NeuroRehabilitation 2019
June 13-15 • Waltham, MA

This course sold out the last two years. Early registration is strongly advised.

Stroke • Concussion • TBI • SCI • Degenerative Neurological Diseases

State-of-the-Art Rehabilitation Strategies and Practices to:
• Accelerate recovery
• Improve clinical skills
• Reduce symptoms
• Advance patient well-being
• Elevate patients to their maximum level of function

Updates, Innovations, and Best Practices for
Physiatrists  PTs  Neuropsychologists
Neurologists  OTs  Clinical Psychologists
Psychiatrists  SLPs  Mental Health Counselors
Internists  NPs  Clinical Social Workers
Geriatricians  PAs  Case Managers
Family Physicians  Nurses

Register at NeuroRehab.HMSCME.com

Earn up to 17.25 AMA PRA Category 1 Credits™
This educational activity will be submitted for continuing education credits (CEUs)
Dear Colleague,

Patients with stroke, TBI, SCI, and degenerative neurological diseases face significant disruption to so many facets of their lives, and clinicians are left with so many treatment dimensions to consider, that rehabilitation is never simple. These challenges are compounded by the fact that rehabilitation approaches are now in a period of rapid expansion. It’s difficult to stay current with, choose, and use the best options for neurorehabilitation—yet this is key to optimizing patient outcomes.

It’s with these challenges in mind that we provide this annual program: NeuroRehabilitation 2019. Many of the country’s most experienced and committed neurorehabilitation experts will present practical, cutting-edge clinical interventions to further your expertise in guiding patients to their maximum level of function. Participants will learn of state-of-the-art research and its application to clinical practice in such diverse topics as exercise, pharmacology, technology, wellness, patient motivation, and caregiver assistance.

Clinicians who provide care for patients with CNS trauma and neurological diseases can rely on this update for proven practices and take-home tools to heighten your success in effectively and efficiently helping your patients gain the skills that will improve their health and quality of life.

Our goal is to provide an experience that inspires you, advances your knowledge and skills, and arms you with new approaches and ideas to accelerate and enhance your patient outcomes.

We look forward to seeing you in June.
Ross Zafonte, DO
Earle P. and Ida S. Charlton Professor and Chair of Physical Medicine and Rehabilitation

Grant Iverson, PhD
Professor of Physical Medicine and Rehabilitation

Joseph Giacino, PhD
Associate Professor of Physical Medicine and Rehabilitation

Felipe Fregni, MD, PhD
Associate Professor of Physical Medicine and Rehabilitation

Mel Glenn, MD
Associate Professor of Physical Medicine and Rehabilitation

Pablo Bonato, PhD
Associate Professor of Physical Medicine and Rehabilitation

Marcalee Sipski Alexander, MD
Research Associate in Physical Medicine and Rehabilitation

Cheri Blauwet, MD
Assistant Professor of Physical Medicine and Rehabilitation

Jonathan Jackson, PhD
Instructor in Neurology

Sasha Knowlton, MD
Instructor in Physical Medicine and Rehabilitation

Yong-Tae Lee, MD
Instructor in Physical Medicine and Rehabilitation

David Lin, MD
Clinical Fellow in Neurology

Kathryn MacDonald, PT, DPT
Lecturer, MGH Institute of Health Professionals

Nicole Mazwi, MD
Instructor in Physical Medicine and Rehabilitation

Hannah Mercier, PhD, OTR/L
Postdoctoral Fellow in Physical Medicine and Rehabilitation; Clinical Lab Instructor, MGH Institute of Health Professionals

Leon Morales-Quezada, MD, PhD
Research Fellow in Physical Medicine and Rehabilitation

Chaitanya Mudgal, MCh, MBBS,
Associate Professor of Orthopedic Surgery

Sunil Sabharwal, MD
Associate Professor of Physical Medicine and Rehabilitation

Shirley Shih, MD
Instructor in Physical Medicine and Rehabilitation

Chloe Slocum, MD, MPH
Instructor in Physical Medicine and Rehabilitation

J. Andrew Taylor, PhD
Associate Professor of Physical Medicine and Rehabilitation

Randy Trumbower, PT, PhD
Assistant Professor of Physical Medicine and Rehabilitation

