

# AM

ANESTHESIA MONITOR

## MESSAGE FROM THE CHAIR



Warren S. Sandberg, MD, PhD

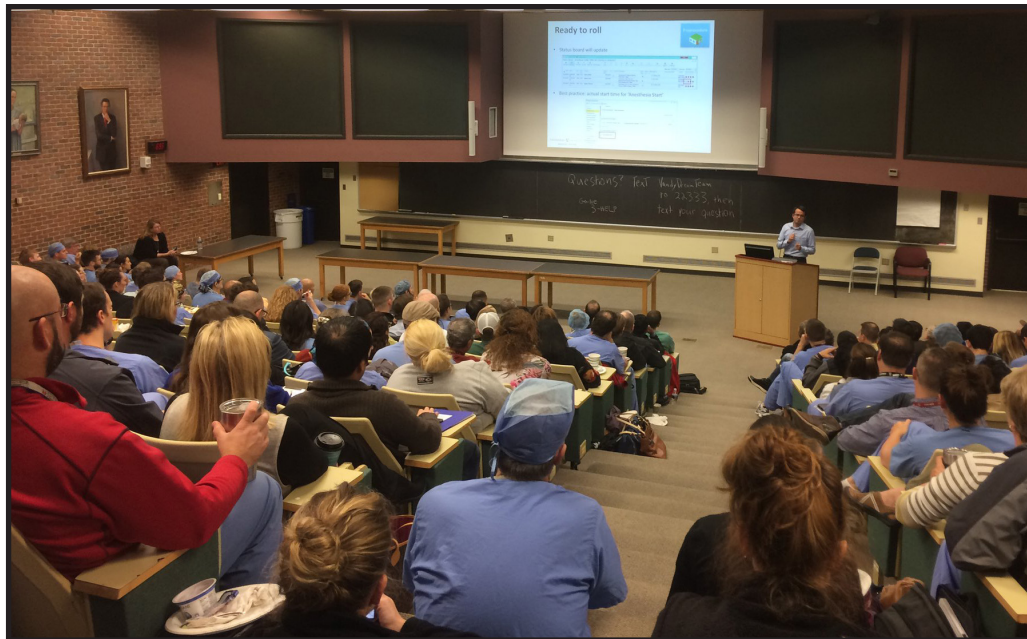
The leaves are changing (well, OK – they done changed), and so is the way we do patient records at Vanderbilt University Medical Center. As an institution, we spent more than a year gearing up for the big EpicLeap on Thursday, Nov. 2, 2017. The change was a critical success, thanks in large part to the hard work by our department members. A special thanks to our designated super-users, educators and the build team.

In October, the Anesthesiology Department presented in over 90 educational and scientific activities at the annual meeting for the American Society of Anesthesiologists, which was held in Boston this year. Our very own Kelly McQueen, MD, MPH, received the Nicholas M. Greene, MD, Outstanding Humanitarian Contribution Award for her work in global health and international humanitarian efforts.

Back at home, congratulations are also in order for Jill Kilkelly, MD, who has been named chief of the Pediatric Anesthesiology Division, and David Edwards, MD, PhD, who has been named chief of the Pain Medicine Division.

As the holiday season begins and a new year is upon us, it's inspiring to reflect on all the accomplishments the Department of Anesthesiology achieved in 2017. But go deeper, and think about what an honor it has been to receive the trust of the patients for whom we are privileged to care every day. Finally, remember to take time to focus on yourself and your family. Make some space in the press of events and swirl of work to look inward and reflect on what gives you joy in life, and celebrate that.

## VUMC makes an Epic Leap



Jon Wanderer, MD, MPhil, goes over eStar training with department members in a packed auditorium.

**Photo by: Jenelle Grewell**

Vanderbilt University Medical Center launched a new computer system called eStar on Thursday, Nov. 2, 2017. This launch was called EpicLeap, and VUMC, including the Department of Anesthesiology, worked for over a year to ensure the transition would be as seamless as possible.

“I think we can say across the entire depart-

## EpicLeap

ment that we're just so proud of how people saw this as a challenge,” said Brent Dunworth, DNP, MBA, APRN, CRNA, Chief CRNA and Director of Advanced Practice, Anesthesiology.

