

# Newton, colleagues author study establishing pediatric perioperative mortality rate in East Africa

Two billion of the world's children lack access to safe surgery and anesthesia, and the need for pediatric surgery in low- and middle-income countries is growing. In these countries, where children make up more than 50 percent of the population, it is estimated that 85 percent of children will require surgery before their 15th birthday, and these countries have a severe shortage of pediatric surgeons and anesthesiologists. Mark Newton, MD, author of a new study published last week by *Anesthesiology*, explained, "We know from practical experience that pediatric surgical mortality in these settings is high, but we have never been able to prospectively capture the data until now."

In the new study, "Perioperative Mortality in Kenya: A Prospective Cohort Study from 24 Hospitals," Newton and his co-authors establish a baseline pediatric perioperative mortality rate for the first time in East Africa and discuss factors associated with mortality. Newton said the authors hope this study will

demonstrate the feasibility of collecting perioperative mortality data at scale and illustrate how the data can be used to improve pediatric surgical care systems in these settings.

This groundbreaking study establishes a pediatric perioperative mortality rate for low- and middle-income countries which is 100 to 200 times higher than in high-income countries—further documenting the global surgery imbalance and its dramatic impact on the world's growing population of children.

The study also illustrates how such data can direct quality improvements. For example, another of the study's key findings shows a link between mortality and failure to use the Safe Surgery Checklist. Of this finding, Newton said, "This represents a significant finding to be useful for advocacy, education and enforcement of the use of this patient safety tool."

*Continued on page 2*



*Photo by David Shirk*

## GME course focuses on postpartum hemorrhage

Severe postpartum hemorrhage is a leading cause of morbidity and mortality for women in the United States. Expert management requires a coordinated effort from obstetrics, obstetric anesthesia and nursing staff.

A Graduate Medical Education curriculum course for postpartum hemorrhage has been designed to

teach residents from multiple disciplines how to communicate effectively and work as a cohesive team. This initiative is designed to reinforce best practice management protocols and is part of a national strategy championed by obstetric anesthesia, obstetrics and mother-baby nursing staff.

Laurie DeSantis, CNM, Quality and Safety

Advisor for Women's Health, said The Joint Commission, the Institute for Healthcare Improvement and the Agency for Healthcare Research and Quality have all endorsed simulation training, especially in critical care areas such as obstetrics, ICUs and Emergency Departments.

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DEPARTMENT OF ANESTHESIOLOGY AT VANDERBILT UNIVERSITY MEDICAL CENTER OFFICE OF THE CHAIR 1211 21ST AVENUE SOUTH, 722 MAB NASHVILLE, TN 37212   615-936-1595	

## MESSAGE FROM THE CHAIR



Warren Sandberg, MD, PhD  
Chair, Department of  
Anesthesiology

The end of the year is upon us, and it is time to reflect on all the things the department has accomplished during the past few months.

At the 2019 annual meeting of the American Society of Anesthesiologists in Orlando, Florida, we participated in over 85 activities. Over 45 faculty and over 35 residents from our department attended. From the medically challenging cases to the hands-on workshops to our annual alumni reception, the ASA was a huge success.

Mark Newton, MD, and colleagues authored an important study for global

health and anesthesiology. The groundbreaking study establishes a pediatric perioperative mortality rate for low- and middle-income countries that is 100 to 200 times higher than in high-income countries.

Bret Alvis, MD, received his first R01 grant. This grant provides funding for his study regarding venous waveforms and how to measure. This study is the only one examining non-invasive ways to measure venous waveforms.

Our Obstetric Anesthesiology Division is making an impact institution-wide with the development of a GME course focusing on postpartum

hemorrhage. Obstetric Division Chief Jeannette Bauchat, MD, played a significant role in developing the curriculum.

Joseph Schlesinger, MD, continues to do work on noise and music in the ICU. Currently, the interdisciplinary group is looking into whether music in the ICU rooms will improve patient outcomes.

The amazing thing about our department is the range of work we do. We are involved in so many different things, from research to global health to developing curricula. The Department of Anesthesiology at VUMC is always looking

## GME

### *continued from front*

Jeanette Bauchat, MD, chief of the Division of Obstetric Anesthesiology, said that there is evidence that maternal and fetal morbidity and mortality are reduced when multidisciplinary teams on labor and delivery work together and simulate and practice obstetric emergency drills. "In simulation, crisis management techniques can be practiced where the stakes are much lower than in an actual maternal emergency," she said.

This training will help prepare clinicians for real-life emergencies in obstetrics, explained Etoi Garrison, MD, PhD, director of Obstetric Simulation and Education, who helped to develop and implement the curriculum. She said even though the training is for residents, it gives every member of the team, from attendings to nurses, an opportunity for practice-based learning in a safe environment.

Garrison emphasized the importance of recognizing everyone who contributed to the success of making these training sessions happen. She explained it is important to note this was a truly a multidisciplinary effort.

This training will help the whole team to improve teamwork and

communication. According to Bauchat, studies have shown that not only does team training improve people's performance in an actual emergency, it also improves safety culture. She explained that when teams have worked together before in a simulation situation, it improves their communication in the future because they are more comfortable communicating.

DeSantis explained that during simulation training, they have started to identify issues that cause delays in patient care and have already begun to make changes to the process. "I'm excited that our simulation training has led us to making improvements that will directly impact patient care on the obstetric units," she said.

Bauchat said this training will allow obstetric emergency response teams to respond faster, more efficiently and more effectively. "The hope is that you are catching hemorrhage earlier and treating it faster so women don't need as many transfusions, so they don't lose too much blood or need a hysterectomy," she said.

Garrison emphasized the importance of recognizing everyone who contributed to the success of making these training sessions happen.

## Pediatrics

### *continued from front*

Newton said he and his colleagues working in Kenya have long known that developing a safe surgery culture within a team model is key to improving outcomes. Therefore, Newton and James O'Neill, MD, established a fellowship program at AIC Kijabe Hospital that trains teams of pediatric surgeons and anesthesiologists. The program has trained 10 pediatric surgeons and 16 pediatric anesthesiologists, in partnership with the University of Nairobi, from eight different African countries.

Many of those trained have gone on to practice as the first pediatric surgeon or pediatric anesthesiologist in their home country. O'Neill explained that the graduates will then be supported to establish specialty training programs in their own countries. "These newly trained pediatric surgeons and anesthesiologists will work as leaders to increase access to surgery for their countries' children and improve surgical outcomes," O'Neill said.

Newton said he and colleagues are grateful to the General Electric Foundation, which funded this study and has supported many capacity-building efforts for safe surgery and anesthesia throughout East Africa.



