

Anderson, Kimberly	 Receives a salary from MetroHealth System. Receives funding from DoD, NIDILRR, and CHNF. Founder and past president of North
Bodien, Yelena	 Receives a salary from Harvard teaching hospital and/or its affiliates. No relevant relationships to disclose.
Bonato, Paolo	 Receives a salary from Harvard teaching hospital and/or its affiliates. Received two sub-awards from the company on NIH SBIR grants. No relevant relationships to disclose.
Brenner, Lauren	 Receives a salary from Harvard teaching hospital and/or its affiliates. No relevant relationships to disclose.
Carter, Christopher	 Receives a salary from Harvard teaching hospital and/or its affiliates. Member, Brain Injury Association of Massachusetts
Daneshvar, Daniel	 Receives a salary from Harvard teaching hospital and/or its affiliates. Medical advisor and options holder, StataDX. Medicolegal expert testimony on TBI and SCI cases. No relevant relationships to disclose. No relevant relationships to disclose.
Doan, James	 Receives a salary from Harvard teaching hospital and/or its affiliates. No relevant relationships to disclose.
Edlow, Brian	 Receives a salary from Harvard teaching hospital and/or its affiliates. No relevant relationships to disclose.
Frates, Elizabeth	 Receives a salary from Harvard teaching hospital and/or its affiliates and her private practice, Wellness Synergy Annual stipend from Scientific Advisory Board obVus Solutions Medical Advisory Board Clearing.com Medical Advisory Board, shares in company President, American College of Lifestyle Medicine. Board of Directors, PAVING the Path to Wellness.
Fregni, Felipe	 Receives a salary from Harvard teaching hospital and/or its affiliates. Receives funding from multiple NIH grants
Gampel, Olivia	 Receives a salary from Harvard teaching hospital and/or its affiliates.
Ganann, Michelle	 Receives a salary from Harvard teaching hospital and/or its affiliates, and from Boston Medical Center. Member, ASHA Member, ASHA



Giacino, Joseph	 Receives a salary from Harvard teaching hospital and/or its affiliates. Grants from the Department of Defense
Glenn, Mel	 Receives a salary from Harvard teaching hospital and/or its affiliates. Neurorestorative (SevitaHealth), contractor, receives salary Community Rehab Care, contractor, receives salary
Godfrey, Jennifer	 Receives a salary from Harvard teaching hospital and/or its affiliates. No relevant relationships to disclose.
Harris, Brian	 Receives a salary from Harvard teaching hospital and/or its affiliates. Receives salary for management position and ownership of and has equity in Medrhythms Inc. No relevant relationships to disclose. No relevant relationships to disclose.
Hess, Marika	- Receives a salary from Harvard - No relevant relationships to disclose. teaching hospital and/or its affiliates.
Hochberg, Leigh	 Receives a salary from Harvard teaching hospital and/or its affiliates. Received grants from: NIDCD; NINDS; SBIR/NIMH; BRAIN/NINDS; Rehab. R&D Service, Dept. VA; American Hearth Assoc.; CDMRP-SCIRP; DARPA; ALS Association; MGH IHP; Cerebral Palsy Alliance Research Foundation; Neuralink; Synchron; Axoft; and Precision Neuro
laccarino, Mary Alexis	 Receives a salary from Harvard teaching hospital and/or its affiliates. Receives compensation National Football League (neurotrauma consultant) Grant funding from Wounded Warrior Project
Iverson, Grant	 Receives a salary from Harvard teaching hospital and/or its affiliates. Consulting fees from Nano DX, Sway Medical, NeuroHealth Research and Rehabilitation, and NeuroHealth LLC. Grant funding from National Football League Unrestricted philanthropic funding from National Rugby League and ImPACT Applications, Inc.



Jacobson Kimberley,	- Receives a salary from MGH Institute	- Member, American Heart Association
Teresa	of Health Professionals.	and American Physical Therapy
	- Funding from Microtransponder.	Association.
	 Consulting fees from NeuroTrauma Sciences. 	
Kiran, Swathi	- Receives a salary from Boston	- Board Member, National Aphasia
	University teaching hospital and/or its	Association and American Speech
	affiliates.	Language Foundation
	 Constant Therapy (Stock privately held) 	
Knowlton, Sasha	- Received a salary from Harvard	- Member of Patient Services
	teaching hospital and/or its affiliates.	Committee, Chordoma Foundation
	 Receives a salary from University of North Carolina 	
Kotler, Dana	- Receives a salary from Harvard	- No relevant relationships to disclose.
	teaching hospital and/or its affiliates.	
Kruger, Edelmira	- Receives a salary from Harvard	- No relevant relationships to disclose.
	teaching hospital and/or its affiliates.	
Lin, David	- Receives a salary from Harvard	- No relevant relationships to disclose.
	teaching hospital and/or its affiliates.	
Loyer, Emmaleigh	- Receives a salary from Harvard	- Member, ASHA.
	teaching hospital and/or its affiliates Receives/d salary from MGH IHP,	
	Emerson College, UVM Medical	
	Center.	
Lucier, Dawn	- Receives a salary from Harvard	- No relevant relationships to disclose
	teaching hospital and/or its affiliates.	
Mazwi, Nicole	 Receives a salary from the University of Washington 	- No relevant relationships to disclose.
McGinnis, Scott	- Receives a salary from Harvard	- No relevant relationships to disclose.
	teaching hospital and/or its affiliates.	
Morales-Quezada, Leon	 Receives a salary from Harvard teaching hospital and/or its affiliates. 	- No relevant relationships to disclose.
Neumann, Dawn	- Receives grant funding from DoD,	- Board member of ACRM and JHTR
amam, sami	NIDILRR, NIH, ASSBI	25d.d.member of Actividate Strike
O'Neill-Pirozzi, Therese	- Receives a salary from Northeastern	- No relevant relationships to disclose.
	University.	
	- Receives grant funding from NIDILRR	
Paganoni, Sabrina	- Receives a salary from Harvard	- Board member of the Association of
	teaching hospital and/or its affiliates.Receives grant funding from Amylyx,	Academic Physiatrists - Editorial board member of the
	Revalesio, UCB, Eledon, Biohaven,	American Journal of PM&R and
	Clene, Prilenia, Seelos, Anelixis,	Muscle and Nerve
	Alector, Prilenia, Denali, Calico, AAN,	
	NIH, DoD, CDC, ALSA, and MDS.	



