Stanford



Lucia Rivera Lara, MD, MPH

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CLINICAL OFFICE (PRIMARY)

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Bio

BIO

Dr. Rivera Lara is a Clinical Professor at Stanford University School of Medicine, where she is highly regarded for her clinical excellence and dedication to education and research in the field of neurology. She treats patients suffering from strokes, cerebral hemorrhages, and seizures. Dr. Rivera Lara completed her residency in Neurology at the University of Massachusetts and her fellowship in Neurocritical Care at Johns Hopkins University. During her fellowship, she received a Research Award from the American Academy of Neurology/American Brain Foundation.

Dr. Rivera Lara joined the faculty at Johns Hopkins University in 2014, initially as an Instructor and later as an Assistant Professor, working in the neurocritical care unit and the Neurology inpatient and consult service. She earned her Master's in Public Health from the Johns Hopkins Bloomberg School of Public Health in 2017, which equipped her with a broader perspective on research and global health.

Today, her research is at the forefront of addressing critical issues in neurology. Dr. Rivera Lara focuses on developing neuromonitoring algorithms aimed at optimizing cerebral blood flow delivery for patients with acute brain injuries, with the goal of preventing cerebral ischemia and subsequent complications. By studying cerebral autoregulation and employing multimodal brain monitoring techniques, she aims to mitigate secondary injuries, ultimately helping to reduce cognitive impairment and decrease disability in these vulnerable patients. Her findings have been published in journals including Critical Care Medicine, Neurocritical Care, Stroke, Seizure, the Journal of Neurosurgery and Anesthesiology, and JAMA, and she has presented at the International Stroke Conference, the Critical Care Conference, and at meetings of the American Academy of Neurology and the Neurocritical Care Society.

Dr. Rivera Lara is a Global Health Faculty Fellow at Stanford University for her work on neurological health disparities in Latin America. She founded "Conferencias de Cuidado Neurocritico," which are bimonthly lectures on Neurocritical Care Emergencies and Stroke Management conducted in Spanish via Zoom, attended by residents, fellows, and intensivists from Latin American countries such as Mexico, Guatemala, Colombia, Paraguay, Bolivia, Argentina, and others.

CLINICAL FOCUS

- Neurocritical Care

ACADEMIC APPOINTMENTS

- Clinical Professor, Adult Neurology

PROFESSIONAL EDUCATION

- Board Certification, American Board of Psychiatry and Neurology , Neurocritical Care (2021)
- MPH, Johns Hopkins Bloomberg School of Public Health , Biostatistics and Epidemiology (2017)
- Board Certification: Neurocritical Care, United Council for Neurologic Subspecialties (2015)
- Fellowship, Johns Hopkins University , Neurocritical Care (2014)
- Board Certification: Neurology, American Board of Psychiatry and Neurology (2012)
- Residency, University of Massachusetts , Neurology (2012)
- Internship, University of Massachusetts , Internal Medicine (2009)
- MD, Universidad Autonoma de Sa Luis Potosi , Medical Education (2006)

Publications

PUBLICATIONS

- **Fellowship at Home: A Model for Expanding Neurosurgical Capacity in Low- and Middle-Income Countries.** *Neurosurgery*
  Vaca, S. D., Kuzli, J., Liverani, L., Rivera-Lara, L., Maidana, P., Labin, R., Moser, R., Patel, N. J.
  2026

- **Early Relative Hypotension Below Noninvasive Cerebral Oximetry-Derived Optimal Blood Pressure Thresholds in Aneurysmal Subarachnoid Hemorrhage: A Pilot Study.** *Critical care medicine*
  Shah, V. A., Humayun, M., Radzik, B., Healy, R., Palmisano, C., Anderson-White, M., Calvillo, E., Geocadin, R., Brown, C., Hogue, C., Ziai, W., Cho, S. M., Suarez, et al
  2025

- **Neuroimaging and neuromonitoring access in Mexico, where to focus?** *European journal of trauma and emergency surgery : official publication of the European Trauma Society*
  Mijangos-Mendez, J. C., Rivera-Lara, L., Mejia-Martinez, T., Elizalde-Gonzalez, J. J., Aguirre-Avalos, G., Sarwal, A., NeurocareMex Group collaborators, o. b., Sarwal, A., Ortega-Perez, A. Q., Velazquez-Jauregui, A., Valles Guerrero, A., Gonzalez Mora, A., Rios Ramirez, et al
  2025; 51 (1): 193

