FRIDAY, OCTOBER 2

Gregory Holtzman, PT, DPT, SCS and Kris Gordon PT, DPT

Title of presentation
"Clinical Application of Current Technology in Physical Therapy Practice"

Course description
This 2-hour lecture will provide a broad overview of current technology that can be used to enhance the evaluation and treatment of patients in a physical therapy practice. Specifically, this course will provide a broad overview of mobile applications, wearables, computer software, and clinic devices that have implications for the practice of physical therapy. Examples will be provided with regards to how current technology has been used in clinical practice, and implications for patient accessibility and privacy will be discussed. Finally, some of the technology presented will be demonstrated to the session participants.

Course learning objectives

1.) Participants will understand potential applications of current technology for the following: lifelong education, student/patient education, clinical movement assessment, intervention, and consumer use.
2.) Participants will identify specific technology that can be used: applications, watches, wearable, and clinical devices.
3.) Participants will understand limitations of technology relative to standard physical therapy practice and education.

Speaker information
Gregory Holtzman, PT, DPT, SCS
Washington University Program in Physical Therapy

Kris Gordon PT, DPT
Washington University Program in Physical Therapy

Biographical information for each speaker
Gregory Holtzman, PT, DPT, SCS is an Associate Professor of Physical Therapy at Washington University in St Louis, as well as, the Associate Director of Clinical Practice. Dr. Holtzman maintains a clinical practice with an emphasis on the evaluation and treatment of lower back and lower extremity pain and injury. In 2011, Dr. Holtzman developed the Washington University Running Clinic and has since been specializing in the treatment of both recreational and competitive runners. While Dr. Holtzman is heavily involved in instructing entry level physical therapy students in courses related to outpatient musculoskeletal care, he has also been invited to speak both nationally and internationally on the evaluation and treatment of the injured runner. Dr. Holtzman enjoys running, traveling, and spending time with his family.

Kris Gordon: Dr. Gordon graduated from the University of Missouri in 2014 with his Doctorate in Physical Therapy. He is currently a full-time physical therapist at the Washington University

Program in Physical Therapy specializing in the evaluation and treatment of the injured runner, the overhead athlete, and patients with thoracic outlet syndrome.

Keywords: technology, clinical application

Recommended participant level: intermediate

Sharon Coffman Ellis, MMSc, PT, CCS

Title of presentation
"The short- and long-term pulmonary responses to COVID-19 – It's not what you think"

Course description
Course content is designed for clinicians where COVID-19 patients require Physical Therapy services and safe PPE use. Discussion is provided for known and theoretical transmission mechanisms to date, acute and permanent pulmonary pathophysiology due to the COVID-19 virus as presently known, and associated symptoms likely encountered during physical therapy. PT goals and benefits of specific treatment procedures will include acute care and post-acute settings. There is acknowledgement of the absence of long-term studies specific to COVID-19 in rehab.

Course learning objectives
Given the case of COVID-19 patient scenario:

1. Participants will describe clinician safety and PPE in the rehab setting to prevent transmission
2. Participants will describe acute and permanent pulmonary changes due to COVID-19
3. Participants will suggest a pulmonary component to the PT plan of care appropriate for the acute and longer-term care

Speaker information

Sharon (Coffman) Ellis, MMSc, PT, CCS
Consultant and Educator, Kansas City, MO 64152
Owner reHeart/reLung Rehabilitation

Biographical information for each speaker

Sharon Ellis, a physical therapist and 1977 graduate of KU Medical Center and Emory University PT programs. Thirty-seven of these years were with Saint Luke's Health System at various locations in KC area: inpatient and Heart Institute, North Campus as Rehab Manager, ending her employment in Home Care and Hospice. She has entered her 3rd decade with an Advanced Cardiopulmonary Competency as a CCS.

Other professional activities include American Board of PT Specialties certification in Cardiopulmonary Physical Therapy since 1998, an Item Writer and Reviewer for the national PT

Examination Boards, and adjunct faculty for three area PT schools and two area PTA schools. She is a community and national speaker on Cardiopulmonary and Vascular Topics.

On a personal note, Sharon is a longtime Platte County resident and a native of Wilmington, Delaware. Sharon and her husband, John, have enjoyed blending five young adult children. She has served as a piano accompanist for KC High School Music District and State competitions. With her golfer husband, they have enjoyed golf travel to Scotland with Ireland next.

Keywords: pulmonary, COVID-19, coronavirus

Recommended participant level: various

Chris Peterson, PT, DPT, OCS

Title of presentation
"Making sense of musculoskeletal pain: combining narrative with evidence to formulate meaningful dialogue"

Course description
Chronic musculoskeletal pain is a frustrating experience for people in pain and clinicians alike. Diagnostic label should lead to validation and treatment direction yet in chronic pain labels such as non-specific back pain are appropriate in up to 95% of patients. Physical therapists are in an ideal position to contextualize a person's pain experience in a way to make sense of the person's embodied experience. This process can highlight influences that may be amenable to change. This course is designed to describe a vector process for formulating evaluation findings in a way that can improve communication with patients and with other healthcare providers.