	 Receives consulting fees from Cytokinetics, Amylyx, Arrowhead, BMS, Clene. 	
Polich, Ginger	 Receives a salary from Harvard teaching hospital and/or its affiliates. 	- No relevant relationships to disclose.
Rovito, Craig	- Receives a salary from Harvard teaching hospital and/or its affiliates.	- No relevant relationships to disclose.
Sabharwal, Sunil	- Receives a salary from Harvard teaching hospital and/or its affiliates.	 Clinical Practice Guideline Panel Member, Consortium for Spinal Cord Medicine – Cardiometabolic Risk After SCI.
Salas, Kathleen	 Receives a salary from Harvard teaching hospital and/or its affiliates. 	- No relevant relationships to disclose.
Savitz, Sean	- Receives a salary from University of Texas Health.	- No relevant relationships to disclose.
Shih, Shirley	 Receives a salary from Harvard teaching hospital and/or its affiliates. 	- No relevant relationships to disclose.
Slocum, Chloe	 Receives a salary from Harvard teaching hospital and/or its affiliates. 	- No relevant relationships to disclose.
Steere, Hannah	 Receives a salary from Harvard teaching hospital and/or its affiliates. 	- No relevant relationships to disclose.
Tolchin, Dorothy	 Receives a salary from Harvard teaching hospital and/or its affiliates. 	- No relevant relationships to disclose.
Tosto-Mancuso, Jenna	- Has equity in and is co-founder of Precision Recovery, Inc.	-
Valderrabano, Rodrigo	 Receives a salary from Harvard teaching hospital and/or its affiliates. 	- No relevant relationships to disclose.
Valera, Eva	 Receives a salary from Harvard teaching hospital and/or its affiliates. Receives grant funding from NIH 	- Work on grant, Canadian Institutes of Health.
Verduzco-Gutierrez, Monica	 Receives a salary from UT Health San Antonio. Receives/d honoraria and/or travel fees from AbbVie, Merz, Ipsen, and Revance. 	- No relevant relationships to disclose.
Winston, Paul	 Receives consultant fees, ad board, educational honoraria, research funding from Pacira. 	- No relevant relationships to disclose.
Young, Michael	- Receives a salary from Harvard teaching hospital and/or its affiliates.	- No relevant relationships to disclose.
Zafonte, Ross	Receives a salary from Harvard teaching hospital and/or its affiliates.Scientific Advisory Board for MYOMO,	 Editorial Boards for Journal of Neurotrauma and Frontiers in Neurology
	Nano Dx and OneCare.AL, Inc.	- Vice President, Foundation for PM&R



Kimberly Anderson-Erisman, PhD is a Professor in the Department of Physical Medicine and Rehabilitation at the MetroHealth Medical Center and Case Western Reserve University (CWRU) School of Medicine. Her research has focused on translational investigations and bridging the gap between basic science, clinical science, and the public community living with spinal cord injury (SCI). Her training spans the spectrum of SCI research, from cellular and molecular studies to whole animal and behavioral studies to human clinical research. A large area of her research has focused on obtaining the perspective of people living with SCI on various aspects of research, including functional priorities, acceptable benefits and risks, preferences for neuroprosthetics, and exercise participation to make research more relevant. For this work she was elected to the National Academy of Medicine in 2023. She has expertise in SCI outcome measures, multi-center clinical studies, and FDA-regulated Schwann cell transplantation clinical trials. At MetroHealth-CWRU she is continuing her leadership in clinical trials for SCI and further developing her independent research efforts addressing issues important to people living with SCI with an emphasis on translational research to deploy treatments to the clinic. She is currently the Director of the Northeast Ohio Regional Spinal Cord Injury Model System of Care. She was also a co-founder and the inaugural President of the North American Spinal Cord Injury Consortium.

Yelena Bodien, PhD is a Research Scientist in the Department of Neurology at Massachusetts General Hospital and the Department of Physical Medicine and Rehabilitation at Spaulding Rehabilitation Hospital as well as an Assistant Professor at Harvard Medical School. She is using advanced neuroimaging techniques and standardized neurobehavioral assessment to improve assessment precision and functional outcomes in acute and chronic stages of recovery from severe brain injury. Dr. Bodien is a member of the James S. McDonnell Coma and Consciousness Consortium which is developing the largest database of neuroimaging studies of disorders of consciousness. She is also on the Outcomes Core of the Transforming Research and Clinical Knowledge in TBI (TRACK-TBI) initiative. Dr. Bodien co-chairs the American Congress for Rehabilitation Medicine Disorders of Consciousness Task Force and has served as the Assistant Director of the NeuroRehab course since its inception in 2017.

Paolo Bonato, PhD serves as Director of the Motion Analysis Laboratory at Spaulding Rehabilitation Hospital, Boston MA. He is an Associate Professor in the Department of Physical Medicine and Rehabilitation at Harvard Medical School, an Adjunct Professor of Biomedical Engineering at the MGH Institute of Health Professions, an Associate Faculty Member at the Wyss Institute for Biologically Inspired Engineering, and an Adjunct Associate Professor at Boston University College of Health & Rehabilitation Sciences. He has held Adjunct Faculty positions at MIT, the University of Ireland Galway, and the University of Melbourne. His research work is focused on the development of rehabilitation technologies with special emphasis on wearable technology and robotics. Dr. Bonato served as the Founding Editor-in-Chief of Journal on NeuroEngineering and Rehabilitation and currently serves as Founding Editor-in-Chief of the IEEE Open Journal of Engineering in Medicine and Biology. He received the M.S. degree in electrical engineering from Politecnico di Torino, Turin, Italy in 1989 and the Ph.D. degree in biomedical engineering from Universita` di Roma "La Sapienza" in 1995.

Lauren Brenner, PhD is a licensed clinical psychologist, with expertise in the field of trauma and stressor-related disorders. She received her BS from the University of Illinois in Urbana-Champaign, and MS and PhD in Clinical Psychology at Rosalind Franklin University of Medicine and Science in Chicago. Dr. Brenner conducted clinical training at the University of Chicago, Edward J Hines VAMC, James Lovell Federal Health Care Center, and an intensive DBT program. She completed her predoctoral internship at VA Boston Healthcare System, with a focus in cooccurring substance use and traumatic stress disorders, with additional training in General Mental Health and Urgent Care. Dr. Brenner attained fellowship training at the Home Base Program, where she now serves as a staff psychologist and Clinical Director of the Brain Health Program, working with military service members and veterans, with expertise in the Special Operations Forces (SOF) community. Dr. Brenner is an Instructor of Psychiatry at Harvard Medical School.