Dunworth said there was a lot to prepare for. He said nurse anesthetists

took on a big task, as six were selected to be clinical trainers based on interest, leadership and teaching skills.

Dunworth explained a lot of training fell on the department's clinical team. “We wanted to make sure the first impression of Epic to our providers was a good one,” he said.

*Continued on page 9*

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OFFICE OF THE CHAIR  
1211 21ST AVENUE SOUTH |  
722 MAB  
NASHVILLE, TN 37212

615-936-1595

www.vandydreamteam.com  
Twitter: @VUMC\_Anes



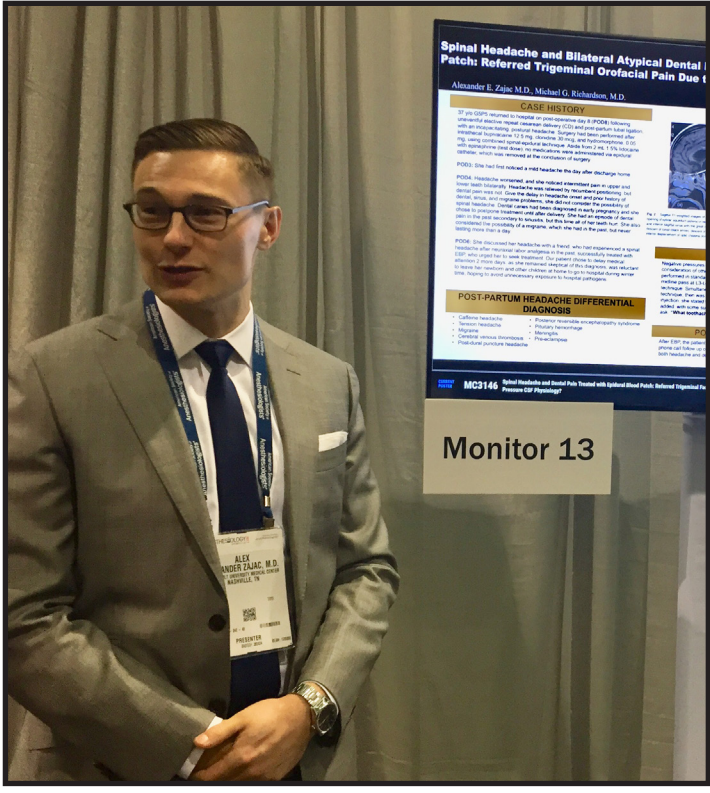
# Anesthesiology Department presents at 90+ educational activities at ASA in Boston



From left to right: Warren Sandberg, MD, PhD, Calvin Gruss, MD, Chad Greene, DO, and Jesse Ehrenfeld, MD, MPH, at the VUMC Alumni Reception.  
**Photo submitted by Jesse Ehrenfeld, MD, MPH**



Ann Walia, MBBS, received an award from ASA president Jeff Plagenhoef, MD, in recognition of her efforts in advocacy on behalf of veteran patients in 2017.  
**Photo submitted by Warren Sandberg, MD, PhD**



Alexander Zajac, MD, presented a Medically Challenging Case titled "Spinal Headache and Bilateral Atypical Dental Pain Treated with Epidural Blood Patch: Referred Trigeminal Facial Pain Due to Negative Pressure CSF Physiology."  
**Photo submitted by Alexander Zajac, MD**





Robyn Snyder (left), Grace Umutesi, MPH, (right) and Leslie Fowler, MEd, (far right) from the Office of Education explored Boston while at the ASA Annual Meeting.  
**Photo submitted by Leslie Fowler, MEd**



Jill Killkelly, MD, and Elisabeth Hughes, MD, at the VUMC Alumni Reception in Boston.  
**Photo submitted by Jill Killkelly, MD**

**Academic Excellence in Action**

This guide represents our department's contribution of over 90 activities at the 2017 ASA and related meetings, including:

- 1 Committee/Editorial Meeting
- 1 Self Study
- 1 Medical Student Session
- 2 Seminars
- 2 Special Meetings/Events
- 3 Oral Presentations
- 3 Refresher Courses
- 9 Problem Based Learning Discussions
- 10 Panel Discussions
- 13 Hands On Workshops
- 17 Poster Presentations/Discussions
- 29 Medically Challenging Cases

