

Submitted on Friday, 3/13/2015 10:57 PM

Name of Organizer: Beth Fisher

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I am a current member of the ASNR (Symposium organizers must be ASNR members):

Yes

Title of Symposium: Exercise-induced Neuroplasticity and Behavioral Recovery in Individuals with Parkinson's Disease

Description of Submitted Symposium (please limit to 2000 characters): The brain's capacity for recovery from damage is far greater than previously recognized. It is now understood that neuroplasticity can be facilitated through experience including exercise, and complex skills training. Most of our understanding of this recovery, termed experience-dependent plasticity is derived from individuals with and animal models of stroke, but there is now evidence that the same phenomenon occurs in animal models of dopamine depletion and individuals with Parkinson's disease (PD). Most PD physical intervention studies in the past have promoted compensation and training individuals with PD to use compensatory strategies to achieve functional outcomes. This approach to intervention stems from the assumption that in the case of a neurodegenerative process as exists in PD, there is no potential for recovery. A significant challenge to this assumption has come with the demonstration of experience-dependent behavioral recovery and neuroplasticity in animals with basal ganglia injury (model of PD) that undergo intensive treadmill exercise. An indication that this phenomenon of neuroplasticity and recovery extends to humans with PD has come with recent intervention studies and is turning the attention of the field on determining the potential disease-modifying effects of physical therapy intervention.

Length of time required for symposium?: 3 hours

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.: Michael Jakowec PhD Michael.Jakowec@med.usc.edu Theresa D. Ellis, PhD, PT, NCS tellis@bu.edu

What is the role of each presenter?: Dr. Jakowec will present evidence for experience-dependent neuroplasticity in animal models of PD Dr. Fisher will present evidence for experience-dependent neuroplasticity in humans with PD Dr. Ellis will present exercise benefits in PD across the ICF model and will describe barriers to commitment to exercise in PD and how to resolve this problem

Objective 1: describe the underlying neurochemical and morphological mechanisms that govern neuroplasticity with exercise in the injured basal ganglia

Objective 2: explain the role of physical therapy intervention in promoting neuroplasticity and behavioral recovery in individuals with Parkinson's disease.

Objective 3: identify barriers to exercise in individuals with Parkinson's disease and understand strategies to help persons with Parkinson disease overcome these barriers and engage in lifelong exercise.

Target Audience: Clinicians and researchers

Type of Educational Activity: Symposia

Lecture - oral didactic presentation: Yes

Forum - open dialogue and discussion among all participants: No

Panel Discussion - 3 to 6 faculty engaged in dialogue: No

Please explain: Lecture format is most appropriate for the presentation of new information

Please explain: It is currently not standard of care to refer individuals with Parkinson's disease to physical therapy or to even specify the need to begin a regular exercise regimen at the time of diagnosis. Additionally, when an individual is seen in therapy the approach has been traditionally teaching compensations for impaired capability rather than challenging impaired systems to potentially modify disease progression through mechanisms of experience-dependent plasticity

How do you know the practice gap exists? (You must answer this question for your symposium to be considered): Other

Please describe: From treating physical therapists through out the country as well as movement disorder physicians. Referrals following diagnosis of PD are not being made

What Desirable Physician Attribute(s) will your symposium address? (Select all that apply): Patient care, Medical knowledge, Practice-based learning and improvement, Provide patient centered care

At the end of the educational session, what will your learners have gained? (check all that apply - you must answer this question for your symposium to be considered): Knowledge (information)

Please indicate any other needs for the symposium.:

By clicking "submit form" below, I agree to adhere to all deadlines and requirements as set forth by the ASNR Executive Office and understand if I do not adhere to these deadlines and requirements I may be disqualified from presenting at the meeting.:

Line:

Response ID: 1553