Daniel Daneshvar, MD, PhD serves as Chief of Brain Injury Rehabilitation at Harvard Medical School where he conducts research on the long-term effects of moderate-severe traumatic brain injury, concussion, and repetitive head impacts, including chronic traumatic encephalopathy (CTE) and amyotrophic lateral sclerosis. Dr. Daneshvar has authored and coauthored over 60 scientific papers including in JAMA, Nature Communications, and Brain, and his work has been featured broadly including in the New York Times, the Wall Street Journal, NPR, and ESPN. He also founded Team Up Against Concussions, the first scientifically validated concussion education program for kids, for which he received the 2016 Excellence in Public Health award from the United States Public Health Services. He is the Director of the Institute for Brain Research and Innovation at TeachAids, which created CrashCourse: a free, scientifically validated virtual reality and computer-based concussion education program, for which he received the 2021 Dean's Community Service Award from Harvard Medical School. Dr. Daneshvar received his S.B. from the Massachusetts Institute of Technology, and completed his M.D./Ph.D. at the Boston University CTE Center, where his research resulted in the first dissertation in history to study CTE. He completed residency at Stanford University before joining the faculty at Harvard Medical School.

James Doan, MD is an SCI Attending Physician at the VA Boston Healthcare System – West Roxbury Division and a Lecturer, part-time, on Physical Medicine and Rehabilitation at Harvard Medical School. He received his medical degree at the University of Texas Health Science Center at Houston – McGovern Medical School, and he completed his residency specialty training in Physical Medicine and Rehabilitation at Baylor College of Medicine in Houston, TX. Subsequently, he completed fellowship training in Spinal Cord Injury Medicine at the Harvard/Spaulding program.

Brian Edlow, MD received his B.A. from Princeton University and M.D. from the University of Pennsylvania School of Medicine. He completed an internal medicine internship at Brigham and Women's Hospital, followed by neurology residency and neurocritical care fellowship at Massachusetts General and Brigham and Women's Hospitals. He is currently a critical care neurologist at Massachusetts General Hospital, where he is Associate Professor of Neurology, Associate Director of the Center for Neurotechnology and Neurorecovery, and Director of the Laboratory for Neurolmaging of Coma and Consciousness. Dr. Edlow's research focuses on detecting consciousness, predicting outcomes, and developing new therapies for patients with severe traumatic brain injury. His lab's work has been continuously funded since 2010 by grants from the NIH, DOD, and multiple foundations. He is the recipient of the 2019 NIH Director's New Innovator Award and the 2022 ANA Derek Denny-Brown Young Neurological Scholar Award. Dr. Edlow serves on the Scientific Advisory Board of the Neurocritical Care Society's Curing Coma Campaign, the Editorial Board of the Journal of Neurotrauma, and is Co-Chair of the NINDS Common Data Elements Project on Disorders of Consciousness. He also serves as the Principal Investigator of the DOD-funded ReBlast study, which aims to identify diagnostic biomarkers of blast-induced brain injury in United States Special Operations Forces Service Members.

Elizabeth Frates, MD is a trained physiatrist and a health and wellness coach, with expertise in Lifestyle Medicine. She is an award-winning teacher at Harvard Medical School, where she is an assistant professor, part-time. Dr. Frates is a pioneer in lifestyle medicine. She developed and taught a college Lifestyle Medicine curriculum at the Harvard Extension School in 2015 and it is still one of the most popular courses offered at the school. She is president of the American College of Lifestyle Medicine. She authored a Lifestyle Medicine syllabus, which can be downloaded through the ACLM website, to serve as a template for other instructors and professors. In addition, Dr. Frates co-authored The Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits, which was ranked in the top 20 by Book Authority for medical books released in 2018. To accompany the syllabus and handbook, she also co-created Lifestyle Medicine 101, a full college curriculum with 12 weeks of PowerPoints and a teacher's manual, which is free and accessible through the ACLM website. Most recently, Dr. Frates co-authored, The Teen Lifestyle Medicine Handbook, published in October 2020. As Director of Wellness Programming at the Stroke Institute for Research and Recovery at Spaulding Rehabilitation Hospital, a Harvard Medical School affiliate, Dr. Frates has created and implemented a 12-Step wellness program, PAVING the Path to Wellness™ for patients and providers. As of the fall of 2020, Dr. Frates serves as



the Director of Lifestyle Medicine and Wellness for the Department of Surgery at Mass General Hospital. In addition, Dr. Frates has her own Lifestyle Medicine consulting/coaching practice where she sees patients 1:1 and in groups.

Felipe Fregni, MD, PhD is the director of Spaulding Neuromodulation Center. He is a Professor of PM&R at Harvard Medical School and a Professor of Epidemiology at Harvard T.H. Chan School of Public Health. He is a world leader and one of the pioneers in the development of non-invasive brain stimulation in neurorehabilitation. He is one of the most cited researchers in this field.

Olivia Gampel, M.S. CCC-SLP is a practicing Speech-Language Pathologist, licensed in the state of Massachusetts. Olivia holds a Master of Science in Communication Sciences & Disorders at the MGH Institute of Health Professions in Charlestown, MA. An Advanced Clinician at Spaulding Rehabilitation Hospital in the Outpatient Department, Olivia has clinical interest and expertise in cognitive rehabilitation for the adult neurogenic population, with an emphasis on functional, patient-centered care.

Michelle Ganann, MS, CCC-SLP is the lead Speech-Language Pathology Clinical Specialist in Augmentative and Alternative Communication (AAC) for Spaulding Rehabilitation Hospital. She utilizes the latest technological advancements to help patients, with a variety of communication needs, maintain or improve their independence with daily activities and interactions with others. She is currently the Principal Investigator for two research studies with AAC: Brain Computer Interface (BCI) at Spaulding and Empowering Communication Through Innovation for Patients in Acute Care at Boston Medical Center. Before joining Spaulding, Michelle worked four years as senior speech-language pathologist at UCLA Medical Center, focusing on the care of adult patients with aphasia, dysphagia, and head and neck cancer.

