



SLEEPY TIMES

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OPENING STATEMENT: MUSC PRESIDENT COLE'S UPCOMING RETIREMENT



-Scott T. Reeves, MD, MBA

MUSC will soon be transitioning leadership at the President level with the upcoming retirement of Dr. David Cole in June 2026. I have had the opportunity to work with Dr. Cole first as colleagues in the operating room, as chairmen of our respective departments, as MUSCP president and final CPE. He will certainly be missed. Below is the announcement from MUSC Board of Trustee's Chairman Charles Schulze and from Dr. Cole.

Dear MUSC Family,

On behalf of the Medical University of South Carolina (MUSC) Board of Trustees, I want to share an important note regarding the service of President David J. Cole, M.D., FACS.

After what will be 13 successful years at the helm of this incredible institution, Dr. Cole will retire as MUSC's seventh president in June of 2027.

It is impossible to overstate the impact of Dr. Cole's leadership on MUSC. His bold vision and unwavering dedication have left an indelible mark on students, faculty, researchers and staff.

Since 2014, Dr. Cole has led MUSC through rapid transformation and strategic growth. The organization now delivers care in all 46 counties across South Carolina. Working across the enterprise, and with leaders across the state and beyond, Dr. Cole has been a trailblazer for health care, research and education.

During his term, MUSC expanded its statewide and global partnerships, rural care and telehealth connectivity, and secured record research funding. Dr. Cole, along with enterprise leaders and key stakeholders, secured support for the construction and opening of Shawn Jenkins Children's Hospital and Pearl Tourville Women's Pavilion, as well as the Jean and Hugh K. Leatherman Behavioral Care Pavilion in Florence.

For 11 years running, MUSC Health University Medical Center in Charleston has been named by U.S. News & World Report (USNWR) as the No. 1 hospital in South Carolina.

We are thankful that Dr. Cole, who joined MUSC in 1994, will remain part of MUSC's family as a professor and surgical oncologist, providing the MUSC community with invaluable experience and delivering lifesaving expertise to patients.

We owe Dr. Cole and his family, particularly his wife Kathy, a valued member of the MUSC community, a debt of profound gratitude.

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OPENING STATEMENT CONTINUED

The Board will begin an extensive nationwide search for Dr. Cole's successor, led by former Board chairman and sitting trustee James Lemon, D.M.D. We expect the search process to conclude next spring.

As we celebrate Dr. Cole's tenure as president, I, on behalf of the Board of Trustees, also want to thank each of you for the contributions you make each day to MUSC. We are grateful for your continued work.

Sincerely,

Charles W. Schulze, CPA

Chairman

MUSC and MUHA Board of Trustees

Dear MUSC Family,

I write today with pride, respect and deep gratitude as I reflect on stepping down next June after what will be 13 years as the seventh president of the Medical University of South Carolina (MUSC), an institution I love and one that each of you strengthens every day through your dedication to the people of our state.

First, thank you.

Whether you are a student, scientist, clinician, faculty member or staff member, it has been a privilege to work alongside you during one of MUSC's most exciting periods. Leading and serving this remarkable institution has been one of the great honors of my life.

Today, MUSC stands among the nation's leading academic medical centers, with extraordinary momentum, a testament to what is possible when people are united in service to patients, students, families, communities and one another.

The MUSC family is more than 35,000 members strong, including faculty, physicians, specialty providers, scientists, students and many others, whose groundbreaking work is recognized across the country. Your compassion and innovation save lives, educate the next generation and transform the future of healthcare every day. That is a legacy we can all celebrate and share.

The resources available to the MUSC family continue to grow. Through productive partnerships and strong relationships with key stakeholders, from Columbia to Washington and beyond, our annual operating budget now exceeds \$10 billion.

As our campus, colleges and statewide footprint have grown, we have also secured record research funding. This has strengthened our ability to conduct trailblazing research, develop cutting-edge treatments and therapies and recruit the very best minds in medicine and health, from students and researchers to faculty, while keeping that talent here in South Carolina.

I believe every leader is called to serve a particular moment in time. I have tried to use my time as a steward of this enterprise to make the greatest possible impact. Now, I look forward to passing the baton to the next generation of MUSC leadership.

