

## Curriculum Vitae

**Date Prepared:** August 1, 2021  
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### Education:

1989	B.A. with distinction	Communication Disorders	University of New Mexico
1991	M.S.	Speech-Language Pathology	Emerson College, Boston, MA
1999	M.D.; A.O.A.	Medicine	Albert Einstein College of Medicine, Bronx, NY
2007	Certificate	Program for Educators in Health Professions	Harvard Macy Institute, Boston, MA
2008	Certificate	Physicians Leadership Program	Harvard Business School, Cambridge, MA and Brigham and Women's Hospital, Boston, MA

### Postdoctoral Training:

1999-2000	Intern	Medicine	Beth Israel Medical Center, NY, NY
2000-2003	Resident	Neurology	Brigham and Women's and Massachusetts General Hospitals
2003-2005	Fellow	Epilepsy	Brigham and Women's Hospital
2006-2007	Fellow	Medical Education	Harvard Medical School

### Faculty Academic Appointments:

7/2003-2010	Instructor	Neurology	Harvard Medical School
7/2010 – 2020	Assistant Professor	Neurology	Harvard Medical School
1/2021	Associate Professor	Neurology	Harvard Medical School
8/2021	Professor	Neurology	New York Medical College
8/2021	Chair	Neurology	New York Medical College

#### **Appointments at Hospitals/Affiliated Institutions:**

1991-1994	Speech Language Pathologist	Aphasia Division	Braintree Rehabilitation Hospital
2003-2006	Consultant	Neurology	McLean Hospital
2003-2017	Assistant Neurologist	Neurology	Massachusetts General Hospital (non-voting)
2003-2021	Neurologist	Neurology	Brigham and Women's Hospital
2005-2021	Neurologist	Neurology	Brigham and Women's Faulkner Hospital
2006-2021	Consultant	Internal Medicine, Neurology	Hebrew Rehabilitation Center
2021-	Director	Neurology	Westchester Medical Center and WMC Health Network

#### **Other Professional Positions:**

2007-2010	Member Professional Advisory Board	Epilepsy Foundation of MA and RI
2009	Consultant Standard Setting Group	National Board of Medical Examiners
2010-2018	Member, Board of Directors	Epilepsy Foundation of New England
2010-	Volunteer Neurologist	Indian Health Services
2015-2018	Chair of Program Committee	Epilepsy Foundation of New England
2015-	Member of the Board	National Board of Medical Examiners
2016-	Member, Pearl Hurwitz Award Committee	Arnold P. Gold Foundation
2017-	Member, Stemmler Fund Steering Committee	National Board of Medical Examiners
2018-	Chair, Professional Advisory Board	Epilepsy Foundation of New England

#### **Major Administrative Leadership Positions:**

##### **Local**

2002-2007	Co- Neurology Site Director, Brigham and Women's Hospital, Patient Doctor II, IN 709M	Harvard Medical School
2005-2006	Associate Director, Neurology Clerkship	Harvard Medical School
2005-2010	Director, Epilepsy and EEG	Faulkner Hospital
2007-2010	Associate Program Director, Neurology Residency	Brigham and Women's and Massachusetts General Hospitals

2007-2015	Cannon Society Director, Neuroanatomy Lab for Human Nervous System and Behavior	Harvard Medical School
2007-2015	Co-Neurology Director, Patient Doctor II Course	Harvard Medical School
2008-2010	Site-Director, Neurology Clerkship	Harvard Medical School
2008-2016	Associate Director, BWH Site Director, Patient-Doctor III	Harvard Medical School
2009-2013	Co-Director and Founder, Integrative Mind Brain Medicine Course for 3 <sup>rd</sup> year Harvard Medical Students	Brigham and Women's Hospital
2010	Co-Director, Epilepsy Simulation Course	Brigham and Women's Hospital
2010-2015	Program Director, Neurology Residency	Brigham and Women's and Massachusetts General Hospitals
2010-2017	Director and Founder, Spanish Neurology Clinic	Brigham and Women's Hospital
2011-	Director and Founder, Annual Neurology Residency Simulation Course	Brigham and Women's Hospital
2012-	Peer Supporter of Center for Professionalism and Peer Support	Brigham and Women's Hospital
2014-	Faculty Chair, Co-Leader, Center of Expertise in Medical Education	Partners Healthcare - Mass General Brigham
2015-2019	Cannon Society Director for Mind Brain Behavior	Harvard Medical School
2015-	Chair, Clinical Competency Committee for Neurology Residency	Brigham and Women's and Massachusetts General Hospitals
2015-	Co-Director, The Developing Physician I	Harvard Medical School
2015-	Co-Director, The Developing Physician II	Harvard Medical School
2015-2019	Harvard Neurology Clerkship Director	Harvard Medical School
2015-	Vice Chair for Education, Neurology	Brigham and Women's Hospital
2015-	Co-Director, Annual Clinical Teaching Skills Course for Residents and Fellows (biannual starting in 2019)	Mass General Brigham
2015-	Co-Director Annual Course, Neurology for the Non-neurologist CME	Harvard Medical School
2015-	Co-Director Annual Course, Intensive Review of Neurology CME	Harvard Medical School
2015-2018	Co-Director, Medical Education Certificate Program for Neurology Residents	Brigham and Women's and Massachusetts General Hospitals
2016-	Executive Committee Member, Brigham Education Institute	Brigham and Women's Hospital
2017-2018	Director, Neurosciences First Friday Focus on Feedback	Brigham and Women's Hospital
2017	Director, Faculty Development Cross Cultural Communication	Brigham and Women's Hospital
2017-	Co-Leader, Red House, Mentorship and Feedback Program for Neurology Residents	Brigham and Women's and Massachusetts General Hospitals
2018-	Co-Founder and Director of Neurology Seminar Series, Weekly Neurology Grand Rounds	Brigham and Women's Hospital
2020-	Assistant Course Director, Harvard Asia-Pacific Neuro-Oncology CME Conference	Harvard Medical School
2020-	Co-Leader Neurology Fellowships	Mass General Brigham

2021 Co-Director, Neurology Board Review Harvard Medical School

### Regional

2008-2017 Director, Stanley Cobb Assembly Boston Society for Neurology and Psychiatry

### National

2011 Course Director, Neurology Clerkship Directors Boot Camp Association of University Professors of Neurology  
2017 Course Co-Director, Epilepsy TalemHealth  
2015- Course Director, Annual Epilepsy Course American Academy of Neurology  
2019- Course Co-Director, Annual Education Leadership Course American Academy of Neurology

### Committee Service:

#### Local

2004- Neurology Resident Selection Committee; I have interviewed over 1400 medical students applying for a neurology residency Brigham and Women's and Massachusetts General Hospitals  
2010-2015 Chair  
2007-2013 Physicians Council, Member Brigham and Women's Hospital  
2007-2013 Work Committee, Member Brigham and Women's Hospital  
2008-2015 Education Committee, Member Brigham and Women's Hospital  
2008 ED2 LCME Committee, Member Harvard Medical School  
2009-2010 Neurosciences Institute Education Committee Brigham and Women's Hospital  
2009 - 2012 Curriculum Committee, Subcommittee on Assessment of Students, Member Harvard Medical School  
2010-2011 Education Task Force, Member Brigham and Women's Hospital  
2012-2015 Course and Clerkship Review Committee, Member Harvard Medical School  
2012-2015 Partners Graduate Medical Education Committee, Member Partners Healthcare  
2015- Diversity Award Advisory Committee, Member Harvard Medical School  
2015-2016 Clinical Skills Assessment Working Group, Member Harvard Medical School  
2015-2019 Curriculum Committee, Member Harvard Medical School  
2015- Neurology Quality Improvement Committee, Member Brigham and Women's Hospital  
2016-2017 Year III Steering Committee, Member Harvard Medical School  
2016-2017 Bridging Undergraduate and Graduate Medical Education Task Force, Member Harvard Medical School and Partners Healthcare  
2016-2019 Admissions Committee Harvard Medical School

2017	Special Review Committee for Plastic Surgery Residency, Member	Partners Healthcare Graduate Medical Education
2018-2019	Neurology Wellness Committee, Member	Brigham and Women's Hospital

**Regional**

2010-2011	Public Policy Committee, Member	Epilepsy Foundation of New England
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**National**