Joseph Giacino, PhD is Professor of Physical Medicine and Rehabilitation at Harvard Medical School (HMS). At Spaulding Rehabilitation Hospital (SRH), he serves as Director of Rehabilitation Neuropsychology, the Disorders of Consciousness Program and the Neurorehabilitation Laboratory and is Co-Director of the Spaulding Rehabilitation Outcomes Center. He also holds appointments in the Department of Psychiatry at Massachusetts General Hospital, the Rehabilitation Sciences Doctoral Program at the MGH Institute of Health Professions and the HMS Center for Bioethics. His research is aimed at developing high-precision neurodiagnostic procedures, multidimensional clinical outcome assessment approaches and targeted therapeutic interventions for persons with severe acquired brain injury and disorders of consciousness. His teams have produced widely-recognized assessment tools such as the Coma Recovery Scale-Revised and identified the only available treatment (ie, amantadine hydrochloride) proven to accelerate the pace of recovery following severe TBI. He serves as Principal or Co-Principal Investigator on four federally-funded collaborative grants, including the Spaulding-Harvard Traumatic Brain Injury Model System (NIDILRR, 2012-2022), Transforming Research and Clinical Knowledge in TBI (NINDS and DoD, 2013-2025, Outcomes Core Co-Lead), TBI Endpoint Development (DoD, 2014-NCE 2022, Outcomes Core Co-Lead) and Central Thalamic Stimulation for Traumatic Brain Injury (NINDS, 2015-2022). He is a Past-President (2010-2011) of the American Congress of Rehabilitation Medicine (ACRM), Co-Chair of the NINDS TBI Common Data Element Steering Committee and a member of the International Initiative for Traumatic Brain Injury Research (InTBIR). He led the expert panels that developed the diagnostic criteria for the minimally conscious state (Aspen Workgroup, 2002), the 2018 Practice Guideline Update on Disorders of Consciousness (American Academy of Neurology-ACRM-NIDILRR) and the 2020 ACRM-NIDILRR Minimum Competency Recommendations for Programs that Provide Rehabilitation Services for Persons with Disorders of Consciousness. Dr. Giacino has published over 200 articles and book chapters and is the recipient of the ACRM Brain Injury Special Interest Group's Lifetime Achievement Award, Brain Injury Association of America's William Fields Caveness Award and the University of Texas Medical Branch's Robert L. Moody Prize.



Mel Glenn, MD is an Associate Professor in the Department of Physical Medicine and Rehabilitation at Harvard Medical School and a physiatrist in the Department of Physical Medicine and Rehabilitation at Spaulding Rehabilitation Hospital. He is National Medical Director of Sevita Specialized Health and Rehabilitation (formerly NeuroRestorative) as well as Medical Director for Sevita's Massachusetts and Rhode Island programs. He is Medical Director of Community Rehab Care in Watertown, MA, a community-based outpatient rehabilitation and support services program for adults and children with disabilities. From 1983-1993, while on the faculty of Tufts University School of Medicine, Dr. Glenn was the Director of the Brain Injury Program at Greenery Rehabilitation Center. From 1993 through 1997, Dr. Glenn served as Professor and Chairman of the Department of Rehabilitation Medicine at Boston University School of Medicine and Chief of Rehabilitation Medicine at Boston Medical Center. He joined the staff at Spaulding Rehabilitation Hospital in 1998 and was the Project Director of the Spaulding/Partners Traumatic Brain Injury Model System, a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research, from 1998-2012. Dr. Glenn was editor of the "Update on Pharmacology" column of Journal of Head Trauma Rehabilitation from its inception in 1985 until 2013 and is now Editor Emeritus. He has published more than 60 peer-reviewed journal articles and book chapters and delivered hundreds of presentations on topics related to brain injury rehabilitation.

Jennifer Godfrey is the senior CWON on the Spaulding Rehabilitation Wound Care Team. Her work includes providing consultation and care for patients with complex wounds, and offering educational support for bedside nurses and other clinicians performing wound care.

Brian Harris is the Co-Founder and CEO of MedRhythms; a digital therapeutics company focused on the intersection music, neuroscience and technology. Brian is a board-certified music therapist and one of 350 Neurologic Music Therapist Fellows in the world. Brian's clinical work is focused at Spaulding Rehabilitation Hospital in Boston, USA where he created and implemented their first inpatient full time Neurologic Music Therapy program, specializing in Traumatic Brain Injury, Stroke, and neurologic disease and built this program to be the most comprehensive NMT program in the country. Brian is also the Co-Founder of the Arts & Neuroscience group at the American Congress of Rehabilitation Medicine and sits on the Advisory Council of the Academy of Neurologic Music Therapy. He has been an invited speaker at venues throughout the world including: the American Association of Neurological Surgeons, Harvard Medical School, The Metropolitan Museum of Art, the American Congress of Rehabilitation Medicine, Stanford University, Berklee College of Music, The Neurology Foundation of India, and Google. Brian is an author on multiple publications related to music and rehabilitation and is listed as an inventor on several patents related to MedRhythms digital therapeutic platform. His work has also been featured in Forbes, CNBC, The Huffington Post, Rolling Stone, TechCrunch, Pitchfork, Mashable, The Boston Herald, XConomy, MedTech Boston and on Chronicle Boston. Brian has been named to MedTech Boston's 40 Under 40 Healthcare Innovators and Top 100 Innovation CEOs by World Biz Magazine.

Marika Hess, MD is an instructor in Physical Medicine and Rehabilitation at Harvard Medical School. She completed her Physical Medicine and Rehabilitation residency at Tufts, School of Medicine. She is board certified in Physical Medicine and Rehabilitation, Spinal Cord Injury Medicine and Hospice and Palliative Medicine. Dr. Hess has spent her career taking care of patients with spinal cord injury. Her clinical duties include providing lifelong rehabilitative and medical care from the onset of a patient's injury throughout their lifetime. She oversees patients' rehabilitation course during their initial hospitalization and provides lifelong medical management, counseling, and education to her patients and their families.

