to promote lymphedema evidence based knowledge and quality of life in Kenya.

Experiences of Parents of Infants Diagnosed with Mild and Severe Grades of Congenital Muscular Torticollis: A Qualitative Study

Magdalena Oledzka, PT, PhD, DPT, MBA, PCS Hospital for Special Surgery and Rocky Mountain University of Health Professions, Jane Sweeney, PT, PhD, PCS, FAPTA, Rocky Mountain of Health Professions; Sandra Kaplan, PT, DPT, PhD, Rutgers, The State University of New Jersey; Colleen Coulter, PT, DPT, PhD, PCS, Children's Healthcare of Atlanta, Georgia; Debbie Evans-Rogers, PT, PhD, PCS, Texas Women's University, Texas

Purpose: Congenital muscular torticollis (CMT) is a common musculoskeletal deformity observed at birth or in infancy. Parents of infants diagnosed with CMT experience stress due to the unfamiliar diagnosis and ongoing physical therapy (PT) treatment, in addition to the typical stressors experienced by parents of healthy infants. The primary purpose of this study was to investigate, analyze and describe the experiences of parents of infants diagnosed with congenital muscular torticollis (CMT). A secondary purpose was to compare the experiences of parents of infants with mild grades versus severe grades of involvement based on the CMT severity classification system (CMT-SCS). **Methods:** Through semi-structured interviews, a qualitative phenomenological approach of inquiry was used to investigate the lived experiences of the parents. Twelve parents of infants with CMT participated; six parents of infants with mild CMT and six parents of infants with severe CMT. **Results:** Eight themes common to parents of infants with mild and severe CMT and three themes unique to parents of infants with severe CMT were identified. The findings indicated that having an infant with CMT has a substantial impact on the lives of parents and other caregivers. **Conclusions:** As parents face the excitement and challenges of welcoming an infant to the family, they are faced with a diagnosis that requires regular therapy visits and an additional daily home activity program into routine caregiving. Physical therapists play an essential role in shaping the parents' experiences. Parents highly value therapists' professionalism, expertise, and ongoing support. The parent-physical therapist relationship is critical and cannot be underestimated in supporting parents during the full episode of care.

Congenital Muscular Torticollis Severity Classification System Psychometrics

Magdalena Oledzka, PT, DPT, PhD, MBA, PCS, Hospital for Special Surgery and Rocky Mountain University of Health Professions, Jane Sweeney, PT, PhD, PCS, FAPTA, Rocky Mountain University of Health Professions; Sandra Kaplan, PT, DPT, PhD, Rutgers, The State University of New Jersey; Colleen Coulter, PT, DPT, PhD, PCS, Children's Healthcare of Atlanta, Georgia; Debbie Evans-Rogers, PT, PhD, PCS, Texas Women's University, Texas