Kathy and I are grateful for the lifelong friends and colleagues we have gained over the past 32 years, and I look forward to remaining part of the MUSC family as a tenured professor of surgery. While I will certainly miss serving as president, I will take great pride in the foundation we have built together and look forward to the opportunity to more fully embrace the blessings of life with our family and grandchildren.

MUSC is the state's only comprehensive academic health system, and with that role comes tremendous responsibility, one we never take for granted. As we move through the next year and beyond, let us remain focused on what that responsibility means and on the extraordinary opportunity before us.

The people we serve expect and deserve nothing less.

Yours in service,

David J. Cole, M.D., FACS

President, Medical University of South Carolina

WELL-BEING FACULTY UPDATES BY NATALIE BARNETT, MD

July 1st marked the official launch of the new EAP platform, Lyra, which provides access to:

- 6 free therapy or coaching sessions per person/per year
- 24/7/365 access to confidential support (a totally separate system)
- professional coaching with ICF-accredited coaches
- in person and virtual care options
- whole-person & family support which includes work-life services, financial counseling and legal consultations

I encourage you all to sign up on the website - which also has a link to download their app (for apple and android). Even if you do not think you need assistance now, you may in the future. Familiarity with the website will help you obtain quick, confidential support when you need it.

<https://musc.lyrahealth.com/>

Also, July 1st brought the pulling back of the post-call time from midnight to 11pm. Please continue to alert the site DOD and Sarah Zuniga/Mary Chiappardi if you will be post-call in the usual fashion.

Finally, quick reminder that **Orange Huddle** is a centralized activation process for employees experiencing distress that can be activated for yourself, colleagues or entire teams. It's a great asset for MUSC employees with a typical response time of 24-48 hours. For medical emergencies, call 911.

<https://redcap.musc.edu/surveys/?s=XE8ACEXRDDYC9DDW>

As always, please feel free to reach out to me with any questions, concerns or ideas for future Department of Anesthesiology well-being projects.



SAFETY HERO: KATHRYN SMITH, CRNA



Safely Speaking™
MUSC Health Daily Safety Tip



Kathryn Smith, CRNA, was reviewing the history of an elective ACL repair surgery in Charleston West Ashley Medical Pavilion. The patient was a 17-year-old male with pertinent family history of a half-brother who was deceased from sudden cardiac death secondary to HOCM.

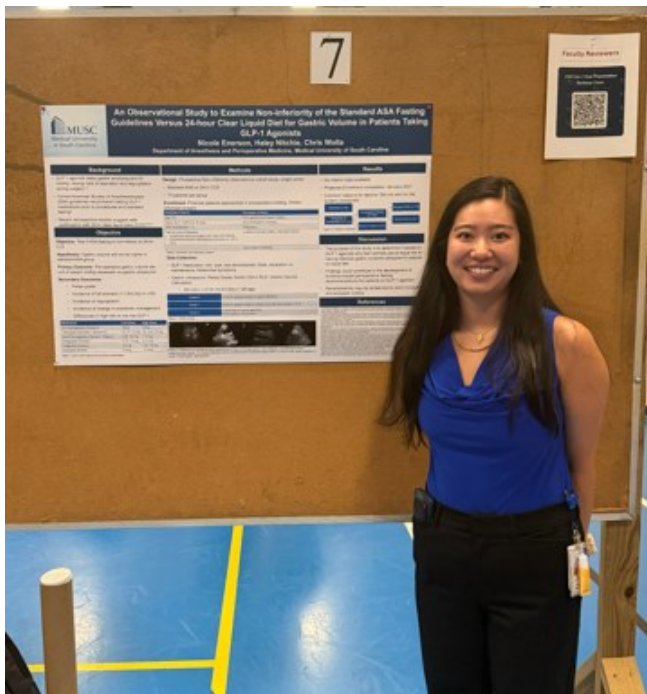
The history prompted Kathryn to look into his previous medical records, where she found that he was seen by cardiology at the age of two. The patient had a negative echo at that time and was given the recommendation to follow up in 5 years. However, this was never done.

