DEPARTMENT OF ANESTHESIA AND PERIOPERATIVE MEDICINE

SLEEPY TIMES



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MESSAGE FROM THE CHAIRMAN: MIKE SCOFIELD, PhD AND SYLVIA WILSON, MD APPOINTED THE JERRY REVES' ENDOWED CHAIRS FOR BASIC AND CLINICAL SCIENCE RESEARCH, RESPECTIVELY.

-SCOTT T. REEVES, MD, MBA

Jerry G. Reves M.D. Endowed Chairs in Basic and Clinical Anesthesia Research



A pioneer clinical investigator who helped launch the cardiac anesthesiology subspecialty, Dr. Reves served as the second President for the Society of Cardiovascular Anesthesiologists (1979-1980,) and received that organization's outstanding service award in 2006. Dr. Reves has been elected to numerous medical boards, societies, and organizations such as the Association of University Anesthetists, the Association of Cardiac Anesthesiologists, the International Anesthesia Research Society, and the Cardiac Surgery and Anesthesia Council of the American Heart Association.

He helped found the Duke Heart Center and served as its first director from 1987 to 1997. Dr. Reves served as Chairman of the Department of Anesthesiology at Duke from 1991 until 2001, when he became Dean of the College of Medicine and Vice President for Medical Affairs of the Medical University of South Carolina until 2010.

Dr. Reves is nationally recognized for his contributions to anesthesia clinical research. His team introduced midazolam and esmolol into clinical practice and his research groups have focused on aging and cognition after cardiac surgery. He has authored or edited 15 books, and his work has been published in over 300 scientific publications.

Mike Scofield, PhD

Dr. Mike Scofield received his B.S. degree in Biotechnology from Worcester Polytechnic Institute, in Worcester, Massachusetts. He obtained his Ph.D. in Biomedical Sciences at the University of Massachusetts Medical school also in Worcester Massachusetts. Following the completion of his graduate work, Dr. Scofield performed his Postdoctoral training at MUSC within the Neuroscience Department under the direction of Dr. Peter Kalivas. During the completion of his Postdoctoral training, Dr. Scofield began his studies on the cellular and molecular substrates of addiction.





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OPENING STATEMENT CONTINUED

Under the mentorship of Dr. Kalivas, Dr. Scofield developed his research program and began to focus on understanding the role of Astrocytes, an under studied cell type in the brain linked to addiction biology. Dr. Scofield has found that these star-shaped cells are uniquely impacted by exposure to drugs of abuse, and his research has been among the first in establishing that these cells play crucial roles in relapse biology.

After the completion of his Postdoctoral training, Dr. Scofield joined the faculty at MUSC and has now achieved the rank of Associate Professor. After establishing his independent laboratory, he has continued the development of an exciting and diverse research program utilizing state-of-the-art microscopy and invivo imaging techniques to gain new insight into what cells, circuits and systems establish the persistent vulnerability to relapse that characterizes addiction and substance use disorder. To date, Dr. Scofield has published 42 manuscripts, including several reviews, editorials, and book chapters. This body of work has been cited over 2,000 times.

In developing his laboratory and research program, Dr. Scofield has placed a particular emphasis on outreach, digital communication and by extension the mentoring of young scientists. Speaking to this initiative, he works closely with undergraduate research programs at Clemson University and the College of Charleston, having trained and mentored more than a dozen young undergraduates, each of which spending time learning about neuroscience and completing projects in the Scofield lab to fulfill the research requirements for their undergraduate degrees. Dr. Scofield also routinely visits universities across the country, and international conferences and meetings, to share his results with the field. Just within the last year Dr. Scofield has been a guest on the "Astrocyte Café" a web-based seminar series for young scientists who meet to discuss projects and progress relating to the study of these captivating star-shapes cells. Additionally, Dr. Scofield has been a recent guest of the "Conversations on Neuroscience by Neuroscientists Podcast" a long running production available on major media outlets. Finally, Dr. Scofield also maintains an impressive website with multimedia facets including videos, cartoons, and schematics. His online presence also extends to the Scofield Lab Twitter profile, which harnesses the short format to showcase multimedia posts aimed at engaging the up-and-coming class of young developing scientists.

