



HARVARD
MEDICAL SCHOOL

NeuroRehabilitation

June 13-15 • Waltham, MA

2019

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

Earn up to 17.25 *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





HARVARD MEDICAL SCHOOL

COURSE DIRECTORS



Ross Zafonte, DO



Mel Glenn, MD

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.

ASSISTANT COURSE DIRECTORS



Yelena Guller Bodien, PhD



Chloe S. Slocum, MD, MPH

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

Felipe Fregni, MD, PhD

Associate Professor of Physical Medicine and Rehabilitation

Mel Glenn, MD

Associate Professor of Physical Medicine and Rehabilitation

Paolo 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

Yelena Guller Bodien, PhD

Instructor in Physical Medicine and Rehabilitation

Justin Brown, MD

Associate Professor of Neurosurgery

Christopher Carter, PsyD

Instructor in Psychology in the Department of Psychiatry

Brad Dickerson, MD

Associate Professor of Neurology

Elizabeth Frates, MD

Assistant Professor of Physical Medicine and Rehabilitation, Part-time

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

Neurologic Music Therapist, Spaulding Rehabilitation Network

Seth Herman, MD

Instructor in Physical Medicine and Rehabilitation

Leigh Hochberg, MD, PhD

Senior Lecturer in Neurology, Part-time

Kevin Houston, OD

Instructor in Ophthalmology

M. Alexis Iaccarino, MD

Instructor in 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

Ryan Solinsky, MD

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, 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 and Spaulding Rehabilitation Hospital

Guest Faculty

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 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

Register at NeuroRehab.HMSCME.com

NeuroRehabilitation 2019

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 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.

7:15am	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 <i>Each of these sessions includes 10 minutes of Q&A</i>
1A	Are You Accounting for Neuroendocrine Disorders after TBI? Seth Herman, MD
1B	Optimizing the Intensity of Aphasia 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 <i>Each of these sessions includes 10 minutes of Q&A</i>
2A	Vestibular Rehabilitation following TBI Kathryn MacDonald, PT, DPT
2B	Exercise for Neurodegenerative Disease Chloe Slocum, 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 <i>Each of these sessions includes 10 minutes of Q&A</i>
3A	The Postacute 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 <i>Each of these sessions includes 10 minutes of Q&A</i>
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 Mazwi, MD
4C	Rehabilitation of the Patient with Cancer of the Spinal Cord Chloe Slocum, MD, MPH
3:00pm	Break (refreshments provided)
3:20pm	Case-Based and Interactive Breakout Sessions 5A-5C <i>Each of these sessions includes 10 minutes of Q&A</i>
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 Zubcevik, 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

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 <i>Each of these sessions includes 10 minutes of Q&A</i>
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 Marcalee Sipski Alexander, MD
10:25am	Break (refreshments provided)
10:45am	Case-Based and Interactive Breakout Sessions 7A-7C <i>Each of these sessions includes 10 minutes of Q&A</i>
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 Blauwet, MD
11:35am	Transfer to Plenary
11:40am	Wellness Groups and Motivational Interviewing in the Continuum of Neurorehabilitation Elizabeth Frates, MD
12:20pm	Q&A with Dr. Frates
12:30pm	Lunch Buffet (Provided)
1:30pm	Case-Based and Interactive Breakout Sessions 8A-8C <i>Each of these sessions includes 10 minutes of Q&A</i>
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 <i>Each of these sessions includes 10 minutes of Q&A</i>
9A	Functional Neuroimaging in Disorders of Consciousness Yelena Guller Bodien, PhD
9B	Adjustable Dynamic Response Technology in Lower Extremity Orthotics following Stroke Robert Drillio, 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 <i>Each of these sessions includes 10 minutes of Q&A</i>
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 Sasha Knowlton, MD
10C	Neural Stimulation for Ambulation after SCI Ronald Triolo, PhD
<i>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.</i>	

Friday • June 14

4:30pm	Case-Based and Interactive Breakout Sessions 11A-11C <i>Each of these sessions includes 10 minutes of Q&A</i>
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
9:20am	Transition to Breakouts
9:25am	Case-Based and Interactive Breakout Sessions 12A-12C <i>Each of these sessions includes 10 minutes of Q&A</i>
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 <i>Each of these sessions includes 10 minutes of Q&A</i>
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

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

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

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

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



HARVARD MEDICAL SCHOOL

NeuroRehabilitation 2019

June 13-15 • Waltham, MA

Stroke • Concussion • TBI • Degenerative Neurological Diseases



- 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

Course Directors
Ross Zafonte, DO
Mel Glenn, MD

Register at NeuroRehab.HMSCME.com





HARVARD MEDICAL SCHOOL

Register at NeuroRehab.HMSCME.com

NeuroRehabilitation 2019

(Course #734714-1902)

	Register after April 30, 2019	Register on or before April 30, 2019
Course Tuition	\$1,045	\$945 (SAVE \$100)
Residents, Fellows, and Students	\$895	\$795 (SAVE \$100)

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 CEPrograms@hms.harvard.edu