

Name of Organizer:Carolynn Patten

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Title of Symposium: Neuroplastic changes underlying neurorehabilitation: myth or attainable goal?

Description of submitted symposium (please limit to 2000 characters): Elizabeth G. Condliffe, MD, PhD, will present recent data demonstrating pathophysiological mechanisms of motor impairment in adults with cerebral palsy; discuss the functional consequences of these impairments; and provide novel insights regarding rehabilitation trajectories for these individuals. Carolynn Patten, PhD, PT, FAPTA, will present current data illustrating differential patterns of motor pathophysiology among adults following stroke; functional correlates of these subgroups; and discuss their importance for understanding an individual's capacity for neuroplasticity and recovery during rehabilitation. Jens Bo Nielsen, MD, PhD, DrMedSci, will discuss novel rehabilitation approaches for cerebral palsy; present current data illustrating neuroplastic changes in response to rehabilitation and how these may translate to functional motor behavior. All speakers will draw from data obtained using contemporary methods for investigating mechanisms of pathophysiology and neuroplasticity including: transcranial magnetic stimulation, neuroimaging (diffusion tractography); corticomuscular coherence, and reflex probes.

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.: Elizabeth G. Condliffe, MD, PhD (e.condliffe@ualberta.ca) Jens Bo Nielsen, MD, PhD, DrMedSci (jbn Nielsen@sund.ku.dk)

What is the role of each presenter?: Patten - coordinating the submission, speaker, discussant (ASNR member), 20-25 minutes. Condliffe - speaker, discussant (ASNR member), 20-25 minutes. Nielsen - speaker, discussant, 30 minutes.

Objective 1: 1) Discuss foci of neuropathology/neuroplasticity in stroke and cerebral palsy

Objective 2: 2) Discuss how individual differences in motor neurophysiology influence the capacity for neuroplasticity;

Objective 3: 3) Discuss the relationship between neuroplastic changes and functional consequences (outcomes) of rehabilitation.