# Researchers explore music's effect on ICU patients, staff

Originally published in the VUMC Reporter on Sept. 25, 2019

By Nancy Wise

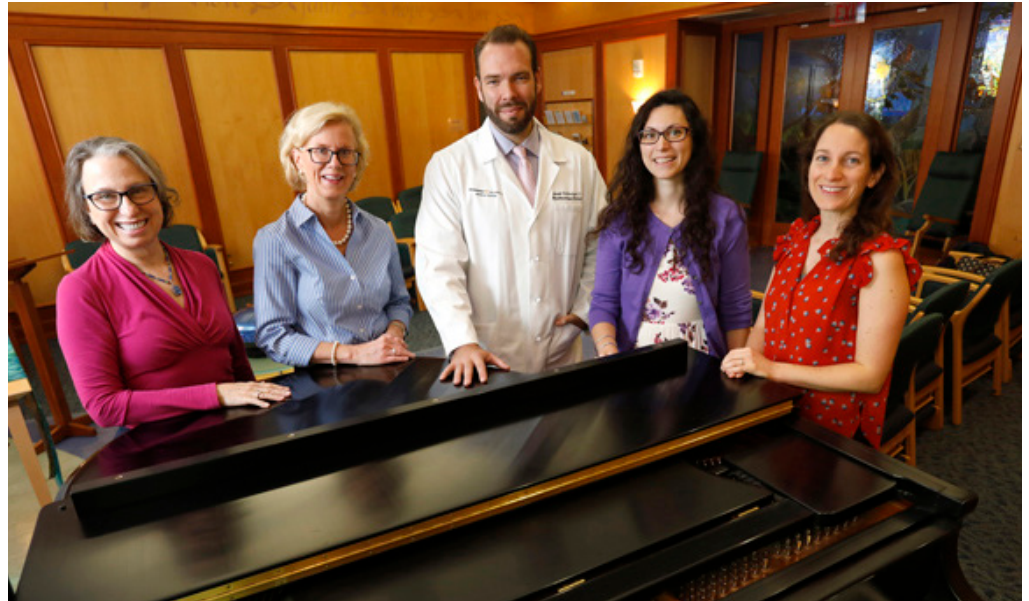
An interdisciplinary group of Vanderbilt researchers is launching a pilot study on the effect of live music on patients, families and staff in the adult intensive care unit (ICU) and is inviting musical members of the Vanderbilt community to help.

The study, Therapeutic Music in the Intensive Care Unit, calls for volunteer musicians — Vanderbilt students, staff and faculty — to play piano or flute in patients' rooms in Vanderbilt University Medical Center's adult ICUs. The impact of the music program will be assessed over a three-month pilot period with patients, family members and ICU clinical nursing and medical staff using established tools to assess anxiety, perceptions of benefit and strategies and barriers to implementation.

"It's known that music can play an important role in intensive care medicine. It can mask noise levels from therapies like mechanical ventilators and physiologic alarms, blunt the known cardiovascular stresses of noise and promote patient and family relaxation during a difficult time," said Ruth Kleinpell, PhD, assistant dean of Clinical Scholarship and professor of Nursing, who is co-directing the study. "Yet despite its well-known benefits, music therapy is rarely observed in daily practice in an ICU and there hasn't been a lot of research regarding the impact of music in the ICU for patients, family members and clinicians."

The pilot is a collaboration between faculty at Blair School of Music, the School of Nursing, Vanderbilt University Medical Center, the Department of Otolaryngology Music Cognition Lab and the Program for Music, Mind and Society.

"As an ICU doctor, I see my patients struggle to get better, but even as they get better, they can have neuropsychological outcomes like PTSD and delirium," said Joseph Schlesinger, MD, associate professor of Anesthesiology and Biomedical Engineering. "There's a lot of literature that shows that music



Vanderbilt researchers studying the effect of music in the ICU include, from left, Miriam Ploger, MM, Ruth Kleinpell, PhD, Joseph Schlesinger, MD, Reyna Gordon, PhD, and Miriam Lense, PhD. Photo by Anne Rayner

might alleviate some of that. What we're working to do is bring musicians into the ICU to try to improve patient outcomes, and at the same time help the staff who take care of these patients."

Vanderbilt University undergraduates are encouraged to participate and investigate using the experience to develop their Immersion projects. Vanderbilt community musicians are asked to fill out an interest form and then participate in an initial one-hour orientation session.

The study will provide information that can help critical care practitioners develop best practices for designing, implementing and evaluating a patient- and family-focused music program in the ICU.

"Patients will be offered individual music sessions to be played by their bedsides. For patients unable to communicate their preferences, family or bedside staff will decide if it is conducive for the patient to receive a music therapy session," Kleinpell said. "Bedside clinical nurses will assist in monitoring the patient's response to the music in terms of changes in vital signs, restlessness, promotion of sleep or other signs of relaxation."

The session will be stopped if there are observed changes in a patient's vital signs or clinical status that may indicate

an unfavorable response, such as increased heart rate or blood pressure, agitation or restlessness.

Kleinpell and Schlesinger hope the study leads to a formal music program in all VUMC ICUs. "Eventually, we'd like to have local musicians — this is Music City, after all — come into the hospital and play music in a therapeutic setting to try to help the patients, families and clinicians," Schlesinger said. "As we go forward, we'd like to make it a standard of care in the ICU."

Other participants include Marianne Ploger, BM, MM, associate professor of Music Perception and Cognition and director of the Musicianship Program, Blair School of Music; Reyna Gordon, PhD, assistant professor of Otolaryngology and Psychology and co-director, Music Cognition Lab, VUMC; Miriam Lense, PhD, assistant professor of Otolaryngology and co-director, Music Cognition Lab, VUMC; and Todd Rice, MD, MSc, associate professor of Medicine and director of the Medical ICU.

Nashville Piano Rescue has donated an upright piano on wheels to be used by the program; musicians will be asked to play from an established playlist of classical music previously evaluated as effective in hospital settings.

# Department Spotlight: Celebrating Departmental Accomplishments

Vanderbilt was well represented at the American Delirium Society Meeting in June 2019 in Boston. **Pratik Pandharipande, MD, Christopher Hughes, MD, Kimberly Rengel, MD, and Heidi Smith, MD**, all gave oral presentations, and **Tina Boncyk, MD**, presented a poster.

Pediatric Anesthesia fellows **Clayton Adams, MD, Meagan Dodd, MD, Jaclyn Irwin, MD, and David Roberts, MD**, had the opportunity to go to Chapel Hill, NC, and do a bootcamp with the Pediatric Anesthesia fellows there. **Jenna Helmer-Sobey, MD**, was instrumental in this experience for them.

