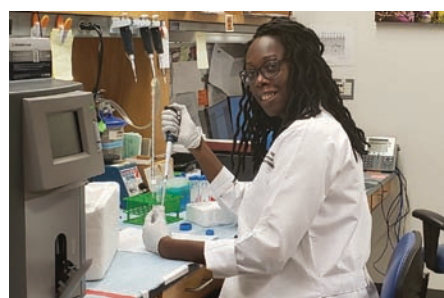


# FAER Supports Research to Advance Critical Care Medicine

Vijay Krishnamoorthy, MD, MPH, PhD

**A**s the COVID-19 pandemic has unfolded globally, a greater focus has been placed on the care of critically ill patients around the world. While critical care medicine has always held an important place in the management of medical and surgical patients worldwide, the recognition and role of the specialty during the current pandemic has been clear. For example, critical care clinicians have been deeply involved in decisions regarding best therapeutics, optimal management of supportive therapies (i.e., mechanical ventilation and renal replacement), and patient triage in the setting of resource constraints (*Br J Anaesth* 2020;125:e248-51). With this increased focus on the field of critical care medicine, it has become apparent that significant research is necessary to advance patient care above and beyond COVID-19 and to fill research gaps existing in both pragmatic and specialized areas throughout our subspecialty. Given these critical research needs, the Foundation for Anesthesia Education and Research (FAER) continues to support investigators in critical care medicine to advance science and improve patients' lives on a global scale.

To achieve these important research priorities and improve outcomes for critically ill patients worldwide, FAER has supported cutting-edge research, education, and training in the field of critical care medicine. This support has spanned several topics in critical care, including resuscitation, sepsis,



Brittney Williams, MD, 2019 FAER MRTG Awardee, conducting research focused on the Role of TLR7 in Platelet Activation and Dysfunction in Sepsis.

and injury, and a variety of research approaches, including basic science, translational research, and population health. This work has led to further research funding and ultimately advances in patient care that clinicians apply at the bedside every day.

Building upon research support from my FAER Mentored Research Training Grant (MRTG), our team is addressing clinical research questions in the care of patients with severe traumatic brain injury (TBI). While severe TBI causes significant primary anatomic injury to the brain, its impact on non-neurologic organ dysfunction is being increasingly recognized (*J Neurosurg* 2019;131:1931-7; *J Neurotrauma* 2020;37:770-81), but gaps in knowledge exist. Particularly, the underlying mechanisms of myocardial injury and multi-organ dysfunction, and their impact on secondary brain injuries and functional outcomes, represent a significant gap in the

literature. Understanding these fundamental relationships (and the variation in acute care management of non-neurologic organ systems following severe TBI) can lead to therapies addressing non-neurologic organ dysfunction and may represent a novel paradigm for improving clinical outcomes following severe TBI. Through support from the National Institutes of Health, our team is working to address these important questions, but this would not be possible without the critical initial support for this line of research from my FAER MRTG.

In addition to research support, career development support through the FAER MRTG has resulted in significant expansion of my methodologic toolkit in epidemiology and population health sciences, and this has allowed collaborations with investigators on important topics in perioperative and critical care population health. In light of the current expansion of the role of anesthesiologists beyond the operating room and the increased focus on health care utilization and costs, the advancement of perioperative and critical care population health research is a priority. Given the increased availability of large and multicenter databases, increasing methodologic rigor has been identified as a key priority in perioperative and critical care observational research (*Br J Anaesth* June 2020). To address these important areas, I have had the opportunity to co-direct Duke Anesthesiology's Critical Care and Perioperative Population Health Research (CAPER) Unit. The mission of CAPER



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is to "improve patients' lives, by advancing critical care and perioperative medicine through rigorous population health research and education." Our unit's work has led to local, national, and international collaborations and has increased knowledge in a variety of cross-cutting subject matter areas, including observational research methods, injury, opioid utilization, nutrition, and resuscitation. The support of FAER in my career development has been critical in advancing CAPER's mission and population health research in our field.

While the anesthesiology community has worked hard to address many research gaps in the care of critically ill patients over the past several decades, significant work remains. I cannot emphasize how much FAER's support has helped me in my research career, both in terms of critical support of research and career development, and this has led to further research funding and advancement of perioperative and critical care research. I am very pleased to see that FAER continues to support investigators in critical care medicine for tackling complex topics, ultimately leading to improved lives for our patients worldwide. ■

## Medical Student Town Hall on Impacts of COVID-19

Nate Wicks, ASA Director of Residency Engagement

**O**n August 27, ASA hosted a town hall webinar titled "The Impacts of COVID-19 on Medical Students," which was attended by a robust group of 500 medical student participants. Previous to this event, a number of medical students reached out to ASA with concerns about applying to anesthesiology residencies during these most disruptive times – and the COVID webinar was born.

ASA would like to thank the excellent faculty who led the presentations

and gave very useful information to applicants, including Julie Williamson, Emory School of Medicine; Timothy W. Martin, University of Florida College of Medicine; Dawn Dillman, Oregon Health & Science University; and Christian Diez, Chair of ASA's Committee on Residents and Medical Students. We also extend our gratitude to Medical Student Component President Stacia Griebahn and President-Elect Abigail Schirmer for all their work in helping their colleagues navigate the current crises.

The following is a brief summation of the webinar. You may also access a recording of the webinar and download slides used during the presentation on the ASA website.

### The Resident Application Cycle

- Program directors know medical students have been professionally affected by COVID and recognize that a usually stressful time has become historically stressful. They are taking these difficulties into account when

looking at applications. Examples include:

- Externships and away rotations have been canceled. Even those who participated in away rotations may not have been able to perform higher-risk procedures. As a result, program directors understand that letters of recommendations (LoRs) may come from physicians outside of anesthesiology.
- Applicants may not have taken the USMLE Step 2 exam, so program

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