The most important factor in naming Dr. Scofield the Jerry Reves, M.D. Endowed Chair is his innovative and exciting research program and his enthusiasm for scientific communication and drive for excellence in mentoring. Dr. Scofield also excels in a team science and works incredibly well with others, as evidenced by his position as PI or Co-PI on numerous grants here at MUSC.

Sylvia Wilson, MD

Dr. Sylvia Wilson has served as the inaugural Dr. J.G. Reves Endowed Chair for Research in the Department of Anesthesia and Perioperative Medicine in the clinical arena since 2018 and will continue in this role.

Born and raised in Orlando, Dr. Wilson completed her undergraduate and medical educations in Gainesville at the University of Florida (Go Gators!). She then ventured north to Chapel Hill where she completed her residency training at UNC before traveling further north to complete her regional anesthesia and acute pain management fellowship at the University of Pittsburgh. As Pittsburgh was a little cold, Dr. Wilson joined the anesthesia faculty at MUSC in 2010.



Since her arrival at MUSC, Dr Wilson has served our department, the medical school, and the anesthesia community. In the department, she has been our Division Chief for regional anesthesia (2011-16; 2020-current), Medical Director for ambulatory surgery (2015-2020), and created our regional anesthesia fellowship where she served as the fellowship director (2015-2022).

Concurrently, she has mentored medical students, residents, graduate students, and fellows within and outside our department. Outside of MUSC, Dr. Wilson serves as both a question writer and an oral board examiner for the ABA and has taught workshops and lectured nationally and internationally on topics related to acute pain and regional anesthesia. Outside of work, she and her husband, Joe, have raised two sons along the way – Liam (14) and Kyle (12).

However, Dr. Wilson was nominated for the Dr. J.G. Reves Endowed Chair for Research for none of these accolades, but for her research. Dr. Wilson first became active in research as an undergraduate at the University of Florida working in the Department of Pharmacology. Over the years, she has published over 55 peer-reviewed articles and editorials, 32 abstracts, 17 book chapters, and 14 other non-peer reviewed publications. She authored and edited a textbook and served as a peer reviewer for several anes-thesiology journals. While her initial basic science research focused on various properties of retinal endothelial cells before and after exposure to certain medications, the vast majority of her clinical research has focused on the impact of regional anesthesia and non-opiate analgesics on acute pain management in the perioperative period and during childbirth. Dr. Wilson's hard work, determination, and commitment to academic research made her an ideal candidate for our first Dr. J.G. Reves Endowed Chair for Clinical Anesthesia Research.

Dr. Wilson would like to thank the Department of Anesthesia and Perioperative Medicine, the research committee, and Dr. Scott Reeves for nominating her for this position. She knows it is truly an honor to be associated with Dr. Reves. Please join me again in congratulating Dr. Sylvia Wilson on this new appointment and great achievement.

PEDIATRIC AND CONGENITAL HEART PROGRAM RECOGNIZED AGAIN

Once again, our Pediatric and Congenital Heart Program was recognized by the Society of Thoracic Surgeons Congenital Heart Surgery Public Reporting as providing exceptional care !!! Our overall 4-year observed mortality was 1.37% (expected 2.59%), almost 50% less than expected. In addition to outstanding survival, our length of stay is lower than the national average for all 10 benchmark operations and all 5 STAT Categories!

This used to be recognized by a "3 star" designation, but after national opposition, was changed to only providing an observed to expected mortality ratio. This ratio is provided on their website for families to decipher. Our observed/expected mortality is 0.53 (95% CI: 0.3, 0.86) – significantly better than expected. Since public reporting began in the spring of 2015, the number of programs that have been significantly better than expected has ranged from 6-12 for any given harvest (out of ~120 programs nationally), with us being one of them every year, this highlighting our consistency in providing exceptional care!

We are transparent in our outcomes and provide public reporting on the STS website (hasn't been updated yet): http://publicreporting.sts.org/chsd

This is an amazing accomplishment for our entire MUSC group and our truly amazing state-wide team! Without all your contributions this would not be possible. We should all be very proud.

Eric M. Graham, MD, FAHA, FACC

Professor of Pediatrics

MEET OUR NEW CHIEF RESIDENTS

Christina Lee, DO

Christina was born and raised in Virginia, attended William & Mary for a BS in neuroscience, then earned her medical degree from Virginia College of Osteopathic Medicine. She was thrilled to join her husband's family in Charleston after matching at MUSC. In her free time, you can find her in the rock climbing gym, running on the greenway, or enjoying the beautiful Charleston weather with her two dogs. She's also always searching for the next great local restaurant (current favorites: R Kitchen and Chasing Sage). She's looking forward to a great last year!