- **Continuous Monitoring of Cerebral Autoregulation in Adults Supported by Extracorporeal Membrane Oxygenation.** *Neurocritical care*
  Zhang, L. Q., Chang, H., Kalra, A., Humayun, M., Rosenblatt, K. R., Shah, V. A., Geocadin, R. G., Brown, C. H., Kim, B. S., Whitman, G. J., Rivera-Lara, L., Cho, S. M.
  2024

- **Mechanistic Evaluation of Diffusion Weighted Hyperintense Lesions After Large Spontaneous Intracerebral Hemorrhage: A Subgroup Analysis of MISTIE III.** *Neurocritical care*
  Rivera-Lara, L., Cho, S. M., Li, Y., Ali, H., McBee, N., Awad, I. A., Avadhani, R., Hanley, D. F., Gandhi, D., Walborn, N., Murthy, S. B., Ziai, W. C.
  2023

- **Reducing the incidence and mortality of traumatic brain injury in Latin America.** *European journal of trauma and emergency surgery : official publication of the European Trauma Society*
  Rivera-Lara, L., Videtta, W., Calvillo, E., Mejia-Mantilla, J., March, K., Ortega-Gutierrez, S., Obrego, G. C., Paranhos, J. E., Suarez, J. I.
  2023

- **Coronavirus Disease 2019 Policy Restricting Family Presence May Have Delayed End-of-Life Decisions for Critically Ill Patients** *CRITICAL CARE MEDICINE*
  Azad, T. D., Al-Kawaz, M. N., Turnbull, A. E., Rivera-Lara, L.

2021; 49 (10): E1037-E1039

- **Sweeping TTM conclusion may deprive many post-arrest patients of effective therapy.** *Intensive care medicine*
  Rivera-Lara, L., Cho, S., Geocadin, R. G.
  2021

- **Optimizing Mean Arterial Pressure in Acutely Comatose Patients Using Cerebral Autoregulation Multimodal Monitoring With Near-Infrared Spectroscopy.** *Critical care medicine*
  Rivera-Lara, L., Geocadin, R., Zorrilla-Vaca, A., Healy, R. J., Radzik, B. R., Palmisano, C., Mirski, M., White, M. A., Suarez, J., Brown, C., Hogue, C. W., Ziai, W.
  2019; 47 (10): 1409-1415

- **Multimodality Monitoring in the Neurocritical Care Unit.** *Continuum (Minneapolis, Minn.)*
  Rivera Lara, L., Püttgen, H. A.
  2018; 24 (6): 1776-1788

- **Effect of Body Temperature on Cerebral Autoregulation in Acutely Comatose Neurocritically Ill Patients.** *Critical care medicine*
  Adatia, K., Geocadin, R. G., Healy, R., Ziai, W., Ponce-Mejia, L., Anderson-White, M., Shah, D., Radzik, B. R., Palmisano, C., Hogue, C. W., Brown, C., Rivera-Lara, L.
  2018; 46 (8): e733-e741

- **Determining the Upper and Lower Limits of Cerebral Autoregulation With Cerebral Oximetry Autoregulation Curves: A Case Series.** *Critical care medicine*
  Rivera-Lara, L., Zorrilla-Vaca, A., Healy, R. J., Ziai, W., Hogue, C., Geocadin, R., Radzik, B., Palmisano, C., Mirski, M. A.
  2018; 46 (5): e473-e477

- **Effect of erythropoietin and transfusion threshold on neurological recovery after traumatic brain injury: a randomized clinical trial.** *JAMA*
  Robertson, C. S., Hannay, H. J., Yamal, J. M., Gopinath, S., Goodman, J. C., Tilley, B. C., Baldwin, A., Rivera Lara, L., Saucedo-Crespo, H., Ahmed, O., Sadasivan, S., Ponce, L., Cruz-Navarro, et al
  2014; 312 (1): 36-47

- **Association Between Operative Neurosurgical Intervention and Favorable Discharge Among Patients With Traumatic Subdural Hematoma and Poor Neurological Examination.** *Neurosurgery*
  Azad, T. D., Vattipally, V. N., Ran, K. R., Vattipally, S. M., Moody, M., Aude, C. A., Rincon-Torroella, J., Xu, R., Haut, E., Williams, J. R., Witiw, C. D., Mukherjee, D., Rivera-Lara, et al
  2025

- **Cortical Laminar Necrosis After Severe Hydrocephalus: Case Report and Review of the Literature.** *The Neurohospitalist*
  Peyton, M. A., Cho, S. M., Xia, Y., Piran, P., Luciano, M., Rivera-Lara, L.
  2024; 14 (3): 351-355