Leigh Hochberg, MD, PhD is the *L. Herbert Ballou University Professor of Engineering and Professor of Brain Science* in the School of Engineering and Carney Institute for Brain Science at Brown University; *Director,* Dept. of Veterans Affairs RR&D Center for Neurorestoration and Neurotechnology (CfNN) in Providence, Rhode Island; and a Neurointensivist and Vascular Neurologist at Massachusetts General Hospital and *Senior Lecturer on Neurology* at Harvard Medical School. He also directs the MGH Center for Neurotechnology and Neurorecovery (CNTR) and is the *IDE Sponsor-Investigator* of the BrainGate clinical trials, conducted by a consortium of scientists and clinicians at Brown, Emory University, MGH,



Providence VA, Stanford, and University of California, Davis. Dr. Hochberg's research focuses on the development and testing of novel neurotechnologies to help people with paralysis and other neurologic disorders. Dr. Hochberg is a Fellow of the American Academy of Neurology and the American Neurological Association. His research with the collaborative BrainGate team has been honored with the Joseph Martin Prize in Basic Research, the Herbert Pardes Prize for Excellence in Clinical Research, the first Israel Brain Technologies international B.R.A.I.N. Prize, presented by President Shimon Peres, the Derek Denny-Brown Young Neurological Scholar Award, the CERF Prize in Medical Engineering, and the Paul B. Magnuson Award. Dr. Hochberg's BrainGate research, which has been published *Nature, Lancet, Science Translational Medicine, eLife, the Journal of Neuroscience, the Journal of Neural Engineering,* and others, is supported by the Rehabilitation R&D Service of the U.S. Department of Veterans Affairs, the National Institutes of Health including the BRAIN Initiative/NINDS and NIDCD, and philanthropies including the ALS Association, the American Heart Association, and the Cerebral Palsy Alliance Research Foundation.

M. Alexis laccarino, MD is a physiatrist and an Assistant Professor in the Department of Physical Medicine and Rehabilitation at Harvard Medical School with clinical interest in sport and blast related mild traumatic brain injury. She graduated with a Bachelor of Science from Georgetown University and completed her medical degree at Georgetown School of Medicine in 2011. Dr. laccarino's current research interests are in novel approaches to recovery after mild TBI and the effects of placebo on mild TBI. Dr. laccarino is board certified in Physical Medicine and Rehabilitation with subspecialty certification in Brain Injury Medicine. She provides clinical care in the MGH Youth Sport Concussion Clinic, the MGH Home Base Program for military veterans with TBI, and the MGH/NFLPA Trust Brain and Body Program for retired professional football players.

Grant Iverson, PhD is Professor in the Department of Physical Medicine and Rehabilitation at Harvard Medical School. He serves as the Associate Director of the Traumatic Brain Injury Program at Home Base, A Red Sox Foundation and Massachusetts General Hospital Program. He also serves as the Director of the MassGeneral Hospital for Children™ Sports Concussion Program. As a clinician scientist, he has an internationally-recognized research program in two broad areas: (i) outcome from mild traumatic brain injury in athletes, civilians, military service members, and veterans; and (ii) improving the methodology for assessing and identifying mild cognitive impairment. He is a leading proponent of a biopsychosocial model for both good and poor outcome from mild traumatic brain injury. He has published more than 340 articles, reviews, and book chapters. Dr. Iverson served as the Chair for the Canadian Psychological Association Section on Clinical Neuropsychology from 2003-2010. He was a Member of the Board of Governors of the International Neuropsychological Society from 2008-2011. He is a member of the Board of Governors of the International Brain Injury Association (2012-2017). He served as a consensus panel member for the 3rd and 4th International Conferences on Concussion in Sport in Zurich, Switzerland in 2008 and 2012, and the 5th International Conference in Berlin in 2016. He served as an Advisor to the Neurocognitive Disorders Workgroup (Traumatic Brain Injury) for the Diagnostic & Statistical Manual of Mental Disorders, 5th Edition (DSM-V). He also served as a founding member of the Traumatic Brain Injury Subcommittee of the Defense Health Board, a civilian advisory board to the United States Secretary of Defense. He served as the President of the National Academy of Neuropsychology in 2015 and continues to be a member of their Board of Governors.

Teresa Jacobson Kimberley, PT, PhD, FAPTA is Professor and Director of the Brain Recovery Lab, in the Department of Physical Therapy in the School of Health and Rehabilitation Sciences at the MGH Institute of Health Professions in Boston, MA. She also serves as a Research Associate in the Department of Neurology at Mass General Hospital, at Spaulding Rehabilitation Hospital, and Harvard Medical School. Her lab's focus is to understand the pathophysiology of motor impairment and develop novel rehabilitation interventions for neurologic disorders. She has over 15 years of experience leading clinical trials investigating novel neuromodulatory interventions in people with neurologic diseases.



Swathi Kiran, PhD, CCC-SLP is the James and Cecelia Ying Professor of Neurorehabilitation in the Department of Speech and Hearing Sciences and the Founding Director for the Center for Brain Recovery at Boston University. The mission of the Center for Brain Recovery is to study neurological disorders in the brain while focusing on real outcomes for the patient. She has over 140 peer-reviewed papers in these fields and has been funded by NIH and the ASH Foundation. She is the Board Chair for the Academy of Aphasia, and Board Member for the National Aphasia Association, and the American Speech Language Hearing Foundation. She is the co-founder and scientific advisor for Constant Therapy Health, a software platform for rehabilitation tools after brain injury. Dr. Kiran is also the Director for Strategic Planning Implementation at the Office of the Provost at Boston University.

Sasha Knowlton, MD is an associate professor and the Cancer Rehabilitation Medical Director in the Department of Physical Medicine and Rehabilitation (PM&R) at the UNC School of Medicine. Dr. Knowlton provides cancer rehabilitation services for UNC Health in Chapel Hill.

Dana Kotler, MD is an instructor in Physical Medicine and Rehabilitation at Harvard Medical School. She is a board-certified physiatrist and sports medicine physician. Formerly a dancer, then a Pilates instructor, she is a graduate of the Albert Einstein College of Medicine, completed residency in Physical Medicine and Rehabilitation at the Rehabilitation Institute of Chicago/Northwestern University, and sports medicine fellowship at Spaulding Rehabilitation Hospital/Harvard Medical School. She founded the Spaulding Cycling Medicine Program, which uses a collaborative evaluation approach to diagnose and manage medical problems in cyclists, and has seen hundreds of cyclists in the monthly "bike clinic." She has presented widely on the topic of cycling medicine, including at the Medicine of Cycling Conference (USA) and Science & Cycling Congress (Europe), and the Medicine Africa Cycling Congress (Africa), as well as locally at multiple grand rounds and in the community. She authored the review article "Prevention, Evaluation, and Rehabilitation of Cycling-Related Injury" for Current Sports Medicine Reports in 2016 and continues to write on cycling medicine topics.

