



HARVARD
MEDICAL SCHOOL

NeuroRehabilitation

June 14-16 • Waltham, MA

2018

This course sold out last year. Early registration to the 2018 program 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

Earn up to 15.75 AMA PRA Category 1 Credits™

This educational activity will be submitted for continuing education credits (CEUs)

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



Course Faculty

Harvard Medical School Faculty

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

Mel Glenn, MD

Associate Professor of Physical Medicine and Rehabilitation

Marilyn Spivack

Neurotrauma Outreach Coordinator at Spaulding Rehabilitation Hospital
Co-founder of the Brain Injury Association of America

Marcalee Sipski Alexander, MD

Research Associate in Physical Medicine and Rehabilitation

Felipe Fregni, MD, PhD

Associate Professor of Physical Medicine and Rehabilitation

Paolo Bonato, PhD

Associate Professor of Physical Medicine and Rehabilitation

Randy Trumbower, PT, PhD

Assistant Professor of Physical Medicine and Rehabilitation

Lisa Connor, PhD, MSOT, OTR/L

Professor and Chair, Department of Occupational Therapy
School of Rehabilitation Sciences,
MGH Institute of Health Professions

Leigh Hochberg, MD, PhD

Senior Lecturer on Neurology,
Part-time

Elizabeth P. Frates, MD

Assistant Professor of Physical Medicine and Rehabilitation, Part-time

Brad Dickerson, MD

Associate Professor of Neurology

J. Andrew Taylor, PhD

Associate Professor of Physical Medicine and Rehabilitation

Cheri Blauwet, MD

Assistant Professor of Physical Medicine and Rehabilitation

Kathryn MacDonald, PT, DPT, NCS

Clinical Specialist, Spaulding Rehabilitation Hospital

Christopher Carter, PsyD

Instructor in Psychology in the Department of Psychiatry

Leon Morales-Quezada, MD, PhD

Research Fellow in Physical Medicine and Rehabilitation

Sunil Sabharwal, MBBS

Assistant Professor of Physical Medicine and Rehabilitation

Chaitanya Mudgal, MCh, MBBS

Associate Professor of Orthopedic Surgery

Randie Black-Schaffer, MD

Assistant Professor of Physical Medicine and Rehabilitation

Yelena Guller Bodien, PhD

Instructor in Physical Medicine and Rehabilitation and in Neurology

Rajiv Gupta, MD, PhD

Associate Professor of Radiology

Brian Harris, MA, MT-BC, NMT/F

Neurologic Music Therapist,
Spaulding Rehabilitation Network

Kevin Houston, OD

Instructor in Ophthalmology

M. Alexis Iaccarino, MD

Instructor in Physical Medicine and Rehabilitation

Nevena Zubcevik, DO

Instructor in Physical Medicine and Rehabilitation

Jonathan Jackson, PhD

Instructor in Neurology

Seth Herman, MD

Instructor in Physical Medicine and Rehabilitation

Nicole Mazwi, MD

Instructor in Physical Medicine and Rehabilitation

Chloe Slocum, MD, MPH

Instructor in Physical Medicine and Rehabilitation

Shirley Shih, MD

Instructor in Physical Medicine and Rehabilitation

Yong-Tae Lee, MD

Instructor in Physical Medicine and Rehabilitation

Ryan Solinsky, MD

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
Senior Vice President of Medical Affairs, Research and Education, 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
Associate Professor, Department of Physical Medicine and Rehabilitation, Harvard Medical School

ASSISTANT COURSE DIRECTORS

Yelena Guller Bodien, PhD

Instructor, Department of Physical Medicine and Rehabilitation and Department of Neurology, Harvard Medical School
Research Scientist, Spaulding Rehabilitation Hospital and Massachusetts General Hospital

Chloe S. Slocum, MD, MPH

Instructor, Department of Physical Medicine and Rehabilitation, Harvard Medical School
Staff physiatrist, Spaulding Rehabilitation Hospital

Guest Faculty

John Chae, MD

Professor and Chair of Physical Medicine and Rehabilitation, Case Western Reserve University
Director, MetroHealth Rehabilitation Institute, MetroHealth System

Steven Cramer, MD

Professor, Department of Anatomy & Neurobiology
Professor, Department of Physical Medicine & Rehabilitation
Associate Director, Institute for Clinical & Translational Science, University of California, Irvine School of Medicine

Robert Drillio, CO

President, IAM Orthotics and Prosthetics, Inc.

