

CURRICULUM VITAE
The Johns Hopkins University School of Medicine



Elisabeth Breese Marsh, MD FAHA FANA FAAN

May 30, 2023

DEMOGRAPHIC AND PERSONAL INFORMATION

Current Appointments

- 2012-present Director, Johns Hopkins Intracerebral Hemorrhage Center, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 2013-present Associate Program Director, Neurology Residency, Johns Hopkins School of Medicine, Baltimore, MD
- 2013-present Director, Johns Hopkins Bayview Stroke Intervention Clinic (BaSIC), Johns Hopkins Bayview Medical Center, Baltimore, MD
- 2014-present Director, Comprehensive Stroke Center, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 2016-present Associate Professor, Department of Neurology, Cerebrovascular Division, The Johns Hopkins Hospital, Baltimore, MD
- 2018-present Vice Chair of Clinical Operations, Neurology Department, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 2023 Vice Chair of Education, Neurology Department, Johns Hopkins School of Medicine, Baltimore, MD

Personal Data

Offices:

The Johns Hopkins Hospital
Department of Neurology
Phipps 446C
600 N. Wolfe Street
Baltimore, MD 21287
(T) 410-550-8703
(F) 410-550-0539
ebmarsh@jhmi.edu

Johns Hopkins Bayview Medical Center
Department of Neurology
301 Mason F. Lord Drive
Suite 2100
Baltimore, MD 21224

Education and Training

Undergraduate

1999-2003 B.A., Neuroscience, The Johns Hopkins University, Baltimore, MD; graduated magna cum laude

Doctoral/graduate

2003-2007 M.D., The Johns Hopkins University School of Medicine, Baltimore, MD

Postdoctoral

- 2007-2008 Intern, Internal Medicine, The Johns Hopkins Bayview Medical Center, Baltimore, MD
- 2008-2011 Resident, Neurology, The Johns Hopkins Hospital, Baltimore, MD
- 2011-2012 Research and Clinical Fellow under Rafael Llinas, Vascular Neurology, The Johns Hopkins Hospital, Baltimore, MD

Professional Experience

- 2012-2016 Assistant Professor of Neurology, The Johns Hopkins University School of Medicine, Baltimore, MD
- 2012-present Director, Johns Hopkins Intracerebral Hemorrhage Center, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 2013-present Associate Program Director, Neurology Residency, Johns Hopkins School of Medicine, Baltimore
- 2013-present Director, Johns Hopkins Bayview Stroke Intervention Clinic (BaSIC), Johns Hopkins Bayview Medical Center, Baltimore, MD
- 2014-present Director, Comprehensive Stroke Center, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 2016-present Associate Professor of Neurology, Johns Hopkins University School of Medicine, Baltimore, MD

- 2018-present Vice Chair of Clinical Operations, Neurology Department, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 2023 Vice Chair of Education, Neurology Department, Johns Hopkins School of Medicine, Baltimore, MD

PUBLICATIONS:

Original Research [OR] (*corresponding author; ___ mentees)

1. **Breese EL**, Hillis AE. Auditory comprehension: is multiple choice really good enough? *Brain/Language* 2004;89:3-8.
2. Hillis AE, Barker PB, Wityk RJ, Aldrich EM, Restrepo L, **Breese EL**, Work M. Variability in subcortical aphasia is due to variable sites of cortical hypoperfusion. *Brain/ Language*. 2004;89: 524-530.
3. Hillis AE, Chang S, **Breese E**, Heidler J. The crucial role of posterior frontal regions in modality specific components of the spelling process. *Neurocase*. 2004;10:175-187.
4. Hillis AE, Work M, Barker PB, Jacobs MA, **Breese EL**, Mauer K. Re-examining the brain regions crucial for orchestrating speech articulation. *Brain*. 2004;127: 1479-1487.
5. Hillis AE, Newhart M, Heidler J, **Breese Marsh E**, Barker PB, Degaonkar M. The neglected role of the right hemisphere in spatial representation of words for reading. *Aphasiology*. 2005;19: 225-238.
6. **Marsh EB**, Hillis AE. Cognitive and neural mechanisms underlying reading and naming: evidence from letter-by-letter reading and optic aphasia. *Neurocase*. 2005;11: 325-337.
7. **Marsh EB**, Freeman JM, Kossoff EH, Vining EPG, Rubenstein JE, Pyzik PL, Hemingway C. The outcome of children with intractable seizures: a 3-6 year follow-up of 67 children who remained on the ketogenic diet less than one year. *Epilepsia*. 2006;47: 425-430.
8. Philipose LE, Newhart M, Kleinman JT, Gottesman R, Herskovits EH, Pawlak MA, **Marsh EB**, Davis C, Heidler-Gary J, Hillis AE. Neural regions essential for reading and spelling of words and pseudowords. *Ann Neurol*. 2007;62: 481-492.
9. **Marsh EB**, Hillis AE. Dissociation between egocentric and allocentric visuospatial and tactile neglect in acute stroke. *Cortex*. 2008;44: 1215-1220.
10. **Marsh EB**, Newhart M, Kleinman JT, Heidler-Gary J, Vining EP, Freeman JM, Hillis AE. Hemispherectomy sustained before adulthood does not cause persistent hemispatial neglect. *Cortex*. 2009;45: 677-685.
11. **Marsh EB**, Zeiler SR, Levy M, Llinas RH, Urrutia VC. Diagnosing CNS Vasculitis: the case against empiric treatment. *Neurologist*. 2012;18: 233-238. [QI]
12. **Marsh EB**, Gottesman RF, Hillis AE, Urrutia VC, Llinas RH. Serum creatinine may indicate risk of symptomatic intracranial hemorrhage after iv tpa. *Medicine*. 2013;92:317-323. [QI]
13. ***Marsh EB**, Llinas RH, Hillis AE, Gottesman RF. Hemorrhagic transformation in patients with acute ischemic stroke and an indication for anticoagulation. *Eur J Neurol*. 2013;20:962-967.
14. Faigle R, Sharrief AZ, **Marsh EB**, Llinas RH, Urrutia VC. Predictors of critical care needs after iv thrombolysis for acute ischemic stroke. *PLoS ONE*. 2014;9(2): e88652.
15. Kaplan EH, Gottesman RF, Llinas RH, ***Marsh, EB**. The association between specific substances of abuse and subcortical intracerebral hemorrhage versus ischemic lacunar infarction. *Front Neurol*. 2014;5:174.
16. ***Marsh EB**, Gottesman RF, Hillis AE, Maygers J, Lawrence E, Llinas RH. Predicting symptomatic intracerebral hemorrhage versus lacunar disease in patients with longstanding hypertension. *Stroke*. 2014;45: 1679-1683.
17. ***Marsh EB**, Llinas RH. "Stuttering lacunes": an acute role for clopidogrel? *J Neurol Translat Neurosci*. 2014;2(1):1035-1038.
18. Popma JJ, Adams, DH, Reardon MJ, Yakobov SJ, Kleiman NS, Heimansohn D, and **Corevalve United States Clinical Investigators**. Transcatheter aortic valve replacement using a self-expanding bioprosthesis in patients with severe aortic stenosis at extreme risk for surgery. *J Am Coll Cardiol*. 2014;63:1972-1981. *Site neurologist*.
19. Faigle R, **Marsh EB**, Llinas RH, Gottesman RF, Urrutia VC. A novel score predicting gastrostomy tube placement in intracerebral hemorrhage. *Stroke*. 2015;46(1):31-36.
20. Faigle R, **Marsh EB**, Llinas RH, Urrutia VC. Critical care needs in patients with diffusion-weighted imaging negative MRI after tPA - Does one size fit all? *PLoS ONE*. 2015;10(10):e0141204.
21. Faigle R, **Marsh EB**, Llinas RH, Urrutia VC, Gottesman RF. Troponin elevation predicts critical care needs and in-hospital mortality after thrombolysis in white but not black patients. *J Crit Care*. 2015 Dec 2.
22. Faigle R, Wozniak A, **Marsh EB**, Llinas RH, and Urrutia VC. Infarct volume predicts critical care needs in stroke patients treated with intravenous thrombolysis. *Neuroradiol*. 2015;57(2):171-178.
23. Faigle R, **Marsh EB**, Llinas RH, Urrutia VC, Gottesman RF. ICAT: a simple score predicting critical care needs after thrombolysis in stroke patients. *Crit Care*. 2016;20(1):26.