**Brian Allen, MD, Jane Easdown, MD, and Leslie Fowler, MEd**, conducted a session at Society for Education in Anesthesia.

**Jane Easdown, MD**, received the Distinguished Educator in Anesthesiology award from ASA and SEA. The award was announced during the Emery A. Rovenstine Lecture on Monday, Oct. 21, at the ASA annual meeting in Orlando.

**Leslie Fowler, MEd**, 2017-19 AAPAE President, gave the welcoming address at the annual AAPAE Meeting.

**Christopher Hughes, MD**, will be inducted as a Fellow in the American College of Critical Care Medicine at the 2020 Society of Critical Care Medicine Critical Care Congress in February.

**Matt Kynes, MD**, presented on ERAS for pediatric orthopedic surgery at the ERAS USA meeting in New Orleans. Matt did an outstanding job and represented VCH very well on the national level.

**Mark Newton, MD**, attended the World Congress of Surgery in Krakow Poland from Sunday, Aug. 11 to Thursday, Aug. 15. Newton spoke on the Global Anesthesia Crisis.

**Mark Newton, MD**, has been appointed as the new Director of Anesthesia Global Health and Development in the Department of Anesthesiology.

**Pratik Pandharipande, MD, MSCI**, received the Foundation for Anesthesia Education and Research (FAER) Mentoring Excellence in Research Award.

**Michael Pilla, MD**, produced a documentary, "A Perfect Match: The Selection Ritual to Become a Doctor," which was a finalist at the Nashville Film Festival.

**Matthias L. Riess, MD, PhD**, was selected to become a Fellow of the American Society of Anesthesiologists.

The **Riess Lab** represented the department well at the American Heart Association's Scientific Sessions 2019 meeting in Philadelphia, with two oral presentations and four posters.

The NIH K23 grant application submitted by **Loren Smith, MD, PhD**, received an impact score of 10.

**Camila Walters, MD**, conducted Grand Rounds on Thursday, Aug. 1, at Penn State University.

**Jonathan Wanderer, MD, MPhil**, was accepted as a Fellow of the American Society of Anesthesiologists.

**Jonathan Wanderer, MD, MPhil**, has been named an at-large member of the Medical Center Medical Board at VUMC this year.

**Jonathan Wanderer, MD, MPhil**, has been awarded the designation of Fellow of AMIA, or FAMIA.



**Christopher Canlas, MD**, was appointed chief of the Ambulatory Division.



**Bevan Londergan, MD**, was appointed chief of the Pediatric Cardiac Division.



## Service Awards

### 30 years

Ann Walia

### 25 years

Robert Deegan  
Jing Zhou  
Meera Chandrashekar  
Sally Watson  
John Barwise  
Ray Paschall  
Letha Mathews  
Michael Higgins  
Dana Sylak

### 20 years

Kimberly Alexander  
Heidi Smith  
Stephanie Clark  
Joyce Speer  
Jerry Ishee

### 15 years

Shuhanna O'Bryan  
Micahel Pilla  
Melissa Chont  
Charlotte Anderson  
Jennifer Cook  
Christopher Canlas  
Jay Bell  
Susan Dixner  
Elizabeth DeMarcus  
Todd Rushing  
Matthew Weinger

### 10 years

Lorie Taylor  
Nathan Scott  
Mary Kelley  
Thomas Koss  
Christal Herron York  
Carrie Reale  
Kerri Rios  
Laura Zeigler  
Stephen Harvey  
Christopher Sobey  
Bret Alvis  
Jenna Helmer Sobey  
Donna Keeney  
Roy Neeley  
Koffi Kla

### 5 years

Nathan McMasters  
David Neely  
Emily Nath  
Kevin Preece  
Kristen McDearmon  
Amanda Simpson  
Laura Durchsprung  
Leslie Fowler  
Matthias Riess  
Brooke Hoover  
John Foster  
David Chestnut  
Carrie Kucera-Anders  
Merrick Miles  
Christina Hayhurst  
Kimberly Rengel  
Phillip Leisy  
Jonathan Niconchuk  
Ashley Ragan  
Brooke Jayram  
Martha Habegger  
Camila Walters  
Naeem Patil  
Laura Pettibon  
Justin Eagle  
Nicki King  
Ryan Hill



Send us your news for inclusion in department publications:  
*Weekly Update, Anesthesia Monitor & Blog*  
[anesthesiology.communications@vumc.org](mailto:anesthesiology.communications@vumc.org)

# Alvis awarded R01 grant for study regarding non-invasive ways to capture venous waveforms

A team of researchers at VUMC who are developing a non-invasive way to capture venous waveforms to assess and monitor volume status was awarded a five-year R01 grant. Bret Alvis, MD, the principal investigator, leads a team of physicians from both the Department of Anesthesiology and the Department of Surgery and engineers from the Department of Engineering. “This is the first grant I am the principal investigator on. It’s extremely exciting and a testament to the great team I am lucky enough to be a part of,” he said.

Alvis explained that it wasn’t until recently that technology was good enough to amplify the peripheral signals to non-invasively capture venous waveforms. “We have been trying to make sense of these waveforms in various clinical volumes states,” he said.

The grant will provide funding for them to study and better understand how the venous waveforms change specifically in

patients with volume overload. “We are trying to better understand fluid status both in the vasculature and outside the vasculature. We hypothesize we can use the amplitudes of these venous waveforms to quantify the volume status in and outside blood vessels,” he said.

He explained that there isn’t currently a great way to monitor how much blood is in the blood stream. “We use a lot of data points like blood pressure, heart rate and central venous pressures to make our best clinical ‘guess.’ But research has shown these are quite poor in detecting someone’s volume status, despite the fact that knowing how much volume a patient requires is very important in a multitude of clinical scenarios. Whether it is determining if a patient is hemorrhaging, requiring volume resuscitation or is in a volume overloaded state, knowing if they need more or less fluid is extremely important because all of it can affect

organ function.”

Alvis said his experience as an anesthesiologist helps him with this research because he interacts with patients with a multitude of disease processes and gets to collaborate with a multitude of people in his clinical work. “It was an easy transition to collaborate in my research work. I have a baseline understanding that is helpful in studying venous waveforms. At the heart of all of this, we are trying to better understand volume status, which is the focus of any anesthesiologist or critical care doctor. Every anesthesiologist wants to know a patient’s volume state, and we can’t do that very well right now,” he said.