Swathi Kiran, PhD, CCC-SLP

Professor, Speech, Language and Hearing Sciences, Boston University

Ronald Triolo, PhD

Professor, Orthopaedics and Biomedical Engineering, Case Western Reserve University
Executive Director, Advanced Platform Technology Center, Department of Veterans Affairs

Jonathan Wolpaw, MD

Director, National Center for Adaptive Neurotechnologies
Professor, Biomedical Sciences, School of Public Health, University at Albany

Register at [NeuroRehab.HMSCME.com](https://www.NeuroRehab.HMSCME.com)



HARVARD MEDICAL SCHOOL



Ross Zafonte, DO



Mel Glenn, MD



Yelena Guller Bodien, PhD



Chloe S. Slocum, MD, MPH

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 2018. 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.

NeuroRehabilitation 2018

Neuroplasticity: the right treatment for the right patient

Expanded pharmacologic interventions

Advances in concussion management

Early mobilization in the ICU

Wellness interventions

Functional neuroimaging

Neuroendocrine treatment

SCI and cancer

Sports and exercise

Functional electrical stimulation

Ambulation after SCI

Hypoxia to enhance recovery after SCI

Motivational interviewing

Music therapy

Novel and evolving treatment options

Updates on autonomic dysreflexia



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.
- Describe 3 contributors to determining the right treatment for the right neurorehabilitation patient.
- 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.
- Identify the clinical applications of transcranial direct current and magnetic stimulation and their results in patients with stroke.
- Identify 3 benefits of music therapy to neurorehabilitation.
- Identify ways in which caregiver needs for support change over the course of treatment.
- 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 to provide continuing medical education for physicians.

The Harvard Medical School designates this live activity for a maximum of 15.75 *AMA PRA Category 1 Credits*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

RISK MANAGEMENT

This activity meets the criteria of the Massachusetts Board of Registration in Medicine for 1.75 credits of Risk Management Study. Please check your individual state licensing board requirements before claiming these credits.

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 continuing education credits. Please check the course website for updates.

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 Credit*[™] 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.eaccme.eu.

Thursday • June 14

7:30 am	Registration and Continental Breakfast
8:30 am	Welcome and Announcements Mel Glenn, MD
8:45 am	Connecting the Right Patients with the Right Restorative Therapies and Q&A Steven Cramer, MD
9:35 am	Transition to Breakouts
9:40 am	Case-Based and Interactive Breakout Sessions 1A-1C <i>Each of these sessions includes 10 minutes of Q&A</i>
1A	Rehabilitation of Visual Disorders after TBI Kevin Houston, OD
1B	Electrical Stimulation for Function and Restoration after Stroke John Chae, MD
1C	Acute Intermittent Hypoxia: A Breathtaking Approach to Augmenting Motor Recovery after Spinal Cord Injury Randy Trumbower, PT, PhD
10:30 am	Break (refreshments provided)
10:50 am	Case-Based and Interactive Breakout Sessions 2A-2C <i>Each of these sessions includes 10 minutes of Q&A</i>
2A	Are You Accounting for Neuroendocrine Disorders after TBI? Seth Herman, MD
2B	Post-Stroke Shoulder Pain John Chae, MD
2C	Aging with SCI Sunil Sabharwal, MBBS
11:40 am	Transition to General Session Room
11:45 am	Meeting the Long-Term Needs of Brain Injury Survivors and Their Families: What's Missing? and Q&A* Marilyn Spivack and Christopher Carter, PsyD
12:35 pm	Lunch Buffet (provided)
1:35 pm	Case-Based and Interactive Breakout Sessions 3A-3C <i>Each of these sessions includes 10 minutes of Q&A</i>
3A	Helping Survivors to Build Their "New Normal" after TBI* Christopher Carter, PsyD
3B	Addressing the Challenges of Early Mobilization of the Stroke Patient in the ICU Nicole Mazwi, MD
3C	Cancer following SCI Chloe Slocum, MD, MPH
2:30 pm	Case-Based and Interactive Breakout Sessions 4A-4C <i>Each of these sessions includes 10 minutes of Q&A</i>
4A	Aging with TBI Mel Glenn, MD
4B	Current and Future Treatment of Alzheimer's Disease Jonathan Jackson, PhD
4C	Upper Extremity Surgery in Tetraplegia Chaitanya Mudgal, MCh, MBBS
3:20 pm	Break (refreshments provided)
3:40 pm	Case-Based and Interactive Breakout Sessions 5A-5C <i>Each of these sessions includes 10 minutes of Q&A</i>
5A	Vestibular Rehabilitation following TBI Kathryn MacDonald, PT, DPT, NCS
5B	Optimizing the Intensity of Aphasia Therapy Swathi Kiran, PhD, CCC-SLP
5C	Update on Autonomic Dysreflexia Ryan Solinsky, MD
4:30 pm	Daily Program Ends