Elliott Mappus, MD

Elliott Mappus was born and raised in Charleston, South Carolina. He attended Clemson University for his undergraduate and master's degrees, where he studied Bioelectrical engineering. He attended medical school at Medical University of South Carolina and subsequently stayed there for his anesthesia residency. Outside of work and school, he enjoys spending time outdoors, particularly on the water. He loves to go boating and soaking up the sun. He enjoys hitting the links when time allows. Despite his scorecard suffering since joining healthcare, his enthusiasm for the game has not. When he's not outside or in the clinic, Elliott enjoys curling up with a good book or binge-watching Marvel movies.

Brad Miller, MD

Brad was born and raised in Greenville, SC. He attended undergrad at Bob Jones University and then earned his medical degree from USC Greenville. In his free time, he enjoys being out on the water with family, friends, and his black lab, Calhoun. He can also frequently be found exploring the incredible Charleston food scene. When time permits, he and his wife, Gabrielle, love traveling to new places (a recent favorite includes South Africa where they enjoyed several vineyards and stunning safaris).







BATTLE ON THE BRICKS FOR MUSC CHILDREN'S HOSPITAL CAREY BREWBAKER, MD

On April 6th at TD Arena (C of C basketball stadium downtown) a charity boxing match will occur with the proceeds going to MUSC Children's Hospital and College of Charleston Athletic Scholarship Fund. Our very own, Dr. Carey Brewbaker was asked to participate and, despite some initial hesitation and complete lack of experience, will be fighting in one of the matches (24 boxers, 12 fights in total, 3 rounds a piece).

The main goal of the event is to raise money for the kids. Please consider buying a ticket to the fight and contributing to the fundraiser in Carey's name. The links to his fighter page for background info, donations and tickets/event info is below. The attendance goal is two thousand people. Surely, there are at least a few of you that would enjoy seeing Carey getting punched.

Carey has been training at Back Bay Boxing for about a month already and is having a great time doing it despite never having boxed. His coach has offered to put a class together for a small donation going to the charities if any of you would like to come out and join in a training session at the boxing gym (non-contact, just exercise). It is really great exercise and a fun experience...let Carey know if there is any interest, and he will work to find a Saturday to do a training session for an MUSC group.

https://give.botbchs.com/fundraiser/433027 https://www.chsboxing.com

Link to Battle of the Bricks Hype Video

AMERICAN HEART ASSOCIATION HEART WALK—ANESTHESIA SLEEP WALKERS



Thank you for all of your donations! The winner of the gift card was Matt Graves!

This year we raised \$1,135.00!





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SERIOUS FUN: ROBOT OLYMPICS HELPS SURGICAL TEAM TO HONE THEIR **TEAMWORK SKILLS**

Serious fun: Robot Olympics helps surgical teams to hone their teamwork skills

Kimberly McGhee | January 11, 2023

Robots are being used more and more frequently in the operating room, not to replace surgeons but to improve both their precision and their vision of the surgical field.

With robotic surgery, cameras provide the surgeon, seated separately at a console across the room from the surgical team, a close-up view of the action as he or she carefully guides the robot's movements. For all of its merits, however, this Image courtesy of Dr. Kenneth Catchpole revolutionary technolo-



gy puts the surgeon at some distance from the surgical team, making interactions between the two difficult. This separation can pose a challenge to effective teamwork.

Training for surgeons on how to conduct robotic surgery is robust. However, little training has been available to members of the surgical team who need to adapt to this new environment.

"We train up surgeons very effectively and very rigorously to use the robots to perform the surgeries," said Kenneth Catchpole, Ph.D., the S.C. SmartState Endowed Chair in Clinical Practice and Human Factors at MUSC and co-director of the Team Science program at the South Carolina Clinical and Translational Research Institute. "However, we don't always train our staff as rigorously in all the things that they need to do to support the robotic surgery."

"Being able to put the enjoyment back into learning is so important. If you're not enjoying something, then you're unlikely to learn."

With funding from the Agency for Healthcare Research and Quality, Catchpole and Jennifer Anger, M.D., a urologic surgeon at Cedars Sinai Medical Center, co-led a study that showed that incorporating "serious games" into this type of training can be an effective and engaging way to teach teamwork and other skills to busy robotic surgery teams. Their findings are published in the Journal of Patient Safety.

