

## ***Sleep and Health in People with Neurological Disorders***

*Presented by:*

Michael Borich, DPT, PhD  
George Fulk PT, PhD, FAPTA

**2** Continuing Competency Hours

*Presented live and recorded:*

**Saturday October 22, 2022**  
**10:30 am – 12:30 pm**

### **Course Description**

Disturbed sleep often occurs in people with neurologic conditions including changes in sleep duration, efficiency, quality, and architecture. Sleep disturbances can be due to the neurologic condition impacting the sleep/wake center in the brain, consequences of the neurologic condition (spasticity, pain, limited bed mobility) or due to secondary factors (aging, stress, environmental factors). Sleep disturbances can adversely affect motor learning, cognitive and physical function, participation in rehabilitation, length of rehabilitation stay, and recovery. Furthermore, sleep disturbances can have a deleterious impact on cardiovascular, endocrine, and metabolic systems which further places individuals with neurologic conditions at risk for negative health consequences. However, despite the central role of sleep for normal behavior and recovery of function, rarely is sleep assessed or addressed in clinical practice. Physical therapists (PTs) are a critical part of the interdisciplinary health care team to assess and address sleep disturbances and enhance sleep health, including in individuals with neurologic conditions. This session will provide practical information for PTs to understand the importance of sleep for motor learning and rehabilitation outcomes, screen for common sleep disorders, monitor sleep progress, address sleep disturbances, and enhance sleep health in clients with neurologic conditions, with a focus on individuals with stroke and multiple sclerosis.

## Objectives

1. Describe the characteristics of sleep that contribute to physical health and normal function
2. Understand the importance of sleep for motor learning and recovery of function in people with stroke and multiple sclerosis.
3. Select and implement appropriate screening tools for common sleep disorders in people with neurologic conditions
4. Discuss the impact of disordered sleep on outcomes during inpatient rehabilitation.
5. Incorporate strategies into practice to address sleep disturbances and promote clients' sleep health

## Instructor Biographies

**Dr. Michael Borich**, DPT, PhD is an Associate Professor and Associate Director of Research in the Department of Rehabilitation Medicine in the Emory University School of Medicine. He has secondary appointments in the Wallace H. Coulter Department of Biomedical Engineering at Emory/Georgia Tech and in the Parker H. Petit Institute for Bioengineering and Bioscience at Georgia Tech. He received his bachelor's degree in physiology and Doctor of Physical Therapy, along with a PhD in rehabilitation science and neuroscience from the University of Minnesota and completed his postdoctoral training at the University of British Columbia.

The Neural Plasticity Research Lab at Emory, directed by Dr. Borich, is a transdisciplinary research and training environment generously supported by multiple funding agencies. He also co-directs the Precision Neural Engineering Laboratory at Emory. His labs emphasize collaborative research in an inclusive training environment. His team utilizes multimodal neuroimaging and neurostimulation techniques to characterize and modulate the structural and functional neuroplastic correlates of learning and recovery of function following neurologic insult. The mission of his work is to understand and harness the adaptive capacity of the human nervous system to develop effective treatment strategies to improve rehabilitation outcomes and maximize healthy years in the lifespan.

**Dr. George Fulk** is the Director, Professor (Prov.), of the Division of Physical Therapy, Department of Rehabilitation Medicine at Emory University. Dr. Fulk's research focuses on identifying barriers to recovery and interventions to promote locomotor function and mobility poststroke. More recently, he has begun to explore the interplay between sleep and recovery after stroke. Dr. Fulk has also collaborated with engineering faculty to develop novel technologies that monitor walking activity and ambulatory assistive devices. Before joining Emory, Dr. Fulk served as the Chair of the Department of Physical Therapy Education, College of Health Professions at the Upstate Medical University, NY. Dr. Fulk received his master's degree in physical therapy from the University of Massachusetts and his doctoral degree in physical therapy from Nova Southeastern University.