Edelmira Kruger, PhD is an Instructor in Psychology, part-time, in the Department of Psychiatry at Harvard Medical School. Throughout her academic career, she has maintained a dual interest to provide clinical care and to mentor young clinicians. Her areas of experience encompass diagnosis and treatment of adult patients from different cultures and levels of functioning, mental health, and education in outpatient and inpatient clinical settings. She has also treated survivors and perpetrators of early trauma. Her other major role involves training graduate students and colleagues by providing supervision, teaching, consultation, and interdisciplinary collaboration. She has a natural ability to bridge all social, hierarchical, and economic divides. Developmental theory informs her clinical practice. A strong background in human development, along with experience in child therapy, have enhanced her understanding of the treatment process across the life span. Her teaching style endeavors to engage and compel students to think of the complexities in the field of mental health. Topics focus on treatment in the context of ethics, particularly boundary violations, trauma, and cross-cultural psychology. She aims to evaluate the effectiveness of psychotherapeutic interventions and aspire to do research on the impact of those interventions on brain plasticity.

David Lin, MD is a critical care neurologist and neurorehabilitation specialist at Massachusetts General Hospital. He is the Director of the MGH NeuroRecovery Clinic. He is also an Instructor in Neurology at Harvard Medical School. In his clinical practice, Dr. Lin cares for patients with acute neurologic injuries including stroke, brain hemorrhage, traumatic brain injury, seizures, and spinal cord injury in the MGH Neurosciences Critical Care Unit and he provides recommendations to facilitate best possible recovery in the MGH NeuroRecovery clinic. Dr. Lin's research involves understanding mechanisms of brain plasticity in patients order to guide recovery after stroke and other acute brain injuries. Dr. Lin received his B.S. with honors in Mathematics and Computational Science from Stanford University. He graduated Magna Cum Laude from the Harvard-MIT Health Sciences and Technology Pathway at Harvard Medical School in 2013. He completed his residency in Neurology at Massachusetts General Hospital and Brigham and Women's



Hospital during which he was recognized by the Harvard Medical School class for excellence in clinical teaching. He completed dual fellowships in Neurorecovery at Mass General and Spaulding Rehabilitation Hospital and Neurocritical Care at Mass General and Brigham and Women's Hospital.

Emmaleigh Loyer, MS, CCC-SLP is a licensed Speech-Language Pathologist specialized in cognitive rehabilitation. Emmaleigh holds a Masters in Communication Sciences & Disorders from the MGH Institute of Health Professions in Charlestown, MA. After completing her Clinical Fellowship at Massachusetts General Hospital, Emmaleigh worked at Spaulding Rehabilitation Hospital with the adult neurogenic population in the outpatient and inpatient rehabilitation settings. Currently, Emmaleigh is the Supervisor for Speech-Language Pathology and Audiology at the University of Vermont Medical Center. Emmaleigh's primary clinical and

Dawn Lucier, PT, MEd is a Program Manager within Mass General Brigham's Global Advisory service. She is responsible for working with internal and external program management teams to bring high quality healthcare internationally. Dawn has over 30 years of experience as a physical therapist within the acute rehabilitation setting and continues to provide clinical care to patients at Spaulding Rehabilitation Hospital. She has worked with international colleagues for eight years, providing best practice rehabilitation education and guidance for hospital design, service line delivery, and patient centered care throughout the continuum of care. Dawn holds a Master of Education in Organizational Management from Endicott College and a Bachelor of Science in Physical Therapy from Boston University College of Health and Rehabilitation Sciences: Sargent College.

Nicole Mazwi, MD received her medical degree from the Mayo Clinic in Rochester, Minnesota. She completed her internship at the Johns Hopkins Hospital/Sinai Hospital of Baltimore Internal Medicine Residency program and her Physical Medicine and Rehabilitation residency at the Spaulding Rehabilitation Hospital (SRH)/Harvard Medical School program where she was Chief Resident. Dr. Mazwi completed a fellowship in Neurologic Rehabilitation at SRH and Massachusetts General Hospital (MGH) and joined the staff at both hospitals in 2012. Dr. Mazwi was the first-ever dedicated consult physiatrist in the MGH Neurologic Intensive Care Unit. She served as the Director of the Harvard Medical School Brain Injury Medicine Fellowship Program and the Co-Director of the Harvard Neurorecovery fellowship at MGH and SRH. Outside of the hospital, she is a Neurotrauma Consultant for the National Football League. In October of 2021 she joined the staff at the University of Washington as an associate professor and serves as the Director of Stroke Rehabilitation. Her research interests are centered around early rehabilitation intervention for brain injury and stroke patients in the neurocritical care setting.

Scott McGinnis, MD is an Assistant Professor of Neurology at Harvard Medical School, cognitive/behavioral neurologist at the BWH Center for Brain Mind Medicine, investigator in the BWH Center for Alzheimer Research and Treatment and investigator in the MGH Frontotemporal Disorders Unit. He completed his residency in neurology in the MGH/BWH program and fellowship in behavioral neurology and neuropsychiatry at BWH. His career activities comprise patient care, education of students, residents, and fellows, and clinical research studies on aging and neurodegenerative cognitive disorders. He has served as a site principal investigator on numerous industry and NIH-sponsored clinical therapeutic studies targeting Alzheimer disease and frontotemporal lobar degeneration. His research interests include atypical presentations of Alzheimer disease and non-Alzheimer cognitive neurodegenerative disorders.

León Morales-Quezada, MD, MSc, PhD is an Assistant Professor of Physical Medicine and Rehabilitation at Harvard Medical School, the Associate Research Director of the Spaulding Neuromodulation Center in the Department of Physical Medicine & Rehabilitation at Spaulding Rehabilitation Hospital and Massachusetts General Hospital. He is also the Director of the Neuromodulation Clinic, Spaulding Rehabilitation Hospital



Dawn Neumann, PhD, FACRM is an Associate Professor at Indiana University School of Medicine in the Department of Physical Medicine and Rehabilitation. She has a PhD in Rehabilitation Science from SUNY Buffalo, NY and her MA in Psychology from Rutgers, NJ. Her research aims to advance the understanding and treatment of social cognition and emotion dysregulation deficits after traumatic brain injury. She serves on the *Journal of Head Trauma Rehabilitation* editorial review board, and has received several recognitions, including the ACRM Deborah Wilkerson Award, ACRM Mitchell Rosenthal Award, and the Joshua Cantor Scholar Award.