2009	AAMC Annual Meeting, Abstract Review for Scholars Innovations	Harvard Macy Institute
2011-2012	USMLE Step 1 Behavioral Sciences Test Material Development Committee	National Board of Medical Examiners
2011-2017	Self-Assessment Examination, Item Writer	American Academy of Neurology
2013-2017	USMLE Step 1 Interdisciplinary Review Committee (IRC)	National Board of Medical Examiners
2018-2013	Chair, Step 1 USMLE IRC Epilepsy Milestone Task Force	National Board of Medical Examiners Accreditation Council for Graduate Medical Education
2017	Clinical Neurology Psychiatry Task Force	National Board of Medical Examiners
2018-	Stakeholder Council	American Board of Medical Specialties
2018	Forms Review Committee	National Board of Medical Examiners
2019	Chair Test Material Development Committee	National Board of Medical Examiners
2020	Abstract Reviewer	American Board of Medical Specialties 2020 Conference

**Professional Societies:**

2000-	American Academy of Neurology	
2008-2010		Chair, CNCD Work Group on LCME ED2
2009-2012		Undergraduate Education Subcommittee
2012		Science Reviewer (Neurologic Education)
2017-2019		At Large Topic Expert on Epilepsy/clinical Neurophysiology (EEG)
	2017	Epilepsy Topic Work Group
2003-2010	American Clinical Neurophysiology Society	
2003-	American Epilepsy Society	
2009		Member, Scientific Program Committee
2010-2011		Member, Membership Committee
2017-2019		Member, Annual Course Committee
2004-	Boston Epilepsy Society	
2004-	Boston Society of Neurology and Psychiatry	
2007-2008		Vice President
2008-2009		President

2005-	2009- Association University Professors of Neurology 2009-2012	Executive Council Member
2014-	The Academy at Harvard Medical School	Chair, Undergraduate education Committee

**Grant Review Activities:**

2010	Harvard Catalyst Innovations in Research for Type I Diabetes	Harvard Medical School
2015-	Co-Chair Bi-Annual Medical Education Grant	Partners Healthcare/Mass General Brigham
2016-	Stemmler Medical Education Grant	National Board of Medical Examiners

**Editorial Activities:**

**Ad hoc Reviewer**

European Neurology

Seizure

American Journal of Clinical Neurology

Neurology

International Journal of Neuroscience

Journal of Neurological Sciences

Annals of Neurology

Epilepsia

Epilepsy and Behavior

Journal of Pediatric Neurology

Annals of Neurology

Academic Psychiatry

2006-2009	Associate Editor	Neurology Board Review Manual
2009	Faculty Reviewer	First Aid for the Basic Sciences: General Principles. Ed. Le, T & Kendall Krause. 2009 McGraw Hill Co.
2009	Faculty Reviewer	First Aid for the Basic Sciences: Organ Systems. Ed. Le, T & Kendall Krause. 2009 McGraw Hill Co.

2009	Faculty Reviewer	First Aid, Q& A for the USMLE Step 1. Ed. Le, T & Bechis, S. 2009 McGraw Hill Co.
2010-	Reviewer	AAMC MedEdPORTAL
2014	Reviewer	Case Reports in Neurological Medicine
2018-	Peer Reviewer	UptoDate, Wolters Kluwer

### Other Editorial Roles

2012-	Associate Editor, Neurology	AAMC MedEdPORTAL
2014	Editor	Neurology Custom Curriculum, McGraw Hill
2015-2017	Editor	Weekly Curriculum, Scientific American Neurology
2015-2017	Editor	Neurology, Scientific American
2018	Editor	Neurology for the Non-Neurologist. Medical Clinics of North America, Elsevier
2020-	Editorial Board Member	Journal of Neuroradiology, Elsevier

### Honors and Prizes:

1985, 1986	Excel Scholarship	University of New Mexico	Academic Achievement
1989	Citizenship Award	Police Athletic League	
1990, 1991	Graduate Advising Scholarship	Emerson College	
1990-1991	Assistantship Award in Thayer Lindsley Nursery for Hearing Impaired Children	Emerson College	
1990	Speech-Language Pathology Student Award	Edith Norse Rogers Memorial Veterans Hospital	
1993	Master Teacher Award	Archdiocese of Boston	
1995-1999	University Scholarship	Albert Einstein College of Medicine of Yeshiva University	
1998	Shodan	Shotokan Karate	1 <sup>st</sup> Degree Black Belt
1998	Elected to AOA	Albert Einstein College of Medicine of Yeshiva University	
1999	Andrew Doyle Award for Outstanding Neurology Student	Albert Einstein College of Medicine of Yeshiva University	
1999	Janet M. Glasgow Achievement Citation	Albert Einstein College of Medicine of Yeshiva University	Honor Graduate
2004	Excellence in Teaching Award	Harvard Medical School	

2006	Miyawaki Neuroanatomy Instructor of the Year Award	Harvard Medical School	
2008	A B Baker Teacher Recognition Award	American Academy of Neurology	
2009	Nominee, Harvard Medical School Faculty Prize for Excellence in Teaching (Years I and II)	Harvard Medical School	
2010	Bernard Lown Award for Excellence in Teaching	Brigham and Women's Hospital, Harvard Medical School	
2011	Nominee, Harvard Medical School Faculty Charles McCabe Faculty Prize for Excellence in Teaching (Years III and IV)	Harvard Medical School	
2011	Partners in Excellence Team Award	Partners Healthcare	Indian Health Services
2013	Nominee, Outstanding Program Director	Partners Healthcare	
2013	Best Clinical Instructor in Neurology	Harvard Medical School	
2013	Harold Amos Faculty Diversity Award	Harvard Medical School	
2013	Partners in Excellence Team Award	Partners Healthcare	Spanish Neurology Program
2013	Partners in Excellence Individual Award	Partners Healthcare	Innovation and Leadership
2014	Edward B Bromfield Award	Brigham and Women's Hospital	Excellence & Commitment to Patient Care, Teaching and Clinical Collaboration
2015	Program Director Recognition Award	American Academy of Neurology	
2015	Elected Fellow	American Academy of Neurology	Exemplary work and achievements in the neurosciences, clinical practice of neurology, academic/administrative neurology, in the AAN, and in the community.
2017	Distinguished Clinician	Brigham and Women's Hospital	Most accomplished practicing physicians on staff
2019	Barbara J. McNeil Faculty Award for Exceptional Institutional Service	Harvard Medical School	Exceptional service to Harvard Medical School and Harvard School of Dental Medicine and engaging others in institutional service



2021 Elected Fellow American Neurological Association

## **Report of Funded and Unfunded Projects**

### **Funding Information:**

#### **Past Funded**

- 2003-2005 Acute Neurochemical Changes and Pathophysiology of Neuronal Loss in Status Epilepticus and Epilepsy  
Brigham and Women's Hospital Institute for the Neurosciences Training Grant  
This goal of this study was to evaluate the pattern and risks associated with MRI changes seen in status epilepticus.
- 2004-2005 Efficacy and Tolerability of Levetiracetam Compared to Phenytoin after Supratentorial Neurosurgery  
UCB-Investigator Initiated  
Co-Investigator (\$10,000 – total direct costs)  
This project was a retrospective cohort study evaluating the use of levetiracetam compared to phenytoin in prophylaxis for prevention and risk of seizures, epilepsy, and side effects.
- 2006-2007 Neurology throughout the Year: A Pilot Program to Integrate a Technology Assisted Clerkship Experience  
Academy for Teaching and Learning, Curtis Prout Fellowship, Harvard Medical School  
This project involved developing an internet site to link curriculum objectives to e-based learning modules.