Nevena Zubcevik, DO
Instructor in Physical Medicine and Rehabilitation

COURSE DIRECTORS

Ross Zafonte, DO
Earle P. and Ida S. Charlton Professor and Chair, Department of Physical Medicine and Rehabilitation, Harvard Medical School
Vice President of Medical Affairs, Spaulding Rehabilitation Network
Chief, Physical Medicine and Rehabilitation, Massachusetts General Hospital
Chief, Physical Medicine and Rehabilitation, Brigham and Women’s Hospital

Mel Glenn, MD
Chief, Brain Injury Division, Department of Physical Medicine and Rehabilitation, Spaulding Rehabilitation Network
Medical Director, NeuroRestorative (Massachusetts)
Medical Director, Community Rehab Care, and Associate Professor, Department of Physical Medicine and Rehabilitation, Harvard Medical School

ASSISTANT COURSE DIRECTORS

Yelena Guller Bodien, PhD
Instructor in Physical Medicine and Rehabilitation

Chloe S. Slocum, MD, MPH
Instructor, Department of Physical Medicine and Rehabilitation

James Malec, PhD
Professor Emeritus of Physical Medicine and Rehabilitation, Indiana University

Marilyn Spivack
Neurotrauma Outreach Coordinator, Spaulding Rehabilitation Hospital; Co-founder of the Brain Injury Association of America

Robert Drilio, CO
President, IAM Orthotics and Prosthetics, Inc.
Course Description
As neurorehabilitation evolves, it becomes increasingly challenging for clinicians to maintain state-of-the-art care of their patients. This course will use plenary lectures and smaller breakout sessions, including interactive case-based workshops, to update the audience on medical, psychological, physical, and cognitive approaches to neurorehabilitation. Based on their participation in the course, participants will be able to expand their clinical knowledge and enhance those skills needed to maximize the physical, cognitive, and social function of patients with traumatic brain injury, spinal cord injury, stroke, and neurodegenerative disease. Participants will learn of state-of-the-art research and its application to clinical practice in such diverse topics as exercise, pharmacology, technology, wellness, integrative medicine, patient motivation, and caregiver assistance.

Learning Objectives
Upon completion of this course, participants will be able to:

• Summarize the research evidence base for neurorehabilitation practice.
• Integrate state-of-the-art, evidence-based approaches to neurorehabilitation into their care of patients.
• Evaluate advances in research that will lead to future approaches to neurorehabilitation.
• Explain what extremes of recovery tell us about neurorehabilitation.
• List the benefits of using motivational interviewing and the coach approach to empower people to change behavior.
• Define the human placebo and nocebo effects and describe the environmental factors that influence these processes.
• Evaluate surgical options for musculotendinous and neural transfers in the upper limb of patients with CNS disorders.
• Identify 3 benefits of music therapy to neurorehabilitation.
• Identify 3 treatments for substance abuse in neurorehabilitation patients.
• List factors that will help to shape the future of post-acute care in the US.

Accreditation
PHYSICIANS
The 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 17.25 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

PHYSICAL THERAPISTS, SPEECH-LANGUAGE PATHOLOGISTS, and OCCUPATIONAL THERAPISTS
This educational program will be submitted for continuing education credits (CEUs). Please check the course website for updates.

NURSES
This course will be submitted for CNE contact hours. Please check the course website for updates.

NURSE PRACTITIONERS
For the purpose of recertification, the American Academy of Nurse Practitioners Certification Board and American Nurses Credentialing Center accept AMA PRA Category 1 Credit™ issued by organizations accredited by the ACCME (Accreditation Council for Continuing Medical Education). We would also suggest that learners check with their state licensing board to ensure they accept reciprocity with AMA PRA Category 1 Credit™ for re-licensure.

PHYSICIAN ASSISTANTS
The National Commission on Certification of Physician Assistants (NCCPA) states that AMA PRA Category 1 Credits™ are acceptable for continuing medical education requirements for recertification. We would also suggest that learners check with their state licensing board to ensure they accept reciprocity with AMA PRA Category 1 Credit™ for re-licensure.

CANADIAN ACCREDITATION
The Royal College of Physicians and Surgeons of Canada recognizes conferences and workshops held outside of Canada that are developed by a university, academy, hospital, specialty society or college as accredited group learning activities.