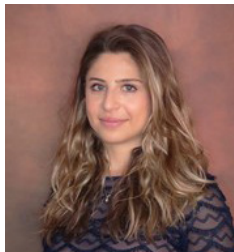
He explained that this is a new, novel concept, developed here at VUMC, that requires a team and the collaborative nature of VUMC. “It is a lot of work and a lot of fun because we get to discover together and teach each other.”

## 2019 American Society of Anesthesiologists Annual Meeting





# NEW DEPARTMENT MEMBERS



**Christine Abboud, DO**  
Fellow  
Perioperative Medicine

**EDUCATION:**

**Residency,** Anesthesiology, Case Western University Medical School, Cleveland, OH (2019)

**DO,** Lake Erie College of Osteopathic Medicine, Erie, PA (2015)

**FUN FACT:**

I'm bilingual (English and Arabic), and I practice yoga daily.



**Clayton Adams, MD**  
Fellow  
Pediatric Anesthesiology

**EDUCATION:**

**Residency,** Anesthesiology, University of Alabama, Birmingham, AL (2019)

**MD,** Emory University, Atlanta, GA (2015)

**FUN FACT:**

I was a patient at Vanderbilt's Children's Hospital when I was five years old.



**Louise Alexander, MD**  
Instructor  
Pediatric Anesthesiology

**EDUCATION:**

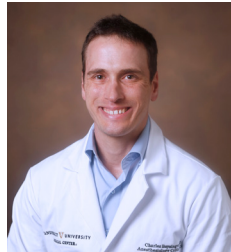
**Fellowship,** Pediatric Anesthesia & Clinical Simulation, Great Ormond Street Hospital for Children, London, UK (2019)

**Residency,** Anesthesiology, Vanderbilt University Medical Center, Nashville, TN (2017)

**MD,** Medical University of South Carolina, Charleston, SC (2013)

**FUN FACT:**

I grew up in South Carolina in a family of farmers and incredible cooks with my dad farming Waygu beef and grandfather who farmed peaches. Thanks to them I can make you the best homemade peach ice cream you've ever tasted and a quite tasty steak dinner!



**Charles Baysinger, MD**  
Fellow  
Anesthesiology Critical Care Medicine

**EDUCATION:**

**Residency,** Anesthesiology, University of Kentucky, Lexington, KY (2019)

**MD,** George Washington University, Washington, D.C. (2015)

**FUN FACT:**

Gymnast in college and auditioned for Cirque du Soleil.

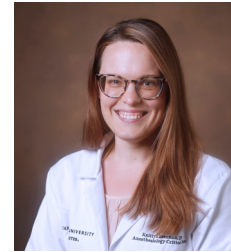


**Tanya Bradley**  
Lead Administrative Assistant  
Obstetric Anesthesiology

**FUN FACT:**

Despite the Vanderbilt University/Vanderbilt University Medical Center split, I have 24 years of work experience at Vanderbilt.

I love movies, movie soundtracks, and movie scores.



**Kaitlyn Brennan, DO**  
Fellow  
Anesthesiology Critical Care Medicine

**EDUCATION:**

**Residency,** Anesthesiology, Mayo Clinic, Rochester, MN (2019)

**DO,** Lake Erie College of Osteopathic Medicine, Erie, PA (2015)

**MPH,** Public Health, Dartmouth College, Hanover, NH (2009)

**FUN FACT:**

I am a fan of all things farm related, including raising chickens and growing lots of veggies.



**Carrie Brintz, PhD**  
Assistant Professor  
Pain Medicine

**EDUCATION:**

**PhD,** Clinical Psychology, University of Miami, Miami, FL (2016)

**MS,** Clinical Psychology, University Miami, Miami, FL (2013)

**FUN FACT:**

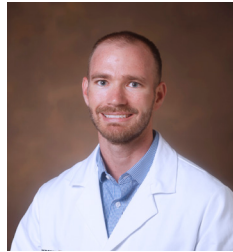
I play a musical instrument.



**Denise Brown**  
Senior Administrative Assistant  
Ambulatory Anesthesiology

**FUN FACT:**

I love to spend time with my family. I love to read. I am a bit obsessive about cleanliness. I don't eat pork or pork based products. I love to cook.



**Kyle Bruns, DO**  
Fellow  
Anesthesiology Critical Care Medicine

**EDUCATION:**

**Residency,** Anesthesiology, Loyola University Medical Center, Maywood, IL (2017)

**DO,** Kansas City University of Medicine and Biosciences, Kansas City, MO (2013)

**FUN FACT:**

Last year I made and canned homemade salsa from tomatoes grown in my garden.



**Katherine Burelbach**  
Lab Technician  
Research

**EDUCATION:**

**BS,** Engineering & Biomedical Engineering, Case Western Reserve University, Cleveland, OH (2018)

**FUN FACT:**

I love to dance.



**Bryan Carter, MD**  
Fellow  
Anesthesiology Critical Care Medicine

**EDUCATION:**

**Residency,** Anesthesiology, Icahn School of Medicine at Mount Sinai, New York, NY (2019)

**MD,** Icahn School of Medicine at Mount Sinai, New York, NY (2015)

**FUN FACT:**

I love to scuba dive.



**Marisa Case**  
Research Nurse Specialist II  
Research

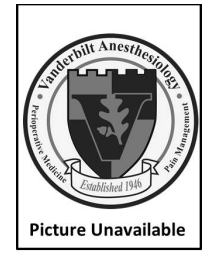
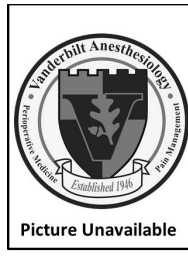
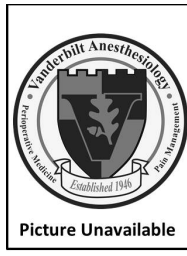
**EDUCATION:**

**BS,** Nursing, Clemson University, Clemson, SC (2014)

**BS,** Food Science, Clemson University, Clemson, SC (2013)

**FUN FACT:**

Nursing is my second degree. I moved to Nashville from Greenville, SC, in January 2015. I live with my amazing dog, Doby, and fiance Philip Leisy, who works for Vanderbilt as well.