Kathryn also found that the patient may have had limited access to follow up care due to his social determinants of health (SDOH). She felt strongly that since there was a 50% chance that the patient could be asymptomatic with undiagnosed HOCM, that the surgery should be rescheduled after a repeat echo could be done. After discussion with the perioperative team and parent, all parties agreed to repeat the echo and reschedule surgery.

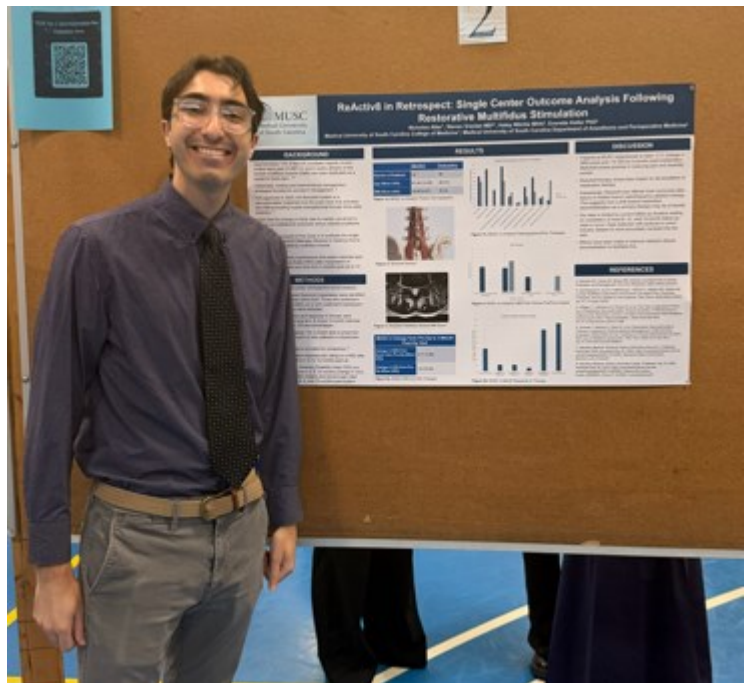
Kathryn's meticulous chart review and patient advocacy led to an important delay surgery and focus on follow-up care. Thank you, Kathryn!