EUROPEAN ACCREDITATION
Through an agreement between the American Medical Association and the European Union of Medical Specialists, physicians may convert AMA PRA Category 1 Credits™ to an equivalent number of European CME Credits® (ECMECs®). Information on the process of converting AMA PRA Category 1 Credits™ to ECMECs® can be found at: www.eacmee.eu.

DISCLAIMER: CME activities accredited by Harvard Medical School are offered solely for educational purposes and do not constitute any form of certification of competency. Practitioners should always consult additional sources of information and exercise their best professional judgment before making clinical decisions of any kind.
12:15pm Registration and Continental Breakfast
8:15am Welcome and Announcements Mel Glenn, MD
8:25am KEYNOTE ADDRESS: What Extremes of Recovery Tell Us about Neurorehabilitation Ross Zafonte, DO
9:05am Q&A with Dr. Zafonte
9:15am Transition to Breakouts
9:20am Case-Based and Interactive Breakout Sessions 1A-1C
1A Are You Accounting for Neuroendocrine Disorders after TBI? Seth Herman, MD
1B Optimizing the Intensity of Aphasla Therapy Swathi Kiran, PhD, CCC-SLP
1C Spinal Contributions to Controlled Restoration of Limb Function following CNS Injury Randy Trumbower, PT, PhD
10:10am Break (refreshments provided)
10:30am Case-Based and Interactive Breakout Sessions 2A-2C
2A Vestibular Rehabilitation following TBI Kathryn MacDonald, PT, DPT
2B Exercise for Neurodegenerative Disease Chloe Siocum, MD, MPH
2C Acute Intermittent Hypoxia: A Breathtaking Approach to Augmenting Motor Recovery after Spinal Cord Injury Randy Trumbower, PT, PhD
11:25am Case-Based and Interactive Breakout Sessions 3A-3C
3A The Postacut Confusional State after TBI Yelena Guller Bodien, PhD
3B Social Cognition and Affective Processing in Neurodegenerative Disease Brad Dickerson, MD
3C Aging with SCI Sunil Sabharwal, MD
12:15pm Lunch Buffet (Provided)
1:15pm Substance Abuse in Neurorehabilitation Christopher Carter, PsyD
1:55pm Q&A with Dr. Carter
2:05pm Transition to Breakouts
2:10pm Case-Based and interactive Breakout Sessions 4A-4C
4A Advances in Cognitive Rehabilitation in TBI and Stroke, Part 1 James Malec, PhD
4B Addressing the Challenges of Early Mobilization of the Stroke Patient in the ICU Nicole Maziwi, MD
4C Rehabilitation of the Patient with Cancer of the Spinal Cord Chloe Siocum, MD, MPH
3:00pm Break (refreshments provided)
3:20pm Case-Based and Interactive Breakout Sessions 5A-5C
5A Advances in Cognitive Rehabilitation in TBI and Stroke, Part 2 James Malec, PhD
5B Treating the Patient with CNS Lyme Disease and Other Tick-Borne Illness Nevena Zubcevic, DO
5C Trajectories of Participation and Psychosocial Well-Being after Spinal Cord Injury Hannah Mercier, PhD, OTR/L
4:10pm Transition to Plenary
4:15pm KEYNOTE ADDRESS: Surgical Approaches to Neuro-Orthopedic Disorders of the Upper Limb (case studies) Chaitanya Mudgal, MCh, MBBS and Justin Brown, MD
5:15pm Q&A with Drs. Mudgal and Brown
5:30pm Daily Program Ends