24. ***Marsh EB**, Llinas RH, Schneider ALC, Hillis AE, Lawrence E, Dziedzic P, Gottesman RF. Predicting hemorrhagic transformation of acute ischemic stroke: prospective validation of the HeRS score. *Medicine*. 2016;25:e2430. [QI]
25. ***Marsh EB**, Lawrence E, Gottesman RF, Llinas RH. The NIH stroke scale has limited utility in accurate daily monitoring of neurologic status. *Neurohospitalist*. 2016;6(3):97-101.
26. ***Marsh EB**, Ziai W, Llinas RH. The need for a rational approach to vasoconstrictive syndromes: TCD and calcium channel blockers in RCVS. *Case Reports Neurol*. 2016;8(2):161-171.
27. Chen K, Schneider ALC, Llinas RH, ***Marsh EB**. Keep it simple: vascular risk factors and focal exam findings correctly identify posterior circulation ischemia in “dizzy” patients. *BMC Emerg Med*. 2016;16(1):8-16. [QI]
28. Cao C, Martinelli A, Spoelhof B, Llinas RH, ***Marsh EB**. In potential stroke patients on warfarin, the international normalized ratio predicts ischemia. *Cerebrovasc Dis EXTRA*. 2017;7:111-119.
29. Casella G, Llinas RH, ***Marsh EB**. Isolated aphasia in the emergency department: the likelihood of ischemia is low. *Clin Neurol Neurosurg*. 2017;163:24-26.
30. Lawrence E, Merbach D, Thorpe S, Llinas RH, ***Marsh EB**. Streamlining the process for intravenous tissue plasminogen activator. *J Neurosci Nursing*, 2018;50(1):37-41. [QI]
31. Sharma R, Llinas R, Urrutia V, ***Marsh EB**. Collaterals predict outcome regardless of time last known normal. *J Stroke Cerebrovasc Dis*. 2018;27(4):971-977.
32. ***Marsh EB**, Lawrence E, Hillis AE, Chen K, Gottesman RF, Llinas RH. Pre-stroke employment results in better patient-reported outcomes after minor stroke. *Clin Neurol Neurosurg*. 2018;165:38-42.
33. Chacon-Portillo MA, Llinas RH, ***Marsh EB**. Cerebral microbleeds shouldn’t dictate treatment of acute stroke: a retrospective cohort study evaluating risk of intracerebral hemorrhage. *BMC Neurol*. 2018;18(1):33. [QI]
34. Chang A, Llinas E, Chen K, Llinas RH, ***Marsh EB**. Shorter ICU stays? The majority of post-iv tpa symptomatic hemorrhages occur within 12 hours of treatment. *Stroke*. 2018;49(6):1521-1524. [QI]
35. Faigle R, Zeiler S, **Marsh EB**, Bahouth M, Cerdan M, Dearborn J, Leigh R, Lane K, Saheed M, Hill P, Llinas RH, Urrutia VC. Safety of intravenous alteplase within 4.5 hours for patients awakening with stroke symptoms. *PLOS ONE*. 2018;13(5):e0197714.
36. Llinas RH, **Marsh EB**, Gamaldo CE. Enhancing resiliency in our residents: combining the principles of business and neurobiology. *Neurology*. 2018;91(18):e1721-e1723.
37. Chen K, ***Marsh EB**. Chronic post-stroke fatigue: it may no longer be about the stroke itself. *Clin Neurol Neurosurg*. 2018;174:192-197.
38. Feghali J, Xu R, Yang W, Liew J, Tamargo RJ, **Marsh EB**, Huang J. Differing surgical outcomes in a multi-ethnic cohort suggest racial phenotypes in Moyamoya disease. *World Neurosurg*, 2019;128:e865-e892.
39. Merbach D, Lawrence E, Mallick D, ***Marsh EB**. A therapeutic INR results in smaller infarcts and better outcomes for patients with ischemic stroke. *J Stroke Cerebrovasc Dis*. 2019;28(10):104278.
40. Gweh D, Khan S, Pelletier L, Tariq N, Llinas RH, ***Marsh EB**. The post-pipeline headache: new headaches following flow diversion for intracranial aneurysm. *J Vasc Intervent Neurol*. 2020;11(1):34-39.
41. Khan S, Soto A, ***Marsh EB**. Resource allocation: stable patients remain stable 12-24 hours post-tpa. *Neurocrit Care*. 2020;33:582-586. [QI]
42. Shin SS, **Marsh EB**, Ali H, Nyquist PA, Hanley DF, Ziai WC. Comparison of traumatic intracranial hemorrhage expansion and outcomes on patients on direct oral anticoagulants versus vitamin k agonists. *Neurocrit Care*. 2020;32(2):407-418.
43. Haight TN, ***Marsh EB**. Identifying Delirium Early After Stroke: A new prediction tool for the intensive care unit. *J Stroke Cerebrovasc Dis*. 2020;29(11):105219.
44. Chang A, Behestian E, Llinas E, Idowu OR, ***Marsh EB**. Intravenous tissue plasminogen activator in combination with mechanical thrombectomy: clot migration, intracranial bleeding, and the impact of ‘drip and ship’ on effectiveness and outcomes. *Front Neurol section Stroke*. 2020;11:585929.
45. ***Marsh EB**, Brodbeck C, Llinas RH, Mallick D, Kulasingham JP, Simon JZ, Llinas RR. Post-stroke acute dysexecutive syndrome, a disorder resulting from minor stroke due to disruption of network dynamics. *PNAS*. 2020;117:33578-33585.
46. Sharma R, Mallick D, Llinas RH, ***Marsh EB**. Early post-stroke cognition: in-hospital predictors and the association with functional outcome. *Front Neurol section Stroke*. 2020;11:613607.
47. Faigle R, Chen BJ, Krieger R, **Marsh EB**, Alkhachroum A, Xiong W, Urrutia VC, Gottesman RF. Novel Score for Stratifying Risk of Critical Care Needs in Intracerebral Hemorrhage Patients: Critical Care Needs in ICH. *Neurology*. 2021;96(20):e2458-e2468.

48. Balucani C, Carhuapoma JR, Canner JK, Faigle R, Johnson B, Aycock A, Phipps MS, Schrier C, Yarbrough K, Toral L, Groman S, Lawrence E, Aldrich E, Goldsmidt A, **Marsh E**, Urrutia, VC. Exploring the Collateral Damage of the COVID-19 Pandemic on Stroke Care: A Statewide Analysis. *Stroke*. 2021;52:1822-1825.
49. Lin RZ and ***Marsh EB**. Abnormal singing can identify patients with right hemisphere cortical strokes at risk for impaired prosody. *Medicine*. 2021;100(23):e26280.
50. ***Marsh EB**, Kornberg M, Kessler K, Haq I, Patel AD, Nath A, Schierman B, Jones LK. COVID-19 and vaccination in the setting of neurological disease: an emerging issue in neurology. *Neurology*. 2021;97(15):720-728.
51. Haight T, Tabaac B, Patrice K-A, Phipps M, Butler J, Johnson B, Aycock A, Toral L, Yarbrough KL, Schrier C, Lawrence E, Goldsmidt A, **Marsh EB**, Urrutia VC. The Maryland acute stroke emergency medical services (ems) routing pilot: expediting access to thrombectomy for stroke. *Front Neurol section Stroke*. 2021;12:1-11.
52. Llinas EJ, Max A, Khan S, ***Marsh EB**. The routine follow-up head CT: is it still a necessary step in the thrombolysis pathway? *Neurocrit Care*. 2021; doi: 10.1007/s12028-021-01348-4. Epub ahead of print, in press. [QI]
53. Kulasingham J, Brodbeck C, Khan S, **Marsh EB**, Simon JZ. Bilaterally reduced rolandic beta band activity in minor stroke patients. *Front Neurol*, 2022;13:819603. *(Co-last author)*
54. ***Marsh EB**, Khan S, Llinas RH, Walker KA, Brandt J. Multi-domain cognitive dysfunction after minor stroke suggests generalized disruption of cognitive networks. *Brain/Behavior*, 2022;12:e2571.
55. Khan S, Llinas EJ, Danoff SK, Llinas RH, ***Marsh EB**. The telemedicine experience: using principles of clinical excellence to identify disparities and optimize care. *Medicine*, 2022;101(10).
56. Chen C, Girgenti S, Mallick D, ***Marsh EB**. When less is more: non-contrast head CT alone to work-up hypertensive intracerebral hemorrhage. *J Clin Neurosci*, 2022;100:108-112 [QI]
57. Girgenti S, Brunson AO, ***Marsh EB**. Baseline function and rehabilitation are as important as stroke severity as long-term predictors of cognitive performance post-stroke. *Am J Phys Med Rehab*, 2023;102.2S:S43-S50.
58. Soleimani B, Das P, Kulasingham JP, Simon JZ, Babadi B, **Marsh EB**. Increased inter-hemispheric directed functional connectivity underlies post-stroke cognitive recovery: an MEG resting-state study. *Brain Communications*, 2023; DOI:10.1093/braincomms/fcad149. *(Co-last author)*
59. Yi J, Lu J, Yang A, ***Marsh EB**. In-hospital predictors of post-stroke depression for targeted initiation of selective serotonin reuptake inhibitors (SSRIs). *BMC Psych*, 2022;22(1):1-7.
60. Torres-Simon L, Cuesta P, Del Cerro A, Chino B, Hernandez Orozco L, Marsh EB, Gil P, Maestu F. The effects of white matter hyperintensities on MEG power spectra in the mild cognitive impairment population. *Frontiers in Human Neuroscience*, section Brain Health and Clinical Neuroscience, in press.
61. Yedavalli VS, Hamam O, Gudenkauf J, Wang R, Llinas R, **Marsh EB**, Caplan J, Nael K, Urrutia V. Assessing the efficacy of mechanical thrombectomy in patients with an NIHSS <6 presenting with proximal middle cerebral artery vessel occlusion as compared to best medical management. *Brain Sciences*, in press.

Review Articles [RA] (*corresponding author)

1. **Marsh EB**, Gottesman RF. Brain hemorrhage: restarting anticoagulation after intracranial hemorrhage. *Nature Reviews Neurol*. 2011;7: 130-132.
2. Lee PR, ***Marsh EB**. Mentoring in neurology: filling the residency gap in academic mentoring. *Neurology*. 2014;82(10):e85-e88.
3. Torres Simon L, Doval S, Nebreda A, Llinas SJ, **Marsh EB**, Maestu F. Understanding brain functioning in vascular cognitive impairment and dementia with EEG and MEG: a systematic review. *NeuroImage: Clinical*. 2022;35:103040.
4. **Marsh EB**, Girgenti S, Llinas EJ, Brunson AO. Outcomes in patients with minor stroke: diagnosis and management in the post-thrombectomy era. *J Neurotherapeutics*, 2023; DOI:10.1007/s13311-01349-5.

Case Reports [CR] (*corresponding author)

1. **Marsh EB**, Chow GV, Rastegar DA, Antonarakis ES. A cut above. *Am J Med*. 2007;120:1031-1033.
2. ***Marsh EB**, Ng K, Llinas R. The Vanishing Clot. *J Neurol Translat Neurosci*. 2013;1:1006.
3. **Marsh EB**, Leigh R, Radvany M, Gailloud P, Llinas RH. Collateralization: an important determinant of prolonged ischemic penumbra versus rapid cerebral infarction. *Front Neurol*. 2014;5:208.

Book Chapters, Monographs [BC]

1. Hillis AE, **Breese EL**. Aphasia recovery: stages and mechanisms. In Freddi A (ed). *Stroke Today*. Rome: San Raffaele Termini, 2003;288-297.

2. **Marsh EB**, Hillis AE. Recovery from Aphasia following Brain Injury: the Role of Reorganization. In A. Møller A, Bond Chapman S, Lomber SG (eds). Reprogramming the Human Brain: a volume of Progress in Brain Research. Amsterdam: Elsevier Science, 2006;157:143-156.
3. **Marsh EB**, Hillis AE. Aphasia and Stroke. In Caplan L, Mohr JP, van Gijn J (eds). Stroke Syndromes, 4th Ed. Cambridge: Cambridge Univ Press, 2012;184-194.
4. Arthur K, **Marsh EB**. Aphasia and Stroke. In Caplan L, Mohr JP, van Gijn J (eds). Stroke Syndromes, 5th Ed. Cambridge: Cambridge Univ Press, 2022.