#### **Current Funded**

- 2018- Clinical Utility of a Smartphone-Based EEG  
Co-Investigator

#### **Training Grants and Mentored Trainee Grants**

- 2017-2020 Resident Satisfaction with Adult Neurology Residency Training: A Needs-Assessment Survey to help Improve the Residency Education Curriculum (The SATISFY Study)  
Co-PI (Mentoring Abbas Kharal, MD)  
National survey of advanced neurology residents to assess overall satisfaction with training in various areas of neurology.
- 2018-2020 Establishing the evidence- and consensus-base for the neurologic examination  
Co-PI (Mentoring James Hillis, MBBS, DPhil)  
International survey of neurologists to derive a consensus based neurologic examination based on evidence based medicine
- 2018-2020 BEI HLP Medical Education Microgrant Mentor, Brigham and Women's Hospital for "A Curriculum to Combat Neurophobia." (\$750) (Mentoring Sarah Conway, MD and Jeff Gluckstein, MD)
- 2019-2020 Neuroscience is Rewarding Intern Mentor, American Academy of Neurology  
This project is focused on mentoring a premedical student in neurology and investigating best practices in the management of epilepsy in college students (\$2,000) (Mentoring Liam Cleary)
- 2019-2020 BEI HLP Medical Education Microgrant Mentor, Brigham and Women's Hospital for "Comparing Bedside to Hallway Rounding in Neurology" - NEUrology ROundiNg Study (NEURONS) (\$3,500) (Mentoring Jackie Schulman, MD)

## Current Unfunded

- 2018- PI/ Premedical Advising Program for Neurology Staff  
Study of impact and efficacy of a premedical advising program for staff in the Department of Neurology at Brigham and Women's Hospital
- 2018- PI/ Patient and Doctor Expectations and Perceptions of Etiquette in Electronic Communications  
Survey of both patients and doctors in the Epilepsy Clinic at Brigham and Women's Hospital regarding their expectations around electronic communications.
- 2019 PI/Identifying System Failures and Teaching Students to Contribute to a Culture of Safety and Improvement (Mentoring Galina Gheilman, MD)

## Past Unfunded

- 2006-2007 Severely Refractory Status Epilepticus: Etiologies and Outcomes  
Principal Investigator  
The goal of this study was to evaluate the etiologies and prognosis of patients with severely refractory status epilepticus.
- 2007-2008 A New Care Delivery Model for Breast Cancer Patients Requiring Herceptin  
Harvard Business School and Brigham and Women's Hospital  
Team Member  
I worked on a team as part of the Physician Leadership Program to develop a new care delivery model for breast and other appropriate cancer patients requiring Herceptin and other non-cytotoxic infusion therapies.
- 2006-2010 Treatment of Refractory Status Epilepticus  
Principal Investigator  
The purpose of this study was to determine whether propofol or barbiturates are more efficacious in the treatment of status epilepticus refractory to two standard antiepileptic agents.
- 2018 Compassionate Use of Favapiravir  
Principal Investigator  
Provided favapiravir to a patient with Jamestown Canyon Virus encephalitis by working with FujiFilm Pharmaceuticals to obtain medication from Japan.

## Report of Local Teaching and Training

### Teaching of Students in Courses:

2002-2007	Neuroanatomy Lab for Human Nervous System and Behavior 2 <sup>nd</sup> year medical students	Harvard Medical School 2 half day sessions per week for 8 weeks
2003-2014	OSCE Preceptor 3 <sup>rd</sup> year medical students	Harvard Medical School 1-2 half day sessions once per year
2008-	OSCE Giving Bad News Preceptor 3 <sup>rd</sup> year medical students (2008-2016); Co-director 2 <sup>nd</sup> year medical students (2016-)	Harvard Medical School 2 half days per year
2008-2010	Care Transitions and Rehabilitation PCE, Brigham and Women's Hospital 3 <sup>rd</sup> year medical students	Harvard Medical School 1 half day per year
2014- 2016	Clinicoradiological Correlations	Harvard Medical School

	Human Nervous System and Behavior 2 <sup>nd</sup> year medical students	2-hour lecture per year
2014-2018	Neurology Skills – Into the Wild Blue Yonder- Preparing for Internship IN 855.0 4 <sup>th</sup> year medical students	Harvard Medical School
2015, 2016	Medical Spanish LN 707 4 <sup>th</sup> year medical students	2 half days per year Harvard Medical School
2015-	Therapy of Seizures – Pharmacology and Clinical Therapeutics PHM 350.0 4 <sup>th</sup> year medical students	1 half day per year 2-hour lecture twice a year
2008-2019	Mind Brain Behavior 2 <sup>nd</sup> year medical students	Harvard Medical School Harvard Medical School

### **Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs):**

2005-2015	EEG Review Neurology Residents	Brigham and Women's and Massachusetts General Hospitals 2-hour lecture
2005	Benign Epileptiform Sharp Transients of Sleep Epilepsy Fellows	Brigham and Women's Hospital One hour lecture
2005	The Sweet EEG: Hypoglycemia, hyperglycemia and the EEG Epilepsy Fellows	Brigham and Women's Hospital One hour lecture
2005-2015	Epilepsy Board Review Neurology Residents	Brigham and Women's and Massachusetts General Hospitals One hour lecture
2006	Refractory Status Epilepticus Neurology residents, Epilepsy fellows	Brigham and Women's and Massachusetts General Hospitals One hour lecture
2006	Overview of Epilepsy for the PCP Medicine Residents	Brigham and Women's Hospital One hour lecture
2006	EEG Basics Neurology Residents	Brigham and Women's and Massachusetts General Hospitals One hour lecture
2006	Antiepileptic Drug Management Neurology Residents	Brigham and Women's and Massachusetts General Hospitals One hour lecture
2007	Resident as Teacher Neurology Residents	Brigham and Women's and Massachusetts General Hospitals Two hour workshop
2008	Prognosis of Status Epilepticus	Brigham and Women's and Massachusetts General Hospitals

	Epilepsy Fellows	One hour lecture
2008	AED Selection in Newly Diagnosed Epilepsy Neurology Residents	Brigham and Women's and Massachusetts General Hospitals One hour lecture
2008	Evaluation and Treatment of First Unprovoked Seizure Medicine Residents	Faulkner Hospital  One hour lecture
2008	Epilepsy Syndromes  Neurology Residents	Brigham and Women's and Massachusetts General Hospitals One hour lecture
2009-2014	Cases in Acute Management and Evaluation of Seizures Medicine Residents	Brigham and Women's Hospital  One hour lecture
2009-2015	Using the Ophthalmoscope Medical Students and Residents	90 minute workshop Harvard Medical School, Brigham and Women's Hospital, Massachusetts General Hospital
2010-	Morning Report Medicine Residents	Brigham and Women's Hospital One to two hours per year
2010-	Morning Report Neurology Residents	Brigham and Women's Hospital 15 half hour sessions per year
2010-	Journal Club Epilepsy Fellows and Faculty	Brigham and Women's Hospital 2 one hour sessions per year
2010-2015	Below the Hairline EEG Neurology Residents	One hour workshop Brigham and Women's and Massachusetts General Hospitals
2011-2019	EEG of Status Epilepticus Epilepsy Fellows	One hour lecture Brigham and Women's and Massachusetts General Hospitals
2015-2017	Diving in: How to maximize involvement and skills in medical education Neurology residents	Brigham and Women's and Massachusetts General Hospitals 90 minute workshop
2015	Success as a Chief Resident  Partners Chief Residents	Brigham and Women's and Massachusetts General Hospitals Panel Discussant
2015	Medical Education Principles  Residents and Fellows	Brigham and Women's and Massachusetts General Hospitals Brigham and Women's and Massachusetts General Hospitals

2016	Teaching Medical Students Neurology Residents	Brigham and Women's and Massachusetts General Hospitals One hour lecture
2016	Challenges in Clinical Teaching Neurology Residents	Brigham and Women's and Massachusetts General Hospitals One hour lecture
2016	Observation and Feedback Neurology Residents	Brigham and Women's and Massachusetts General Hospitals One hour lecture
2016	Writing Multiple Choice Questions Neurology Residents and Fellows	One hour workshop Brigham and Women's and Massachusetts General Hospitals
2016	Neurology education: Opportunities and skill development Neurology Residents	Brigham and Women's and Massachusetts General Hospitals One hour lecture
2016	Cases in Neurologic Care Medicine Residents	One hour lecture Brigham and Women's Hospital
2016-2019	Pharmacotherapy for Epilepsy- The Less Familiar AEDs Epilepsy Fellows	One hour lecture  Brigham and Women's and Massachusetts General Hospitals
2017	Lumbar Puncture Workshop at Stratus Medicine Residents	Two hour workshop Brigham and Women's Hospital
2017	Pharmacologic Treatment of Epilepsy Neurology Residents	One hour lecture Brigham and Women's and Massachusetts General Hospitals
2017	Diagnostic Tracks and Tricks for Seizures Neurology Residents	Brigham and Women's and Massachusetts General Hospitals One hour lecture
2017	Neurology: A Clinic Day of Cases Medicine Residents	One hour lecture Brigham and Women's Hospital
2017	Update in Management of Seizures and Epilepsy Medicine Residents	One hour lecture  Brigham and Women's Hospital
2017	Feedback: Give it like a star, Receive it like a gift Neurology Residents	One hour lecture  Brigham and Women's and Massachusetts General Hospitals
2018, 2019	The challenges of clinical teaching: how to approach clinical teaching as a resident or fellow	One hour lecture

	Residents and Fellows	Brigham and Women's and Massachusetts General Hospitals
2018, 2019	5-Minute Teaching Residents and Fellows	One hour workshop Brigham and Women's and Massachusetts General Hospitals
2019	Cases in Video-Diagnosis in Epilepsy	One hour lecture Brigham and Women's and Massachusetts General Hospitals