**Tony Chang, MD**  
Assistant Professor  
Multispecialty Adult  
Anesthesiology

**EDUCATION:**  
**Fellowship**, Trauma  
Anesthesiology, University of  
California, San Francisco, CA  
(2015)  
**Residency**, Anesthesiology,  
University of California, San  
Francisco, CA (2014)  
**MD**, University of South  
Alabama, Mobile, AL (2010)

**FUN FACT:**  
I have saved three kittens  
from drowning.

**Keagan Chronister**  
Research Assistant I  
Research

**EDUCATION:**  
**BS**, Neuroscience, Vanderbilt  
University, Nashville, TN  
(2019)

**FUN FACT:**  
I've watched the entire  
Game of Thrones series  
three times! Once in a single  
week!

**Angela Conner**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**  
**MS**, Nurse Anesthesia,  
Middle Tennessee School of  
Anesthesia, Madison, TN  
(2009)  
**BS**, Nursing, Middle  
Tennessee State University,  
Murfreesboro, TN (2009)

**FUN FACT:**  
I am a hardworking  
individual that lives to do  
anything outside and exercise  
as much as possible.

**Jared Cummings, MD**  
Fellow  
Cardiothoracic Anesthesiology

**EDUCATION:**  
**Residency**, Anesthesiology,  
Vanderbilt University Medical  
Center, Nashville, TN (2019)  
**MD**, Virginia Commonwealth  
University School of Medicine,  
Richmond, VA (2015)

**FUN FACT:**  
I have my private pilot's  
license.

**Melanie Cundiff**  
Associate Program Manager  
Office of the Chair

**EDUCATION:**  
**BS**, Cultural Geography  
and Global Studies, History,  
& Political Science, Middle  
Tennessee State University,  
Murfreesboro, TN (2017)

**FUN FACT:**  
I am a trivia expert and I  
love to sing.

**Lauren Danks**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**  
**MS**, Nurse Anesthesia,  
Virginia Commonwealth  
University, Richmond, VA  
**BS**, Nursing, Pennsylvania  
State University, University  
Park, PA

**FUN FACT:**  
My mother is also a nurse  
anesthetist.



**Kemens Desruisseaux**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**  
**MS**, Nurse Anesthesia,  
Middle Tennessee School of  
Anesthesia, Madison, TN  
(2019)  
**BS**, Nursing, University of  
South Florida, Tampa, FL  
(2014)

**FUN FACT:**  
I am fluent in four  
languages: English, Spanish,  
French and Creole.

**Megan Dodd, MD**  
Fellow  
Pediatric Anesthesiology

**EDUCATION:**  
**Residency**, Anesthesiology,  
University of Tennessee,  
Knoxville, TN (2019)  
**MD**, University of Texas  
Medical Branch, Galveston,  
TX (2015)

**FUN FACT:**  
I am a mom, wife, and  
doctor. I enjoy sports,  
outdoors, cooking, and long  
baths.

**Rebecca Donald, MD**  
Fellow  
Pain Medicine

**EDUCATION:**  
**Residency**, Anesthesiology,  
Duke University, Durham, NC  
(2019)  
**MD**, University of Virginia  
School of Medicine,  
Charlottesville, VA (2015)

**FUN FACT:**  
I lived in France for a  
year between college and  
graduate school. When I  
moved into my apartment I  
learned that I would have  
a roommate. She remains  
one of my best friends to  
this day.

**Robyn Dwan, DO**  
Fellow  
Obstetric Anesthesiology

**EDUCATION:**  
**Residency**, Anesthesiology,  
Medical College of Wisconsin,  
Milwaukee, WI (2019)  
**DO**, Edward Via College  
of Osteopathic Medicine,  
Spartanburg, SC (2015)

**FUN FACT:**  
I used to work at an animal  
hospital where I first learned  
about anesthesia, and helped  
intubate and anesthetize  
dogs for surgery.

**Bryant England, MD**  
Fellow  
Cardiothoracic Anesthesiology

**EDUCATION:**  
**Residency**, Anesthesiology,  
Advocate Illinois Masonic  
Medical Center, Chicago, IL  
(2019)  
**MD**, New York Medical  
College Valhalla, New York,  
NY (2015)

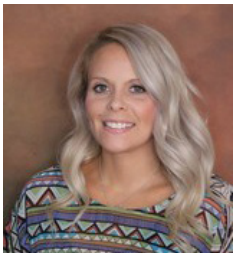
**FUN FACT:**  
I am the first individual  
in my family to go into  
medicine.

**Jonathan Finney, MD**  
Fellow  
Pain Medicine

**EDUCATION:**  
**Residency**, Physical Medicine  
and Rehabilitation, University  
of Pittsburgh Medical Center,  
Pittsburgh, PA (2019)  
**MD**, Louisiana State University  
Health Sciences Center, New  
Orleans, LA (2015)

**FUN FACT:**  
I enjoy spending time  
with my wife and our two  
daughters. My favorite  
activities include listening to  
live jazz and funk, jogging,  
and enjoying adventurous  
cuisine. I have a passion  
for various sports teams,  
including the New Orleans  
Saints and LSU Tigers.





**Roslia Gaudino**  
Senior Administrative Assistant  
Administration

**FUN FACT:**  
I am pursuing school to become an RN.



**Reagan Gloer**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**  
**MS**, Nurse Anesthesia, Middle Tennessee School of Anesthesia, Madison, TN (2019)  
**BS**, Nursing, University of Louisiana, Monroe, LA (2014)

**FUN FACT:**  
I am an avid sports fan.



**Calvin Gruss, MD**  
Instructor  
Multispecialty Adult  
Anesthesiology

**EDUCATION:**  
**Residency**, Anesthesiology, Vanderbilt University Medical Center, Nashville, TN (2019)  
**MD**, Vanderbilt University School of Medicine, Nashville, TN (2015)

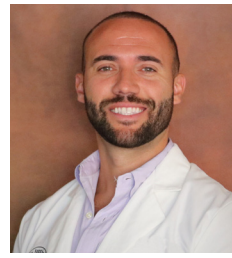
**FUN FACT:**  
I lived in Canada as a child.



**Matthew Hamilton, MD**  
Fellow  
Pain Medicine

**EDUCATION:**  
**Residency**, Anesthesiology, Vanderbilt University Medical Center, Nashville, TN (2014)  
**MD**, Mercer School of Medicine, Macon, GA (2010)

**FUN FACT:**  
I enjoy spending time with my boys and taking them hunting and fishing. When the time allows, my wife and I love cheering the Georgia Bulldogs in Athens.



**Jacob Hernandez**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**  
**MS**, Nurse Anesthesia, University of New England, Portland, ME (2019)  
**BS**, Nursing, Nicholls State University, Thibodaux, LA (2011)

**FUN FACT:**  
I'm from Louisiana. I opted to attend nursing school instead of moving to Colorado Springs to train for the 2008 Olympics in Beijing.