Books, Textbooks [BK] None.

Other Publications

Editorials [ED]

1. 2014 Top Stories in Neurology: Statin Therapy; Practice Update
<http://www.practiceupdate.com/author/Elisabeth-Marsh>
2. Neurology Practice Changer in 2015: Advances in Acute Stroke Treatment; Practice Update
<http://www.practiceupdate.com/author/Elisabeth-Marsh>
3. Midlife Hypertension and 20-Year Cognitive Change; Practice Update
<http://www.practiceupdate.com/author/Elisabeth-Marsh>
4. ***Marsh EB**, Fazekas F. Independence after Stroke: Mind over Matter. Neurology, 2018;91(20):903-904.
5. ***Marsh EB**, Llinas R. Stroke Recovery: Does One Size Fit All? Neurology, 2018;91(23):1038-1039.
6. ***Marsh EB**. It's All Relative, November 2020. <https://closler.org/connecting-with-patients/its-all-relative>.
7. ***Marsh EB**. Supporting Patients Through Small Strokes, February 2021. <https://closler.org/lifelong-learning-in-clinical-excellence/supporting-patients-through-small-strokes>.
8. **Marsh EB**. A Commentary on: Short-Term Trajectories of Post-Stroke Cognitive Function: A STROKOG Collaboration Study. Practice Update in Neurology, 2023.

Published Curricula [PC], Learner Assessment Tools, Educational Evaluations, Assessment/Evaluation Instruments [PC]

- 2014 iTunes U Video Course: Johns Hopkins Bayview Neurology Junior Resident Talks: NIH Stroke Scale and Screening Neurologic Exam, BAT Calls, Work-up of Acute Stroke
- 2014 iTunes U Video Course: Emergency Department Stroke Education Talks: Basic Work-up of Ischemic Stroke, Acute Stroke Assessment, The NIHSS, An Intra-arterial Success Story, IV tPA Morbidity and Mortality Case
- 2016 NEJM Knowledge + Internal Medicine Board Review. Wrote 4 questions in neurology for a comprehensive lifelong learning product from the NEJM Group (<http://knowledgeplus.nejm.org/>).

Media Releases or Interviews [MR]

- 2014 Good Housekeeping: It Started as a Headache; Rebecca Webber
<http://www.goodhousekeeping.com/health/a25636/headache-stroke/>
- 2015 NeuroNow: Keeping previous stroke patients from becoming inpatients
<http://m.hopkinsmedicine.org/news/articles/keeping-previous-stroke-patients-from-becoming-inpatients>
- 2016 Reuters Health News: Seizures After Stroke; Lorraine Janeczko
- 2016 ACP Hospitalist: Putting Stroke Research into Practice- now that endovascular therapy has been officially endorsed by experts, how should hospitals respond?; Janet Colwell
- 2018 Neurology Advisor: Stroke in Women: Risk, Prevention, and Treatment
<https://www.neurologyadvisor.com/stroke/stroke-risk-women-prevention-treatment/article/750217/>
- 2021 Neurology Today: No significant differences in outcomes between endovascular treatment and medical care for basilar artery occlusions
https://journals.lww.com/neurotodayonline/Fulltext/2021/07080/No_Significant_Differences_in_Outcomes_Between.4.aspx
- 2022 New York Times: Can a "Magic" Protein Slow the Aging Process?
<https://www.nytimes.com/2022/07/19/business/aging-protein-elevian.html>

Other Media [OM] (Videos, Websites, Blogs, Social Media, etc.)

- 2015 The NIH Stroke Scale. World Neurology Foundation
https://www.youtube.com/watch?v=do2CbY_Nm5c (48,308 views)
- 2015 BATs: Assessment of Acute Stroke. World Neurology Foundation. 2015
<https://www.youtube.com/watch?v=kuwMFyENfH4> (553 views)
- 2015 Basic Work-up of Ischemic Stroke Work-up. World Neurology Foundation. 2015
<https://www.youtube.com/watch?v=qK2f9Kegy80> (1,294 views)

FUNDING

EXTRAMURAL Funding

Research Extramural Funding

Current:

- 9/10/22- 9/09/27 Digital Biomarkers for Vascular Cognitive Decline in Patients with Minor Stroke
NIH/NIA
1 RF1 AG079324
\$3,826,858
Role: PI, 20%; This study uses MEG to evaluate the neurophysiological relationship between a single stroke and vascular dementia, and the utility of early MEG findings as a biomarker for post-stroke cognitive deterioration and progression to vascular dementia to allow targeted therapies meant to improve function.
- 9/1/20 – 8/30/23 Mindfulness Matters: Mindfulness Based Stress Reduction (MBSR) to Treat Post-Stroke Cognitive Dysfunction After Minor Stroke* *1 year no cost extension*
NIH/NIA
1 R21 AG068802-01
\$275,000
Role: PI, 15%; This is a randomized controlled trial evaluating the impact of MBSR on post-stroke cognitive dysfunction in patients with low NIHSS scores (minor stroke).
- 2/15/13- 1/5/25 Medtronic SURTAVI: Surgical Replacement and Transcatheter Aortic Valve Implantation
Medtronic
PI: Resar, J; Conte, J
Role: Site Neurologist, 8%; The goals of this study are to investigate the safety and efficacy of transcatheter aortic valve implantation (TAVI) in patients with severe, symptomatic Aortic Stenosis (AS) at intermediate surgical risk by randomizing patients to either Surgical Aortic Valve Replacement (SAVR) or TAVI with the Medtronic CoreValve® System.

Pending:

- 4/1/24- 3/31/29 tDCS to Treat Post-Stroke Cognitive Impairment
NIH/NIA- pending Council review
\$3,598,904
Role: PI, 30%; This study uses MEG as an individualized biomarker to identify treatment targets for non-invasive brain stimulation of cognitive networks to treat post-stroke dementia and augment recovery.
**currently in study section but previously good score out of funding range*

Previous:

- 6/1/04- 8/30/04 Egocentric and Allocentric Visuospatial and Tactile Neglect in Stroke Patients
AHA Student Scholarship in CV Disease and Stroke
American Heart Association
\$2,000
Role: PI: 100%
- 9/15/08- 11/30/11 Interventional Management of Stroke III (IMS III)
5 U01 NS 052220-03
NINDS
\$73,272.00
PI: Broderick, J
Role: Co-Investigator (recruited patients into trial), no salary support
- 1/1/10- 6/30/14 Efficacy and Safety Study of Desmoteplase to Treat Acute Ischemic Stroke
NCT00856661
H. Lundbeck A/S

\$75,397.00
 PI: Albers, G
 Role: Co-Investigator (recruited patients into trial), no salary support

7/1/10- 9/30/12 Too Thin or Not Too Thin; A Predictive Model of the Risks and Benefits of Anticoagulation in Patients Presenting with Acute Ischemic Stroke
 R25 NS065729
 NIH/NINDS
 \$359,546
 PI: Hillis, AE
 Role: PI of Administrative Supplement: 80%; Principal Investigator of Administrative Supplement, 80% for 9 calendar mo/yr; The major goal of this study is determine the factors that predict increased risk of intracranial hemorrhage within 2 unique populations: an inpatient cohort with acute ischemic stroke and an indication for anticoagulation, and a community-based cohort (through the Atherosclerosis Risk in Communities (ARIC) Study).

8/1/10- 7/31/15 Platelet Oriented Inhibition in New TIA and Minor Ischemic Stroke Trial
 NCT00991029
 NINDS/NETT
 \$22,222.00
 PI: Johnston, C
 Role: Co-Investigator (recruited patients into trial), no salary support

10/1/12- 6/30/14 Neural Bases of Empathy and Prosody
 5R01NS047691
 NIH/NINDS
 \$1,674,518.00
 PI: Hillis, AE
 Role: Co-Investigator, 9%; The goals of this study are to use diffusion and perfusion imaging techniques to determine the areas of the brain responsible for various cognitive functions including empathy and prosody.

10/1/12- 8/31/16 ARIC Neurocognitive Study (ARIC-NCS)
 R01 HL096812-01
 NIH/NHLBI
 PI: Coresh, J
 Role: Co-Investigator, 10%; The goals of this study are to determine the vascular contributors to dementia and cognitive impairment in a biethnic cohort, and to determine genetic contributors to vascular cognitive impairment, dementia, and white matter disease of the brain.

1/1/14- 12/31/14 FRED
 Microvention
 PI: Coon, A
 Role: Site Neurologist, 2%; This study evaluates the FRED Stent System for the treatment of intracranial aneurysms.

1/1/14- 3/31/16 SURPASS
 Stryker
 PI: Coon, A
 Role: Site Neurologist, 4%; This study evaluates the Surpass Aneurysm-Embolization System for the treatment of intracranial aneurysms.

1/1/15- 9/21/17 WEB-IT
 Sequent Medical
 PI: Coon, A
 Role: Site Neurologist, 2%; This study evaluates the WEB Intracranial Aneurysm Embolization System for the treatment of intracranial aneurysms.

7/1/18-6/30/21 Imaging the Network: Using MEG to Understand the Pathophysiology of Cognitive Deficits After Minor Stroke

2018 American Heart Association Innovative Research Grant

18IPA34170313

\$200,000.00

Role: PI, 15%; This study uses magnetoencephalography (MEG) to determine the differences in brain activation that underlie cognitive difficulties not explained by infarct size or location after minor stroke; how these changes evolve over time; and whether MEG can serve as a biomarker to predict long term cognitive outcomes.