Course learning objectives

1. Participants will describe various influences that may dispose a person to experience pain.
2. Participants will diagram vectors of the various influences to use a tool for shared communication with people in pain.
3. Participants will synthesize evaluation findings into a formulation through shared dialogue to help a person in pain make sense of their experience in a narrative format.
4. Participants will evaluate which factors are most amenable to modification for a person's pain experience in a shared decision making format.

Speaker information
Chris Peterson, PT, DPT, OCS
Freeman Health System

Biographical information for each speaker
Chris Peterson graduated from Rockhurst University with a bachelor's in physical therapy in 1993 and has been an APTA member since that time. He has practiced in hospital outpatient

therapy for the bulk of his career moving to Joplin, Missouri and Freeman Health System in 1998. In 2008, he earned his DPT from the University of Kansas and was board certified by the APTA in orthopaedics. Since 2013, he has coordinated outpatient therapy services for Freeman Health System leading a staff of 35 with five locations and continuing to keep an 80% patient load. Since 2017, he is also embedded in a specialty spine clinic working closely in tandem with a physiatrist and nurse practitioner to see patients with back pain who have been non-responsive to earlier treatment. He is married with three children, and enjoys running, reading, and board games.

Keywords: pain, pain language

Recommended participant level: various

Debra Rico, PT, DPT

Title of presentation
Graded Motor Imagery for the Clinician

Course description
Rehabilitation, neuroscience, and brain imaging advances have shown that decreased movement of body parts leads to functional and structural changes in the brain. These neuronal representations of body parts are dynamically maintained, and changes in shape and size of body maps correlate to increased pain and disability. Neglect, increased fear-avoidance, and decreased use of body parts increases pain and disability, along with sensitization of the nervous system, resulting in some patients becoming too hot to handle. Neuroplasticity also provides hope. Body maps can be retrained within minutes. One strategy used in normalizing cortical maps is graded motor imagery (GMI), including normalizing laterality, motor imagery, mirror therapy, sensory discrimination, sensory integration, and more. The growing evidence shows the GMI program as a whole or parts of it can are used clinically to help desensitize a hypersensitive nervous system. This lecture will use a series of published case studies and case series showcasing how brief GMI interventions can be readily applied in real-life clinics and result in immediate shifts in pain, thus accelerating recovery in people struggling with persistent pain.

Course learning objectives
1. Participants will examine structural and functional changes in the brain as it pertains to pain.
2. Participants will identify various clinical tests used to screen for altered neuroplasticity.
3. Participants will appreciate the immediate application of brief remapping techniques in a variety of patient cases.
4. Participants will appreciate how brief remapping techniques can alter patient sensitivity and positively influence pain in real-life clinical practice.
5. Participants will immediately apply the information from the educational session in clinical practice.

Speaker information

Debra Rico, PT, DPT
Therapeutic Pain Specialist
Assistant Professor Rockhurst University

Biographical information for each speaker
Debbie received her BS degree in Physical Therapy in 1992 from Florida International University and, in 2012, received her tDPT from Kansas University. For over 25 years, she practiced in acute, sub-acute and outpatient settings. Since 2008, she has been teaching with the International Spine and Pain Institute, which has recently merged with Evidence In Motion. She is a senior faculty instructor for Evidence In Motion's Pain Team. She teaches continuing education courses, conferences, and provides mentorship instruction regarding pain and manual therapy throughout the US to physical and occupational therapists. She successfully designed and implemented a community pain education program in Lawrence, KS in 2017. In the fall of 2019, she transitioned to a full-time faculty position at Rockhurst University's Physical Therapy program. Debbie is passionate about the physical therapy profession and how we can positively influence someone's quality of life through education and movement.

Keywords: graded motor imagery, pain science

Recommended participant level: various

SATURDAY, OCTOBER 3RD

Micah Hilton PT, DPT, OCS, CFE, PYT-c

Title of presentation
"What happens in vagus...affects everything." Understanding the polyvagal theory and how to apply in physical therapy practice

Course description
The polyvagal theory provides an understanding of how the vagus nerve, which connects the brain to the heart and visceral organs, relates to our human ability to connect and communicate with each other. The dorsal vagal circuit encompasses both the sympathetic and parasympathetic nervous systems, each contributing to either freeze mode or fight/flight modes with a neuroception of threat. The ventral vagal circuit uses the parasympathetic nervous system through neuroception of safety to activate the social engagement mode. The ventral vagal complex activates at the beginning and end of the stress response; thus, the perception of threat can shift the circuit that is activated.