Friday • June 15

7:30 am	Continental Breakfast
8:30 am	The Benefits of Music Therapy in Neurorehabilitation and Q&A Brian Harris, MA, MT-BC, NMT/F
9:20 am	Transition to Breakouts
9:25 am	Case-Based and Interactive Breakout Sessions 6A-6C <i>Each of these sessions includes 10 minutes of Q&A</i>
6A	The Etiology of Post-Concussion Symptoms after Mild TBI: A Biopsychosocial Model Grant Iverson, PhD
6B	Adjustable Dynamic Response Technology in Lower Extremity Orthotics following Stroke Robert Drillio, CO
6C	Bone Health after SCI: Monitoring, Management, and Potential Therapies Rajiv Gupta, MD, PhD
10:15 am	Break (refreshments provided)
10:35 am	Case-Based and Interactive Breakout Sessions 7A-7C <i>Each of these sessions includes 10 minutes of Q&A</i>
7A	Psychopharmacologic Approaches to Attention, Alertness, and Initiation after Brain Injury Mel Glenn, MD
7B	Robotics in Rehabilitation following Stroke Paolo Bonato, PhD
7C	Sports and Exercise for People with SCI Cheri Blauwet, MD
11:25 am	Transition to General Session Room
11:30 am	Wellness Groups and Motivational Interviewing in the Continuum of Neurorehabilitation and Q&A Elizabeth Frates, MD
12:20 am	Lunch Buffet (provided)
1:20 pm	Case-Based and Interactive Breakout Sessions 8A-8C <i>Each of these sessions includes 10 minutes of Q&A</i>
8A	Psychopharmacologic Approaches to Affective Disorders and Executive Dysfunction after Brain Injury Mel Glenn, MD
8B	TMS and tDCS to Facilitate Recovery after Stroke Felipe Fregni, MD, PhD and Leon Morales-Quezada, MD, PhD
8C	Brain-Computer Interfaces Leigh Hochberg, MD, PhD
2:15 pm	Case-Based and Interactive Breakout Sessions 9A-9C <i>Each of these sessions includes 10 minutes of Q&A</i>
9A	Functional Neuroimaging in Disorders of Consciousness Yelena Guller Bodien, PhD
9B	Treating the Patient with CNS Lyme Disease and Other Tick-Borne Illness Nevena Zubcevic, DO
9C	Neuromuscular Electrical Stimulation for Exercise after SCI J. Andrew Taylor, PhD
3:05 pm	Break (refreshments provided)
3:25 pm	Case-Based and Interactive Breakout Sessions 10A-10C <i>Each of these sessions includes 10 minutes of Q&A</i>
10A	Clinical Trials in TBI Recovery: Are We Getting There? Ross Zafonte, DO
10B	Social Cognition and Affective Processing in Neurodegenerative Disease Brad Dickerson, MD
10C	Neural Stimulation for Ambulation after SCI Ronald Triolo, PhD

Friday • June 15

4:20 pm	Case-Based and Interactive Breakout Sessions 11A-11C <i>Each of these sessions includes 10 minutes of Q&A</i>
11A	Chronic Traumatic Encephalopathy Ross Zafonte, DO
11B	Models of Recovery and Community Participation for Stroke Survivors to Optimize the Delivery of Rehabilitation Interventions Lisa Connor, PhD, MSOT, OTR/L
11C	Sleep Apnea after SCI Chloe Slocum, MD, MPH
5:10 pm	Daily Program Ends