INTRAMURAL Funding

Current:

2019- Implement Acute Neurology Initiative as a Center of Innovative Medicine (CIM) Scholar
Rubenstein Family
\$5million over 5 years

Previous:

10/1/12- 9/30/14* Predicting Intracranial Hemorrhage: The Multivariable Hemorrhage Risk Model
Clinician Scientist Award
Johns Hopkins University School of Medicine
\$80,000.00
Role: PI: 48%; The major goal of this study is to determine what factors are associated with increased risk of intracranial bleeding in patients presenting with acute ischemic stroke and an indication for anticoagulation. *with competitive renewal

CLINICAL ACTIVITIES

Clinical Focus

I took over as Director of the Stroke Program at Bayview Medical Center in 2014. Since that time, I have created a follow-up clinic (BaSIC), dedicated to the specialty care of complex stroke patients and their families post-hospital discharge, and taken the Stroke Center from an award winning Primary Stroke Center to a Joint Commission and State of Maryland certified Comprehensive Stroke Center in July 2016 (one of only 3 in Maryland). In BaSIC, we focus on under-appreciated post-stroke deficits such as fatigue, depression, and cognitive impairment that significantly impact quality of life and recovery, as well as secondary stroke prevention. By implementing BaSIC I increased the post-discharge follow-up rate from 50% to 80% and reduced readmissions. The clinic has been recognized as a 'best practice' by the Joint Commission. Most recently I grew the program by adding 2 nurse practitioners to provide continuity of care for inpatient consults, expand stroke expertise to our acute rehabilitation program, and decrease outpatient wait times. In 2020 I was elected into the Miller Coulson Academy for Clinical Excellence, and this spring (2022) the Stroke Program was awarded the Institution's Award for Innovations in Clinical Care.

Certifications

Medical, other state/government licensure

2011-present Maryland Medical License, D72024

Boards, other specialty certification

2011-present American Board of Psychiatry and Neurology; renewed 2021

2012-present Vascular Neurology; renewed 2022

Clinical (Service) Responsibilities (approximately 40% effort)

2012-present Cerebrovascular Attending, Inpatient Stroke Service/Neurology Service, Johns Hopkins Hospital/Bayview Medical Center, 10 weeks/year

2012-present Outpatient Cerebrovascular Clinic, BaSIC/Intracerebral Hemorrhage Center, Johns Hopkins Bayview Medical Center, Baltimore, MD, 2- ½ days/week

2012-present Teaching Attending, Neurology Resident Clinic, Johns Hopkins Bayview Medical Center, Baltimore, MD, 1 clinic/month

2015-present Unified BAT Attending (covering acute stroke call for Johns Hopkins Hospital, Bayview Medical Center, Howard County General, GBMC, JHI Bermuda), 4 weeks/year

Clinical Productivity

All patients admitted to Bayview Medical Center with stroke (>450 per year) are seen by the stroke team in the hospital (comprised of myself, Rafael Llinas MD, Erin Lawrence F-NP- stroke coordinator, and Dawn Merbach F-NP- stroke nurse). The Bayview Stroke Intervention Clinic sees approximately 150 of these patients post-discharge for follow-up per

year and patients are followed at 1, 6, and 12 months post-stroke. In addition, I see patients from Maryland, out-of-state, and international patients for second opinions and stroke management in my own weekly clinic.

FY 2019 Out of state/international percentage: 13%

FY 2019 Percent utilization: 121% (2,143 RVUs; 121% of target)

Clinical Draw from outside local/regional area

As BaSIC and my stroke practice focus mainly on stroke recovery and draw from my patient base treated at Bayview's Stroke Center, the majority of my patient population is local, as acute stroke treatment is time-dependent. As a Stroke Center specializing in acute treatment using both IV tissue plasminogen activator (nearly 100 cases per year) and endovascular clot removal (over 75 cases per year), we are best able to treat complex stroke patients with large vessel occlusions and severe strokes based on the stroke trials published in the NEJM. As one of 3 centers within the state of Maryland capable of such treatment, beginning in July 2017 these patients are now preferentially routed from around the state and regional areas (PA, DC, VA, DE, etc.) for acute treatment and followed in our clinic.

Membership in or examiner for specialty board

2012-present American Board of Psychiatry and Neurology- Vascular Neurology

Clinical Program Building / Leadership

2012-present Director, Johns Hopkins Intracerebral Hemorrhage Center, Bayview Medical Center

2013-present Director, Johns Hopkins Bayview Stroke Intervention Clinic (BaSIC), Bayview Medical Center

2014-present Director, Comprehensive Stroke Center, Johns Hopkins Bayview Medical Center, Baltimore, MD- Bayview is a leader in the Stroke Clinical Community within the state, helping to create policy to ensure optimal care of all stroke patients state-wide

2018-present Vice Chair of Clinical Operations, Neurology Department, Johns Hopkins Bayview Medical Center, Baltimore, MD

2023 Vice Chair of Education, Neurology Department, Johns Hopkins School of Medicine, Baltimore, MD

Clinical Demonstration Activities to external audience, on or off campus None.

Development of nationally/internationally recognized clinical standard of care

3/15 Presentation on Acute Stroke Treatment, Clinical Management, and Rehabilitation as part of the International Symposium for the Frontiers of Medicine, Hospital Moinhos de Ventos, Porto Alegre Brazil

4/16 Presentation to Chilean government on Creating a Successful Center of Excellence, Clinica Las Condes, Chile

11/17 Presentation to the Chinese government on Creating a Successful Center of Excellence, Educational Program for Chinese Neurologists

8/18 Presentations to Doctors of Internal Medicine and Neurologists as part of the Ecuador Neurology Project, American Academy of Neurology, Hospital Luis Vernaza Guayaquil Ecuador

5/19 Presentation to the Chinese government on Creating a Successful Center of Excellence, Educational Program for Chinese Neurologists

EDUCATIONAL ACTIVITIES

Educational Focus

As Associate Program Director of the Neurology Residency I have worked to revamp the curriculum by focusing first on building a strong foundation in clinical neurology using examination, localization, and differential diagnosis; followed by individualized career paths that will hone skills needed to become successful fellows and junior faculty members: Master Clinician, Clinician-Scientist (Clinical and Basic Science), Clinician-Educator. Each path has an individualized curriculum with objectives geared toward building on previously acquired skills. Some key additions to the program include: an ambulatory neurology didactic block with clinical rotation built into junior year and an Acute Neurology Resident in the Emergency Department to focus on the identification and management of neurological emergencies. In addition, we instituted early and proactive feedback and remediation where real time verbal feedback is obtained from faculty members and fed back to residents to improve skills and promote growth and independence. I have also focused on mentorship, creating a cohort of 12 junior faculty members who underwent formal training (using a curriculum I designed with our Office of Faculty Development) to become successful mentors, first of the residents, and as they advance, to senior faculty of subsequent junior faculty. This year-long program was designed to teach principles of successful mentoring that included a kick-off retreat and regularly scheduled lectures, feedback, and problem-solving sessions. Due to its success, the cohort has continued to meet regularly and mentor residents. In 2023 I was named Vice Chair of Education across the Department given my successful history of integrating education, mentorship, and research amongst the undergraduate

and residency programs through my research and role as Associate Program Director and work within the ANA to introduce new programming at our annual meeting to support the successful training of the physician scientist. My first priority has been to focus on our greater than 100 fellows to create a consistent framework for development that allows for integration across the department and leverages existing resources to promote a sense of support that was previously lacking.

Teaching

Classroom instruction (many given several times throughout the year)

- 2010-present Speaker, Medical Student Lecture Series, Acute Neurologic Syndromes, Johns Hopkins University, Baltimore, MD
- 2011-present Speaker, Medical Student Lecture Series, Neurological Emergencies, Johns Hopkins University, Baltimore, MD
- 2012-present Speaker, Neurology Residents Noon Conference, Aphasia Syndromes, Johns Hopkins University, Baltimore, MD
- 2012-present Speaker, Neurology Residents Noon Conference, Evidence Basis Behind Acute Stroke Care, Johns Hopkins University, Baltimore, MD
- 2013-present Speaker, Neurology Residents Noon Conference, The Neurological Examination: Mental Status, Johns Hopkins University, Baltimore, MD
- 2013-present Speaker, Neurology Residents Noon Conference, The Neurological Examination: Cranial Nerves, Johns Hopkins University, Baltimore, MD
- 2013-present Speaker, Neurology Residents Noon Conference, Cerebral Dissection, Johns Hopkins University, Baltimore, MD
- 2014-present Speaker, Medical Student Lecture Series, Abnormal Neurological Examination, Johns Hopkins University, Baltimore, MD
- 2014-present Speaker, Neurology Residents Noon Conference, Stroke Work-up and Treatment, Johns Hopkins University, Baltimore, MD
- 2014-present Speaker, Neurology Residents Noon Conference, Stroke Treatment: Interpreting the Evidence, Johns Hopkins University, Baltimore, MD
- 2014-present Speaker, Medicine Residents Noon Conference, Diagnosis and Management of Stroke, Bayview Medical Center, Baltimore, MD
- 2015 Speaker, Neurology Residents Noon Conference, Intra-arterial Intervention at Johns Hopkins Bayview, Johns Hopkins University, Baltimore, MD
- 2015-present Speaker, Medicine Residents Noon Conference, BATS: Assessment of Acute Stroke, Bayview Medical Center, Baltimore, MD
- 2015 Speaker, Medicine Residents Noon Conference, The Evidence Basis of Early Stroke Therapy, Bayview Medical Center, Baltimore, MD
- 2016 Neurology Review for MKSP, Bayview Medicine Residents Morning Report, Bayview Medical Center, Baltimore, MD
- 2016-present Speaker, Medicine Residents Noon Conference, BATS: Assessment of Acute Stroke, Johns Hopkins University, Baltimore, MD
- 2016 Invited Speaker, Cardiology Case Conference, Stroke After Cardiac Catheterization, Johns Hopkins Hospital Baltimore, MD in partnership with Hospital Moinhos de Vento, Porto Alegre Brazil
- 2016 Speaker, Physician Assistants Introductory Lecture Series, Clinical Pearls in Stroke Care, Bayview Medical Center, Baltimore, MD
- 2016-present Speaker, Medicine Residents Noon Conference, Practical and Evidence-Based Stroke Care, Bayview Medical Center, Baltimore, MD
- 2018-present Speaker, Medicine Residents Noon Conference, Acute Stroke Work-up and Management, Johns Hopkins University, Baltimore, MD
- 2019 Speaker, Physical Medicine and Rehabilitation Residents Roundtable, Stroke Issues, Johns Hopkins University, Baltimore, MD
- 2020 Speaker, Neurocritical Care Fellows Noon Conference, Acute Stroke: Initial Management Considerations, Johns Hopkins University, Baltimore, MD

Clinical instruction (given several times throughout the year)

- 2010-present Small Group Instructor, Medical Student Clinical Skills Course, Johns Hopkins University, Baltimore MD
- 2011-present Instructor, Neurology Residents Professors Rounds, Johns Hopkins University, Baltimore MD

