Clinical, Assessments, and Intervention Updates in Neurorehabilitation
November 11-12, 2011
Courtyard Marriott, 777 Memorial Drive, Cambridge, MA

COURSE DIRECTORS
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TECHNOLOGY & NEUROREHABILITATION
The purpose of this course is to introduce and update participants to the rapid advances occurring in the field of neurorehabilitation. Advances in investigating brain function (such as neuroimaging, quantitative EEG and transcranial magnetic stimulation) have revealed that functional improvements following rehabilitative training significantly alters the structural and functional organization of the brain. Uncovering the physiological basis of these changes as well as how to enhance plasticity with adjunctive therapies such as motor training, virtual reality, robotics, and noninvasive brain stimulation are critical to further develop advanced therapeutic strategies and improve recovery of function.

TENTATIVE SCHEDULE
Friday, November 11, 2011
7:00-8:00 Breakfast provided-networking
8:00-8:20 Opening Remarks
8:20-9:00 TBI: Update on the Mechanisms of Injury
9:00-9:40 Stroke Rehabilitation: Main Challenges
9:40-10:00 Break
10:00-10:40 Surgical Incision: Unleashing Chronic Pain
10:40-11:20 Neuroplasticity of Vision Recovery
11:20-1:00 Lunch provided
1:00-1:40 Evoked Related Potential as a Cognitive Marker in Neurorehabilitation
1:40-2:20 Neuroimaging and Neuromodulation in Chronic Pain
2:20-3:00 DBS for Minimally Conscious Patients
3:00-3:40 Neuroplasticity Based Interventions for the Treatment of Aphasia
3:40-4:00 Break
4:00-4:40 Modeling Effects of Neuromodulatory Tools
4:40-5:20 Brain Stimulation in Children
5:20-6:00 Transcranial Near-Infrared Light-Emitting Diodes (LEDs) to Improve Cognition in TBI Patients

Saturday, November 12, 2011
7:00-8:00 Breakfast provided-networking
8:00-8:20 Session Opening and Feedback
8:20-9:00 Transcranial Magnetic Stimulation
9:00-9:40 Transcranial Electric Stimulation w/ Weak Currents
9:40-10:00 Break
10:00-10:40 Robotics in Rehabilitation
10:40-11:20 TDCS in Stroke Recovery: Clinical and Imaging Studies
11:20-12:00 TMS to Index Cortical Excitability
12:00-1:40 Lunch provided
1:40-2:20 Virtual Reality Environments for Blind Rehabilitation
2:20-3:00 Motion Analysis in TBI & Stroke
3:00-3:40 Break
3:40-4:00 Ultrasound as method of Neuromodulation
4:00-4:40 Updates in Vision Rehabilitation

ACCREDITATION
Harvard Medical School is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.
The Harvard Medical School designates this live activity for a maximum of 14.75 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Offered by: Spaulding Rehabilitation Hospital, Dept of Physical Medicine and Rehabilitation

Please contact Maia Vergara Azoulay at (617) 573-2195 or info@clinicalresearchlearning.org
Visit us online at www.cme.hms.harvard.edu/courses/neurorehab
Clinical, Assessments, and Intervention Updates in Neurorehabilitation

DESCRIPTION:
Current trends suggest that people are living longer, and furthermore, are living with a variety of sensory and/or motor impairments. Key to successful rehabilitation of these patients is to understand how the brain itself responds and adapts to injury. Despite the great differences across increasingly common conditions (such as Parkinson's Disease, stroke, spinal cord injury, sensory impairment, chronic pain, and traumatic brain injury), the ability of the brain to change in response to insult, i.e. its "plasticity", remains the crucial commonality that drives all neurorehabilitative approaches. This novel field of neurorehabilitation has rapidly developed over the last 10 years and the content discussed in the course will be useful for physiatrists, neurologists, neurosurgeons, psychiatrists and general practitioners working in the field of rehabilitation. This course gives an overview of current interventions (including FDA approved and state of the art research) aimed at improving cognitive, motor, and/or sensory function. Leading researchers in the field will give concise and informative lectures and offer time for students to ask questions.

The field of neurorehabilitation has suffered from a lack of integration between neurology, neuroscience and therapeutic knowledge. Furthermore, the field is rapidly evolving and is very diverse. Therefore, it remains a challenge to remain up to date with the latest advancements. Advances in basic and clinical research across disciplines neurology/neuroscience are often not found within the same learning venue. In this course, we provide the opportunity for clinicians across specialties and researchers to come together with the goal of understanding how neuroscience can help in the development and advancement of novel rehabilitation strategies. It is for this reason that this course addresses an important gap. This is thus a unique opportunity to collect the expertise of thought-leaders in the field and within the same venue to cover epidemiology, assessments, and treatments all within the same course.

LEARNING OBJECTIVES: Participants will be introduced to clinical updates in neurorehabilitation including recent epidemiological data and recent findings regarding underlying mechanisms and pathophysiology of common conditions in rehabilitation including traumatic brain injury, stroke, sensory impairment and chronic pain.

At the end of the course, participants will be able to demonstrate knowledge regarding interventions such as brain stimulation, virtual reality, and transcranial ultrasound with the goal of modulating brain activity and enhancing clinical neurorehabilitative outcomes.

Participants will also be able to synthesize the main methods of assessment that are used to index brain activity such as functional neuro-imaging, EEG, and cortical excitability.

LEARNING FORMAT: We will use PowerPoint lecture presentations, case-study discussions, interactive Q & A sections, and videos (produced by the speakers). The course will also be broadcast through video-conferencing (Tandberg System) to selected international sites as to keep the same level of interaction as in Boston.


Course Site: Courtyard Marriott Cambridge, 777 Memorial Drive, Cambridge, MA 02139. Telephone: 617-492-7777

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Print Name Clearly – All Fields Required

Full Fee: $500 (USD)

Residents, Fellows in Training and Allied Health Professionals: $250 (USD)

Full Name
First
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Last
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Please note: Your email address is used for critical information about the course including; registration confirmation, course evaluation and certificate. Please be sure to include an email address you check daily or frequently.

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Profession
Degree

Primary Specialty (Physicians Only)

Board Certified: Yes ☐ No ☐

Professional School Attended (Physicians Only) ☐ Harvard Medical School ☐ U.S. Medical School ☐ International ☐ Year of Graduation

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