**Clinical Supervisory and Training Responsibilities:**

2005-2007	PCE Mentor for 3 Harvard Medical Students	One half day per month
2005-	BWH Ambulatory Neurology Clinic - Resident Preceptor	One half day per week
2005-	Ambulatory Neurology Clinic- Medical Student Preceptor	One half day per month
2005-	BWH Ambulatory Neurology Clinic- Four Directions Summer Research Program for Native Americans Clinic Observership Preceptor	Two half days per year
2005-	BWH Ambulatory Neurology Clinic - URM Summer Training in Academic Research and Scholarship (STARS) Clinic Observership Preceptor	Two half days per year
2005-	BWH Ambulatory Epilepsy Clinic - Fellow Preceptor	One half day per week
2005-	BWH EEG Reading Supervision and Training- Resident and Fellow Precepting	One half day per week
2005-	Inpatient Attending Consult Service, Ward Service, ICU-EEG, and Epilepsy Monitoring Unit/Brigham and Women's Hospital	Nineteen weeks per year
2015-	BWH Ambulatory Neurology Clinic Physician Assistant Preceptor	One half day per week

**Laboratory and Other Research Supervisory and Training Responsibilities:**

2017-	Supervision of summer interns/Brigham and Women's Hospital	One hour meeting per week
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**Other Mentored Trainees and Faculty:**

In my roles as clerkship director and program director, I have mentored hundreds of medical students and residents.

**High School Students**

2015 Jason Bui  
Role: Internship supervisor

### Undergraduate Students

2019- Liam Cleary, BS  
Role: Internship supervisor  
Awarded American Academy of Neurology Student Intern scholarship 2019  
Awarded American Academy of Neurology Annual Meeting Travel Grant 2020

### Medical Students

2006- Safa Sadeghpour, MD, PhD; Role: Clinical mentor and 2018 advising on return to medicine in 2018  
2018- Galina Gheilman, MD; Role: Mentor for research projects in quality improvement education  
2019- Ashwini Joshi, BS  
Role: Advisor Ethics Project; Poster Presentation Mt Sinai Ethics Conference

### Residents and Fellows

2006 Lara Katzin, MD  
Role: Mentor for education project and development of quizzes for Harvard Medical School students on neurology clerkship rotation  
2007 Tracey Cho, MD  
Role: Mentor for career development in medical education; Current Position: Vice Chair for Education, U of Iowa  
2012 Isabel Arrillaga-Romany, MD, PhD  
Role: Clinical Mentor in Spanish Neurology Clinic  
2013 Sarah Wahlster, MD  
Role: Clinical Mentor in Spanish Neurology Clinic  
2014 Aaron Berkowitz, MD, PhD  
Role: Mentor for career development in medical education: Current Position: Director Global Health and Neurology Curriculum. **Kaiser** Permanente Bernard J. Tyson School of Medicine  
2014 Rodrigo Zepeda, MD  
Role: Clinical Mentor in Spanish Neurology Clinic  
2014 Eli Zimmerman, MD  
Role: Mentor for career development in medical education; Current Position: Clerkship Director Vanderbilt Medical School  
2015 Olga Rosenvald, MD  
Role: Clinical Mentor in Spanish Neurology Clinic  
2015 Joel Salinas, MD  
Role: Clinical Mentor in Spanish Neurology Clinic  
2015 Shamik Bhattacharyya, MD

2016 Role: Mentor for career development in medical education  
Janice Wong, MD

2016 Role: Mentor  
Kristyn Spera, MD

2016 Role: Residency mentor  
Marcelo Matiello, MD

2017 Role: Clinical Mentor in Spanish Neurology Clinic  
Rene Colorado, MD

2017 Role: Clinical Mentor in Spanish Neurology Clinic  
Simin Lee, MD

2017- Role: Residency mentor  
Tammy Bockow Kaplan, MD

2017- Role: Mentor for career development in medical education; Current Position: Associate  
Neurology Clerkship Director, Harvard Medical School; Director Mind Brain Behavior  
Course Harvard Medical School

2017- Chris Doughty, MD  
Role: Mentor for career development in medical education; Current Position: Associate  
Director Mind Brain Behavior Course Harvard Medical School

2017- Abbas Kharal, MD, MPH  
Role: Mentor for career development in medical education

2017 Jose Ricardo McFaline Figueroa, MD, PhD

2018 Role: Clinical Mentor in Spanish Neurology Clinic  
Luis Nicolas Gonzalez Castro, MD, PhD

2018 Role: Clinical Mentor in Spanish Neurology Clinic  
Sophia Ryan, MD

2019 Role: Mentor for delirium education project  
Michael Slama, MD, PhD

2019 Role: Mentor for neurology residency  
James Hillis, MD

2019 Role: Mentor for research project in evidence based neurologic examination  
Salman Bhai, MD

2020 Role: Mentor for neurology residency  
Jackie Schulman, MD

Role: Mentor for research project in neurology rounding

## Faculty

2009- James Stankiewicz, MD

2011- Role: Mentor for career development in medical education; Current Position: Clerkship  
Director, Harvard Medical School  
Sashank Prasad, MD  
Role: Mentor for career development in medical education; Current Position: Program  
Director Neurology Residency Harvard Medical School

## Formal Teaching of Peers (e.g., CME and other continuing education courses):

***No presentations below were sponsored by outside entities***

2005-2008,2010	Status Epilepticus Intensive Review of Neurology; Harvard CME	Lecture Cambridge, MA
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2007-2009	Microteaching Harvard Macy Institute: Educators in the Health Professions; Harvard CME	Half day workshop Boston, MA
2007-2009	Project Group Leader Harvard Macy Institute: Educators in the Health Professions; Harvard CME	Four talks per year Boston, MA
2009-2012, 2014	Epilepsy Neurology for the Non-Neurologist; Harvard CME	Lecture Kennebunkport, ME
	Neurology for the Non-Neurologist; Harvard CME	Kennebunkport, ME
2009	Teaching on the Wards: Strategies and Techniques Faculty Development; Brigham and Women's Hospital	Workshop Boston, MA
2009-2015	Board Review in Neurology Intensive Review of Internal Medicine; Harvard CME	Lecture Boston, MA
2010	Teaching on the Consult Service: Strategies and Techniques Faculty Development; Brigham and Women's Hospital	Workshop Boston, MA
2010	Teaching in the Clinic: Strategies and Techniques Faculty Development; Brigham and Women's Hospital	Workshop Boston, MA
2010	Student Mistreatment Faculty Development; Harvard Medical School	Panel Discussant Boston, MA
2011-2014	Pharmacotherapy of Epilepsy Intensive Review of Neurology; Harvard CME	Lecture Cambridge, MA
2013-2014	Update in Neurology Brigham Update in Medicine; Harvard CME	Lecture Boston, MA
2015	Epilepsia Current Trends in Neurology; Harvard CME	Lecture Boston, MA
2015-2019	Seizure Disorders Intensive Review of Internal Medicine; Harvard CME	Lecture Boston, MA
	Intensive Review of Internal Medicine; Harvard CME	Boston, MA
2017	Advances in Diagnosis and Management of Headache Brigham Update in Internal Medicine; Harvard CME	Lecture Boston, MA
2017	Alcohol and Other Causes of Provoked Seizures Neurology 2017; Harvard CME	Lecture Boston, MA
2017-2020	State of the Art Differential Diagnosis of Epilepsy: Video Cases Neurology; Harvard CME	Lecture Boston, MA
2017	The Basic Methods of Teaching Adult Learning Brigham Education Institute	Lecture Boston, MA
2017, 2018	When Not to Worry Neurology for the Non-Neurologist; Harvard CME	Lecture Kennebunkport, ME
2019, 2020	Neurological Examination in	Lecture

	Neurology for the Non-Neurologist; Harvard CME	Kennebunkport, ME
2019	Using the Most Effective Pedagogical Tools when you Teach; Brigham Education Institute	Lecture
2020	Epilepsy and Maximizing Independence; Harvard CME	Boston, MA Lecture, Boston, MA