CME instruction

JHMI/Regional

- 5/14 Instructor, EMS Course, Acute Stroke Treatment: the Importance of EMS, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 12/14 Instructor, EMS Course, Acute Stroke Treatment II, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 5/15 Instructor, EMS Course, Acute Stroke Care- How Times Have Changed, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 5/16 Instructor, EMS Course, Intra-arterial Therapy: the New Frontier, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 5/17 Instructor, EMS Course, IA Therapy and Small Strokes: What's the Connection, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 9/17 Instructor, Nursing Course, Stroke Syndromes and Mimics, Johns Hopkins Hospital, Baltimore, MD
- 9/18 Instructor, Nursing Course, Intra-Arterial Lysis and Minor Stroke- Related... Really? Johns Hopkins Hospital, Baltimore, MD
- 10/18 Organizer, 25th Practice Update in Neurology, Johns Hopkins School of Medicine, Baltimore, MD
- 6/19 Instructor, Nursing Course, Acute Stroke: How Imaging Helps Determine Etiology and Treatment, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 5/20 COVID-19: Neurological Complications. A COVID-19 Pandemic Update for Hospitals and Clinicians: A Virtual and Interactive Learning Experience, Johns Hopkins School of Medicine,

Workshops /seminars

JHMI/Regional

- 2/12 Instructor, Clinical Topics in Neuroscience Nursing II, Navigating Stroke Care, Johns Hopkins University, Baltimore, MD
- 10/12 Instructor, Clinical Topics in Neuroscience Nursing II, Navigating Stroke Care, Johns Hopkins University, Baltimore, MD
- 1/13 Instructor, Advanced Clinical Topics in Cerebrovascular Disease and Stroke (Nursing), Stroke Syndromes, Johns Hopkins University, Baltimore, MD
- 1/13 Instructor, Nursing Education, The NIHSS, Johns Hopkins Bayview, Baltimore, MD
- 2/13 Instructor, Nursing Education, The NIHSS, Johns Hopkins Bayview, Baltimore, MD
- 2/13 Instructor, Advanced Clinical Topics in Cerebrovascular Disease and Stroke (Nursing), Stroke Syndromes, Johns Hopkins University, Baltimore, MD
- 4/13 Instructor, Clinical Topics in Neuroscience Nursing II, Navigating Stroke Care, Johns Hopkins University, Baltimore, MD
- 5/13 Instructor, Certified Stroke Registered Nursing Review Course, Mimics of Stroke and Stroke Syndromes, Johns Hopkins University, Baltimore, MD
- 11/13 Instructor, Nurse Practitioner Curriculum, Neurologic Spells, Johns Hopkins University School of Nursing, Baltimore, MD
- 4/15 Instructor, Nurse Practitioner Curriculum, Transient Neurologic Events, Johns Hopkins University School of Nursing, Baltimore, MD
- 4/16 Instructor, Nurse Practitioner Curriculum, Neurologic Events- Is it Ischemic? Johns Hopkins University School of Nursing, Baltimore, MD
- 12/16 Instructor, Course on Teaching Excellence in Medicine, The Neurological Examination of Mental Status. Johns Hopkins University, Johns Hopkins University Osler Medicine Program, Baltimore
- 5/17 Instructor, Nursing Course for Continuing Medical Education, Related? Really? Intra-arterial lysis and Minor Stroke, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 2/18 Speaker, Academic Clinical Practice Toolkit Workshop, Leveraging a Clinical Practice to Academic Research Results, Johns Hopkins Office of Faculty Development, Baltimore, MD
- 1/19 Speaker, Pathways to Promotion: Ways to be a Successful and Productive Clinician Researcher, Johns Hopkins Neurology Junior Faculty Retreat, Baltimore, MD
- 5/19 Speaker, Anticoagulation after Ischemic Stroke and Intracranial Hemorrhage, Johns Hopkins Department of Physical Medicine and Rehabilitation Grand Rounds, Baltimore, MD
- 3/21 Speaker, The R25 and Career Development, Neurology Junior Resident Retreat, Johns Hopkins Department of Neurology, Baltimore, MD
- 4/21 Speaker, Promotion: Pathways for Success, Neurology Senior Resident Retreat, Johns Hopkins Department of Neurology, Baltimore, MD

11/22 Speaker, Location, Location, Location! Why it Pays to Know for Ischemic or Hemorrhagic Stroke. 2022 Stroke Symposium, Linthicum, MD

Mentoring

Pre-doctoral Advisees /Mentees

- 2013 Emma Kaplan, MD, Neurology Resident at Boston University; worked with me as an undergraduate student (University of Pennsylvania) on substance abuse on risk of ischemia versus hemorrhage; poster presentation at ANA 2014 and publication [OR 15]
- 2014-2017 Karen Chen, medical student at Penn State; worked with me as an undergraduate student on factors predicting ischemia in dizzy patients and returned as my lab coordinator during her gap year; poster presentation at AAN 2015 and publications [OR 27,37]
- 2014- Erin Lawrence, F-NP, Bayview Stroke Coordinator and Nurse Practitioner; worked with me as part of the stroke team on quality improvement projects to decrease door-to-needle times; poster presentation ISC 2015 [OR 30]
- 2014 Wendy Chen, MD, Neurology Resident Baylor College of Medicine; worked with me as a medical student (Johns Hopkins University School of Medicine) to set up our current study on post-stroke cognitive decline
- 2015 Mohammed Mukarram, medical student at UCSF; worked with me for his capstone project for his MPH (Johns Hopkins Bloomberg School of Public Health) on acute phase reactants for stroke; poster presentation ISC 2016 [poster 2]
- 2016 Cathy Cao, Pharmacist; worked with me as a resident on the use of INR to predict stroke in patients presenting with neurological deficits while on Coumadin; poster presentation ANA 2016 and publication [OR 28]
- 2017 Gabriel Casella; medical student (MD/PhD) University of Chicago Pritzker SOM; worked with me as an undergraduate student at Johns Hopkins on the likelihood of stroke in patients presenting with aphasia only [OR 29]
- 2017-2018 Adam Chang, medical student at UVA; worked with me as an undergraduate student at Johns Hopkins looking at hemorrhage and other endovascular outcomes associated with IV tPA [OR 34]
- 2017- Edward Llinas, undergraduate student at Duke; worked with me over two summers on timing of symptomatic hemorrhage after IV tPA [OR 34] and necessity of head CT post-tPA [OR 52].
- 2018 Samuel Kamoroff, Pediatric Neurology Resident; mentored through ANA mentorship program to successfully obtain a residency position.
- 2018-21 Sheena Khan, medical student University of Alabama; used her gap year before medical school to work in my lab to evaluate likelihood of exam changes following administration of IV tPA and need for ICU-level care [OR 41] and the importance of telemedicine during the COVID pandemic [OR 55]
- 2018-20 Dania Mallick, Neurology Resident at the University of Michigan; worked with me on her capstone project while obtaining an MPH at the JHSPH evaluating differences in subjective and objective measures of recovery and stayed on a gap year as my research coordinator; mentored her to successfully obtain a residency position [OR 39,45,46,56].
- 2018-20 Rebecca Lin, Johns Hopkins University Undergraduate studying the role of singing as a measure of right hemisphere dysfunction and predictor of large vessel occlusion for acute ischemic stroke, now a medical student at Wash U [OR49]
- 2018 Demitre Gweh, Johns Hopkins University undergraduate studying frequency of post-operative headaches following pipeline stenting for intracranial aneurysm [OR 40]
- 2019-21 Claire Chen, BS, JHU undergrad studying imaging factors indicative of hypertensive ICH without the need for more advanced imaging modalities [OR 56].
- 2019- Sophia Girgenti, BS, JHU undergrad currently working as my research coordinator on projects involving MEG and post-stroke cognition as she pursues her masters in my laboratory before applying to medical school [OR 56,57].
- 2019-21 Elma Chaudhry, BS, JHU undergrad studying stroke patient recollection of their hospitalization and how it affects follow-up outcomes, now a medical student (eg. medication adherence) [poster presentation to AAN- poster 6].
- 2021- Julie Yi, MD, JHSOM Med Student now a Johns Hopkins resident studying the effect of SSRI use on post-stroke depression and recovery [abstracts presented at ISC and AAN 2022 and manuscript published]- [OR 59].
- 2021- Martina Gjyzari, JHU undergrad student studying differences in patient perception of recovery versus clinical improvement. Awarded the PURA award for Summer 2022.

- 2021- Wura Obasanjo, JHU undergrad student studying the effect of physical activity on long term prognosis after stroke.
- 2021- Isabella Dallasta, College of Notre Dame student awarded the Sr. Alma McNicholas Science Year Scholarship to work in my lab studying long term differences in cerebral activation patterns between patients and age-similar controls.
- 2021- Justin Li, JHU undergrad student studying the differences in outcome between ischemic and hemorrhagic stroke of the same size and location and helping with other lab projects [OR 59].
- 2021- Annie Yang, JHU undergrad student studying the differences in outcome between ischemic and hemorrhagic stroke of the same size and location and helping with other lab projects [OR 59].
- 2021- Autumn Brunson, BS- post bac student who is part of the Johns Hopkins Initiative for Careers in Science and Medicine Doctoral Diversity Project, applied to my lab to study PTSD in stroke patients discharged home and the effect of early telephone intervention to improve outcomes, and working on MEG projects within in the lab [OR 57].
- 2022- Saahith Potluri, JHU undergraduate student applying for a PURA to study the relationship between physical activity and cognition.
- 2022- Robert Stowell-Campos, JHU undergraduate now a masters student, studying the use of Scrambler therapy to treat post-stroke pain syndromes.
- 2022- Molly Zhao, JHU undergraduate shadowing and performing cognitive testing to gain experience in patient care and clinical research.
- 2022- Sarah Larson, JHU undergraduate shadowing and performing cognitive testing to gain experience in patient care and clinical research.
- 2022- Shirlene John, JHU undergraduate shadowing and performing cognitive testing to gain experience in patient care and clinical research.
- 2022- Zohra Ahmed - College of Notre Dame student awarded the Sr. Alma McNicholas Science Year Scholarship to work in my lab studying the relationship between lipid levels and cognitive outcomes.