Therese O'Neil-Pirozzi, ScD is an Associate Professor of Communications Sciences and Disorders at the Bouve College of Health Science, Northeastern University. She has over 20 years of clinical and research experience working with adults of all ages, with and without neurologic diagnoses that include stroke, traumatic brain Injury (TBI), mild cognitive impairment (MCI), and dementia (i.e. Alzheimer's Disease, fronto-temporal dementia, vascular dementia, and mixed dementia). Neuroplasticity and cognitive health, function, and quality of life have been integral components of much of her research, using such neuroimaging technologies as functional magnetic resonance imaging (fMRI), functional near-infrared spectroscopy (fNIRS), and electroencephalography (EEG), in addition to noninvasive brain stimulation (i.e. transcranial direct current stimulation) to modulate memory function in adults with and without traumatic brain injury. The bulk of her research has been with adults who have sustained a TBI, with a focus on cognitive health, function, memory, and quality of life. While she completed studies with these individuals at all ages and stages post-injury, she primarily focused on research with individuals who are more than one-year post-injury and who therefore present with 'chronic' TBI.

Sabrina Paganoni, MD, PhD is an Associate Professor of PM&R at Harvard Medical School / Spaulding Rehabilitation Hospital. She is also the Co-Director of the Neurological Research Institute at the Massachusetts General Hospital and physician scientist at the Healey & AMG Center for ALS. Her research focuses on clinical trials and therapy development for ALS. She has served as PI of several ALS clinical trials and has been using novel trial designs, novel endpoints, and digital technology tools to innovate the way investigational products are tested in ALS. She is the co-PI of the HEALEY ALS Platform Trial, the first platform trial for ALS in the world. She recently reported the positive results of the CENTAUR trial and is the co-Chair of the global PHOENIX trial. Her research has been funded by the NIH, non-profits, and industry; she published more than 100 peer-reviewed manuscripts and received several awards for her work including the 2021 Top 10 Clinical Research Achievement Award.

Ginger Polich, MD is an assistant professor in PM&R at Harvard Medical School and a clinician and researcher at Spaulding Rehabilitation Hospital and Brigham and Women's Hospital. She received a BA in Sociocultural Anthropology from Amherst College, a MS from UC-Berkeley, and a MD from UC-San Francisco. Dr. Polich completed her Physical Medicine and Rehabilitation residency and her Brain Injury Medicine fellowship at Spaulding Rehabilitation Hospital. She is interested in neurorecovery, resiliency and psychological disorders after brain injury, and functional neurological disorders.

Craig Rovito, MD is an instructor in Physical Medicine and Rehabilitation at Harvard Medical School. He is a brain injury physiatrist who graduated residency in June 2020 where he served as chief resident and began his academic career at Spaulding Rehabilitation Hospital. Craig currently serves as the residency training director for the Spaulding Rehabilitation Hospital/Harvard Medical School Physical Medicine and Rehabilitation program. Clinically, he is interested in ultrasound, musculoskeletal medicine, spasticity, traumatic brain injury, concussion, and stroke. Craig also serves as an unaffiliated neurotrauma consultant for the National Football League. His primary interests are clinical with a secondary interest in outcomes related research as it pertains to severe traumatic brain injury, stroke, and novel approaches to spasticity. Through this research interest, he has orchestrated multiple research projects using the Uniform Data Systems database and examined rehabilitation outcomes related to stroke territory, predictors of recovery after TBI, and comorbidities related to TBI.



Sunil Sabharwal, MD is Chief of Spinal Cord Injury Service at the VA Boston Health Care System, and Spinal Cord Injury Medicine Fellowship Director and Associate Professor of Physical Medicine and Rehabilitation at Harvard Medical School. Dr. Sabharwal serves on the ACGME Review Committee for Physical Medicine and Rehabilitation and on the Board of Directors of the American Board of Physical Medicine and Rehabilitation. He is the author of a book on essentials of spinal cord medicine, which is a well-regarded resource for clinicians and trainees in the field.

Sean Savitz, MD is the Director of the UTHealth Institute for Stroke and Cerebrovascular Disease at UTHealth (Stroke Institute) and conducts both animal and clinical research in cerebrovascular disease. One of the principal goals of his research is to investigate and develop novel therapies and healthcare delivery models for stroke. He has designed and led multicenter trials both in acute stroke and in stroke recovery. He also oversees research in the Stroke Institute, which consists of over 40 participating faculty, nine stroke fellows, nine research coordinators, and cores for data management, biostatistical support, and biological specimens. He runs a T32 training grant in cerebrovascular disease and has developed and supervised dozens of retrospective and prospective studies, most of which his fellows publish as first authors. The Institute is built on the concept of team science and multidisciplinary collaboration in various areas of cerebrovascular disease. Overall, he has a demonstrated record of leading both clinical and laboratory research in stroke, having acquired considerable experience in the operational management of clinical research studies and clinical trials, and having the necessary expertise to serve on this grant proposal.

Chloe Slocum, MD, MPH is a practicing spinal cord injury physician, Director of Health Policy and Associate Director of Quality at Mass General Brigham Spaulding Rehabilitation Network, and Assistant Professor in Harvard Medical School's Department of Physical Medicine and Rehabilitation. Her clinical work centers around optimizing long-term health for individuals with paralysis and her research is focused on assessing functional outcomes following rehabilitation, access to high-quality primary and specialty care, and systems of health care delivery across the post-acute care continuum for individuals with disabilities. Dr. Slocum has published research on functional outcomes following traumatic spinal cord injury and has lectured nationally on topics ranging from spinal cord injury outcomes to health policy and payment reform to clinician well-being.

Hannah Steere, MD is an instructor in PM&R at Harvard Medical School and a general physiatrist at Spaulding Rehabilitation Hospital and Massachusetts General Hospital. She is originally from upstate New York, attended the University of Pittsburgh School of Medicine, and is a graduate of the Harvard Medical School/Spaulding Physical Medicine and Rehabilitation Residency Program. Her practice includes inpatient physiatry consults with a focus on neurorehabilitation and outpatient traumatic brain injury. She has also participated in a multidisciplinary Parkinson's Disease clinic and has trained with the Parkinson's Foundation.