The perception of real or imagined threat activates the sympathetic nervous system and depresses parasympathetic nervous system, or vagal, influence. Regulation of the three diaphragms can impact perception of threat, more importantly these diaphragms intimately connect to how a person perceives safety. The cervico-thoracic diaphragm creates sound and the vagus nerve at this level controls our ability to speak and swallow. Introducing safety at this level can change the way people perceive threat, and can change the way people perceive pain. Regulating all three diaphragms through mind-body therapy exercises the vagal pathways, with

activation of dorsal and ventral circuits each contributing as to whether or not the person perceives calm or fight, flight, or freeze. The use of sound, breathing techniques, healing language, and education ultimately fosters self-regulation and resilience of physiological function, emotion regulation and prosocial behaviors.

Course learning objectives

Lecture:

1. Participants will have an understanding of key components of polyvagal theory and how these components relate to acute and chronic pain responses.
2. Participants will have an understanding of treatment options in addressing stress response in order to reduce pain response in working with clients with acute and chronic pain.
3. Participants will have an understanding of anatomy and physiology of the three diaphragms and system-based effects we can impact.

Speaker information

Micah Hilton PT, DPT, OCS, CFE, PYT-c
SERC Physical Therapy, St. Joseph, MO

Biographical information for each speaker

Micah Hilton lives in her hometown of Maysville in Northwest Missouri with her husband and four young children. She has been a physical therapist for 13 years and is the clinic director and partner at SERC Physical Therapy in St. Joseph, MO. She attended Southwest Baptist University, where she graduated with her Masters in Physical Therapy in 2006. Micah has enjoyed working in the field of outpatient orthopedic physical therapy her entire career and became a Board Certified Orthopedic Clinical Specialist in 2013. Micah completed her transitional doctorate from Shenandoah University in 2017. She also began studying Medical Therapeutic Yoga and is currently working on her certification in Professional Yoga Therapy. Micah is passionate about her career and has more of a holistic approach exhibiting special interests in pain neuroscience education, medical therapeutic yoga, functional and nutrition based medicine, pelvic health and chronic pain. She enjoys teaching yoga classes and weight lifting and soaks up every minute possible with her four little children, bathing in the beautiful chaos that is her life.

Keywords: vagus, polyvagal theory, parasympathetic

Recommended participant level: various

Robert Townsend MS, CEAS, CAFS

Title of presentation

"Effective Clinical Strategies for Time-Efficient Physical Therapy"

Course description

Over the last 10-15 years, practitioners have experienced increased demands to rehabilitate patients in a fewer number of visits. In order to produce quality care and achieve good treatment

outcomes, the practice of physical therapy should include strategies to efficiently maximize recovery. This presentation will review the adaptation of principles of the neuromuscular systems to therapeutic exercise. We will also provide current research on how to expedite the adaptation process.

In addition to a review of the research, strategies will be provided on how to implement this information into your practice. Attendees will learn how to identify patients who have a higher risk of prolonged recovery because of excessive systemic inflammation and how to modify treatment to achieve quality outcomes in a time efficient manner. Review of the causes of fatigue during therapeutic exercise will be provided. When practitioners know the cause of the fatigue, they can modify treatment sessions to maximize patient progress. We will define specific strategies for prescribing the correct level of intensity and volume of therapeutic exercise to increase muscular force production in the shortest time possible. We will also review the optimal progression of prescribed exercise through the entire length of the script, which will prevent prolonged treatment.

Course learning objectives

1. Participants will review physiologic principles for increasing stability, strength and work capacity.
2. Participants will provide clinical strategies or maximizing force production when muscular hypertrophy is limited.
3. Participants will identify patients with excessive systemic inflammation and accommodations to maximize functional improvement.
4. Participants will provide clinical strategies for controlling neural contributions to central and peripheral fatigue.
5. Participants will discuss the concepts of linear vs. non-linear progression of exercise prescription for rehabilitation.

Speaker information

Robert Townsend MS, CEAS, CAFS
Clinical Consultant
Bardavon Health Innovations LLC

Biographical information for each speaker

Robert Townsend is a Clinical Consultant for Bardavon Health Innovations LLC and has been involved with treatment and testing of injured workers since 1997. Prior to joining Bardavon, Robert was a faculty member at the University of Memphis in the School of Health Studies and taught courses in cardiopulmonary and neuromuscular exercise physiology, exercise programming for special populations, testing and measurement, as well as, physiological adaptations to resistance training. Prior to working at the University of Memphis, Robert served as the Director of Research and Education with WCS Occupational Rehabilitation.
During his clinical career, he performed Work Conditioning, Functional Capacity Evaluations, Post-Offer Employment Testing, Job Analysis / Ergonomic Assessments, and Treatment Outcome Analytics. Robert is published researcher / author on functional testing and human performance training. Robert has been a guest speaker with the MPTA, Mid-South Workers' Compensation Association, Illinois Podiatric Medical Association, Indiana Workers'

Compensation Institute, Great Lakes Athletic Training Association as well as many NSCA events.

Keywords: therapeutic exercise, efficiency

Recommended participant level: various