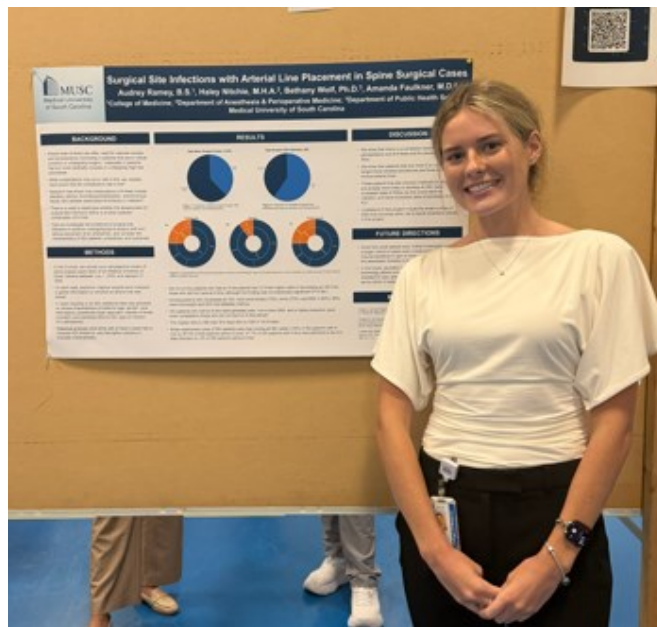
2026 FLEX FAIR



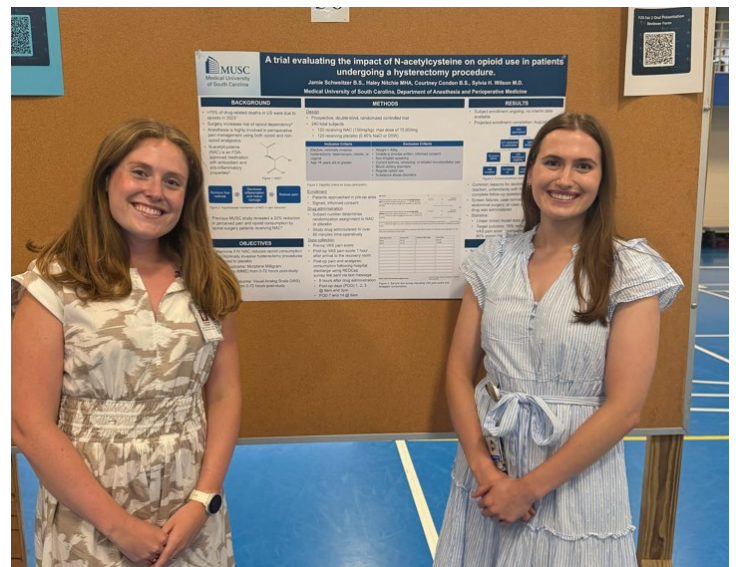
Nicole Enerson — An Observational Study to Examine Non-Inferiority of the Standard ASA Fasting Guidelines Versus 24-hour Clear Liquid Diet for Gastric Volume in Patients Taking GLP-1 Agonists



Nicholas Alter — ReActiv8 in Retrospect: Single Center Outcome Analysis Following Restorative Multifidus Stimulation



Audrey Ramey — Surgical Site Infections with Arterial Line Placement in Spine Surgical Cases



Jamie Schweitzer — A trial evaluating the impact of N-Acetylcysteine on opioid use in patients undergoing a hysterectomy procedure

BOWENS ISLAND RESIDENT WELCOME PARTY AND MEET & GREET



HUMAN FACTORS PRESENTATION BY SEAN BRUNA, PHD

I joined the department last year as a staff scientist in Human Factors and Clinical Safety Lab. My work sits at the intersection of health services research, patient safety, and health policy, which means some of it happens in the OR and some of it happens well outside the hospital. Here are a few things I have been up to this summer outside of the OR.



Paper Presented in Geneva at a Swiss National Science Foundation Workshop

On June 30, I presented a paper at the “Democracy as Health” workshop at the Geneva Graduate Institute in Switzerland, sponsored by the Swiss National Science Foundation and attended by 20 social scientists from around the world researching at the intersection of healthcare and democracy. My chapter, **“Democracy as Health Services Research Infrastructure: The Dismantling of the Agency for Healthcare Research and Quality,”** draws on my two years as a Senior Advisor to the Director at the Agency for Healthcare Research and Quality. I argued that a country’s capacity to study its own health care system, independently and in the open, is part of how a democracy governs itself, and that the dismantling of AHRQ between 2025 and 2026 is a loss for patient safety research and for democratic practice. The papers will be reviewed this fall and likely published as an edited volume.

AI Poster Presentation at the AIM-AHEAD Annual Meeting, San Diego

I presented a poster at the 2026 AIM-AHEAD [Annual Meeting](#) in San Diego, California on July 8, as part of my [NIH AIM-AHEAD Bridge2AI for Clinical Care Fellowship](#) in novel AI data-driven research. The poster, **“Data-Driven AKI Phenotyping in the ICU,”** asked whether routine ICU laboratory data can identify distinct subtypes of acute kidney injury. Working with a team of fellows from Baylor, Rice, Columbia, Ochsner Health, and the Alabama, we studied a national cohort of ICU patients with AKI and found that routine chemistries mostly capture how sick a patient is, not what kind of kidney injury they have. A simple recovery model performed as well as machine learning. The work also shows how imputed baseline creatinine and inconsistent diagnosis coding can quietly bias AI models built on electronic health record data, an issue that matters for anyone building clinical AI tools. We plan to continue this research to develop a predictive model for implementation in the ICU.

Public Outreach on the Proposed OMB Grantmaking Rule

On July 11, I joined national security analyst Olivia Troye for a live conversation on her Substack about a proposed Office of Management and Budget rule on federal financial assistance and grantmaking. The rule would require senior political appointees to confirm that every grant aligns with the President’s policy priorities before an award is made, which would reduce scientific peer review to an advisory step. In the **“Live Saturday Covfefe Special Edition: The White House Rule You Need to Know About Before Monday,”** we discussed what this could mean for research funding across the board, including our own department’s work on retained surgical items. The segment reached 85,000 viewers in its first hour. You can watch the show on [Substack](#).