Purpose: Congenital muscular torticollis (CMT) is a common musculoskeletal deformity observed at birth or in infancy. The purposes of this study were to: 1. establish inter- and intrarater reliability for determining severity grades of the Congenital Muscular Torticollis Severity Classification System (CMT-SCS), 2. examine the relationship between congenital muscular torticollis severity classification grades and the length of treatment. **Methods:** This study was comprised of two distinct phases. Phase 1 was executed as a prospective reliability study. One hundred forty-five physical therapists recorded severity ratings on 24 randomly ordered patient cases with the following clinical information: age of infant, cervical range of motion measures, and presence or absence of sternocleidomastoid (SCM) mass. To compute intrarater reliability, cases were randomly re-ordered and graded by 82 of the original raters. The ICC estimates and 95% confidence intervals were calculated based on a single rater ($k=1$), absolute agreement, 2-way mixed-effects model. Phase 2, a rank order validation study, was completed as a single-site, retrospective analysis of clinical data from a registry of infants with CMT treated between 2010 and 2013. Descriptive statistics were used to analyze the natural distribution of severity grades within the sample. Data for 162 children who completed the full treatment episode were analyzed to evaluate whether a relationship between severity grades and treatment duration exists. Multivariable regression analysis was used to determine the magnitude of association between the severity grade and duration of treatment. Infant data were grouped into the early or late category based on age. **Results:** For the CMT-SCS, overall reliability was good with an interrater reliability ICC (2,1) of 0.83 (95% CI 0.74-0.91) and intrarater reliability ICC (3,1) of 0.81 (95% CI 0.66-0.91). The CMT-SCS demonstrated rank order validity for the “early” grades only; a positive, linear trend was found between the treatment duration and severity grade. For each severity grade increase, the average treatment duration increased by 3.6 weeks. No relationship was detected for the “late” group. The severity grade variability pattern was similar for both groups, with increasing confidence intervals in the higher severity grades. **Conclusions:** The CMT-SCS has good reliability for infants up to 12 months of age, permitting physical therapists to use the scale during initial assessment of infants with suspected CMT. Rank order validity of CMT-SCS was established for infants ages 6 months and younger. Increasing treatment duration variability occurred with each increasing grade within the “early” and “late” groups. The CMT-SCS should be considered a priority for standard documentation for infants with CMT. Therapists should be cautioned to avoid using CMT-SCS as a sole predictor of treatment duration, especially for infants older than 6 months, as many factors contribute to the duration of episode of care.

Awareness and Perceptions of Parents Regarding the Recognition and Treatment of Exertional Heat Stroke

Michelle Okayama, PHD Candidate 2019, Rocky Mountain University of Health Professions, Malissa Martin, EdD, ATC Rocky Mountain University of Health Professions

Background/Introduction: Approximately 9,000 secondary school athletes are treated for exertional heat illness (EHI) annually. Many of these cases can be easily managed without incident or concern; however exertional heat stroke (EHS) is classified under the umbrella of heat illness. Unlike other heat illnesses, EHS can be fatal and is one of the leading causes of death. **Purpose/Hypothesis/Aim:** Despite current scientific evidence of how to properly recognize and treat EHS, fatality continues to occur. Creating an awareness of EHS including prevention, recognition and treatment is necessary for all involved in the sport of football including parents. This study analyzed secondary school parents' awareness and perceptions regarding EHS recognition and treatment. **Design/Methods:** A sequential exploratory mixed methods research design was utilized with a quantitative survey (phase I) and qualitative interview (phase II). A total of 378 surveys were collected from secondary school parents in southern CA. Parents were then recruited from the completion of the survey to participate in a qualitative interview which consisted of 8 parents. **Results/Outcomes:** Quantitative results indicate parents believe they had adequate knowledge of concepts related to EHS, however, the average score of the knowledge test was 36.6%. Educational level, parent as a healthcare provider, and whether a child's school employed and athletic trainer significantly influenced parent knowledge. Qualitative results found parents to be supportive of treatments. **Discussion/Conclusions:** Parents have a lack of knowledge but believe they should be educated. More efforts should be made in educating parents as education will help increase awareness could potentially contribute to a reduction in the frequency and severity of EHI's in secondary school athletes. A majority of parents support EHS recognition and treatment methods and would be upset if not used.

Creating Human Anatomy Dissection Opportunities for Instructors Across the United States

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Background/Introduction: Despite living in the age of virtual learning, the experience of laboratory human cadaver dissection is often viewed as advantageous to human anatomy educational experience. Unfortunately, a significant population of anatomy instructors across the United States have little or no human cadaver dissection experience. **Purpose/Hypothesis/Aim:** The Human Anatomy and Physiology Society (HAPS) Cadaver Use Committee (CUC) is polling society members and reaching out university partners to create a dissection mentoring partnership to pair those in need with others possessing resources by geographical region. The program will provide remote guidance, onsite dissection demonstrations, and workshops. **Design/Methods:** The CUC has reached out to members through blog posts, town hall forums, and interactive poster presentations to create a list of possible mentors and mentees. The CUC will match mentors with mentees by region. Instructors from Rocky Mountain University of Health Professions and University of Utah will head the mentorship initiative for the western region. **Results/Outcomes:** While the town hall meetings were well received, the CUC mainly

identified individuals willing to be mentors. The interactive poster presentations yielded the best results. Mentors and mentees have been identified in all four regions of the United States. The western and central regions are well represented while the southern and eastern regions are in need of mentors. Discussion/Conclusions: The initial perception of a need for instructor dissection opportunities was supported. The CUC will be looking to university partners to help find willing mentors, particularly in the southern and eastern regions of the United States. This program is essential in a world where the United States is struggling to keep up with other developed countries in science literacy.