Post-doctoral Advisees /Mentees

- 2014 Andrea Christman Schneider, Neurology Resident JHMI; worked with me as a medical student (Johns Hopkins University School of Medicine) and resident on stroke outcomes in the diabetic patient [OR 24]
- 2015-2018 Richa Sharma, Neurology Resident JHMI; worked with me as a resident on the importance of collaterals [OR 31] post-stroke cognitive decline [OR 46]
- 2016-2017 Martin Chacon, MD (Instituto Nacional de Nutricion y Ciencias Medicas Salvador Zubiran, Mexico City); working with me as a post-doctoral fellow investigating the importance of microbleeds in predicting hemorrhage post IV tPA and post-stroke recovery [OR 33]
- 2017-2020 Taylor Haight, Neurology Resident JHMI; worked with me on predicting post-stroke delirium using multivariable modeling for her resident research project [OR 43], currently faculty at VCU
- 2022- John Feemster, Neurology Resident JHMI; working with me as a resident to determine the effect of stroke on sleep disorders and the subsequent impact on post-stroke cognition and fatigue

Thesis committees

Training grant participation

- 2015 Reviewer, Johns Hopkins Neurology Department Internal K Review Committee
- 2015 Expert Consultant, *Analysis of Acute Inflammatory Markers in the Hematoma Fluid from Spontaneous Intracerebral and Intraventricular Hemorrhage (Ziai)*, Institute for Clinical and Translational Research, Johns Hopkins School of Medicine
- 2018 Expert Consultant, *The Role of the Atrium in Stroke Recurrence (Johannsen)*, Institute for Clinical and Translational Research, Johns Hopkins School of Medicine

Educational Program Building / Leadership

- 7/11- 6/13 Fellowship Curriculum Coordinator, The Johns Hopkins Cerebrovascular Division; created a curriculum for the fellows based around pivotal stroke trials and common stroke images
- 7/13- present Associate Program Director, The Johns Hopkins Neurology Residency Program; see Educational Focus [EF] for details
- 7/13-present Graduate Medical Education Committee
- 7/13-present Residency Selection Committee
- 7/14 Creator-Clinical Research Track, The Johns Hopkins Neurology Residency Program; [EF]

1/16	Participant, Master Mentor Program, Johns Hopkins School of Medicine; competitively chosen course to educate those seen as master mentors within the JHMI system to subsequently program build within their department
7/16	Creator-Neurology Junior Faculty Mentorship Program
9/16	Participant, Leadership Program for Women Faculty, Johns Hopkins School of Medicine; competitively chosen program to provide women the necessary skills to excel as leaders on a local and national level
7/17	Participant, Osler Attending Preceptor Program, Johns Hopkins Department of Neurology; chosen as a key faculty member to engage and mentor medical students interested in the field of neurology
8/17- 12/17	Participant, Ambulatory Management Program, Johns Hopkins Institutions; competitively chosen program to provide skills in lean management and leadership within the outpatient setting
1/18- 12/18	Participant, Leadership Development Program, Johns Hopkins Institutions; competitively chosen program to provide individuals with the necessary skills to rise to leadership roles within the institution

Educational Demonstration Activities to external audiences None.

RESEARCH ACTIVITIES

Research Focus

I follow stroke survivors over the course of their recovery. I have shown high rates of depression, fatigue, and cognitive dysfunction, even in those with small strokes. These problems are poorly understood, yet result in significant functional impairment and negatively impact quality of life. Current outcome scales are insufficient; however, I have created a battery of tests to determine how they evolve over time with the goal of designing targeted rehabilitation programs to improve outcomes. In my recovery clinic, patients are followed over time and we are determining factors associated with improved outcomes. In addition, my lab is partnering with the University of Maryland's Magnetoencephalography (MEG) Laboratory to determine the underlying pathophysiology leading to cognitive dysfunction in those with small strokes using a network hypothesis, and observing changes as recovery occurs, and with the Department of Psychiatry to conduct clinical trials using Mindfulness Based Stress Reduction to improve outcomes. I currently collaborate with investigators at the University of Texas, MIT, and Madrid in an Rf1 proposal to create a robust digital biomarker using MEG to identify patients post-stroke at highest risk for permanent cognitive impairment, using our previous research to understand the underlying pathophysiology and link with vascular dementia. Using this biomarker we will be able to individualize treatment therapies based on need and monitor response to interventions. Given my work on optimizing patient outcomes, I was asked to Chair AHA's Stroke Council's Psychological Health and Well-Being Committee, a multidisciplinary team focused on the science of how stroke, cerebrovascular disease, vascular dementia, brain health, and lifestyle relate to psychological health and well-being.

Research Program Building / Leadership

2013-present Director, Johns Hopkins Bayview Stroke Intervention Clinic (BaSIC), Bayview Medical Center
 2014-present Director, Comprehensive Stroke Center, Bayview Medical Center

Research Demonstration Activities None

Inventions, Patents, Copyrights

2014 The Hemorrhage Risk Stratification (HeRS) Score iPhone application; The HeRS app is able to quantify risk of hemorrhagic transformation for individuals with stroke who need to be treated with anticoagulation.

Technology Transfer Activities None

SYSTEM INNOVATION AND QUALITY IMPROVEMENT ACTIVITIES

System Innovation Focus

As part of my work with the Stroke Program I have focused on quality improvement. With the help of the Stroke Team we have successfully doubled the number of patients treated with IV tPA within the targeted 60 minute door-to-needle time, increased the post discharge clinic follow-up rate from 50 to 80% and decreased our 30 day readmissions. Given the success of our acute triage process, we have been asked by the hospital to consult with medicine to create a similar "sepsis attack team". Through my work with quality, I was elected to the Quality Committee of the AAN, and was asked to write a manuscript recently published in Neurology regarding the evidence for adverse events following COVID vaccination in patients with neurological disease. This publication led to the creation of a section "Emerging Issues in Neurology" of Neurology for rapid publication of acute issues requiring

expertise and widespread dissemination among neurologists. I currently sit on the subcommittee to oversee this process as a representative of the AAN's Quality Committee.

System Innovation and Quality Improvement efforts within JHMI:

- 2012-present Member, Stroke Oversight Committee, Bayview Medical Center
- 2012-present Head, Peer Review Committee for Quality Assurance, Bayview Medical Center
- 2015-present Physician Champion, EPIC, Johns Hopkins Hopkins/Bayview Medical Center
- 2015-present Physician Chair, Neurology Joint Practice Commission, Bayview Medical Center

System Innovation and Quality Improvement efforts outside of JHMI:

- 2016 Consultant, Creating A Successful Center of Excellence, Clinica Las Condes, Chile

System Innovation and Quality Improvement Program Building/Leadership:

- 2014-present Director, Comprehensive Stroke Center, Bayview Medical Center
- 2018-present Vice Chair of Clinical Operations, Neurology Department, Bayview Medical Center

ORGANIZATIONAL ACTIVITIES

Institutional Administrative Appointments

- 2009-2011 Neurology Representative, Johns Hopkins Medical School Council
- 2011-2012 Organizer, Stroke Journal Club, Dept Neurology, Johns Hopkins Hospital
- 2011-2012 Organizer, Cerebrovascular Fellows Lecture Series, Dept Neurology, Johns Hopkins Hospital
- 2012-present Director, Johns Hopkins Intracerebral Hemorrhage Center, Bayview Medical Center
- 2013-present Associate Director, Neurology Residency Program
- 2013-present Director, Johns Hopkins Bayview Stroke Intervention Clinic (BaSIC), Bayview Medical Center
- 2014-present Director, Comprehensive Stroke Center, Bayview Medical Center
- 2015-present Physician Chair, Joint Practice Improvement Committee, Neurosciences
- 2017-present Associate Professors Promotion Committee, Johns Hopkins School of Medicine
- 2018-present Vice Chair of Clinical Operations, Neurology Department, Bayview Medical Center
- 2018-present Director, Stroke Follow-up Van and Telemedicine Initiative, Sheikh Khalifa Stroke Institute
- 2023 Vice Chair of Education, Neurology Department, Johns Hopkins School of Medicine

Editorial Activities

Editorial Board appointments

- 2014 Co-editor, Cerebrovascular Edition, Journal of Neurology and Translational Neuroscience (54 pages).
- 2014-2017 Review Board, 2014, Practice Update Neurology (<http://www.practiceupdate.com>).
- 2018-present Editorial Board, Stroke; Assistant Editor (2020-present)
- 2022-2023 Section Editor: Neurorehabilitation Cognitive Sequelae and Economics of Subarachnoid Hemorrhage. In Volovici and Lanzino's (eds.) Subarachnoid Hemorrhage: Diagnosis and Treatment, Elsevier.
- 2022-present Associate Editor for Stroke, Annals of Clinical and Translational Neurology

Journal peer review activities

- Stroke
- PLoS ONE
- Critical Care Medicine
- Neurology
- NeuroImage
- Science Domain International
- Behavioral Neurology
- Brain and Cognition
- Journal of Neurology, Neurosurgery, and Psychiatry
- Drugs and Aging
- European Journal of Neurology
- British Medical Journal
- Journal of Sleep Medicine
- BMC Neurology
- Journal of the American Heart Association
- Annals of Neurology
- JAMA Neurology
- Annals of Clinical and Translational Neurology

Other peer review activities [non medico-legal]

2016 Review Panel, Johns Hopkins *in*Health funding program

Advisory Committees, Review Groups/Study Sections

2014-2015 American Heart Association, Innovative Research Grant (IRG) Program Study Section
2015-present American Neurological Association, Abstract Reviewer
2016-2017 American Heart Association, Clinical Brain Study Section
2016-present American Neurological Association, CME Peer Review Committee
2017-present American Stroke Association, Abstract Reviewer for the International Stroke Conference
2018 Neurology on the Hill, Maryland Delegation, AAN
2017-2018 American Heart Association, Fellowship Brain Stroke Clinical Study Section
2018 Maryland Intrafacility Transfer Guidelines Committee, MIEMSS
2018 Co-Chair, American Heart Association, Clinical Fellowship 2 Study Section
2019-present Member, Quality Committee, American Academy of Neurology
2019-present Reviewer, Fogarty Global Brain Initiative Study Section, National Institutes of Health; Co-chair 2022 & 2023
2019-2020 Chair, American Heart Association, Fellowships Brain-Stroke Clinical Sciences Study Section
2019-present Member, Industry Sub-Committee, American Academy of Neurology
2019-present Reviewer, National Institutes of Health Special Emphasis Panel Study Section: Comparative Effectiveness Research in Clinical Neurosciences- ZNS1 SRB G(25) & G(41)
2020-present Reviewer, National Institutes of Health Special Emphasis Panel Study Section: StrokeNet Clinical Trials- ZNS1 SRB G(28) & G(36)
2021 Reviewer, National Institutes of Health Special Emphasis Panel Study Section: Clinical Trials of Mind and Body Interventions- ZAT1 PJ(12)
2021-2024 Board of Directors, American Neurological Association (ANA)
2021-present Member, Emerging Issues in Neurology Sub-Committee, American Academy of Neurology
2022 Reviewer, National Institutes of Health Special Emphasis Panel Study Section: Exploratory Trials, Efficacy Trials, NeuroNEXT Trials, Observational Comparative Effectiveness Studies- G47 IAR
2022 Reviewer, National Institutes of Health, National Center for Medical Rehabilitation Research (NCMRR) Study Section
2022 Wellcome Trust Funding (United Kingdom): Stroke fatigue phenotypes and pathophysiology
2023 Chair, AHA Stroke Council's Psychological Health and Well-Being Committee
2023 Member, American Board of Psychiatry and Neurology's Vascular Neurology Certification and Continuing Certification Committee