Democracy as Health Services Research Infrastructure

THE DISMANTLING OF THE U.S. AGENCY FOR HEALTHCARE RESEARCH AND QUALITY

...and the path to repairing democratic health services research

Sean Bruna, MA, MA, PhD

Staff Scientist

Fellow, AIM-AHEAD Bridge2AI for Clinical Care Training Program

Human Factors and Clinical Science Laboratory

Department of Anesthesiology and Perioperative Medicine

Medical University of South Carolina

Charleston, South Carolina, U.S.A.



June 30, 2026
Geneva, Switzerland

HUMAN FACTORS CONTINUED



Data-Driven AKI Phenotyping in the ICU: A Severity Continuum, Dual Ascertainment Bias, and a Parsimonious Recovery Model

Elias Awad, MD¹; Sean Bruna, MA, MA, PhD²; Karthik Goli, BS³; Eugene Kim, MD⁴; Meenakshi Mishra, PhD, MPH, MSc⁵; Zahida H. Pervaiz, PhD⁶

¹Dept. of Molecular & Human Genetics, Baylor College of Medicine ²Dept. of Anesthesiology & Perioperative Medicine, Human Factors and Clinical Safety, Medical University of South Carolina ³Dept. of Bioengineering, Rice University ⁴Dept. of Emergency Medicine, Columbia University Irving Medical Center ⁵Ochsner Center for Outcomes Research, Ochsner Health ⁶State Chemical Testing Laboratory, Alabama Dept. of Agriculture & Industries

An AIM-AHEAD Bridge2AI for Clinical Care Project



OBJECTIVE / PURPOSE

Acute kidney injury (AKI) is clinically and biologically heterogeneous, yet it is managed uniformly as part of the current standard of care. We derived data-driven AKI subphenotypes from routinely collected intensive care unit (ICU) data and tested whether they were distinct, prognostically informative, and related to CRRT, recovery, and mortality. We sought to determine if these subphenotypes add value beyond standard measures of AKI severity (Kidney Disease: Improving Global Outcomes [KDIGO] stage, lactate, bicarbonate).

METHODOLOGY

Cohort: 912 ICU AKI patients (≥ Continuous Renal Replacement Therapy [CRRT]) from the CHARUS QI/OIP repository

• Median age was 65.5 years (53.1% male)

• Onset KDIGO AKI stage was 1/2/3 in 55.3/21.8/22.9%

• CRRT initiated in 14.7%, 20-day mortality 12.8%, full recovery 46.7%

Features: 22 z-scored admission labs and physiological parameters → PCA (14 PCs, >90% variance)

Clustering: k-means (primary); k chosen by silhouette → k = 2

Validation: stability (gap statistic, prediction strength, PAC, bootstrap Jaccard); incremental discrimination (nested LRT, ΔAUC, IDI/NRI); baseline-provenance split sensitivity (ARI/NMI).

Ascertainment: Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI)-imputed vs measured baseline; AKI concept-code capture vs KDIGO stage.

Modeling: optimum-corrected logistic recovery model; Fine-Gray competing risks (EHR death); onset XGBoost with pre-specified split (DeLong test).

Interpretability: AUROC, model calibration, global feature importance (SHAP), feature effect sizes

TABLE 1. CLUSTER PROFILES (N = 92)

Feature / outcome	Cluster 0 Severe (n=301)	Cluster 1 Milder (n=611)
Bicarbonate (mEq/L)	16.2	23.6
Lactate (mmol/L)	7.9	2.9
Peak creatinine (mg/dL)	3.61	2.27
Full AKI recovery	34.6%	52.7%
CRRT initiation	19.6%	12.3%
28-day mortality	15.0%	11.8%

A noticeable severity gradient (solid line / dashed, not shown).