- **Cortical Laminar Necrosis After Severe Hydrocephalus: Case Report and Review of the Literature** *NEUROHOSPITALIST*
  Peyton, M. A., Cho, S., Xia, Y., Piran, P., Luciano, M., Rivera-Lara, L.
  2024

- **Inaugural State of the Union: Continuous Cerebral Autoregulation Monitoring in the Clinical Practice of Neurocritical Care and Anesthesia.** *Neurocritical care*
  Park, S., Beqiri, E., Smielewski, P., Aries, M.
  2023

- **Continuous Monitoring of Cerebral Autoregulation in Adults Supported by Extracorporeal Membrane Oxygenation.** *Research square*
  Zhang, L. Q., Chang, H., Kalra, A., Humayun, M., Rosenblatt, K. R., Shah, V. A., Geocadin, R. G., Brown, C. H., Kim, B. S., Whitman, G. J., Rivera-Lara, L., Cho, S. M.
  2023

- **CEREBRAL OXIMETRY-DERIVED OPTIMAL BLOOD PRESSURE TARGETS IN ANEURYSMAL SUBARACHNOID HEMORRHAGE**
  Shah, V., Humayun, M., Radzik, B., Palmisano, C., Anderson-White, M., Calvillo, E., Chang, H., Zhang, L., Hogue, C., Brown, C., Suarez, J., Geocadin, R., Cho, et al
  LIPPINCOTT WILLIAMS & WILKINS.2023: 253

- **Assessing risk factors associated with breakthrough early post-traumatic seizures in patients receiving phenytoin prophylaxis.** *Frontiers in neurology*

Generoso, E., Diep, C., Hua, C., Rader, E., Ran, R., Lee, N. J., Rivera-Lara, L.
2023; 14: 1329042

- **Moving towards precision medicine in post-cardiac arrest care: Using cerebrovascular autoregulation to individualize blood pressure.** *Resuscitation*
  Rivera Lara, L., Genevieve Hirsch, K.
  2022
- **Impact of Cerebral Autoregulation Monitoring in Cerebrovascular Disease: A Systematic Review.** *Neurocritical care*
  Al-Kawaz, M., Cho, S. M., Gottesman, R. F., Suarez, J. I., Rivera-Lara, L.
  2022
- **Neuro-Interventional Use of Oral Antiplatelets: A Survey of Neuro-Endovascular Centers in the United States and Review of the Literature.** *Journal of pharmacy practice*
  Farrokh, S., Owusu, K., Lara, L. R., Nault, K., Hui, F., Spoelhof, B.
  2021; 34 (2): 207-215
- **Are We Ready to Individualize Hypotension Thresholds in Patients Undergoing Cardiac Bypass Using Noninvasive Neuromonitoring?** *Critical care medicine*
  Rivera-Lara, L.
  2021; 49 (4): 710-712
- **Remarkable Recovery After a Large Thalamic-Midbrain Intracerebral and Intraventricular Hemorrhage.** *Neurology. Clinical practice*
  Shah, V. A., Radzik, B., Weingart, J., Suarez, J., Rivera-Lara, L.
  2021; 11 (1): 85-87
- **Diffusion-Weighted Imaging Lesions After Intracerebral Hemorrhage and Risk of Stroke: A MISTIE III and ATACH-2 Analysis.** *Stroke*
  Murthy, S. B., Zhang, C., Gupta, A., Cho, S. M., Rivera-Lara, L., Avadhani, R., Gruber, J., Iadecola, C., Falcone, G. J., Sheth, K. N., Qureshi, A. I., Goldstein, J. N., Hanley, et al
  2021; 52 (2): 595-602
- **Near-infrared Spectroscopy-derived Cerebral Autoregulation Indices Independently Predict Clinical Outcome in Acutely Ill Comatose Patients.** *Journal of neurosurgical anesthesiology*
  Rivera-Lara, L., Geocadin, R., Zorrilla-Vaca, A., Healy, R., Radzik, B. R., Palmisano, C., White, M. A., Sha, D., Ponce-Mejia, L., Brown, C., Hogue, C., Ziai, W. C.
  2020; 32 (3): 234-241
- **Lateral Brain Displacement and Cerebral Autoregulation in Acutely Comatose Patients.** *Critical care medicine*
  Adatia, K., Geocadin, R. G., Healy, R., Ziai, W., Ponce-Mejia, L., Anderson-White, M., Shah, D., Radzik, B. R., Palmisano, C., Hogue, C. W., Brown, C., Suarez, J. I., Rivera-Lara, et al
  2020; 48 (7): 1018-1025
- **Correction to: Intraoperative cerebral oximetry-based management for optimizing perioperative outcomes: a meta-analysis of randomized controlled trials.** *Canadian journal of anaesthesia = Journal canadien d'anesthesie*
  Zorrilla-Vaca, A., Healy, R., Grant, M. C., Joshi, B., Rivera-Lara, L., Brown, C., Mirski, M. A.
  2019; 66 (11): 1427-1429
- **Clinical Reasoning: A 68-year-old man with rapid cognitive decline.** *Neurology*
  Berth, S. H., Seth, A., Cohen, A., Rivera Lara, L., Hui, F., Sun, L. R.
  2019; 93 (7): 315-318
- **Influence of Intracerebral Hemorrhage Location on Outcomes in Patients With Severe Intraventricular Hemorrhage.** *Stroke*
  Eslami, V., Tahsili-Fahadan, P., Rivera-Lara, L., Gandhi, D., Ali, H., Parry-Jones, A., Nelson, L. S., Thompson, R. E., Nekoobakht-Tak, S., Dlugash, R., McBee, N., Awad, I., Hanley, et al
  2019; 50 (7): 1688-1695
- **Glasgow Coma Scale Score Fluctuations are Inversely Associated With a NIRS-based Index of Cerebral Autoregulation in Acutely Comatose Patients.** *Journal of neurosurgical anesthesiology*
  Healy, R. J., Zorrilla-Vaca, A., Ziai, W., Mirski, M. A., Hogue, C. W., Geocadin, R., Radzik, B., Palmisano, C., Rivera-Lara, L.
  2019; 31 (3): 306-310