Professional Societies

2004-present Member, American Heart Association/American Stroke Association (AHA); FAHA (2016)
2008-present Member, American Academy of Neurology (AAN); FAAN (2022)
2013-present Member, American Neurological Association (ANA); FANA

Conference Organizer

National

2015 Task force, American Neurological Association Interactive Lunch Workshops Committee
2021 Conference Planning Committee, Society of Vascular/ Interventional Neurology (SVIN)- SVIN Break
2023-6 Conference Planning Committee, International Stroke Conference

Session Chair

National

2015 Moderator: Brain Injury and Neurologic Recovery. ANA Annual Conference, Chicago, IL
2016 Moderator: Remaining Controversies Surrounding Intra-Arterial Lysis. ANA Annual Conference, Baltimore, MD
2018 Moderator: Symposium- Predicting and Enhancing Recovery from Aphasia and Cognitive Syndromes after Stroke. International Stroke Conference, Los Angeles, CA
2018 Moderator: Vascular Malformations Oral Abstracts. International Stroke Conference, Los Angeles, CA
2020 Moderator: Clinical Rehabilitation and Recovery Oral Abstracts. International Stroke Conference, Los Angeles, CA
2020 Moderator: Cognitive Decline in Women. International Stroke Conference, Los Angeles, CA
2021 Moderator: Rare Stroke Etiologies, and Advanced Stroke Thrombectomy. SVIN Break 2021, virtual

- 2021 Co-Chair: A Good Recovery: Under-Recognized Deficits Significantly Impact Functional Outcomes Post-Stroke. ANA 2021 Interactive Workshop, virtual.
- 2022 Moderator: Cerebrovascular Abstracts in Brain Health. International Stroke Conf, New Orleans, LA.
- 2022-2023 Co-chair: Practice and Policy Hub. American Academy of Neurology Annual Meeting, 2023.
- 2023 Moderator: Reduce Your Burnout and Improve Patient Outcomes, AAN 2023 Annual Meeting, Boston, MA.

Consultants

- 2022- NeuroTrauma Sciences, LLC- provide expertise on stroke recovery of cognitive impairment to project developing pharmaceuticals to improve outcomes
- 2022- Applied Physics Lab/Whiting School of Engineering- clinical applications of a portal MEG Device- proposal funded- SURPASS

RECOGNITION

Awards, Honors

- 2003 Magna Cum Laude, Johns Hopkins University
- 2003 National Society of Collegiate Scholars, Member
- 2003 Phi Beta Kappa, Member
- 2007 Alpha Omega Alpha, Member
- 2008 Catch a Shining Star Award, Johns Hopkins Bayview Medical Center
- 2010 Johns Hopkins Hypnos Award in Sleep Medicine
- 2011 Guy McKhann Award for Teaching Excellence
- 2012 NIH Loan Repayment Program Award (with competitive renewal 2014)
- 2013 Osler Housestaff Teaching Award in Neurology
- 2016 Fellow of the American Heart Association (FAHA)
- 2017 Osler Attending Preceptor in Neurology
- 2018 Reviewer of the Year, Stroke
- 2019-2022 Visiting Professor, People's Hospital of Shen Zhen, Shen Zhen China
- 2019-2020 Women Leading in Neurology Cohort, AAN (competitively chosen from national pool)
- 2019 Rubenstein Family Center for Innovative Medicine (CIM) Scholar
- 2020 Miller Coulson Academy of Clinical Excellence
- 2022 Fellow of the American Academy of Neurology (FAAN)

Invited Talks

JHMI/Regional

- 9/03 Cognitive Recovery in Idiopathic Adult Hydrocephalus after Shunt. Johns Hopkins Cognitive Neurology Meeting, Baltimore, MD
- 10/03 Dementia Characteristics and Outcomes in NPH, Foundations and Frontiers of Adult Hydrocephalus, Johns Hopkins School of Medicine, Baltimore, MD
- 11/04 Egocentric and Allocentric Visuospatial and Tactile Neglect in Stroke Patients. Johns Hopkins Cognitive Neurology Meeting, Baltimore, MD
- 11/05 A Patient with Optic Aphasia Reveals Neural Pathways for Oral Reading. JHU SOM Student Interest Group in Neurology Meeting, Baltimore, MD
- 6/11 Too Thin or Not Too Thin: a predictive model of the risk of intracranial hemorrhage in patients with acute ischemic stroke and an indication for anticoagulation. Neurology Grand Rounds, Johns Hopkins Hospital, Baltimore, MD
- 3/13 The Importance of Localization in Stroke Care. Stroke Update 2013, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 4/13 Recognizing and Treating Transient Ischemic Attack (TIA). 23rd Annual Practical Update in Outpatient Neurology, Johns Hopkins School of Medicine, Baltimore, MD
- 4/13 Predicting Intracerebral Hemorrhage. Neurosciences Seminar Series, Johns Hopkins School of Medicine, Baltimore, MD
- 11/13 Transient Ischemic Attacks. Medical Grand Rounds, Shady Grove Adventist Hospital, Rockville, MD
- 3/14 The New Oral Anticoagulants in Acute Ischemic Stroke. 24th Annual Practice Update in Outpatient Neurology, Johns Hopkins School of Medicine, Baltimore, MD
- 4/14 The New Oral Anticoagulants. Stroke Update 2014, Johns Hopkins Bayview Medical Center, Baltimore
- 4/14 Stroke Syndromes and Mimics. Stroke Update 2014, Johns Hopkins Bayview Medical Center, Baltimore
- 11/14 The Bayview Stroke Program: Building Inside and Out...patient. Inch by Inch Stroke Survivor Support Group. Bayview Medical Center, Baltimore, MD

- 2/15 Treatment of Acute Ischemic Stroke: Basic Principles... with a Twist, Grand Rounds, University of Maryland Midtown Campus, Baltimore, MD
- 2/15 Work-up and Management of TIA in an 88 Year Old, 42nd Annual Current Topics in Geriatrics, Johns Hopkins Hospital, Baltimore, MD
- 5/15 Vascular Dementia, Geriatrics Fellows Lecture Series, Bayview Medical Center, Baltimore, MD
- 5/15 Tumulty Topics in Clinical Medicine: New Oral Anticoagulants, Johns Hopkins Hospital, Baltimore, MD
- 9/15 Stroke Work-up and Management: From Admission through Recovery, Grand Rounds, Good Samaritan Hospital, Baltimore, MD
- 9/15 When a "Good Outcome" is Not Ok: under-recognized deficits of post-stroke recovery, Neurology Grand Rounds, Johns Hopkins Hospital, Baltimore, MD
- 10/15 Re-Defining "Good Outcomes" Post-Stroke, Grand Rounds, Welch Center for Prevention, Epidemiology, and Clinical Research, Johns Hopkins Bloomberg School of Public Health, Baltimore
- 11/15 Underlying Pathways of Aphasia. Neuroscience Course, Johns Hopkins University Undergraduate Campus, Baltimore, MD
- 1/16 Restarting Anticoagulation Post- Stroke and the New Oral Anticoagulants, Grand Rounds, Union Memorial Hospital, Baltimore, MD
- 1/16 Defining a Good Recovery. Neurology Faculty Meeting, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 3/16 Using New Oral Anticoagulants for Atrial Fibrillation After Stroke, Grand Rounds, Harbor Hospital, Baltimore, MD
- 3/16 Acute Stroke Treatment: IV tPA, 7th Neurocritical Care for the General and Surgical Intensivist, Johns Hopkins School of Medicine, Baltimore, MD
- 4/16 Paths to Success in Academic Neurology, Johns Hopkins Undergraduate Cognitive Neuroscience Course, Johns Hopkins School of Arts and Sciences, Baltimore, MD
- 5/16 Stroke Prevention and Recovery in Baltimore, Johns Hopkins Undergraduate Stroke Interest Group, Johns Hopkins School of Arts and Sciences, Baltimore, MD
- 5/17 Clinical Practice and Research in the Neurosciences, Johns Hopkins Undergraduate Cognitive Neuroscience Course, Johns Hopkins School of Arts and Sciences, Baltimore, MD
- 11/17 Stroke Outcomes for Patients with Low NIHSS Scores, Maryland Comprehensive Stroke Conference, Baltimore, MD
- 2/19 A Good Recovery? Under-Recognized Deficits Significantly Impact Quality of Life Post-Stroke, Grand Rounds, Johns Hopkins Bayview Medical Center, Baltimore, MD
- 5/20 Neurological Complications Related to COVID-19. COVID-19 Community Calls Forum. Healthy Community Partnership, Medicine for the Greater Good and the Department of Spiritual Care and Chaplaincy, Baltimore, MD, virtual
- 5/20 The Cerebrovascular Complications of COVID-19, Neurology Grand Rounds, Johns Hopkins Hospital, Baltimore, MD, virtual
- 12/20 Poststroke Cognitive Dysfunction: timing, associated factors, novel physiologic underpinnings, and recovery, Neurology Grand Rounds, Johns Hopkins Hospital, Baltimore, MD, virtual
- 3/21 Becoming a Neurologist, Johns Hopkins Undergraduate Cognitive Neuroscience Course, Johns Hopkins School of Arts and Sciences, Baltimore, MD, virtual
- 11/21 The Neurophysiologic Underpinnings of Cognitive Decline, Neurology Grand Rounds, Johns Hopkins Hospital, Baltimore, MD, virtual
- 2/22 Vascular Dementia and Post-Stroke Cognitive Impairment, 49th Annual Current Topics in Geriatrics, Johns Hopkins Hospital, Baltimore, MD, virtual
- 3/23 Modulating Cognitive Networks to Improve Stroke Recovery, Neurology Grand Rounds, Johns Hopkins Hospital, Baltimore, MD
- 5/23 Tumulty Topics in Clinical Medicine: Update on Stroke Prevention, Johns Hopkins Hospital, Baltimore, MD
- 5/23 Stroke Prevention and Gender Differences in the Elderly, Broadmead Retirement Community, Pikesville, MD
- National
- 6/11 The R-25; a Resident's Perspective. NINDS/AUPN/ANA Combining Clinical and Research Careers in Neuroscience Symposium, Washington DC
- 9/11 Renal failure increases risk for intracranial hemorrhage following stroke. Special Interest Group, Cerebrovascular Diseases, Data Blitz; American Neurological Assn Annual Meeting, San Diego, CA