Saturday • June 16

7:30 am	Continental Breakfast
8:30 am	Harnessing the Placebo Effect for Improved Outcomes and Q&A M. Alexis Iaccarino, MD
9:20 am	Transition to Breakouts
9:25 am	Case-Based and Interactive Breakout Sessions 12A-12C <i>Each of these sessions includes 10 minutes of Q&A</i>
12A	Evaluation and Management of Patients with Disorders of Consciousness: State of the Science Joseph Giacino, PhD
12B	Challenges in the Rehabilitation of the Young Patient with Stroke Randie Black-Schaffer, MD
12C	Sexuality after SCI Marcalee Sipski Alexander, MD
10:15 am	Break (refreshments provided)
10:35 am	Case-Based and Interactive Breakout Sessions 13A-13C <i>Each of these sessions includes 10 minutes of Q&A</i>
13A	Advances in the Management of Post-Concussion Symptoms after Mild TBI Shirley Shih, MD
13B	The Rehabilitation of Spatial Neglect following Stroke Yong-Tae Lee, MD
13C	Using Targeted Neuroplasticity to Enhance Rehabilitation after SCI Jonathan Wolpaw, MD
11:25 am	Transition to General Session Room
11:30 am	The Post-Acute Continuum of Care: Where Are We Heading? and Q&A Ross Zafonte, DO
12:20 pm	Closing Remarks
12:30 pm	Course Concludes

**Meets criteria for Risk Management credit in Massachusetts*

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.

DISCLAIMER

CME activities sponsored 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.

Educational Highlights

How to enhance and accelerate recovery with:

- Neuroplasticity: the right treatment for the right patient
- Pharmacologic interventions
- Transcranial magnetic and direct current stimulation
- Early mobilization in the ICU
- Approaches to bone health after SCI
- Neuroendocrine treatment
- Functional electrical stimulation
- Neuromuscular electrical stimulation
- Upper extremity muscle-tendon transfers
- Approaches to ambulation after SCI
- Vestibular rehabilitation
- Visual rehabilitation
- Treatment of hemispatial neglect
- Intensive language therapy
- Treatment of adjustment issues
- Music therapy

New strategies to improve quality of life

- Wellness interventions
- Motivational interviewing
- Adjustment of the caregiver
- Sports and exercise
- Treatment of the post-stroke shoulder
- Addressing sexuality after SCI

Education on evolving treatment options

This program offers attendees the opportunity to learn about the future of treatment options and how and when they will impact patient outcomes:

- 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
- Acute TBI and SCI treatments

Updates and insights to guide clinical decisions for common, rare, and challenging neurological conditions

- Post-concussion symptoms
- Chronic traumatic encephalopathy
- CNS plasticity
- Aging with SCI and TBI
- Social cognition and affective processing
- CNS Lyme disease
- Autonomic dysreflexia after SCI



HARVARD MEDICAL SCHOOL

Register at NeuroRehab.HMSCME.com

NeuroRehabilitation 2018

(Course #734714-1802)

	Register after April 30, 2018	Register on or before April 30, 2018
Course Tuition	\$995	\$895 (SAVE \$100)
Residents, Fellows, and Students	\$845	\$745 (SAVE \$100)

Your tuition includes 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 free Wi-Fi 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 \$5 non-refundable processing fee will be added to your registration, and you will have the choice of paying by check or credit card (Visa, MasterCard, or American Express). If you are paying by check (draft on a US bank), the online registration system will provide you with instructions and a printable form for remitting your course fees by check. Postal, telephone, fax, and cash-payment registrations are not accepted. Fees shown in USD.

Upon receipt of your paid registration, an email confirmation from the HMS GCE office 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 postal mail, email, or fax. 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

A limited number of discounted rooms have been reserved at the following nearby hotels for a limited time. Please visit the Venue page of the course website at <https://NeuroRehab.HMSCME.com/Venue> for more information:

Embassy Suites Boston/Waltham
550 Winter Street, Waltham, MA 02451
800-362-2779
(special rate expires 5/14/2018)*

Holiday Inn Express
385 Winter Street, Waltham, MA 02451
877-213-6796
(special rate expires 5/17/2018)*

Westin Waltham Boston
70 Third Ave., Waltham, MA 02451
800-937-8461
(special rate expires 5/25/2018)*

**Please note that the discounted rooms 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 CEPrograms@hms.harvard.edu