

Name of Organizer: Carolee Winstein **Affiliation:** University of Southern California

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Title of Symposium: Stroke Rehabilitation Beyond Repetitive Task Practice: Enhancing Recovery of an Active Life

Description of submitted symposium (please limit to 2000 characters): Compared with an active intervention of similar intensity, a broad range of experimental therapies that follow concepts for motor learning after stroke are producing equivalent, not better outcomes. Are our concepts about what is needed wrong or misguided? Following neurological impairments and disability, confidence and perceptions may guide behavior beyond a person's motor and functional capabilities. The rehabilitation of motor skills must address these drivers of recovery, going beyond perspectives about progressive, repetitive, task-related practice. Recent publication of the results of the Interdisciplinary Comprehensive Arm Rehabilitation Evaluation after stroke (ICARE) phase 3 RCT, consistent with the recently published OPTIMAL (Optimizing Performance through Intrinsic Motivation and Attention for Learning) Theory of Motor Learning, along with results of the Locomotor Experience Applied Post-Stroke (LEAPS) phase 3 RCT and new technology-related RCTs, must re-direct the discussion about the most important ingredients and outcomes for rehabilitation. We provide compelling evidence that patient-centered ingredients of engagement, intrinsic motivation, expectations of success, autonomy support, and meaningful goals can contribute significantly to the recovery process, especially for people who must be prepared for a lifetime of post-rehabilitation skills, activities, and roles, as well as exercise and other health behaviors living with a chronic condition. Trials to date have not emphasized these self-efficacy and self-management components, which are of course not testable in an animal model of recovery.

Length of time required for symposium?: 90 minutes

Additional Presenters (Limited to 4 additional presenters, list full name and email address) Please

Note: Any Non-member speakers must receive prior approval from the Program Chair.: Rebecca Lewthwaite, PhD rlawthwaite@dhs.lacounty.gov Bruce Dobkin, MD BDobkin@mednet.ucla.edu

What is the role of each presenter?: Dr. Lewthwaite will frame the OPTIMAL Theory of Motor Learning with examples from post-stroke rehabilitation and Parkinson's disease that provide the basis for adding such components to our rehabilitation strategies. Dr. Winstein will focus on secondary outcomes of the recent ICARE trial pertaining to patient perceptions and experiences that point toward ways to achieve better outcomes over time. Dr. Dobkin will emphasize the behavioral management failures of the stroke rehabilitation trials published in major journals. He will offer solutions that depend in part on wearable sensors to frequently monitor, provide feedback, set goals, and support self-directed training behavior, as well as to measure key outcomes of activity in the natural environment.

Objective 1: Describe how the use of motivational tactics can enhance the [motor] performance and learning of patients pursuing challenging task practice.

Objective 2: List four patient-centered ingredients that have been shown to significantly contribute to the recovery process.

Objective 3: Describe three evidence-based ways that activity monitors might be used in practice to engage patients in their recovery.