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| 106                 | 5,055                      |  |
| Education workshops | Spare probes provided      | 16,056   |
| 121                 | 12,300                     | Donators distributed                                 |

This meeting

- Hear Atul G. ... founder and chair...
- Watch ...
- anesthesi...
- Take a real ...
- \$250

Tsitsi Cimhundu-Sithole, MBBS, MD, the ASA Global Scholar, shared her expertise in Lifebox.  
**Photo from Lifebox Twitter @SaferSurgery**



# McQueen lands award for humanitarian efforts

By Paul Govern

Published in *The Reporter* on  
Thursday, Nov. 2, 2017

Kelly McQueen, MD, MPH, professor of Anesthesiology and Surgery and director of Vanderbilt Anesthesia Global Health and Development, received the 2017 Nicholas M. Greene, MD, Outstanding Humanitarian Contribution Award from the American Society of Anesthesiologists.

She was presented the award Monday, Oct. 23, 2017, in Boston during the ASA annual meeting.

The award recognizes an ASA member whose career supports international humanitarian aid and disaster relief or education and training in low-income countries.

Dr. McQueen has been professionally active in global health and a contributor to international humanitarian efforts since the start of her career. She directs the Department of Anesthesiology's Global Anesthesiology Fellowship and is a past president of both the Global Surgical Consortium and the Alliance for Surgery and Anesthesia Presence.

In 2008, Dr. McQueen served as the founding chair of ASA's Committee on Global Humanitarian Outreach. In 2010, she received the International College of Surgeons Surgical Volunteerism and Humanitarian Award.

Dr. McQueen studied biology at Colorado College, her medical degree is from the University of Vermont College of Medicine and her master's in public health is from Harvard.



*Kelly McQueen, MD, MPH, receives the Nicholas M. Greene, MD, Outstanding Humanitarian Contribution Award on Monday, Oct. 23, 2017, at the ASA Annual Meeting.*

**Photos by Michael Pilla, MD**

# Global Scholar visits Pediatric Anesthesiology

For one week in October, the Division of Pediatric Anesthesiology at Monroe Carell Jr. Children's Hospital at Vanderbilt welcomed this year's Global Pediatric Anesthesia Scholar. This academic exchange has been very successful, with this being the fourth year of its existence.

Dr. Tsitsi Chimhundu-Sithole completed her anesthesia residency at University of Zimbabwe (Harare) and in 2016, entered the East Africa Pediatric Anesthesia Fellowship through the World Federation of Societies of Anaesthesiologists (WFSA). Faculty members of the Department of Anesthesiology at VUMC have been actively involved in the development and implementation of this fellowship for many years. Part of the fellowship provides the opportunity to come to VUMC to observe both clinical and academic systems and then apply her new understanding in Zimbabwe, a low resource setting, where she is involved in education and clinical practice.

Jenna Sobey, MD, explained that the global scholar is brought to MCJCH and Boston Children's Hospital to observe before he or she goes to the American Society of Anesthesiologists Annual Meeting to present a poster. Dr. Sobey and other leading global pediatric anesthesia facilitators in Boston partner to provide this unique educational opportunity for these scholars.

Mark Newton, MD, said there is a massive global imbalance

in healthcare, and efforts should be focused on seeking solutions that impact children. "The VUMC Department of Anesthesiology is an international leader in anesthesia education and research in low- and middle-income countries, and having Dr. Chimhundu-Sithole here with us from Zimbabwe is just one building block that will further extend VUMC's role in providing safe pediatric anesthesia in Africa. The Department of Anesthesiology is committed to deep-rooted, measurable, sustainable academic interventions which focus on the needs of the partnering country, and this case is a great example, with Dr. Chimhundu-Sithole coming to spend time with Dr. Sobey and her team at Vanderbilt," he commented.

Dr. Chimhundu-Sithole said she learned a great deal during her time at MCJCH, but she isn't the only one learning. "I think one thing we realize when working with our colleagues from across the globe is that sometimes you can accomplish safe anesthesia care with much fewer resources than we are all accustomed to working with on a daily basis," Sobey said. "The bidirectional learning for our faculty and trainees is an aspect of the exchange which at times gets overlooked."