### **Local Invited Presentations:**

***No presentations below were sponsored by outside entities***

2007	Complex Partial Seizures / Grand Rounds Department of Psychiatry, Cambridge Hospital
2010	The Diagnosis of Seizures/ Grand Rounds Department of Medicine, Faulkner Hospital
2010	CPC Panel Discussant Department of Medicine, Brigham and Women's Hospital
2015	Update in Seizures/ Grand Rounds Department of Medicine, Brigham and Women's Hospital
2015	Overview of Epilepsy/ IPEMED Harvard
2016	The Inside Scoop on Medical Education/ Grand Rounds Department of Urology, Massachusetts General Hospital
2016	Selecting the Right Resident/ Workshop GME/ Partners Healthcare
2016	Epilepsy Prognosis and Treatment/Grand Rounds  Department of PMR, Brigham and Women's Hospital
2017	How to Teach the Neurologic Examination/ Workshop Department of Medicine, Brigham and Women's Hospital
2017	Giving and Receiving Feedback/ Grand Rounds Department of Neurology, Massachusetts General Hospital
2017	Epilepsy in the Clinic: Diagnosis and Current Treatments/ Grand Rounds Harvard University Health Services
2017	A 54-year-old man with acute-onset nausea, vomiting, and dizziness/ CPC Discussant and New England Journal of Medicine Clinical Problem Solving Case Department of Medicine, Brigham and Women's Hospital
2017	Update in Management of Seizures and Epilepsy/ Grand Rounds Brigham and Women's Faulkner Hospital
2018	How to Give Bad News Division of Reproductive Endocrinology and Infertility, Brigham and Women's Hospital

### **Report of Regional, National and International Invited Teaching and Presentations**

***No presentations below were sponsored by outside entities***

#### **Regional**

- 2005 How do seizures change the brain/ Research presentation  
Boston Epilepsy Society  
Boston, MA
- 2005 Seizures or Something Else/ Grand Rounds  
Department of Neurology, New England Medical Center, Tufts Medical School  
Boston, MA
- 2006 Epilepsy Case Discussant/ Expert Panel Member  
MA Neurologic Association Annual Meeting  
Waltham, MA
- 2009 Case Studies in Video-EEG Monitoring/ Grand Rounds  
Department of Neurology, New England Medical Center, Tufts Medical School  
Boston, MA
- 2019 Video Cases in Diagnosis and Classification of Epilepsy  
Neuroscience Grand Rounds, Department of Neurology, New England Medical Center,  
Tufts Medical School  
Boston, MA

**National**

- 2005 MRI Changes in Status Epilepticus/ Grand Rounds  
Barrow Neurologic Institute, Phoenix, AZ
- 2009 Overview of Seizures and Status Epilepticus/ Grand Rounds  
Pulmonary Critical Care, Hahnemann University Hospital (honorarium from UCB)
- 2010 Surviving and Thriving in the New Millennium? / Panel Discussant  
Clerkship and Program Director Conference, American Academy of Neurology;  
Toronto, Canada
- 2011 Becoming a Neurologist/ Panel Discussant  
Student Interest Group in Neurology, American Academy of Neurology; Honolulu, HI
- 2011 Teaching the Millennial Generation/ Annual Course  
Association University Professors of Neurology; Honolulu, HI
- 2012 Neuroscience Core Curriculum/ Panel Discussant  
Clerkship and Program Director Conference, American Academy of Neurology; New  
Orleans, LA
- 2013, 2014 Diagnostic Tricks and Tracks for Seizures/ Lecture  
Epilepsy Course, American Academy of Neurology
- 2014 Bhattacharyya S, Milligan TA. A Curriculum for the Milestones. Platform presentation:  
American Academy of Neurology Annual Meeting 2014
- 2014 Neuroimaging in Epilepsy/ Visiting Professor  
Indian Health Service; Shiprock, NM
- 2015, 2016, Is Epilepsy the Diagnosis/ Lecture  
2017 Annual Course; American Academy of Neurology
- 2015 Neurology for the Internist: Seizure Disorders / Lecture  
American College of Physicians; Boston, MA
- 2016 Neurology Update III: Epilepsy / Lecture  
American Academy of Neurology Fall Course; Las Vegas, NM
- 2016 Brizzi K, Wang N, Batra A, Salinas J, Cho T, **Milligan T**. Innovations in Outpatient  
Continuity Clinics for Residents: The Partners Neurology Experience with a Burst  
Model for Resident Clinics. Platform presentation: American Academy of Neurology.
- 2017 Update in Treatment of Traumatic Brain Injury/ Visiting Professor  
Indian Health Service; Shiprock, NM
- 2017 Update in Neuroimaging and Epilepsy/ Visiting Professor  
Indian Health Service; Shiprock, NM

- 2017 Selecting the Right Fellow/ Invited Speaker  
American College of Rheumatology; Chicago, IL (honorarium from ACR)
- 2018 Ask the Expert: Teaching through Simulation/ Workshop Leader  
American Academy of Neurology Annual Meeting, Los Angeles, CA
- 2018 Breaking Down Silos: Interprofessional Team Education to Enhance Clinical Outcomes  
in Neurology / Workshop Leader  
American Academy of Neurology Annual Meeting, Los Angeles, CA
- 2018 Delivering Epilepsy Care in the Navajo Nation  
  
Indian Health Service; Shiprock, NM
- 2018 Challenging Neuropsychiatric and Neurosurgical Cases  
Boston Society for Neurology and Psychiatry/ Expert Discussant
- 2018 Neurology Update III: Epilepsy / Lecture  
American Academy of Neurology Fall Course; Las Vegas, NM
- 2019 Strategic Thinking  
American Academy of Neurology Annual Conference
- 2019 Video Cases in Diagnosis and Classification of Epilepsy  
American Academy of Neurology Annual Conference
- 2019 WIN at Mentoring  
Women in Neurology Section of the American Academy of Neurology
- 2019 Seizure Disorders: Best Practices and New Treatments  
Indian Health Service Grand Rounds, Shiprock, NM
- 2019 Moderator: Diagnosis and Management of Epilepsy as a Network Disorder  
  
American Epilepsy Society Annual Course, Baltimore, MD
- 2020 Neurology Cases: Why Not to Worry  
  
Dept. of Neurology, St. Louis University
- 2020 Diagnosis of Epilepsy  
  
Virtual Visiting Professor in Neurology, Johns Hopkins
- 2020 Introduction to Seizures  
  
Virtual Visiting Professor, University of New Mexico, Taos

## International

***Those presentations below sponsored by outside entities are so noted and the sponsor(s) is (are) identified.***

- 2006 Epilepsy: Genetics through Clinical Cases/Research Talk  
Ross Medical School, Dominica (Honorarium RMS)
- 2007 Clinical Neurology Lecture Series/ Visiting Professor  
Ross Medical School, Dominica (Honorarium RMS)
- 2007, 2008 Neurosciences Lecture Series/ Visiting Professor  
University of Medicine and Health Sciences, St. Kitts (Honorarium from UMHS)
- 2009 How to Teach the Neurologic Examination/ Visiting Professor  
Trinity School of Medicine; St. Vincent and The Grenadines (Honorarium from TSM)
- 2017 Update in Epilepsy 2017 / Recorded Lecture for CME  
Mumbai, India (Honorarium from Medxscientific.com)
- 2021 Clinical teaching in GME including a novel experience in Neurology tele-education  
Egyptian Fellowship Workshop, Cairo, Egypt
- 2021 The Neurological Examination

## **Report of Clinical Activities and Innovations**

### **Current Licensure and Certification:**

1991	Certification in Clinical Competence, Speech-Language Pathology
2003	Massachusetts Medical License
2005	Certification, American Board of Psychiatry and Neurology (Neurology)
2008	Certification, American Board of Clinical Neurophysiology
2017	Certification, American Board of Psychiatry and Neurology (Epilepsy)

### **Practice Activities:**

2005-	Ambulatory Care	Neurology, BWH	Two half-day sessions per week
2005-	EEG Reading	Neurology, BWH	One day per week
2005-	Inpatient Attending	Neurology, BWH	Nineteen weeks per year
2006-	Ambulatory Care	Neurology, Hebrew Rehabilitation Center	One half day per month

### **Clinical Innovations and Operations Leadership:**

- Day Monitoring Video-EEG Center at Faulkner Hospital (2005)
  - This program was the first in New England and allowed for patients to have outpatient video-EEG monitoring for the day in the EEG lab. It was started under my leadership. I acquired the necessary equipment and trained technologists. I developed a business model.
- Ambulatory EEG Monitoring Program at Faulkner Hospital (2005)
  - I developed a business model for ambulatory EEG monitoring and developed this program. This remains the only Harvard program for ambulatory EEG monitoring in adults.
- Spanish Neurology Clinic at Brigham and Women's Hospital (2009)
  - I developed a neurology clinic in which the entire clinic was held in Spanish. I interfaced closely with primary care physicians. I supervised a coordinator and a total of 9 residents. This was an award winning program. This clinic was closed as the hospital decided to integrate this patient population into other clinics.
- First Seizure Clinic at Brigham and Women's Hospital (2019)
  - I developed a first seizure clinic to allow for rapid clinical care of patients presenting with a first seizure. In this clinic, I supervise a physician assistant and epilepsy fellows.