Dorothy Tolchin, MD is an Instructor in PM&R, part-time, at Harvard Medical School. She is the Director of Medical Student Education for the Harvard Medical School/Spaulding Rehabilitation Hospital Department of PM&R and directs didactics for the department's PM&R residency program in the areas of disability, neuromuscular medicine, and palliative care. Dorothy is the lead investigator on multiple research projects focused on optimizing trainee education in both the medical school and residency settings. Dorothy has been an active member of the AAP since she was a resident. She currently serves as a member of the AAP Medical Student Educators Council and as chair of the Palliative Care/Physiatry Task Force.

Jenna Tosto-Mancuso, DPT is a physical therapist, neurological clinical specialist, and the Clinical Director of the Division of Rehabilitation Innovation in the Department of Rehabilitation and Human Performance at Mount Sinai Hospital in New York. Jenna's clinical and research interests are largely centered in evaluating and accelerating the adoption of novel technology into neurological rehabilitation clinical practice. She has a special interest in precision



neurorehabilitation and leveraging novel innovations to reduce fragmentation of care and optimize functional motor recovery following acquired brain injury and spinal cord injury.

Rodrigo Valderrabano, MD is an Endocrinologist and Assistant Professor of Medicine at the Brigham and Women's Hospital at the Harvard Medical School. He is the Medical Director for the Research Program in Men's Health Aging and Metabolism where he oversees and conducts research on function promoting therapies including exercise in men and women. Dr. Valderrabano has a clinical and research focus on metabolic bone disease and aging. During his time as a research fellow at Stanford University, he was awarded the Endocrine Society's Outstanding Abstract award and the American Society for Bone and Mineral Research's Young Investigator award for his work studying the links between bone health and hematopoiesis in older men. Previously at the University of Miami, Dr. Valderrabano was the director of the Endocrinology Division Bone Clinic, with a focus on musculoskeletal disease. The goal of his treatment strategies such as rehabilitation and exercise for osteoporosis, sarcopenia, frailty and other musculoskeletal diseases.

Eve Valera, PhD is an Associate Professor of Psychiatry at Harvard Medical School and a Research Scientist at Massachusetts General Hospital. As a pioneer in the field, Dr. Valera's research is groundbreaking with her studies being among the first to look at the prevalence of brain injury, and its association with cognitive and psychiatric difficulties in women who had experienced intimate partner violence. She was also the first to use neuroimaging to investigate the effects of partner inflicted brain injury on neural connectivity and cognitive function in these women. She was awarded the prestigious Robert D. Voogt Founders Award from the North American Brain Injury Society as well as the inaugural Women Making History Award from Safe Living Spaces. In addition to her many publications and speaking engagements to the academic world nationally and internationally, Dr. Valera has translated her research on the effects of these often-overlooked brain injuries into education and training for police officers, judges, ER clinicians, domestic violence advocates, and others who work with women in the aftermath of violence. She is truly passionate about making change in this area and raising awareness about this global public health crisis.

Monica Verduzco-Gutierrez, MD is an accomplished academic Physiatrist and Professor and Distinguished Chair of the Department of Rehabilitation Medicine at the Long School of Medicine at the University of Texas Health Science Center at San Antonio. She is also the Medical Director of Critical Illness Recovery and Neuro Rehabilitation at Warm Springs Rehabilitation Hospitals in San Antonio and Chief of the Physical Medicine and Rehabilitation service line at the University Health Hospital system. She is a fellow member of the American Academy of Physical Medicine and Rehabilitation, as well as on the board of trustees of the Association of Academic Physiatrists. Dr. Gutierrez excitedly moved to San Antonio to lead the distinguished Department of Rehabilitation Medicine in 2020. Her area of clinical expertise is the care of patients with traumatic brain injury, stroke rehabilitation, interventional spasticity management, and post-acute sequelae of SARS-CoV-2 (PASC). She has over 100 publications in these areas, as well as topics related to health equity and inclusion. She is also a sub-investigator in the NIH RECOVER trial through her institution, which is one of 17 hubs in the country to be part of the initiative to study Long COVID and runs clinical trials related to spasticity management.

Paul Winston, MD is a Clinical Associate Professor with the University of British Columbia. He is the Past President of the Canadian Association of Physical Medicine and Rehabilitation. Medical Director of Rehabilitation and Transitions for Island Health and Medical Lead of Rehabilitation Medicine at Victoria General Hospital. He completed his residency in Physical Medicine and Rehabilitation at the University of Toronto and obtained his EMG exam diploma from the Canadian Neurological Sciences Foundation. Dr. Winston is a full-time clinician who researches Spasticity management and complex regional pain syndrome. He received an AAP Best Paper Faculty Award in 2023 and 2024, the ISPRM Haim Ring award for educational innovation for the Canadian Advances in Neuro-orthopedics Consortium, which he co-founded and the CAPMR Award of Merit in 2021.



Michael Young, MD, MPhil is an Instructor in Neurology at Harvard Medical School and a neurologist and brain injury specialist at Massachusetts General Hospital. He is the Associate Director of the MGH NeuroRecovery Clinic. After earning his MD from Harvard Medical School and MPhil in Philosophy from the University of Cambridge, Dr. Young completed Neurology residency and a Neurorecovery fellowship at Mass General Brigham and Spaulding Rehabilitation Hospital, specializing in longitudinal care of patients recovering from severe brain injuries and disorders of consciousness. His research is focused on improving care systems through neurotechnology, neuroethics and neuroscience, and as a member of the Lab for NeuroImaging of Coma and Consciousness, is devoted to clinical translation of neurotechnologies to detect, predict and improve recovery of consciousness and function in patients following brain injury.

Ross Zafonte, DO is the President of Spaulding Rehabilitation Network. He is the Earle P. and Ida S. Charlton Professor and Chair of the Department of Physical Medicine and Rehabilitation (PM&R) at Harvard Medical School as well as Chief of PM&R at Massachusetts General Hospital and Brigham and Women's Hospital. Dr. Zafonte's textbook, *Brain Injury Medicine*, is considered one of the standards in the field of brain injury care. His current research is funded by the NIH, DOD and NIDRR and primarily focuses on understanding mechanisms of recovery after Brain and Spinal Cord Injury. He holds a position at the RedSox/MGH HomeBase program for military veterans, is the Principal Investigator on the Football Players Health Study at Harvard University and sees patients in numerous clinics in the Boston community including former NFL athletes as part of a special MGH initiative known as the Brain and Body Program.