HEADLINE NUMBERS

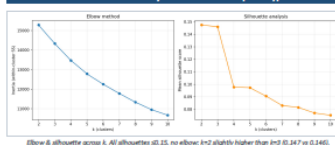
≤ 0.147 Max silhouette at any k → no gradient, not separated clusters	k = 1 Cluster number chosen by the gap statistic
ARI ~0.01 Cluster replication in measured-baseline + chance	c = 0.77 Onset recovery model (optimum-corrected)
6.7-30.6% AKI concept-code captures KDIGO stage 1-3	

REFERENCES

1. KDIGO AKI Work Group. Kidney Int Suppl. 2012;2(1):1-138.
2. Bhattraj PK, et al. Am J Respir Crit Care Med. 2019;199(7):863-872.
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4. Chawla LS, et al. [JAMA]. Nat Rev Nephrol. 2017;13(4):241-257.
5. Tioschani R, et al. J R Stat Soc B. 2001;63(2):411-423.

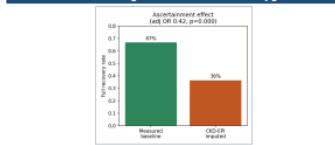
RESULTS

1. Routine labs encode one severity axis — not discrete phenotypes

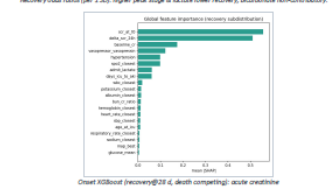
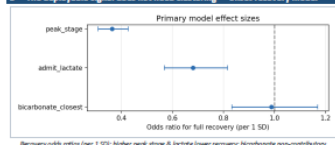


No prognostic value beyond severity: Nested LRT over KDIGO-lactate-bicarbonate: recovery $p=0.88$, 90-d mortality $p=0.29$, CRRT $p=0.068$ (borderline). Gap statistic selects $k=1$; prediction strength 0.65 (±0.01); high bootstrap Jaccard (0.82) is a k -means-on-continuous artifact, not discreteness.

2. Dual ascertainment entanglement — both ends are severity-gated



3. The deployable signal does not need clustering — onset recovery model



On a pre-specified holdout split (DeLong, XGBoost is not significantly better than parallel L2-logistic recovery [AUC: 0.838 (95% CI) vs 0.838 (95% CI)] both CIs include 1. The value is the exact feature set, not the feature set.

Key Takeaway

Routine ICU laboratory data primarily capture overall illness severity and do not improve prognostic performance beyond KDIGO staging. Our findings suggest that routine chemistry-based phenotyping has limited clinical value and support a simpler model focused on AKI onset and recovery.

CONCLUSIONS

1. Routine ICU chemistries identify severity, not subphenotypes. The $k=2$ solution consistently partitioned patients along a continuous acid-base/cholesterol severity gradient rather than discrete AKI phenotypes and provided no prognostic value beyond KDIGO stage.
2. Ascertainment shapes EHR-derived AKI cohorts. CKD-EPI baseline creatinine imputation and concept code-based AKI ascertainment are both severity-dependent, biasing unsupervised clustering toward severity rather than biology and under-detecting mild AKI.
3. A simple model was sufficient. A parsimonious onset-time renal recovery model (corrected $c=0.77$) was well calibrated, robust to baseline ascertainment, and matched the performance of black-box machine learning models.

IMPLICATIONS

- Admission chemistries do not define AKI subphenotypes - disease severity axis discovered by default; meaningful subtypes require biomarkers or creatinine trajectories
- Ascertainment bias can masquerade as biology - measurement artifacts from imputation may drive clustering and AKI diagnosis coding may depend on severity; 66% CKD-EPI-imputed baselines; AKI capture 6.7%→30.6% by KDIGO stage
- Severity-dependent ascertainment is an equity risk - imputed baselines and undetected mild AKI disproportionately affect patients with limited outpatient data
- A simple model may be preferable - KDIGO + lactate; $c=0.77$; no ΔAUC vs. black-box ML; include imputation status; age OR = 0.67/SD

VALIDATION & ROBUSTNESS

- Model selection: silhouette ≤ 0.147 , no elbow → gradient.
- Stability: gap→k=1, PS 0.65, PAC 0.28 → reproducible but arbitrary.
- Incremental value: LRT recovery 0.89 / mortality 0.29 / CRRT 0.068 → adds nothing.
- Provenance split: measured ARI ~0.01 vs imputed 0.46 → carried by imputed majority.
- Competing risks: Fine-Gray (EHR death): peak-stage sHR 0.46 recovery / 1.39 CRT.
- Onset ML: XGBoost + L2-logistic on hold-out DeLong split (AUC NS).
- Firth: CRT ORs stable under penalization → no separation artifact.