Thursday • June 13

Friday • June 14

7:30am Continental Breakfast
8:30am KEYNOTE ADDRESS: The Benefits of Music Therapy in Neurorehabilitation Brian Harris, MA, MT-BC, NMT/F
9:20am Q&A with Mr. Harris
9:30am Transition to Breakouts
9:35am Case-Based and Interactive Breakout Sessions 6A-6C
6A Evaluation of Patients with Disorders of Consciousness Joseph Giacino, PhD
6B Current and Future Treatment of Alzheimer's Disease Jonathan Jackson, PhD
6C Sexuality after SCI Marcaclea Sipski Alexander, MD
10:25am Break (refreshments provided)
10:45am Case-Based and Interactive Breakout Sessions 7A-7C
7A Management of Patients with Disorders of Consciousness: State of the Science Joseph Giacino, PhD
7B Models of Monitoring Stroke Recovery David Lin, MD
7C Sports and Exercise for People with SCI Cheri Blauwit, MD
11:35am Transfer to Plenary
11:40am Wellness Groups and Motivational Interviewing in the Continuum of Neurorehabilitation Elizabeth Frances, MD
12:20pm Q&A with Dr. Frates
12:30pm Lunch Buffet (Provided)
1:30pm Case-Based and Interactive Breakout Sessions 8A-8C
8A Rehabilitation of Visual Disorders after TBI Kevin Houston, OD
8B Proportional Recovery of the Arm after Stroke David Lin, MD
8C Brain-Computer Interfaces Leigh Hochberg, MD, PhD
2:25pm Case-Based and Interactive Breakout Sessions 9A-9C
9A Functional Neuroimaging in Disorders of Consciousness Yelena Guller Bodien, PhD
9B Adjustable Dynamic Response Technology in Lower Extremity Orthotics following Stroke Robert Drillo, CO
9C Neuromuscular Electrical Stimulation for Exercise after SCI J. Andrew Taylor, PhD
3:15pm Break (refreshments provided)
3:35pm Case-Based and Interactive Breakout Sessions 10A-10C
10A The Etiology of Post-Concussion Symptoms after Mild TBI: A Biopsychosocial Model Grant Iverson, PhD
10B Rehabilitation Approaches to Caring for Patients with Brain Tumors Shirley Shih, MD and Saasha Knowlton, MD
10C Neural Stimulation for Ambulation after SCI Ronald Triolo, PhD

Program changes/substitutions may be made without notice. To view the most up-to-date version of the course program, please visit the course website.
## Friday • June 14

### Educational Highlights

#### How to enhance and accelerate recovery with:
- Pharmacologic interventions
- Transcranial magnetic and direct current stimulation
- Early mobilization in the ICU
- Neuroendocrine treatment
- Functional electrical stimulation
- Upper extremity muscle-tendon-nerve transfers
- Approaches to ambulation after SCI
- Vestibular rehabilitation
- Visual rehabilitation
- Treatment of hemispatial neglect
- Intensive language therapy
- Treatment of substance abuse
- Music therapy

#### New strategies to improve quality of life
- Wellness interventions
- Motivational interviewing
- Sports and exercise
- Addressing sexuality after SCI

#### Evolving treatment options

- Brain-computer interface
- Functional neuroimaging in disorders of consciousness
- Hypoxia for recovery after SCI
- Changes in the continuum of care
- Harnessing the placebo effect
- Alzheimer's disease therapies

#### Updates for a wide range of neurological conditions
- Post-concussion symptoms
- Chronic traumatic encephalopathy
- Aging with SCI
- Social cognition and affective processing
- CNS Lyme disease
- Neuropathic pain after SCI
- Autonomic dysreflexia after SCI

### 4:30pm Case-Based and Interactive Breakout Sessions 11A-11C

- **11A** Active Rehabilitation for Post-Concussion Symptoms after Mild TBI
  - Shirley Shih, MD

- **11B** Wearable Technology for ADLs, Mobility, Exercise, and Physiological Monitoring in Stroke Rehabilitation
  - Paolo Bonato, PhD

- **11C** Sleep Apnea after SCI
  - Chloe Slocum, MD, MPH

### 5:20pm Daily Program Ends

## Saturday • June 15

### 7:30am Continental Breakfast

### 8:30am Harnessing the Placebo Effect for Improved Outcomes
  - M. Alexis Iaccarino, MD

### 9:10am Q&A with Dr. Iaccarino and Breakouts

### 9:25am Case-Based and Interactive Breakout Sessions 12A-12C

- **12A** Psychopharmacologic Approaches to Attention, Alertness, and Initiation after Brain Injury
  - Mel Glenn, MD

- **12B** TMS and tDCS to Facilitate Recovery after Stroke
  - Felipe Fregni, MD, PhD and Leon Morales-Quezada, MD, PhD

- **12C** Neuropathic Pain in SCI
  - Ryan Solinsky, MD

### 10:15am Break (refreshments provided)

### 10:35am Case-Based and Interactive Breakout Sessions 13A-13C

- **13A** Chronic Traumatic Encephalopathy
  - Ross Zafonte, DO

- **13B** The Rehabilitation of Spatial Neglect following Stroke
  - Yong-Tae Lee, MD