One of the biggest things Dr. Chimhundu-Sithole will take back home is how to run an efficient OR. "The system is less efficient at home, and in the end we end up doing fewer



*Jenna Sobey, MD, (front) was one of the faculty members that ensured Tsitsi Chimhundu-Sithole, MBBS, MD, received as many learning opportunities as she could during her visit.*

**Photo by Jenelle Grewell**

cases. When I go back, I want to increase efficiency, prepare ahead of time and reduce time between cases," she said. She said she also wants to focus on training nurses in the recovery room. The nurses in Zimbabwe are not equipped to do more complex cases. She also wants to expand the ability to do cases outside her hospital and train and employ more highly skilled non-physician anesthesia providers (NPAP) to work in the more rural regions of the country.

Dr. Sobey pointed out that Dr. Chimhundu-Sithole has amazing resiliency. "She is pursuing super specialized training to go back to her country. She is the only pediatric trained anesthesiologist in her country at this time."

"She is taking on a lot to try to further facilitate education in pediatric anesthesia and accomplishing great things with the resources that she has," Sobey said. "We know that continuing to provide safe anesthesia in

her area is challenging, but it's amazing how much she has been able to accomplish thus far already."

Dr. Chimhundu-Sithole said she is really grateful for this opportunity to come to MCJCH and learn. "At home it tends to be really busy and I'm worried more about pushing cases, but here there's a lot of care and people taking time to talk to the parents and I think, in terms of my personal practice, I will change that. Just giving parents an extra minute to talk to them, answer their questions and allay whatever fears they have," she said.

This partnership extends the VUMC impact nationally, with partnership between leading children's hospitals in the USA, but also internationally, with a new colleague and pediatric anesthesia leader in Zimbabwe who will help guide that country's policies and standards as the care for pediatric surgical patients improves.



## Department Spotlight: Celebrating Departmental Accomplishments

**John Downing, MBChB**, retired on Saturday, Sept. 30, 2017, after a long and distinguished career. Downing joined the VUMC Anesthesiology Department in 1989 and served in various roles, including chief of the Obstetric Anesthesiology Division. He also performed basic research into the control of placental circulation, along with Curtis Baysinger, MD, and Ray Johnson. The Obstetric Anesthesiology Division recently hosted a retirement celebration in Downing's honor, hosted by Jill Boyle, MD.

Eight posters were presented by our CRNAs at this year's American Association of Nurse Anesthetists' Annual Congress in Seattle. The CRNAs that participated were **Brent Dunworth, Trish Juozak-Clark, Matt Fosnot, Jordan Miller, Leah Bergman, Amanda Dickert, Lissa Stephan, Laura Payne, Christie Crotts and Buffy Krauser-Lupear**.

**Jesse Ehrenfeld, MD, MPH**, visited the White House to attend the swearing in ceremony for the new Surgeon General, Dr. Jerome Adams.

**Stephen Hays, MD**, has been selected to take on the role of Executive Committee Member for the Anesthesiology and Pain Medicine Section of the American Academy of Pediatrics. His term started on Thursday, Nov. 1, 2017.

A retirement celebration was held recently for **Sally Holzapfel, CRNA**. Sally has been practicing as a CRNA for 27 years, 22 of which have been at Vanderbilt University Medical Center. Sally had her last day of work on Thursday, Oct. 5, 2017.

"A Survey Evaluating Burnout, Health Status, Depression, Reported Alcohol and Substance Use, and Social Support of Anesthesiologists," an article by **Steve Hyman, MD**, and colleagues, has been selected by the *Anesthesia & Analgesia* Editorial Board as the Article of the Month for December 2017 and will be featured in the publication's podcast.

**Yandong Jiang, MD, PhD**, was appointed editor of *Anesthesiology* effective Monday, Jan. 1, 2018.

**Kelly McQueen, MD, MPH**, received the Nicholas M. Greene, MD, Outstanding Humanitarian Contribution Award at the ASA Annual Meeting in Boston on Monday, Oct. 23, 2017.

**Kelly McQueen, MD, MPH**, spoke at the 47th World Congress of Surgery on Tuesday, Aug. 15, 2017, in Basel, Switzerland. She spoke on supporting anesthesia workforce during scale up of surgical services.