- **Impact of antiepileptic drugs for seizure prophylaxis on short and long-term functional outcomes in patients with acute intracerebral hemorrhage: A meta-analysis and systematic review.** *Seizure*
  Spoelhof, B., Sanchez-Bautista, J., Zorrilla-Vaca, A., Kaplan, P. W., Farrokh, S., Mirski, M., Freund, B., Rivera-Lara, L.
  2019; 69: 140-146

- **Cerebral microhemorrhages and cerebral fat embolism in hemoglobin S-C disease.** *Neurology. Clinical practice*
  Cho, S. M., Ling, G., Rivera-Lara, L.
  2019; 9 (2): e13-e14

- **The role of impaired brain perfusion in septic encephalopathy.** *Critical care (London, England)*
  Rivera-Lara, L.
  2019; 23 (1): 54

- **Acute Kidney Injury Following Acute Ischemic Stroke and Intracerebral Hemorrhage: A Meta-Analysis of Prevalence Rate and Mortality Risk.** *Cerebrovascular diseases (Basel, Switzerland)*
  Zorrilla-Vaca, A., Ziai, W., Connolly, E. S., Geocadin, R., Thompson, R., Rivera-Lara, L.
  2018; 45 (1-2): 1-9

- **Cerebrovascular Events After Continuous-Flow Left Ventricular Assist Devices.** *Neurocritical care*
  Tahsili-Fahadan, P., Curfman, D. R., Davis, A. A., Yahyavi-Firouz-Abadi, N., Rivera-Lara, L., Nassif, M. E., LaRue, S. J., Ewald, G. A., Zazulia, A. R.
  2018; 29 (2): 225-232

- **Influence of Bleeding Pattern on Ischemic Lesions After Spontaneous Hypertensive Intracerebral Hemorrhage with Intraventricular Hemorrhage.** *Neurocritical care*
  Rivera-Lara, L., Murthy, S. B., Nekoovaght-Tak, S., Ali, H., McBee, N., Dlugash, R., Ram, M., Thompson, R., Awad, I. A., Hanley, D. F., Ziai, W. C.
  2018; 29 (2): 180-188

- **Intraoperative cerebral oximetry-based management for optimizing perioperative outcomes: a meta-analysis of randomized controlled trials.** *Canadian journal of anaesthesia = Journal canadien d'anesthesie*
  Zorrilla-Vaca, A., Healy, R., Grant, M. C., Joshi, B., Rivera-Lara, L., Brown, C., Mirski, M. A.
  2018; 65 (5): 529-542

- **Comparison of intensive versus conventional insulin therapy in traumatic brain injury: a meta-analysis of randomized controlled trials.** *Brain injury*
  Núñez-Patiño, R. A., Zorrilla-Vaca, A., Rivera-Lara, L.
  2018; 32 (6): 693-703