- 5/13 Diagnosing CNS Vasculitis, the case against empiric treatment. Neurovascular Grand Rounds, Christiana Hospital, Newark DE
- 10/15 Hemorrhagic Transformation: How to Predict Intracranial Bleeding. Neurology Grand Rounds, University of Chicago Medical Center, Chicago, IL
- 10/15 Key Note Speaker- Antithrombotic Therapy After Hemorrhagic Stroke. 4th Annual Intermountain S Stroke Conference, Salt Lake City, UT
- 11/15 Stroke and Recovery in Women. 4th Annual Stroke Update Conference. University of Toledo, Perrysburg, OH
- 12/15 A Good Recovery? Under-Recognized Deficits Significantly Impact Quality of Life Post-Stroke. Neurology Grand Rounds, Dartmouth Medical Center, Hanover, NH
- 1/16 A Good Recovery? Under-Recognized Deficits Significantly Impact Quality of Life Post-Stroke. Neurology Grand Rounds, Hahneman Hospital, Drexel University, Philadelphia, PA
- 2/16 Stroke Work-up and Recovery. Medicine Grand Rounds, Virginia Hospital Center, Arlington, VA
- 3/16 Intracranial Atherosclerosis. Neurology Fellows Grand Rounds, National Institutes of Health, Bethesda, MD
- 3/19 Clinical Diagnosis and Acute Management of Stroke. SIR: The Stroke Course, 2019 SIR Annual Meeting, Austin TX.
- 5/19 Neurology Residency: What Programs Are Looking For. Experiential Learning Talk. The American Academy of Neurology Annual Meeting, Philadelphia PA.
- 1/20 A Good Recovery? Using MEG to Understand the Pathophysiology Behind Post-Stroke Cognitive Decline. Neurology Grand Rounds, University of Texas- Houston, Houston, TX
- 2/20 Using MEG to Explore Cognitive Dysfunction Post-Stroke. ACMEGS Annual Meeting, New Orleans, LA.
- 2/20 Sex Differences: Improving Stroke Recovery in Women, Paola De Rango Memorial Session on Stroke in Women. International Stroke Conference, Los Angeles, CA.
- 1/21 Using Magnetoencephalography (MEG) to Understand Post-Stroke Cognitive Processing Deficits: Implications for Prognosis and Treatment. C-STAR Lectures Series, University of South Carolina, virtual.
- 2/21 Using MEG to Understand Post-Stroke Acute Dysexecutive Syndrome. Cognitive and Health Psychology Research Group, Rice University, virtual.
- 3/21 Stroke Treatment Post-IV tPA and Mechanical Thrombectomy. SIR: The Stroke Course, 2021 SIR Annual Meeting, webinar.
- 5/21 More than Post-Stroke Depression: The Use of SSRIs in Stroke Recovery. 2021 Comprehensive Stroke Update Symposium, VCU, Richmond, VA, virtual.
- 5/21 Poststroke Cognitive Dysfunction: timing, associated factors, novel physiologic underpinnings, and recovery. Barrow Neurological Institute Neurology and Neurosurgery Grand Rounds, BNI, Phoenix, AZ, virtual.
- 9/21 Poststroke Cognitive Dysfunction: timing, associated factors, novel physiologic underpinnings, and recovery. VCU Department of Neurology Grand Rounds, VCU, Richmond, VA.
- 10/21 Cognitive Dysfunction After Minor Stroke due to Network Disruption. American Neurological Association 2021 Annual Meeting Interactive Workshop: A Good Recovery: Under-Recognized Deficits Significantly Impact Functional Outcomes Post-Stroke, virtual.
- 11/21 Post-Stroke Cognitive Dysfunction after Minor Stroke: leveraging opportunities for growth within the department. The University of Massachusetts Neurology Grand Rounds, UMASS, Worcester MA.
- 2/23 Meet the Expert: Session on Post-Stroke Cognition, International Stroke Conference 2023, Dallas, TX.
- 2/23 Mindfulness Based Stress Reduction After Stroke, Goizueta Alzheimer's Disease Research Center, Emory University, zoom.
- 4/23 Boosting Your Impact: Adding Quality to Your Career, AAN 2023 Annual Meeting, Boston, MA.
- International
- 3/15 Diagnosis, Treatment, and Rehabilitation of Acute Stroke: the Experience at Johns Hopkins Hospital. 2015 International Symposium for the Frontiers of Medicine; Hospital Moinhos de Vento, Porto Alegre Brazil
- 3/15 The New Oral Anticoagulants: an Overview of their Use. 2015 International Symposium for the Frontiers of Medicine; Hospital Moinhos de Vento, Porto Alegre Brazil
- 3/15 Vascular Dementia: the Differential and Diagnostic Work-up. 2015 International Symposium for the Frontiers of Medicine; Hospital Moinhos de Vento, Porto Alegre Brazil
- 3/15 Vascular Dementia: Treatment. 2015 International Symposium for the Frontiers of Medicine; Hospital Moinhos de Vento, Porto Alegre Brazil

- 3/15 The Link Between Migraine and Ischemic Stroke. 2015 International Symposium for the Frontiers of Medicine; Hospital Moinhos de Vento, Porto Alegre Brazil
- 2015 The NIH Stroke Scale. Posted World Neurology Foundation website (webinar)
- 2015 BATs: Assessment of Acute Stroke. Posted World Neurology Foundation website (webinar)
- 2015 Basic Work-up of Ischemic Stroke Work-up. Posted World Neurology Foundation website (webinar)
- 3/16 Vascular Dementia and Post-Stroke Cognitive Impairment. Video conference address; 2016 International Symposium of the Department of Neurology and Neurosurgery; Hospital Moinhos de Vento, Porto Alegre Brazil
- 5/17 Updates in the Treatment of Acute Stroke. 2017 International Symposium for the Frontiers of Medicine; Hospital Moinhos de Vento, Porto Alegre Brazil
- 5/17 The Brain is Fragile: Cognitive and Behavioral Deficits are Common After Even Minor Stroke. 2017 International Symposium for the Frontiers of Medicine; Hospital Moinhos de Vento, Porto Alegre Brazil
- 5/17 Imaging Cognition. 2017 International Symposium for the Frontiers of Medicine; Hospital Moinhos de Vento, Porto Alegre Brazil
- 8/18 Management of Transient Ischemic Attack and Acute Ischemic Stroke. Ecuador Neurology Project, American Academy of Neurology; Hospital Luis Vernaza, Guayaquil Ecuador
- 8/18 Acute Stroke: Work-up and Treatment of Ischemic Disease. Ecuador Neurology Project, American Academy of Neurology; Hospital Luis Vernaza, Guayaquil Ecuador
- 4/19 The Work-up and Treatment of Ischemic Disease. People's Hospital of Shen Zhen, Shen Zhen China
- 3/21 Post-Stroke Cognitive Decline: The Clinical Perspective. Bridging Gaps in Preclinical Stroke Rehabilitation and Recovery Research: Translational Impact Session. International Stroke Conference Webinar, ISC 2021, virtual
- 5/21 Changing the Face of Stroke Recovery. Society for Vascular Interventional Neurology (SVIN) Break 2021, virtual
- 10/21 Early Post-Stroke Cognition: In-Hospital Predictors and the Association with Functional Outcomes. 2nd Annual Conference of the Shanghai Stroke Association, Shanghai, China, virtual
- 4/23 Stroke and Cerebrovascular Disease in the Elderly. Chengdu Fifth People's Hospital, Sichuan, China, virtual

OTHER PROFESSIONAL ACCOMPLISHMENTS

[Posters/Platform Presentations \(only those with corresponding manuscripts not yet published\)](#) (*corresponding author)

1. Maygers J, [Lawrence E](#), Llinas RH, ***Marsh EB**. Transitions of care: increasing follow-up and decreasing readmission rates after hospitalization for acute ischemic stroke. 2015; The International Stroke Conference annual meeting (Nashville, TN). [QI]
2. [Mukarram F](#), Gottesman RF, ***Marsh EB**. Glucose on admission associated with post-stroke outcome. 2016; The International Stroke Conference annual meeting (Los Angeles, CA).
3. Park CJ, Konstantinos NA, Llinas RH, **Marsh EB**, Mukherjee M. Increased longitudinal strain of the left atrial appendage predicts stroke outcomes. 2017; American Heart Associations Scientific Sessions (Anaheim, CA).
4. Lin M, Urrutia VC, **Marsh EB**, Llinas RH. Cost-effectiveness of combined thrombectomy with intravenous thrombolysis vs thrombectomy alone for acute ischemic stroke. 2018; International Stroke Conference annual meeting (Los Angeles, CA)- moderated poster.
5. [Whilden C](#), [Khan S](#), [Mallick D](#), ***Marsh EB**. Patient perception confounds true recovery after stroke. 2019. The American Academy of Neurology annual meeting (Philadelphia, PA).
6. [Chowdhury E](#), ***Marsh EB**. Use of dual antiplatelet therapy in large strokes. 2022. American Academy of Neurology annual meeting (Seattle, WA).
7. Soleimani B, Das P, Karunathilake D, Kulasingham J, Kuchinsky SE, **Marsh EB**, Simon JZ, Babadi B. Robust Functional Connectivity from MEG using Network Localized Granger Causality: Directional Connectivity Results in Physiological Frequency Bands. 2022; Brain Initiative Meeting.