**Pratik Pandharipande, MD, MSCI**, presented a session at the 3rd International Symposium on Post Cardiac Arrest Care in Lund, Sweden, on Tuesday, Sept. 5, 2017. The session was titled "Rehabilitation after critical illness. Early, late and all together."

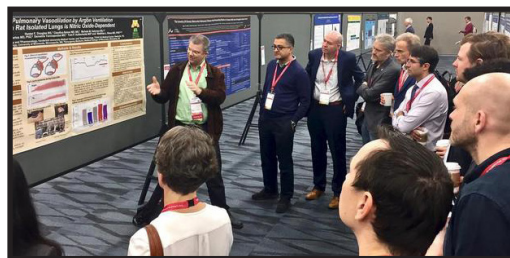
**Pratik Panharipande, MD, MSCI**, was a guest lecturer at the John Hopkins Grand Rounds on Thursday, Aug. 10, 2017. His lecture was titled "Critical Illness - Associated Brain Dysfunction."

**Matthias Riess, MD, PhD, Michele Salzman, BS, and Claudius Balzer, MD, MS**, took a trip to the AHA Scientific Sessions/Resuscitation Science Symposium in Anaheim, CA. They presented five posters and received a lot of positive feedback.

**Amy Robertson, MD**, has been appointed as Chair Designee of the Society for Education in Anesthesia Medical Student Education Committee.

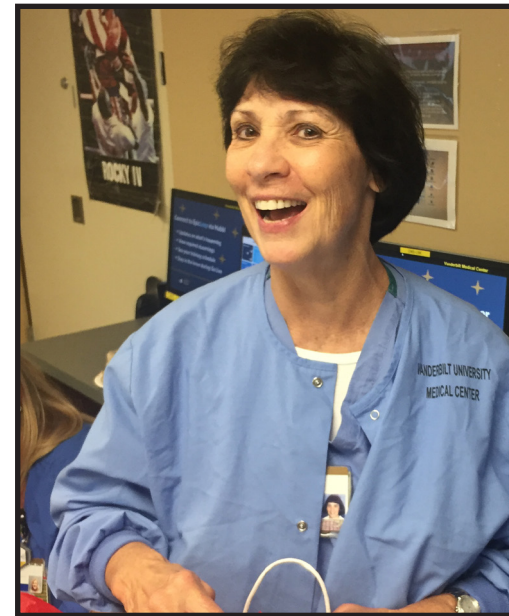
**Warren Sandberg, MD, PhD**, gave a Grand Rounds lecture for the Department of Anesthesiology, Perioperative and Pain Medicine at Stanford University School of Medicine on Monday, Aug. 21, 2017. His topic was "Enhanced Recovery After Surgery - Implementation and Results."

**Grace Umutesi, MPH**, presented her poster titled "Evaluation of the Impact of the 2014-2015 Ebola Outbreak on Acute Flaccid Paralysis Surveillance in Liberia" at the 66th Annual Meeting of the American Society of Tropical Medicine & Hygiene (ASTMH).



**Matthias Riess, MD, PhD, Michele Salzman, BS, and Claudius Balzer, MD, MS**, presented five posters at the AHA Scientific Sessions/Resuscitation Science Symposium in Anaheim, CA.

**Photo submitted by Matthias Riess, MD, PhD**



**Sally Holzapfel, CRNA**, at her retirement party. Holzapfel was a CRNA for 27 years, and 22 of those years were spent at VUMC.