Relationship of Pain Frequency, Walking Activity, and Participation among Children with Sickle Cell Disease

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Introduction: Disruptions of daily functioning can be varied and unpredictable for children with sickle cell disease (SCD). Current understanding of the complex dynamics contributing to a child's inability to participate fully in their daily life habits is limited. Purpose: The purpose of this study was to examine the relationship between pain frequency, activity level, and participation in life habits among children with SCD. Methods: The study included 50 children (9.36 ± 2.28 years) with SCD. Participants wore a Fitbit activity monitor to track their activity, completed pain diaries, the Beery-Buktenica Developmental Test of Visual-Motor Integration, and Life Habits Assessment. Results: Pain frequency and participation were moderately correlated ($r = .332$, $p < .05$). Pain frequency was negatively correlated with fitness ($r = -.311$, $p < .05$). Fitness was positively correlated with activity level ($r = .355$, $p < .05$). No relationship between pain and activity. Conclusions: Pain frequency and activity level influence ability to participate in life habits, among children with SCD. Individualized pediatric physical therapy interventions to address physical activity and participation while modulating pain control is needed.

A Qualitative Study of Job Satisfaction in Physical Therapy and its Relationship with Debt

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Job satisfaction is important for life satisfaction as well as for quality of patient care. There are many identified factors that are correlated with satisfaction. One of the factors creating dissatisfaction in the field of physical therapy may be educational debt load. To explore job satisfaction in the field of physical therapy and investigate if and how much educational debt load is a factor. A phenomenological approach was used to explore what role educational debt load plays in job satisfaction of physical therapists. Telephone interviews acquired from volunteers of Phase I of this two-part study were coded into themes. There were many people both satisfied and some dissatisfied. However, all were concerned with the increasing educational debt load students are graduating with. Several main themes and subthemes emerged. Main themes were education, work and financial concerns. Educational debt load was a major concern for all interviewed, whether they had debt or not. Debt did not appear to significantly influence choice of specialty. Debt also was not a strong indicator of greater degrees of dissatisfaction.

Perceived Level and Sources of Stress Among DPT Students: A Pilot Study

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Background: The effects of stress in the lives of university and post-professional students is well-documented. The magnitude of perceived stress as well as the sources of stress have shown variability across student populations. Health care students have consistently shown higher stress levels than other academic fields. Purpose: Describe and quantify sources and magnitude of stress among entry-level Doctor of Physical Therapy (eDPT) students within an accelerated program at a private university in Utah. The unique demographics of this study population allow an opportunity to determine if such differences in program and student demographics impact the perceptions or sources of stress. Methods: This study used a longitudinal cohort design utilizing entry-level DPT students at RMU. Participants completed an online survey at the beginning and end of each semester during their didactic eDPT training. This survey included the Undergraduate Sources of Stress Scale (Blackmore, Tucker and Jones, 2005 version) and the Perceived Stress Scale (S. Cohen), as well as demographic data. Results: Female participants had higher overall perceived stress. Married participants endorsed greater financial and overall stress than single students. Older students reported higher stress on all measures except personal. Household size interacted with numerous data points, providing significant differences in magnitude, but also direction of differences, including semester of study, gender. Conclusions: The data supports previous research indicating that female students have higher overall stress levels. This study's data supports that students who are married experience greater perceived stress, though different patterns of change in the source of stress over time than their single counterparts. The data supports continued research to better understand stress in our students.