**Jaclyn Irwin, MD**  
Fellow  
Pediatric Anesthesiology

**EDUCATION:**  
**Residency**, Anesthesiology, University of Oklahoma, Oklahoma City, OK (2019)  
**MD**, Creighton University, Omaha, NE (2015)

**FUN FACT:**  
I have been to over 40 Broadway musicals.



**Christina Jelly, MD**  
Assistant Professor  
Anesthesiology Critical Care  
Medicine

**EDUCATION:**  
**Fellowship**, Anesthesiology Critical Care Medicine, Vanderbilt University Medical Center, Nashville, TN (2019)  
**Fellowship**, Cardiothoracic Anesthesiology, Massachusetts General Hospital, Boston, MA (2018)  
**Residency**, Anesthesiology, Massachusetts General Hospital, Boston, MA (2017)  
**MD**, Duke-National University of Singapore, Singapore & Duke University, Durham, NC (2012)



**Kirsten Lee, MD**  
Fellow  
Cardiothoracic Anesthesiology

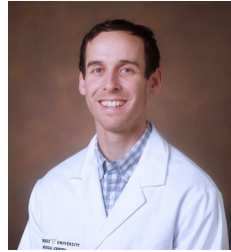
**EDUCATION:**  
**Residency**, Anesthesiology, Vanderbilt University Medical Center, Nashville, TN (2019)  
**MD**, Ohio State University College of Medicine, Columbus, OH (2015)

**FUN FACT:**  
I'm a domestic diva. I love to make ice cream and can craft like nobody's business.



**Zhu Li**  
Research Assistant III  
Research

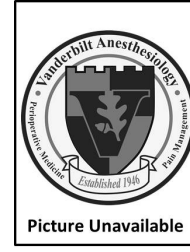
**FUN FACT:**  
I have lived in Nashville for about 18 years and worked at Vanderbilt for 17 years.



**Aaron Lloyd, MD**  
Fellow  
Anesthesiology Critical Care  
Medicine

**EDUCATION:**  
**Residency**, Anesthesiology, University of Virginia, Charlottesville, VA (2019)  
**MD**, Case Western Reserve University, Cleveland, OH (2015)

**FUN FACT:**  
I have moved 12 different times.



**Samantha McClenahan, PhD**  
Fellow  
Research

**EDUCATION:**  
**PhD**, Pharmacology & Toxicology, University of Arkansas for Medical Sciences, Little Rock, AR (2019)  
**BA**, Environmental Sciences, Vassar College, Poughkeepsie, NY (2013)

**FUN FACT:**  
I love spending time with my two boys, Odin and Abel. I enjoy playing softball and gardening.



**Gregory Mitchon, MD**  
Fellow  
Anesthesiology Critical Care  
Medicine

**EDUCATION:**  
**Residency**, Anesthesiology, Virginia Mason Medical Center, Seattle, WA (2019)  
**MD**, University of Texas Health Science Center, San Antonio, TX (2015)



**John Moore, MD**  
Assistant Professor of  
Clinical Anesthesiology  
Pediatric Anesthesiology

**EDUCATION:**

**Fellowship**, Pediatric Anesthesiology, Boston Children's Hospital, Boston, MA (2016)  
**Residency**, Anesthesiology, Naval Medical Center, San Diego, CA (2011)  
**MD**, Wake Forest University School of Medicine, Winston-Salem, NC (2004)

**FUN FACT:**

Qualified as a Marina Corps Mountain Leader.



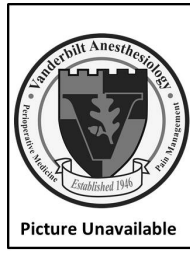
**Jonathan Niconchuk, MD**  
Assistant Professor  
Pediatric Anesthesiology

**EDUCATION:**

**Fellowship**, Pediatric Anesthesiology, Vanderbilt University Medical Center, Nashville, TN (2019)  
**Residency**, Anesthesiology, Vanderbilt University Medical Center, Nashville, TN (2018)  
**MD**, Harvard Medical School Boston, MA (2014)

**FUN FACT:**

I can fix a flat tire pretty quickly. (My grandfather invented the first tire repair plug.)



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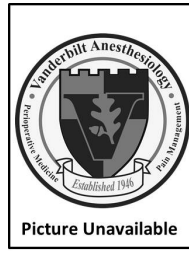
**Allison Owen, PhD**  
Fellow  
Research

**EDUCATION:**

**PhD**, Physiology, University of Kentucky, Lexington, KY (2017)  
**BA**, Biology & Chemistry, Franklin College of Indiana, Franklin, IN (2012)

**FUN FACT:**

A little fact about myself is that I have ridden a camel but have never ridden a horse (despite living in Kentucky for the past seven years).



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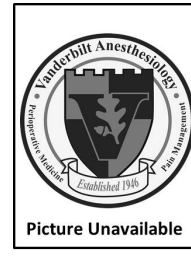
**Radha Patel**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**

**MS**, Nurse Anesthesia, Middle Tennessee School of Anesthesia, Madison, TN (2019)  
**BS**, Nursing, Belmont University, Nashville, TN (2014)

**FUN FACT:**

I have a dog named Cooper.



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**Charina Pelayo**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**

**MS**, Nurse Anesthesia, Middle Tennessee School of Anesthesia, Madison, TN (2019)  
**BS**, Nursing, Chamberlain College of Nursing, Addison, IL (2013)

**FUN FACT:**

I was born in the Philippines.



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**Elizabeth Pogue**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**

**MS**, Nurse Anesthesia, Middle Tennessee School of Anesthesia, Madison, TN (2019)  
**BS**, Nursing, Belmont University, Nashville, TN (2015)

**FUN FACT:**

I recently traveled to Hungary because my husband's family is Hungarian and now I can speak a few phrases in Hungarian.



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**Gwendolyn Randall**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**

**PhD**, Simulation Laboratory Management, Belmont University, Nashville, TN  
**MS**, Nursing, Temple University, Philadelphia, PA (2000)  
**MS**, Nurse Anesthesia, St. Joseph's University, Philadelphia, PA (1995)  
**BS**, Zoology, Howard University, Washington DC (1974)

**FUN FACT:**

I am a trivia expert and I love to sing.



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**Marjorie Reeves, DNP**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**

**DNP**, North Shore University Health System School of Nurse Anesthesia, Evanston, IL (2018)  
**MS**, Nursing, Rush University College of Nursing, Chicago, IL (2012)

**FUN FACT:**

I was in the Joffrey Ballet of Chicago as a child.



**David Roberts, MD**  
Fellow  
Pediatric Anesthesiology

**EDUCATION:**

**Residency**, Anesthesiology, Vanderbilt University Medical Center, Nashville, TN (2019)  
**MD**, Mayo Medical School, Rochester, MN (2015)

**FUN FACT:**

I am a peace corps volunteer.



