

Submitted on Monday, 2/23/2015 12:02 PM

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

Yes

Title of Symposium: The Uninjured Hemisphere in Hemiplegia: Friend or Foe?

Description of Submitted Symposium (please limit to 2000 characters): The most common cause of paralysis is injury to one cerebral hemisphere, leading to hemiparesis of the opposite half of the body. The pattern of paralysis is largely attributable to injury of the corticospinal tract, a crossed connection that is the principal pathway for voluntary movement in people. To restore motor control to the impaired half of the body, the primary strategy has been to restore motor control from the injured hemisphere. One reason that the injured hemisphere is limited in its ability to regain motor control is that it receives inhibitory signals from the uninjured hemisphere. These inhibitory connections, which are transmitted via the corpus callosum, allow independence of movement of the two sides of the body in health. After injury, however, these circuits can be deranged, causing the uninjured hemisphere to "bully" the injured hemisphere with excessive transcallosal inhibition. To reduce this bullying, many groups have sought to reduce activity of the uninjured hemisphere. An alternative approach is to drive control of both halves of the body from the uninjured hemisphere. This pattern of innervation can allow substantial hand function of the more affected hand, although it may come at a loss of independence of the two hands. Which hemisphere to support is a major question for systems neuroscience and especially for investigators who target brain repair.

Length of time required for symposium?: 90 min

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.: Martin Schwab, schwab@hifo.uzh.ch Winston Byblow, w.byblow@auckland.ac.nz

Gottfried Schlaug, gschlaug@bidmc.harvard.edu Leonardo Cohen, cohenl@ninds.nih.gov

Monica Perez, perezmo@pitt.edu

What is the role of each presenter?: Present varied perspectives on motor systems injury and repair. Each will specifically address the interactions between the hemispheres as relates to motor recovery after unilateral brain injury.

Objective 1: To understand how the two cerebral hemispheres normally interact to produce movement and how this interaction becomes perturbed with injury.

Objective 2: To assess the strategy of rebalancing hemispheric interactions as a way to restore motor control in hemiparesis.

Objective 3: To assess descending motor control after unilateral brain injury and how each hemisphere may participate in motor recovery through subcortical targets.

Target Audience: Specialists in neurorehabilitation, neuroscience, neurology, and physical/occupational therapy.

Type of Educational Activity: Symposia

Lecture - oral didactic presentation: Yes

Forum - open dialogue and discussion among all participants: Yes

Panel Discussion - 3 to 6 faculty engaged in dialogue: Yes

Please explain: I envision a debate that specifically addresses the question in the title. Each speaker will give a 15 minute answer with time after for debate amongst the panelists and the audience.

Please explain: As neuroplasticity treatments, such electrical brain stimulation, start to be used clinically, we need to know which hemisphere to target.

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

Please describe: Discussions with other scientists and clinicians and reading of literature.

What Desirable Physician Attribute(s) will your symposium address? (Select all that apply): Medical knowledge, Employ evidence-based practice

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: 1542