FUTURE DIRECTIONS

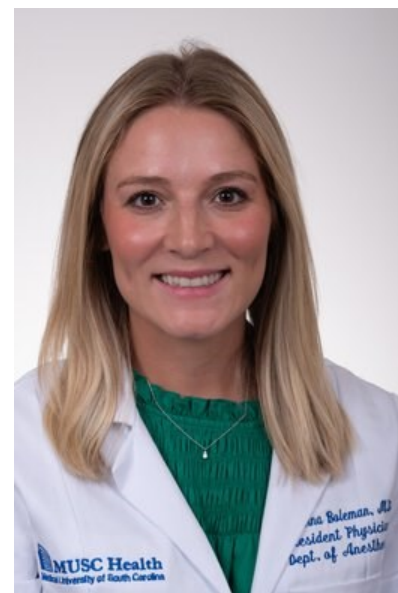
- Identify severity-independent subphenotypes using residual or orthogonal clustering.
- Model creatinine trajectories with GBM or LCMV to define longitudinal AKI subphenotypes.
- Stratify by AKI etiology (e.g., sepsis, nephrotoxic, cardiorenal, hepatorenal).
- Test for discrete subphenotypes using GMM or latent profile analysis (BIC) as a predefined endpoint.
- Audit data ascertainment, including comorbidities and mechanical ventilation.
- Multimodal integration, with clinical note named entities (i.e., TF-IDF), cross-validation, and ablation studies involving model features.
- Evaluate clinical usability through human factors testing with clinicians.

ACKNOWLEDGEMENTS & DISCLAIMER

This research was supported by the National Institutes of Health (NIH) through the National Center for Human Genome Research (NCHGR) and the National Center for Human Genome Research (NCHGR). The research was supported by the National Institutes of Health (NIH) through the National Center for Human Genome Research (NCHGR) and the National Center for Human Genome Research (NCHGR). The research was supported by the National Institutes of Health (NIH) through the National Center for Human Genome Research (NCHGR) and the National Center for Human Genome Research (NCHGR).

CONGRATULATIONS DR. BOLEMAN!

I wanted to take moment to recognize one of our new CA2's for achieving the top 10% commendation on this year's ABA Basic Exam. Please take amount to congratulate Dr. Sevanna Boleman for this hard to attain achievement!



THE ULRIKA O'NEAL LENDING LIBRARY BY JENNIFER JONES, CRNA

Earlier this month, the ART Anesthesia group, together with family and friends, gathered to celebrate the dedication of the Ulrika O'Neal Lending Library located in our CVICU waiting room. The memorial lending library, coordinated with the support of MUSC's Arts in Healing, is a perfect tribute to her life and legacy as Ulrika had a lifelong love of books. The library now offers patients' families and loved ones a quiet place of comfort and escape while waiting in the ICU.