**Kaylyn Sachse, MD**  
Fellow  
Regional Anesthesia & Acute Pain Medicine

**EDUCATION:**

**Residency**, Categorical Anesthesiology, University of Texas, San Antonio, TX (2019)  
**MD**, University of Texas Southwestern Medical Center, Dallas, TX (2013)

**FUN FACT:**

I love to travel at every available opportunity.



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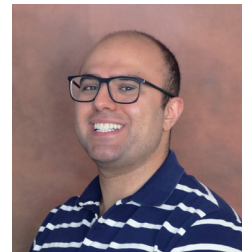
**Danielle Schuette**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**

**MS**, Nurse Anesthesia, Middle Tennessee School of Anesthesia, Madison, TN (2019)  
**BS**, Nursing, Belmont University, Nashville, TN (2014)

**FUN FACT:**

I am an Asian raised by Caucasian (aka I was adopted).



**Danial Shams, MD**  
Fellow  
Regional Anesthesia & Acute Pain Medicine

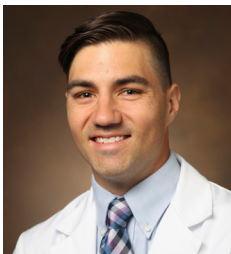
**EDUCATION:**

**Residency**, Anesthesiology, Rush University Medical Center, Chicago, IL (2019)  
**MD**, University of Texas Medical School, Houston, TX (2015)

**FUN FACT:**

I lived in three countries and speak three languages (not the first three I learned).





**Kristin Singh**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**

**MS**, Nurse Anesthesia,  
Medical University of South  
Carolina, Charleston, SC (2015)  
**BS**, Nursing, Belmont  
University, Nashville, TN  
(2011)

**FUN FACT:**

I have an identical twin  
sister.

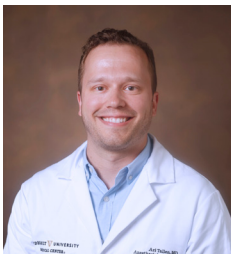
**Nicholas Statzer, MD**  
Assistant Professor  
Multispecialty Adult  
Anesthesiology

**EDUCATION:**

**Fellowship**, Acute Pain  
Medicine & Regional  
Anesthesia, Vanderbilt  
University Medical Center,  
Nashville, TN (2019)  
**Residency**, Anesthesiology,  
Cleveland Clinic Foundation,  
Cleveland, OH (2018)  
**MD**, Michigan State University  
College of Human Medicine,  
Grand Rapids, MI (2014)

**FUN FACT:**

I play guitar, build amps, and  
have a small obsession with  
fuzz pedals.



**Ari Tallen, MD**  
Fellow  
Anesthesiology Critical Care  
Medicine

**EDUCATION:**

**Residency**, Anesthesiology,  
University of Chicago Medical  
Center, Chicago, IL (2019)  
**MD**, Oregon Health &  
Sciences University, Portland,  
OR (2015)

**FUN FACT:**

I am a scuba diver. I have  
moved 12 times in my life.



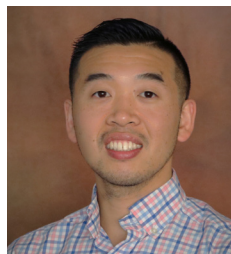
**Jake Trahan, MD**  
Fellow  
Pain Medicine

**EDUCATION:**

**Residency**, Anesthesiology,  
Vanderbilt University Medical  
Center, Nashville, TN (2019)  
**MD**, Louisiana State  
University, New Orleans, LA  
(2015)

**FUN FACT:**

I boil crawfish.



**Binh Tran, MD**  
Fellow  
Obstetric Anesthesiology

**EDUCATION:**

**Residency**, Anesthesiology,  
Upstate Medical University,  
Syracuse, NY (2019)  
**MD**, Ross University School  
of Medicine, Portsmouth,  
Dominica (2014)

**FUN FACT:**

I have traveled to 28  
countries. I have ziplined  
down the Great Wall of  
China and SCUBA on three  
continents.



**Katherine Turpin**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**

**MS**, Nurse Anesthesia,  
Middle Tennessee School of  
Anesthesia, Madison, TN  
(2019)  
**BS**, Nursing, University of  
Arkansas, Fayetteville, AR  
(2012)

**FUN FACT:**

I grew up doing gymnastics.



**Anne White**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**

**MS**, Nurse Anesthesia,  
Middle Tennessee School of  
Anesthesia, Madison, TN  
(2010)  
**BS**, Nursing, Piedmont  
College, Athens, GA (2006)

**FUN FACT:**

I used to be a majorette  
and twirl fire batons at the  
halftime of football games.



**Kacy Wilson**  
Certified Registered Nurse  
Anesthetist

**EDUCATION:**

**MS**, Nurse Anesthesia,  
Middle Tennessee School of  
Anesthesia, Madison, TN  
(2019)  
**BS**, Nursing, Belmont  
University, Nashville, TN  
(2014)

**FUN FACT:**

I have participated in the  
Macy's Thanksgiving Day  
Parade.



**Edward Yaghmour, MD**  
Associate Professor  
Multispecialty Adult  
Anesthesiology

**EDUCATION:**

**Residency**, Northwestern  
University, Chicago, IL (2000)  
**MD**, Northwestern University,  
Chicago, IL (1995)

**FUN FACT:**

I am an avid runner.

# FACULTY PROMOTIONS

**John Corey, MD**  
Associate Professor of Clinical Anesthesiology

**Andrew Franklin, MD, MBA**  
Associate Professor

**Patrick Henson, DO**  
Associate Professor of Clinical Anesthesiology

**Joseph Schlesinger, MD**  
Associate Professor

**Amanda Shakal, DO**  
Assistant Professor of Clinical Anesthesiology

**Sheena Weaver, MD**  
Associate Professor of Clinical Anesthesiology

## Recent Publications

Abbott PA, **Weinger MB**. Health information technology: Fallacies and Sober realities - Redux A homage to Bentzi Karsh and Robert Wears. *Appl Ergon*. 2019 Oct 30;82:102973. doi: 10.1016/j.apergo.2019.102973. [Epub ahead of print] PubMed PMID: 31677422.

**Allen BFS, McEvoy MD**. Cognitive Effects of Perioperative Pregabalin: Comment. *Anesthesiology*. 2019 Jul 9. doi: 10.1097/ALN.0000000000002871. [Epub ahead of print] PubMed PMID: 31299029.