- **13C** Update on Autonomic Dysreflexia
  - Ryan Solinsky, MD

### 11:25am Transition to Plenary

### 11:30am KEYNOTE ADDRESS: The Postacute Continuum of Care: Where Are We Heading?
- Ross Zafonte, DO and Marilyn Spivack

### 12:10pm Q&A with Dr. Zafonte and Ms. Spivack

### 12:20pm Closing Remarks
  - Mel Glenn, MD

### 12:25pm Course Concludes
NeuroRehabilitation 2019
June 13-15 • Waltham, MA

Course Directors
Ross Zafonte, DO
Mel Glenn, MD

Extremes of recovery
Update on neuropathic pain
Surgical interventions for upper limb function
Expanded pharmacologic interventions
Advances in concussion management
State of the science in disorders of consciousness
Early mobilization in the ICU
Wellness interventions
Functional neuroimaging
Functional electrical stimulation for people with SCI
Ambulation after SCI
Hypoxia to enhance recovery after SCI
Music therapy
Update on autonomic dysreflexia
Exercise in neurodegenerative disease
Novel and evolving treatment options

Register at NeuroRehab.HMSCME.com

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NeuroRehabilitation 2019
(Course #734714-1902)

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<tr>
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<th>Register after April 30, 2019</th>
<th>Register on or before April 30, 2019</th>
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<tbody>
<tr>
<td>Course Tuition</td>
<td>$1,045</td>
<td>$945 (SAVE $100)</td>
</tr>
<tr>
<td>Residents, Fellows, and Students</td>
<td>$895</td>
<td>$795 (SAVE $100)</td>
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Your tuition includes continental breakfast and morning refreshment breaks each day, buffet lunch and afternoon refreshments on Thursday and Friday, and the course syllabus online. Parking is free of charge, and complimentary internet access is provided in the meeting rooms.

REGISTRATION, PAYMENT, CONFIRMATION, and REFUND POLICY
Registrations for Harvard Medical School CME programs are made via our secure online registration system. To register for this course, please visit the course website at NeuroRehab.HMSCME.com.

At the end of the registration process, a $10 non-refundable processing fee will be added to your registration, and you will have the choice of paying by check, credit card (Visa, MasterCard, or American Express), or wire transfer in USD. If you are paying by check (draft on a United States bank) or by wire transfer, the online registration system will provide you with instructions for remitting your course fees. Postal, telephone, fax, and cash-payment registrations are not accepted. Fees shown in USD.

Upon receipt of your paid registration, an email confirmation will be sent to you. Be sure to include an email address that you check frequently. Your email address is used for critical information, including registration confirmation, evaluation, and certificate. Refunds, less an administrative fee of $75, will be issued for all cancellations received two weeks prior to the start of the course. Refund requests must be received by email. No refund will be issued should cancellation occur less than two weeks prior. “No shows” are subject to the full course fee and no refunds will be issued once the conference has started.

ACCOMMODATIONS*
Embassy Suites by Hilton Boston Waltham
550 Winter Street, Waltham, MA 02451
781-890-6767

A limited number of reduced-rate rooms are available at Embassy Suites by Hilton Boston Waltham on a first-come, first-served basis, or until May 12, 2019. You can call the hotel reservation line to make a room reservation: 781-890-6767. Please specify that you are enrolled in this course in order to request the reduced room rate. You can also make your discounted reservation online by visiting the course website and clicking on the dedicated reservation link on the Venue page.

A dedicated shuttle to and from the Conference Center at Waltham Woods will be provided for course participants who stay at the Embassy Suites by Hilton Boston Waltham.

*Please book early, as the discounted room block may sell out before the expiration date.

Please do not make non-refundable travel arrangements until you have received an email from our office confirming your paid registration.

VENUE
The Conference Center at Waltham Woods
860 Winter Street • Waltham, MA 02451
781-434-7499

www.conferencecenteratwalthamwoods.com

Situated on the award-winning campus of the Massachusetts Medical Society, Waltham Woods offers excellent and abundant food, ample free parking, and complimentary internet access.

INQUIRIES
Call 617-384-8600 Mon-Fri 9am – 5pm (ET) or e-mail CEPprograms@hms.harvard.edu