## **Report of Teaching and Education Innovations**

2007-2011	Neurology Education throughout the Year	I developed a website with on-line educational neurology modules used by 3 <sup>rd</sup> year students throughout the year. This was the first free repository of its kind and was based on adult learning theory.
2009-	BWH Neurology Clerkship Experience at Children's Hospital	As the BWH Site Director for the Neurology Clerkship, I expanded the learning opportunities for the students to include the ICU, outpatient, VA and child neurology at Children's Hospital. This remains the only HMS Neurology Clerkship site to have a Child Neurology rotation option.
2010-	Annual Reflection through Art at the Museum of Fine Arts	In 2010, I initiated a reflective learning experience at the Museum of Fine Arts for all clerkship students at BWH. This is a mandatory half day that over 50 students a year participate in annually. In 2017, I expanded the program to include all 1 <sup>st</sup> year students assigned to BWH as well as the 2 <sup>nd</sup> year students. To date, over 500 students have participated in this program which I initiated.
2010-2017	AAN Minority Scholar Dinner and Mentorship	In 2010, I partnered with the American Academy of Neurology and the Diversity Offices at MGH, BWH and HMS to host a dinner for the minority scholar recipients at AAN to celebrate their accomplishments and introduce them to neurology attendings and residents at Harvard.
2010-	Neurology Simulation Courses	Since 2010, I have developed Simulation Courses at STRATUS. These simulation courses include: Acute Stroke, Delirium, Status Epilepticus, Determining Brain Death, Family Meetings, Acute Intracerebral Hemorrhage, Cerebral Herniation, Lumbar Puncture, Functional Neurologic Disorder, Epilepsy. Neurology residents participate in a 6 hour course that I created and continue to direct using simulation annually.
2014	BWH Humanism in Teaching Awards	I created an award for BWH Residents for Humanism in Teaching

2017-	First Friday Focus on Feedback	For a year, I led monthly educational sessions on developing skills in giving and receiving feedback including: Negative Feedback, Using Feedback to Improve Team Performance, Feedback in the Clinic, Cross-Cultural Feedback, Frame based feedback. I recorded these session and created a repository for faculty and residents. This Friday Feedback has continued throughout the year.
2017	Peer to Peer Feedback	I provided a template for students in Cannon Society to provide peer feedback to each other at the end of the year. This template was used to further develop the HMS peer feedback program.
2020-	Neurology Speaker Series on Zoom	Twitter promoted conferences with invited speakers
2020-	Mass General Brigham Neurology Fellowship Program	I co-lead a program with Dr. Nagagopal Venna to increase collaboration, networking, community, support, mentorship and wellness of fellowship directors and fellows

**Report of Education of Patients and Service to the Community**

***No presentations below were sponsored by outside entities***

**Activities**

2003-	Camp Physician at Epilepsy Camp for Children (Camp Wee Kan Tu and Camp Purple) I volunteer annually for this week-long camp for children.
2003-	Participant in Annual Epilepsy Walk and Annual Fundraising Candlelight Dinner
2006-2008	Physician Educator for the Epilepsy Advocate Program I partnered with a patient with epilepsy to deliver education to the community about epilepsy.
2008-2013	Scholarship Reviewer for the Epilepsy Foundation of MA and RI
2008	Harvard Premedical Society Advisor
2009	Epilepsy Education: Improve Knowledge, Improve Your Life I created this program which provided community education and took place at Brigham and Women’s Hospital
2009-	Volunteer in the Navajo Nation at Indian Health Services, Shiprock, NM
2012	The Brain: What does your brain do? Workshop for Weston Community Parents and Students
2019-	Empowering Group in Epilepsy (EMERGE) Educational Series
2020-	COVID-19 Department of Neurology Support Group Co-Leader of weekly support sessions via Zoom

**Educational Material for Patients and the Lay Community:**

**Books, monographs, articles and presentations in other media (e.g., video and websites, movies, television and radio) that educate the public about medicine, health or biomedical sciences**

2017	Epilepsy Diagnosis and Treatment	Series of educational videos (Diagnostic Detectives)	<a href="https://diagnostictdetectives.com/interview-dr-tracey-milligan/">https://diagnostictdetectives.com/interview-dr-tracey-milligan/</a>
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**Educational material or curricula developed for non-professional students**

2005	Neuroscience Workshop	Curriculum for use in elementary school children
2018	EMpOWERing Group in Epilepsy (EMERGE) Educational Sessions	Interactive group education sessions where patients can learn about self-care and ask questions about epilepsy, seizures, antieizure medications and share experiences and advice with other patients

**Report of Scholarship**

**Research Investigations**

1. Zhu Q, Runko E, Imondi R, **Milligan T**, Kapitula D, Kaprielian Z. New cell surface marker of the rat floor plate and notochord. *Dev Dyn.* 1998;211(4):314-26.
2. Rossetti, A. O., Logroscino, G., **Milligan, T. A.**, Michaelides, C., Ruffieux, C., & Bromfield, E. B. (2008). Status Epilepticus Severity Score (STESS). *Journal of neurology*, 255(10), 1561-1566.
3. **Milligan TA**, Zamani A, Bromfield E. Frequency and patterns of MRI abnormalities due to status epilepticus. *Seizure* 2008; 18 (2): 104-108.
4. **Milligan TA**, Hurwitz S, Bromfield EB. Efficacy and tolerability of levetiracetam versus phenytoin after supratentorial neurosurgery. *Neurology.* 2008;71(9):665-9.
5. Lee JW, Tanaka N, Shiraishi H, **Milligan T**, Dworetzky B, Khoshbin S, Stufflebeam S, and Bromfield E. Evaluation of Postoperative Sharp Waveforms Through EEG and Magnetoencephalography. *Journal of Clinical Neurophysiology.* 2010; 27 (1).
6. Rossetti AO, **Milligan TA**, Vulliémoz S, Michaelides C, Bertschi M, Lee JW. A randomized trial for the treatment of refractory status epilepticus. *Neurocrit Care.* 2011 Feb;14(1):4-10.
7. Dworetzky BA, Peyre S, Bubrick EJ, **Milligan TA**, Yule SJ, Doucette D, Pozner CN. Interprofessional simulation to improve safety in the epilepsy monitoring unit, *Epilepsy & Behavior.* 2015;45: 229-233.
8. Wong VSS, Strowd RE, Aragón-García R, Moon YP, Ford B, Haut SR, Kass JS, London ZN, Mays M, **Milligan TA**, Price RS, Reynolds PS, Selwa LM, Spencer DC, Elkind MSV. Mentored peer review of standardized manuscripts as a teaching tool for residents: a pilot randomized controlled multi-center study. *Res Integr Peer Rev.* 2017; 2:6. PMID: 29451555.
9. Williams JA, Cisse FA, Schaekermann M, Sakadi F, Tassiou NR, Hotan GC, Bah AK, Hamani ABD, Lim A, Leung ECW, Fantaneanu TA, **Milligan TA**, Khatri V, Hoch DB, Vyas MV, Lam AD, Cohen JM, Vogel AC, Law E, Mateen FJ. Smartphone EEG and remote online interpretation for children with epilepsy in the Republic of Guinea: Quality, characteristics, and practice implications. *Seizure.* 2019 Oct; 71:93-99. PMID: 31229939.
10. Fantaneanu TA, Jacobs CS, De Gusmao C, Bergin AM, **Milligan TA**, Pearl P, Dworetzky BA. Pediatric and adult neurologist perspectives on the challenges of sustaining a transfer clinic. *Neurol Clin Pract* Sep 2019. DOI: 10.1212/CPJ.0000000000000727



11. Gheilman G, **Milligan TA**. Introduction to Quality Improvement and Systems-Based Practice: A Two-Part Module for Clinical Clerkship Students. *Journal of General Internal Medicine*. *J Gen Intern Med* (2020). <https://doi.org/10.1007/s11606-020-05788-0>
12. Sokolov E, Bachir DH, Sakadi F, Williams J, Vogel AC, Schaekermann M, Tassiou N, Bah AK, Khatri V, Hotan GC, Ayub N, Leung E, Fantaneau TA, Patel A, Vyas M, **Milligan TA**, Villamar MF, Hoch D, Purves S, Esmaeili B, Stanley M, Lehn-Schioler T, Tellez-Zeteno J, Gonzalez-Giraldo E, Toloch I, Heidarian L, Worden L, Jadeja N, Fridinger S, Lee L, Law E, Fode Abass C, Mateen, FJ. Tablet-based EEG diagnostics for epilepsy patients in the West African Republic of Guinea. *European J of Neurology* 2020. *Eur J Neurol*, 27: 1570-1577. <http://dx.doi.org/10.1111/ene.14291>
13. Weber DJ, Albert DVF, Aravamuthan BR, Bernson-Leung ME, Bhatti DE, **Milligan TA**. Rapid Implementation of Cross-Institutional Neurology Resident Education in the Time of COVID-19. *Neurology* 2020. Accepted for publication.