-- Dr. Kenneth Catchpole

SERIOUS FUN: ROBOT OLYMPICS HELPS SURGICAL TEAM TO HONE THEIR TEAMWORK SKILLS

Tara Cohen, Ph.D., director of Surgical Safety and Human Factors Research in the Cedars Sinai Department of Surgery, is lead author of the publication.

"Being able to put the enjoyment back into learning is so important," said Catchpole. "If you're not enjoying something, then you're unlikely to learn."

Instead of asking teams to sit through didactic presentations, Catchpole and his collaborators engaged them in immersive scenarios. Raymund Avenido, robotics surgery specialist at Cedars Sinai, came up with the idea for a robot Olympics and collaborated with Catchpole and others at MUSC and Cedars Sinai to make it happen. Together, they created four escape rooms relevant to robotic surgery for teams to solve. In one, players had to identify safety hazards; in another, they had to troubleshoot the machinery. And in yet another, they had to retrieve instruments. The fourth room required them to navigate the workspace effectively, learning to maneuver around the robotic equipment and other obstacles.

Catchpole believes that games are more likely than traditional presentations to motivate teams to develop their teamwork skills and to ensure that those skills stick.

"It can be aspirational that you're presenting team members with a challenge and letting them use and develop their own skills to address that, and then they'll get feedback about how well they did," said Catchpole.

"So, it's interactive. That's often how people learn best," he continued. "And there's a competitive ele-

ment: You'll get a score at the end,



and you can compare your scores, and those with the highest scores can get a prize."

"If we can package up some resources and tips for using serious games to train teams on these new [technology-rich] environments, their usefulness could extend well beyond robotic surgery."

-- Dr. Kenneth Catchpole

The recent publication reports data from the rollout of the four escape rooms at Cedars Sinai Medical Center. Sixteen surgical team members at Cedars Sinai participated in the four escape rooms and reported high satisfaction with the experience (4.5 on a 5-point scale). They also said that they found the experience relevant to their work, the interactive nature of the game engaging and enjoyable and the techniques they learned useful for improving their performances. Team members' confidence in their skills, already high, did not change.

SERIOUS FUN: ROBOT OLYMPICS HELPS SURGICAL TEAM TO HONE THEIR TEAMWORK SKILLS

Conducted as a four-hour workshop on a weekend at Cedars Sinai, the escape rooms are now being adapted to the MUSC clinical environment, with the help of MUSC robotic surgery specialist Betts Bishop, R.N., and Jessica Waxman, a clinical practice nurse expert involved in training and quality improvement in operating rooms. At MUSC, the escape rooms will be worked into the established training/in-service schedule for surgical teams.

Having shown that teams find the escape rooms enjoyable, engaging and relevant, Catchpole and his collaborators are further collecting and analyzing data to determine whether teamwork improved due to the innovative training.

"We've done a lot of work looking at teamwork before and after participating in these escape rooms," said Catchpole, and those findings will be the subject of a future article.

Catchpole and his collaborators are also developing a manual that other institutions could use to create their own escape rooms. They could be used for robotic surgery or other types of operating room teams.

"There's more interest in this type of training as more technology comes into the operating rooms," said Catchpole. "So, if we can package up some resources and tips for using serious games to train teams on these new environments, their usefulness could extend well beyond robotic surgery."

Reference

Cohen, Tara N.; Anger, Jennifer T.; Kanji, Falisha F., et al. A novel approach for engagement in team training in high-technology surgery: The robotic-assisted surgery Olympics. Journal of Patient Safety 18(6):p 570-577, September 2022. | DOI: 10.1097/PTS.000000000001056

LOOK-ALIKE SUCCINYLCHOLINE AND ROCURONIUM VIALS

Some of the Succinylcholine and Rocuronium vials currently in circulation on campus look very similar (photo credit: Jodi Weber, CRNA). Please pay close attention to the labels when drawing up these medications. We are working with OR pharmacy staff to apply additional labels to help us differentiate between the two medications, but be vigilant.



