



## Lucia Angelica Rivera Lara, MD, MPH

Clinical Associate Professor, Neurology & Neurological Sciences

### CLINICAL OFFICE (PRIMARY)

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### Bio

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#### BIO

Dr. Rivera-Lara is a neurocritical care fellowship-trained neurologist and a clinical associate professor in the Department of Neurology at Stanford University School of Medicine.

As a member of the neurocritical care team, Dr. Rivera-Lara expertise focuses on the prompt, careful assessment and treatment of patients who suffer stroke, cerebral hemorrhage, and seizures.

In her research, Dr. Rivera-Lara has studied innovations to control blood flow and relieve intracranial pressure in patients with hemorrhage. Her findings have been published in journals including Critical Care Medicine, Neurocritical Care, Stroke, Seizure, the Journal of Neurosurgery and Anesthesiology, JAMA, and presented at the International Stroke Conference, the Critical Care Conference, and at meetings of the American Academy of Neurology and Neurocritical Care Society.

She has co-authored book chapters on stroke management, neurocritical patient monitoring, antiepileptic drug therapies, brain injury after cardiac arrest, and other topics. In addition, she has served as an editorial reviewer for publications including Neurology, Critical Care Medicine, the Journal of Critical Care, Neurocritical Care and Frontiers of Neurology.

Dr. Rivera-Lara earned a Clinical Research Fellowship Training award from the American Academy of Neurology and American Brain Foundation. She was nominated for the Best Consulting Physician Award, one of only a few clinical honors bestowed annually on physicians and care teams by Johns Hopkins Medicine.

She is a member of the American Academy of Neurology, American Neurological Association, Society of Critical Care Medicine, and Neurocritical Care Society.

In conjunction with the Pan-American Health Organization and World Health Organization, Dr. Rivera-Lara has volunteered her time and expertise to help develop neurocritical care recommendations for patients with Guillain-Barre syndrome associated with Zika virus in the Dominican Republic. She also has served as a visiting professor in the Department of Neurology at the National Institute of Neurology and Neurosurgery in Mexico City and Ignacio Morones Prieto Hospital in San Luis Potosi, Mexico.

## CLINICAL FOCUS

- Neurocritical Care

## ACADEMIC APPOINTMENTS

- Clinical Associate Professor, Neurology & Neurological Sciences

## PROFESSIONAL EDUCATION

- Board Certification: Neurocritical Care, American Board of Psychiatry and Neurology (2021)
- 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

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### PUBLICATIONS

- **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
- **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'anesthésie*  
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 anesthesiologica*  
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