### Other peer-reviewed scholarship

1. Parkerson, KA, Pathmanathan JS, **Milligan TA**. Optimizing antiepileptic treatment. *JCOM*. 2009; 16(10):468-480.
2. Pathmanathan JS, Parkerson, KA, **Milligan TA**. Cases in optimizing antiepileptic treatment. *JCOM*. 2009; 16 (12): 573-582.
3. Redig AJ, Vaidya A, Bienfang DC, **Milligan T**. A pain in the brain. An interactive medical case. *N Engl J Med* 2013; 368:e20.
4. Merlin LR, Horak HA, **Milligan TA**, Kraakevik JA, Ali II. A competency-based longitudinal core curriculum in medical neuroscience. *Neurology*. 2014 Jul 29;83(5):456-62.
5. Christman MP, Turbett SE, Sengupta S, Bakhadirov KU, Williamson CA, Nayak L, **Milligan T**, Katz JT. Recurrence of herpes simplex encephalitis associated with temozolomide chemoradiation for malignant glioma: a case report and review of the literature. *Oxf Med Case Reports*. 2014; 2014 (1):1-4.
6. Berkowitz AL, **Milligan TA**, Cho TA. Development of a track in global and humanitarian health for neurology residents. *Neurology*. 2015; 85:1895-1896.
7. Beresin EV, **Milligan TA**, Balon R, Coverdale JH, Louie AK, Roberts LW. Physician wellbeing: a critical deficiency in resilience education and training. *Academic Psychiatry*. 2016 40(1): 9-12.
8. Schulman JM, Bhattacharyya S, **Milligan TA**. Neurology bedside rounding: If Osler were a neurologist now. *Ann Neurol*. 2019. 86(1): 1-4.
9. Gonzalez Castro LN, **Milligan TA**. Seizures in patients with cancer. *Cancer*. 220. 126(7):1379-1389.
10. **Milligan TA**. Epilepsy: A Clinical Overview. *American Journal of Medicine*. 2021. 134 (7): 840-847.

### Scholarship without named authorship

Chair of the CNCD Work Group on ED2/Core Curriculum Committee, 2007

<https://www.aan.com/siteassets/home-page/tools-and-resources/academic-neurologist--researchers/clerkship-and-course-director-resources/ed2-core-curriculum-recommendations.new.pdf>

Primary member of the Neurology Milestones Committee, 2014

Lewis SL, Józefowicz RF, Kilgore S, Dhand A, Edgar L. Introducing the neurology milestones. *Journal of graduate medical education*. 2014 Mar;6(1s1):102-4.

Primary member of the Epilepsy Milestones Committee, 2015  
The Epilepsy Milestone Project. Accreditation Council for Graduate Medical Education and The American Board of Psychiatry and Neurology. July 2015.  
<http://www.acgme.org/Portals/0/PDFs/Milestones/EpilepsyMilestones.pdf?ver=2015-11-06-120531-877>

### Reviews, chapters, monographs and editorials

1. **Milligan, TA.** A new way to prevent Pokemon seizures. *Journal Watch Neurology*. 2005.
2. **Milligan, TA.** Predicting seizure freedom after focal epilepsy surgery. *Journal Watch Neurology*. 2005;(1229).
3. **Milligan, TA.** Clinical case studies in epilepsy. In: *Neurology Board Review Manual*. Wayne: Turner White Communications, Inc.;2006.
4. **Milligan, TA.** Epilepsy. In: In Mushlin S et al., eds. *Decision making in medicine: An algorithmic approach*. St. Louis: Mosby;2006, 2010.
5. **Milligan, TA.** Status epilepticus. In: Mushlin S et al., eds. *Decision making in medicine: An algorithmic approach*. St. Louis: Mosby;2006, 2010.
6. **Milligan, TA.** Seizures and epilepsy. In Azzam A and Yanofski J., eds. *First aid for the psychiatry boards*. New York: McGraw Hill; 2010.
7. **Milligan, TA.** Seizures, epilepsy, and sleep disorders. In: Rafii M. and Cochrane T., eds. *First aid for the neurology boards*. New York: McGraw Hill; 2010.
8. Pavlova M, Shin HW, Srinivasan S, **Milligan, TA.** Nocturnal frontal lobe epilepsy: Exploring the relationship between epilepsy and sleep. *Sleep Review Magazine*. July/August 2011.
9. **Milligan, TA.** Seizure. In: Kiefer MM and Chong CR. ,eds. *Pocket primary care*. Philadelphia: Wolters Kluwer;2014.
10. Jacobs, CS, **Milligan TA.**\* Seizures. In: McKean SC, Ross, JJ, Dressler DD, Scheurer DB, editors. *Principles and Practice of Hospital Medicine*. New York: McGraw Hill; 2017. p. 1700-1710.
11. **Milligan TA.** Board Simulation: Neurology. In: Singh AK, Loscalzo J, editors. *The Brigham Intensive Review of Internal Medicine, 3rd Edition*. Philadelphia: Elsevier; 2018. p. 1027-1034.
12. Hillis, J, **Milligan, TA\***. Teaching the Neurologic Examination in a Rapidly-Evolving Clinical Climate. In: Moeller, J ed. *Medical Education Neurology in Seminars in Neurology*. New York: Thieme. 2018.
13. **Milligan, TA.** Diagnosis in Neurologic Disease. *Med Clin North Am.*; 2019 Mar 103(2):173-190.
14. **Milligan TA.** The Importance of Neurology for the Non-Neurologist. *Med Clin North Am.* 2019 Mar 103(2):xv-xvi.

15. **Milligan TA**, Sisodiya SM, Dworetzky, BA. Matching Antiseizure Medications to the Patient. Chapter 146. Epilepsy: A Comprehensive Textbook, Third Edition. Wolters Kluwer.

### Other Editorial Activities

1. **Milligan, TA**. Editor. Neurology for the Non-Neurologist. Medical Clinics of North America, Elsevier. 2019

### Books/textbooks for the medical or scientific community

1. Kaplan TB, **Milligan, TA**.\* The Neurology Video Primer. Oxford University Press; 2018. [www.Tinyurl.com/harvardaccessvideoprimer](http://www.Tinyurl.com/harvardaccessvideoprimer) This is a required videotextbook for all Harvard Medical Students.

### Case reports

1. **Milligan TA**, Bromfield E. A case of "migralepsy". *Epilepsia*. 2005;46 Suppl 10:2-6.
  - Milligan, T. and Bromfield, E.B., 2006. Response:"Migralepsy" and the significance of differentiating occipital seizures from migraine. *Epilepsia*, 47(4), pp.808-808.
2. Cho-Park Y, Perez, DL, **Milligan TA**, Cho PF. Radiographic evolution of a rapidly reversible leukoencephalopathy due to metronidazole. *Neurology: Clinical Practice*. 2013; 3(3):272-274.
3. Putta SL, Weisholtz D, **Milligan TA**. Occipital seizures and subcortical T2 hypointensity in the setting of hyperglycemia. *Epilepsy & Behavior Case Rep*. 2014; 2:96-99.
4. Wong JC, Sparks JA, Doyle TJ, Paulson VA, **Milligan TA**, Prasad S. Systemic sarcoidosis presenting as Harlequin and Horner syndrome. *Neurol Clin Pract*. 2015 Dec; 5(6):524-527. PMID: 26716065.
5. Fantaneanu TA, Bhattacharyya S, **Milligan TA**, Pennell PB. Rapidly Cycling Auras and Episodic Focal Dystonia in Anti-LGI1 Autoimmune Encephalitis. *JAMA Neurol*. 2016.
6. Slama MCC, Torre M, Shatzman SM, Suh J, Krier JB, De Girolami U, Kimbrough DJ, **Milligan TA**. Clinical Reasoning: A 42-year-old woman with progressive cognitive difficulties and gait imbalance. *Neurology*. 2020 Mar 17; 94(11):e1219-e1226. PMID: 32107324.
7. Solomon I, Ganesh V...**Milligan TA** ... Piantadosi A Fatal Case of Chronic Jamestown Canyon Virus Meningoencephalitis Diagnosed by Metagenomic Next-generation Sequencing in a Patient on Rituximab. *Emerging Infectious Diseases*. Accepted
8. Budhu J, Rosenthal J, Williams E, **Milligan T**. Teaching NeuroImages: The Motor Band Sign in Amyotrophic Lateral Sclerosis. *Neurology*. 2020 Sept. 14, 2020 <https://doi.org/10.1212/WNL.0000000000010848>

### Professional educational materials or reports, in print or other media:

1. **Milligan TA**. Custom Curriculum in Neurology Education. Access Medicine. 2014-2015.
2. **Milligan TA**, Kaplan TB. Cranial Nerve Examination I. *Journal of Visualized Experiments*. 2016.