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RADIATION BADGES NO LONGER REQUIRED—CARLEE CLARK, MD

Exposure to radiation has long been a concern for anesthesia providers. Dosimetry readings are reviewed from monthly to quarterly. Radiation Safety has recently completed a comprehensive review of our collective exposure. The annual permissible dose of exposure is 5000 mrem. A 2-year study of our departmental exposure demonstrates the highest cumulative dose for anesthesia is 195 mrem. For thoroughness, we have sent the names of practitioners we considered high exposure individuals for further review. This revealed a 290 mrem reading or 5.8% of the permissible reading for a 2-year period. Based on this, Radiation Safety is discontinuing the requirement of anesthesia to wear a radiation badge. This is in keeping with SC DHEC regulations. Radiation Safety will no longer process dosimetry readings for anesthesia. Please turn in your radiation badges to your administrative assistants. Let us know if you have any questions or concerns.

RESEARCH CORNER

Techniques and Innovations in Gastrointestinal Endoscopy 2021; 297–303

Paravertebral Anesthetic Nerve Block for Pain Control After Peroral Endoscopic Myotomy



B. Joseph Elmunzer, MD,^a Briana R. Lewis, MD,^a Kristen F. Miller, MD,^b Bethany J. Wolf, PhD,^c Lydia Zeiler, MS,^d David A. Gutman, MD, MBA,^d Pooja Elias, MD,^a Aylin Tansel, MD, MPH,^a Robert A. Moran, MD,^a and Eric D. Bolin, MD^d

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Bethany Wolf, PhD



Davis Gutman, MD, MBA



Eric Bolin, MD

RESEARCH CORNER

e168 | Correspondence

Systems engineering-based framework of process risks in perioperative medication delivery

Sarah M. Coppola¹, David M. Neyens², Kenneth Catchpole⁴, Ayse P. Gurses³, Patience Osei³, Joshua M. Biro², Myrtede Alfred³, Maya Rucks², Catherine D. Tobin⁴, Candace Jaruzal⁴, James H. Abernathy III^{3,*} for the Operating Room System based Medication Administration error Reduction Team (OR SMART) Research Group

¹University of Washington, Seattle, WA, USA, ²Clemson University, Clemson, SC, USA, ³Johns Hopkins University, Baltimore, MD, USA and ⁴Medical University of South Carolina, Charleston, SC, USA

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Keywords: anaesthesia safety; human factors engineering; medication error; patient safety; systems engineering



Ken Catchpole, PhD



Catherine Tobin, MD



Candace Jaruzel, PhD, MSNA, CRNA

Hindawi Case Reports in Anesthesiology Volume 2023, Article ID 3474638, 5 pages https://doi.org/10.1155/2023/3474638



Case Report

Anesthetic Management of a Pediatric Patient with Congenital Methemoglobinemia

Sung-Wook Choi ¹ and Elizabeth Putnam ²

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Sung Choi, MD

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GRAND ROUNDS- MARCH 2023









"Shifting Physician Burnout to Wellness"

March 7, 2023 Ben Kalivas, MD, Assistant Professor Dept. of Medicine Medical University of South Carolina

"Perioperative Management of the Patient with Substance Abuse"

March 14, 2023

Savannah Hurt, MD, Assistant Professor

Dept. of Anesthesia & Perioperative Medicine Medical University of South Carolina

"Perioperative Management of the Patient with Pulmonary Hypertension "

March 21, 2023

Rahul Argula, MD, Associate Professor

Dept. of Medicine Medical University of South Carolina

"Going Green: Environmental Impact of Anesthesiology"

March 28, 2023

Garrett Burnett, MD, Assistant Professor

Anesthesiology, Perioperative and Pain Medicine Mount Sinai

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Department of Anesthesia And Perioperative Medicine

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CHECK OUT OUR WEBSITE

Future Events/Lectures

Intern Lecture Series

3/2—Anesthesia for Peds—Gabrielle Fisher

3/16—Hematologic Disorders—Clinton Pillow

3/30-OB-Katie Hatter

CA 1 Lecture Series

3/1—Anesthesia for Cardiovascular Surgery— Maxie Phillips

3/8—Obstetric Anesthesia PBL—Abhi Madamangalam

3/15-Pediatric Anesthesia PBL-

3/22—Anesthesia Review/Jeopardy—Travis Pecha

CA 2/3 Lecture Series

Per Rotations



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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



Graduation Friday, June 16th, 2023 6:00pm Founders Hall

Department Holiday Party Saturday, December 9th, 2023 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 April edition will be March 20, 2023.