- **Epidemiology of septic meningitis associated with neuraxial anesthesia: a historical review and meta-analysis.** *Minerva anestesiologica*
  Zorrilla-Vaca, A., Healy, R. J., Rivera-Lara, L., Grant, M. C., Maragakis, L. L., Escandón-Vargas, K., Mirski, M. A.
  2018; 84 (3): 363-377

- **Cerebral Blood Flow Autoregulation in Sepsis for the Intensivist: Why Its Monitoring May Be the Future of Individualized Care.** *Journal of intensive care medicine*
  Goodson, C. M., Rosenblatt, K., Rivera-Lara, L., Nyquist, P., Hogue, C. W.
  2018; 33 (2): 63-73

- **Validation of Near-Infrared Spectroscopy for Monitoring Cerebral Autoregulation in Comatose Patients.** *Neurocritical care*
  Rivera-Lara, L., Geocadin, R., Zorrilla-Vaca, A., Healy, R., Radzik, B. R., Palmisano, C., Mirski, M., Ziai, W. C., Hogue, C.
  2017; 27 (3): 362-369

- **Adult intestinal colonization botulism mimicking brain death.** *Muscle & nerve*
  Freund, B., Hayes, L., Rivera-Lara, L., Sumner, C., Chaudhry, V., Chatham-Stephens, K., Benedict, K., Kalb, S., Blythe, D., Brooks, R., Probasco, J. C.
  2017; 56 (4): E27-E28

- **Drug Interactions in Neurocritical Care.** *Neurocritical care*
  Spoelhof, B., Farrokh, S., Rivera-Lara, L.
  2017; 27 (2): 287-296

- **Permanent CSF shunting after intraventricular hemorrhage in the CLEAR III trial.** *Neurology*

Murthy, S. B., Awad, I., Harnof, S., Aldrich, F., Harrigan, M., Jallo, J., Caron, J. L., Huang, J., Camarata, P., Lara, L. R., Dlugash, R., McBee, N., Eslami, et al
2017; 89 (4): 355-362

- **Cerebral Autoregulation-oriented Therapy at the Bedside: A Comprehensive Review.** *Anesthesiology*
  Rivera-Lara, L., Zorrilla-Vaca, A., Geocadin, R. G., Healy, R. J., Ziai, W., Mirski, M. A.
  2017; 126 (6): 1187-1199
- **Predictors of Outcome With Cerebral Autoregulation Monitoring: A Systematic Review and Meta-Analysis.** *Critical care medicine*
  Rivera-Lara, L., Zorrilla-Vaca, A., Geocadin, R., Ziai, W., Healy, R., Thompson, R., Smielewski, P., Czosnyka, M., Hogue, C. W.
  2017; 45 (4): 695-704
- **Management of infections associated with neurocritical care.** *Handbook of clinical neurology*
  Rivera-Lara, L., Ziai, W., Nyquist, P.
  2017; 140: 365-378
- **Acute Stroke Emergency Management** *Evidence-Based Critical Care pp 303-314*
  George, P., Rivera Lara , L.
  Springer, Cham.2017
- **Elevated relative risk of aneurysmal subarachnoid hemorrhage with colder weather in the mid-Atlantic region.** *Journal of clinical neuroscience : official journal of the Neurosurgical Society of Australasia*
  Rivera-Lara, L., Kowalski, R. G., Schneider, E. B., Tamargo, R. J., Nyquist, P.
  2015; 22 (10): 1582-7
- **Diploic arteriovenous fistulas--classification and endovascular management.** *Acta neurochirurgica*
  Rivera-Lara, L., Gailloud, P., Nyquist, P.
  2015; 157 (9): 1485-8
- **Postoperative care of the surgical patient with neurological disease.** *International anesthesiology clinics*
  Rivera-Lara, L., Mirski, M.
  2015; 53 (1): 166-76
- **Therapeutic hypothermia for acute neurological injuries.** *Neurotherapeutics : the journal of the American Society for Experimental NeuroTherapeutics*
  Rivera-Lara, L., Zhang, J., Muehlschlegel, S.
  2012; 9 (1): 73-86
- **Delayed sudden coma due to artery of percheron infarction.** *Archives of neurology*
  Rivera-Lara, L., Henninger, N.
  2011; 68 (3): 386-7
- **Cerebral hemodynamic effects of acute hyperoxia and hyperventilation after severe traumatic brain injury.** *Journal of neurotrauma*
  Rangel-Castilla, L., Lara, L. R., Gopinath, S., Swank, P. R., Valadka, A., Robertson, C.
  2010; 27 (10): 1853-63