**Alvis BD**, Huston JH, Lindenfeld J, Hocking KM. Author Response to Imamura and Narang. *J Card Fail*. 2019 Nov 22. pii: S1071-9164(19)31751-8. doi: 10.1016/j.cardfail.2019.11.020. [Epub ahead of print] PubMed PMID: 31765693.

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**Alvis BD**, Polcz M, Huston JH, Hopper TS, **Leisy P, Mishra K, Eagle SS**, Brophy CM, Lindenfeld J, Hocking KM. Observational study of Non-Invasive Venous waveform Analysis (NIVA) to assess intracardiac filling pressures during right heart catheterization. *J Card Fail*. 2019 Sep 28. pii: S1071-9164(19)30359-8. doi: 10.1016/j.cardfail.2019.09.009. [Epub ahead of print] PubMed PMID: 31574315.

**Andres TM, McGrane T, McEvoy MD, Allen BFS**. Geriatric Pharmacology: An Update. *Anesthesiol Clin*. 2019 Sep;37(3):475-492. doi: 10.1016/j.anclin.2019.04.007. Epub 2019 Jun 19. Review. PubMed PMID: 31337479.

Aubron C, McQuilten Z, Bailey M, Board J, Buhr H, Cartwright B, Dennis M, Hodgson C, Forrest P, **McIlroy D**, Murphy D, Murray L, Pellegrino V, Pilcher D, Sheldrake J, Tran H, Vallance S, Cooper DJ; endorsed by the International ECMO Network (ECMONet). Low-Dose Versus Therapeutic Anticoagulation in Patients on Extracorporeal Membrane Oxygenation: A Pilot Randomized Trial. *Crit Care Med*. 2019 Jul;47(7):e563-e571. doi: 10.1097/CCM.0000000000003780. PubMed PMID: 31033512.

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Beach PA, Cowan RL, Dietrich MS, **Bruehl SP**, Atalla SW, Monroe TB. Thermal Psychophysics and Associated Brain Activation Patterns Along a Continuum of Healthy Aging. *Pain Med*. 2019 Nov 26. pii: pnz281. doi: 10.1093/pm/pnz281. [Epub ahead of print] PubMed PMID: 31769853.

**Billings FT 4th**. Acute Kidney Injury following Cardiac Surgery: A Clinical Model. *Nephron*. 2019 Jul 3:1-5. doi: 10.1159/000501559. [Epub ahead of print] Review. PubMed PMID: 31269500.

**Brenn BR**, Hughes AK. The Anesthetic Management of Anterior Mediastinal Masses in Children: A Review. *Int Anesthesiol Clin*. 2019;57:e24-e41. doi: 10.1097/AIA.0000000000000247. PubMed PMID: 31503096.

Brethauer SA, Grieco A, Fraker T, Evans-Labok K, Smith A, **McEvoy MD**, Saber AA, Morton JM, Petrick A. Employing Enhanced Recovery Goals in Bariatric Surgery (ENERGY): a national quality improvement project using the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program. *Surg Obes Relat Dis*. 2019 Sep 23. pii: S1550-7289(19)30405-8. doi: 10.1016/j.soard.2019.08.024. [Epub ahead of print] PubMed PMID: 31640906.

Brown RM, Wang L, Coston TD, Krishnan NI, Casey JD, **Wanderer JP, Ehrenfeld JM**, Byrne DW, Stollings JL, Siew ED, Bernard GR, Self WH, Rice TW, Semler MW; SMART Investigators and the Pragmatic Critical Care Research Group. Balanced Crystalloids Versus Saline in Sepsis: A Secondary Analysis of the SMART Trial. *Am J Respir Crit Care Med*. 2019 Aug 27. doi: 10.1164/rccm.201903-0557OC. [Epub ahead of print] PubMed PMID: 31454263.



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- Burdick KJ, Jorgensen SK, Holmberg MO, Kultgen SP, Combs TN, **Schlesinger JJ**. Benefits of sonification and haptic displays with physiologic variables to improve patient safety. *Proceedings of Meetings on Acoustics*. 2018;35:020001.
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- Cheung-Flynn J, **Alvis BD**, Hocking KM, Guth CM, Luo W, McCallister R, Chadalavada K, Polcz M, Komalavilas P, Brophy CM. Normal Saline solutions cause endothelial dysfunction through loss of membrane integrity, ATP release, and inflammatory responses mediated by P2X7R/p38 MAPK/MK2 signaling pathways. *PLoS One*. 2019 Aug 14;14(8):e0220893. doi: 10.1371/journal.pone.0220893. eCollection 2019. PubMed PMID: 31412063; PubMed Central PMCID: PMC6693757.
- Choudhry DK, **Brenn BR**, Sacks K, Shah S. Evaluation of Gabapentin and Clonidine Use in Children Following Spinal Fusion Surgery for Idiopathic Scoliosis: A Retrospective Review. *J Pediatr Orthop*. 2019;39:e687-e693. doi: 10.1097/BPO.0000000000000989. PubMed PMID: 31503225.
- Chu B, **Lozada MJ**, McCrory EH, Toledo P, Antalek M, Morely D, Lange EMS. Comparison of Twitter Use of the American Society of Anesthesiologists and the American Association of Nurse Anesthetists. *AA Pract*. 2019 Jun 18. doi: 10.1213/XAA.0000000000001051. [Epub ahead of print] PubMed PMID: 31265443.
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- Clifton JC, Freundlich RE**, Sain CR, Grant BM, **Wanderer JP**. Mobility assessment tool may be an efficient method of triaging elective surgical patients. *J Clin Anesth*. 2019 Sep 16;60:103-104. doi: 10.1016/j.jclinane.2019.09.015. [Epub ahead of print] PubMed PMID: 31536869.
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gender and Gender Nonconforming Patients. *Jt Comm J Qual Patient Saf.* 2019 Nov 7. pii: S1553-7250(19)30393-9. doi: 10.1016/j.jcjq.2019.09.005. [Epub ahead of print] PubMed PMID: 31708472.

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## Department Leadership



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**We provide uncompromising quality in clinical care, research and education. We are:**

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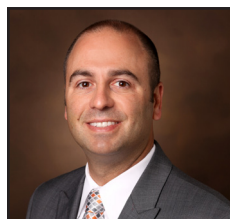
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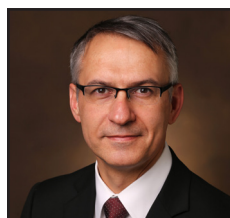
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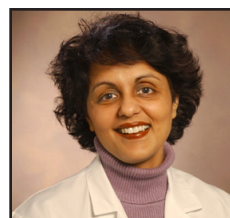
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