<https://www-jove-com.ezp-prod1.hul.harvard.edu/science-education/10091/cranial-nerves-exam-i-i-vi>

3. **Milligan TA**, Kaplan TB. Cranial Nerve Examination II. Journal of Visualized Experiments. 2016.  
<https://www-jove-com.ezp-prod1.hul.harvard.edu/science-education/10005/cranial-nerves-exam-ii-vii-xii>
4. **Milligan TA**, Kaplan TB. Sensory Examination. Journal of Visualized Experiments. 2016.  
<https://www-jove-com.ezp-prod1.hul.harvard.edu/science-education/10113/sensory-exam>
5. **Milligan TA**, Kaplan TB. Motor Examination I. Journal of Visualized Experiments. 2016.  
<https://www-jove-com.ezp-prod1.hul.harvard.edu/science-education/10052/motor-exam-i>
6. **Milligan TA**, Kaplan TB. Motor Examination II. Journal of Visualized Experiments. 2016.  
<https://www-jove-com.ezp-prod1.hul.harvard.edu/science-education/10095/motor-exam-ii>
7. **Milligan TA**. The Basic Methods of Teaching Adult Learning.  
[https://www.youtube.com/watch?time\\_continue=2&v=3s6TaDeHmtM](https://www.youtube.com/watch?time_continue=2&v=3s6TaDeHmtM) (>6,000 views)
8. **Milligan TA**. Cultural Competence. Oakstone Publishing/CME. 2015
9. **Milligan TA**. Epilepsy. Neurology for the Non-Neurologist. Oakstone Publishing/CME. 2016, 2018, 2021
10. **Milligan TA**. Seizures as a Symptom of Systemic Disease. Neurology for the Non-Neurologist, Oakstone. 2016, 2018
11. **Milligan TA**. #NeurologyMorningReport on Twitter @tracey1milligan. To date, I have posted 65 clinical reasoning, interactive cases and have >6,000 followers with over 500,000 tweet impressions per month.

### Syllabi for courses

1. Atri A, **Milligan, TA**. The Neurologic Examination- Harvard Medical School- Revised annually. 2002-2015.
2. Beresin G, **Milligan, TA**. Patient Doctor III and The Developing Physician II – Harvard Medical School- Revised annually 2009-2020.
3. Milligan, TA. Pharmacotherapy of Epilepsy – Harvard Medical School- Revised annually. 2011-2020.
4. Milligan, TA. Clinical Teaching: Challenges and strategies- MassGeneral Brigham- Revised annually. 2014-2020
5. Milligan, TA. Microteaching: 5 minute teaching effectively – MassGeneral Brigham- Revised annually 2014-2020.
6. Milligan, TA. Differential diagnosis of Seizures. American Academy of Neurology- 2014.
7. Beresin G, **Milligan TA**. The Developing Physician I – Harvard Medical School-Revised annually. 2014-2020.
8. Milligan, TA. Diagnosis and classification of seizures. American Academy of Neurology-2018, 2019, 2020.
9. Milligan, TA. Strategic thinking for medical educators. American Academy of Neurology- 2019, 2020.

### Curriculum

10. **Milligan, TA.** Teaching on the Wards and the Consult Services. 2009.
11. **Milligan, TA.** Neurology Orientation Program consisting of: I. Acute Stroke II. Difficult Conversation III. Cardiac Arrest IV. Status Epilepticus V. Simulation A-Line and Lumbar Punctures. STRATUS Center for Medical Simulation. 2010.
12. Bhattacharyya S, **Milligan, TA.** Acute Stroke STRATUS Center for Medical Simulation. 2010.
13. Dworetzky BA, **Milligan, TA.** Difficult Patient –Psychogenic Non-Epileptic Seizure. STRATUS Center for Medical Simulation. 2010.
14. Bubrick E, **Milligan, TA.** Status Epilepticus STRATUS Center for Medical Simulation. 2010
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### **Narrative Report**

I am a medical educator, leader and neurologist. My career has intertwined clinical work in the field of general neurology and epilepsy and educating others about these fields. I hold leadership positions locally and nationally teaching neurology, epilepsy, communication skills and reflective practice in medicine. I am Vice Chair for Education in the Dept. of Neurology. My activities are centered around helping patients directly and helping clinicians to take better care of patients by providing leadership, mentorship and education.

One focus of my career has been assessment of clinical competence. I was a primary member of the ACGME Milestone Committee for Neurology. The work was published in the Journal of Graduate Medical Education. I also helped develop the Milestones for the epilepsy fellows. I am the director of the Clinical Competency Committee for the Harvard Neurology Residency Program at BWH/MGH. In this role, I lead the assessment of 54 residents biannually. I am also a co-director of the Giving Bad News Observed Clinical Skills Examination for Harvard Medical School. In this role, I co-direct the evaluation of the second year medical students as they present the diagnosis of cancer to a standardized patient. I am also a member of the board for the National Board of Medical Examiners (NBME). The NBME develops the licensing examinations for medical students and physicians in the United States. I chair the Behavioral Sciences Committee and the Item Review Committee. I am also a member of the stakeholder council of the American Board of Medical Specialties which oversees maintenance of certification for physicians.

I have also focused on improving communication skills and humanism and reflective practice in residents and medical students. I am a member of the Pearl Hurwitz Award Committee for the Arnold P. Gold Foundation. I co-direct two Harvard Medical School courses that are mandatory for all HMS students- The Developing Physician I (for 1<sup>st</sup> year medical students) and The Developing Physician II (for 2<sup>nd</sup> year medical students). These courses focus on self-care, the doctor-patient relationship, and system-based practice. I developed and continue to direct the first Neurology Simulation Course at the BWH Simulation Center (STRATUS). This course has occurred annually for the past 9 years. In this course, we focus on clinical skills including communication skills, particularly around a simulated patient with a conversion disorder.

In an era of sub-specialization in neurology, particularly in academics, I have maintained a focus on general neurology as well as my specialty of epilepsy. This informs the educational work that I do. I have co-developed a Neurology Video Primer. This is the first concept video publication and is an electronic publication from Oxford University Press. I co-direct two of the highest rated Harvard CME Courses- Neurology for the Non-Neurologist and Neurology updates. These courses allow for education of clinicians who are non-experts or experts respectfully in neurology. I edited a book, Neurology for the Non-neurologist. For the past 6 years, I have been the director of the American Academy of Neurology Epilepsy I Basics Course, which is one of the highest rated epilepsy courses at AAN. I am also the co-director of the BWH Neurology Seminar Series, which is a weekly Grand Rounds format for the neurologist and neuroscientists in the Dept. of Neurology.

I have a long-standing interest in mentorship, particularly those under-represented in medicine. For the past 15 years, I have been a preceptor for the observership program for college and medical students who are URM. For the past 10 years, I have been a volunteer neurologist at

Indian Health Services. In this role, I go to Shiprock, NM for a week annually and deliver teleconsults and video-education. I have led a mentorship dinner at the AAN for the minority scholars. I am a member of the Diversity Award Committee for Harvard Medical School and in 2014 was awarded The Harold Amos Faculty Diversity Award for my work as Neurology Program Director.

I am deeply committed to helping people with epilepsy. I founded the First Seizure Clinic at BWH and the EMERGE educational program at BWH for people with epilepsy. I created a video series available on YouTube about epilepsy. I am currently developing educational materials to help college students with epilepsy. I am the Chair of the Professional Advisory Board for the Epilepsy Foundation of New England. I was awarded the Edward B. Bromfield Award for Excellence, Commitment to Patient Care, Teaching and Clinical Collaboration in Epilepsy.