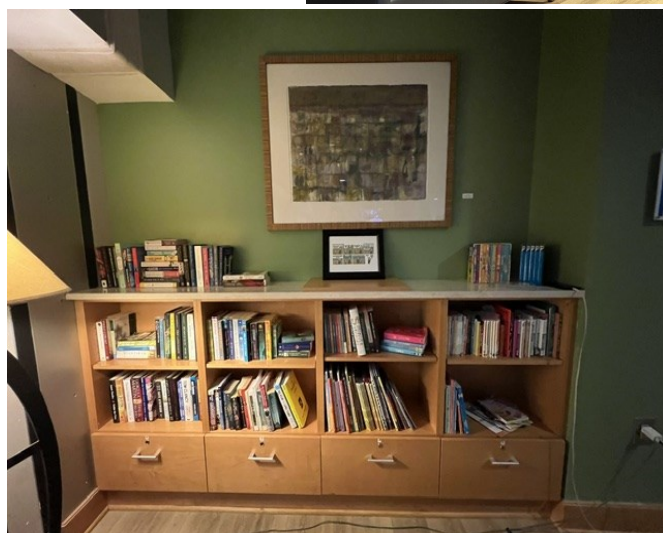
Ulrika had a natural ability to make people feel welcome and cared for. Throughout her career, she treated her patients with extraordinary compassion, kindness and reassurance, seamlessly helping them through difficult moments in their lives. Caring for others was never just a job for her, it is truly who she was. Although we lost Ulrika last March, her kindness and dedication to our profession continues to inspire all of us who had the privilege of knowing her.

In many ways, this library allows Ulrika to continue caring for others. By sharing her love of reading, her legacy lives offering comfort, hope, and a sense of connection to those who need it most. It is a meaningful way for her spirit to continue paying forward even though she is no longer with us.

Our team is deeply grateful to Ulrika's family, her husband Kevin and sons Calvin and Oscar, and friends for joining us to commemorate this special occasion and to everyone who helped make this tribute possible. A special thanks to all of those who donated books. The library shelves are full and we are so grateful for that! This would not have been possible without everyone's generosity.

I cannot even express how deeply missed Ulrika is by our team, but it gives us comfort knowing through this lending library, her compassion, warmth, and love for others will continue to touch countless lives for years to come.

Jennifer Jones



If anyone has books they would like to donate to help replenish the shelves, please email jonjenn@musc.edu

RESEARCH CORNER

Original research

Dermatomal spread in lateral quadratus lumborum blocks versus transversus abdominus plane blocks after laparoscopic colorectal surgery: a randomized clinical trial

Renuka M George ¹, Julie R McSwain ¹, Mamikon Gukasov ¹,
Dulaney A Wilson ², Haley Nitchie ¹, Sylvia H Wilson ¹



Julie McSwain, MD



Dulaney Wilson, PhD



Haley Nitchie, MHA



Sylvia Wilson, MD

Case Report

Anesthetic Management in Pediatric Limb Replantation After Traumatic Amputation

Right Page Header:

Left Page Header:

Sarah R. Stender, MD,¹ Charles A. Daly, MD,² and Nicole C. McCoy, MD¹  



Sarah Stender, MD



Nicole McCoy, MD

GRAND ROUNDS—AUGUST 2026**“Workforce & Community Engagement ”****Mileka Gilbert, MD, PhD, Professor****August 4, 2026****Dept. of Pediatrics
Medical University of South Carolina****Faculty Meeting****Scott Reeves, MD, Professor and Chairman****August 11, 2026****Dept. of Anesthesia & Perioperative Medicine
Medical University of South Carolina****“Redesigning Perioperative Culture: The MAPP Project and the Power of Microaffirmations ”****Shanique Kilgallon, MD, Associate Professor****August 18, 2026****Department of Anesthesiology
Nemours Children's Health****“Effective Communication: Strategies to help your message to be received accurately ”****Rebecca Aycock Brown, PhD, Assistant Professor****August 25, 2026****Dept. of Psychiatry and Behavioral Sciences
Medical University of South Carolina**

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[CHECK OUT OUR WEBSITE](#)

Future Events/Lectures

CA 1 Lecture Series

8/5—Postanesthesia Care; Inhalation Therapy & Mechanical Ventilation in PACU & ICU—Emily Nasser

8/12—Thermoregulation, Hypothermia & MH; Nutrition in Perioperative & Critical Care—Joseph Abro



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Twitter:



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I HUNG THE MOON

Please don't forget to nominate your co-workers for going 'Beyond the Call of Duty.' I Hung The Moon slips are available at the 3rd floor front desk and may



**Holiday Party
Saturday, December 5th
Carolina Yacht Club**

ONE MUSC Strategic Plan

We Would Love to Hear From You!

If you have ideas or would like to contribute to *Sleepy Times*, the deadline for the September edition will be August 18, 2026.