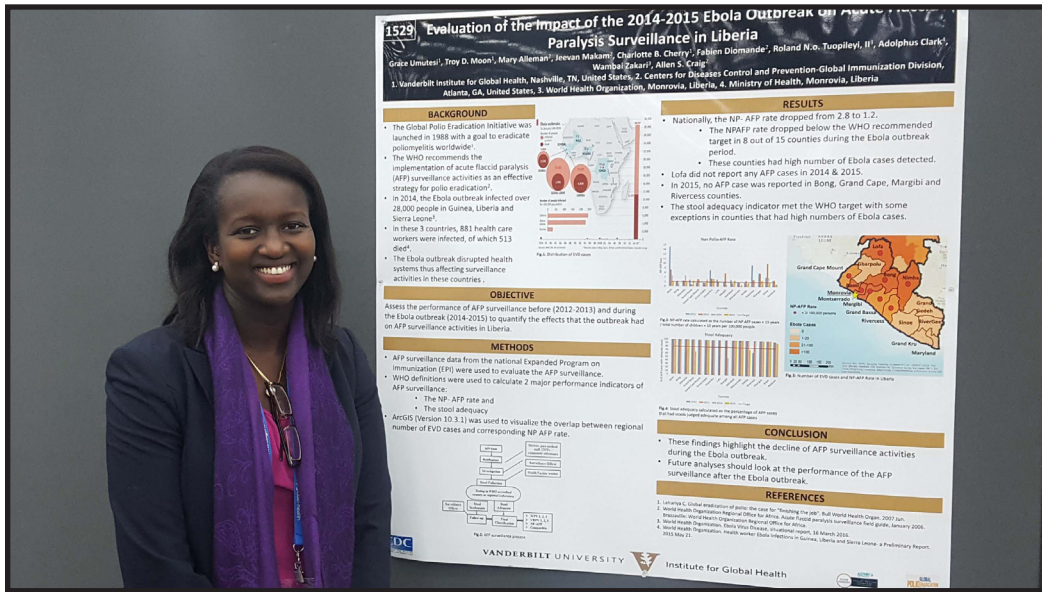
**Photo submitted by Brent Dunworth, DNP, MBA, APRN, CRNA**



**Kelly McQueen, MD, MPH**, spoke at the 47th World Congress of Surgery.

**Photo taken from ASAP Today on Twitter**





Grace Umutesi, MPH, presented her poster at the 66th Annual Meeting of the American Society of Tropical Medicine & Hygiene (ASTMH).

Photo submitted by Grace Umutesi, MPH

**LEADERSHIP ANNOUNCEMENT**



David Edwards, MD, PhD, has been named Chief of the Pain Medicine Division.



Jesse Ehrenfeld, MD, MPH, visited the White House and attended the swearing in ceremony for the new surgeon general, Dr. Jerome Adams.

Photo submitted by Jesse Ehrenfeld, MD, MPH

**LEADERSHIP ANNOUNCEMENT**



Jill Kilkelly, MD, has been named Chief of the Pediatric Anesthesiology Division.



Eight posters were presented by our CRNAs at the Annual Congress of the American Association of Nurse Anesthetists.

Photo submitted by Brent Dunworth, DNP, MBA, APRN, CRNA

**LEADERSHIP ANNOUNCEMENT**



Shannon Kilkelly, DO, has been named Director of the Liver Transplant Anesthesia Team.



# WELCOME

NEW DEPARTMENT MEMBERS




**Tracie Baker**  
Clinical Research  
Coordinator  
Perioperative Clinical  
Research Institute

**EDUCATION:**  
BS in Chemistry,  
Oklahoma State University,  
Stillwater, OK (1996)

**FUN FACT:**  
I play flute and saxophone.



**Bruce Brenn, MD**  
Associate Professor  
Pediatric Anesthesiology

**EDUCATION:**  
**Fellowship**, Pediatric  
Children's Hospital of  
Pittsburgh, Pittsburgh, PA  
(1993)  
**Residency**, University of  
Pittsburgh, PA (1992)  
**MD**, Oregon Health  
Sciences University, Portland,  
OR (1986)  
**BS** in Biology, Lewis and  
Clark College, Portland, OR  
(1982)

**FUN FACT:**  
I grew up in Asia and  
graduated high school from  
Taipei American School in  
Taipei, Taiwan. Go Tigers!



**Susan Dumas, MD**  
Assistant Professor  
Obstetric Anesthesiology

**EDUCATION:**  
**Residency**, University  
Hospitals of Cleveland,  
Cleveland, Ohio (1997)  
**MD**, Case Western Reserve  
School of Medicine,  
Cleveland, Ohio (1993)  
**BA** in Biochemistry,  
Wellesley College, Wellesley,  
MA (1988)

**FUN FACT:**  
I enjoy gardening.



**David Gates**  
Database Administrator  
Vanderbilt Anesthesiology  
& Perioperative Informatics  
Research

**FUN FACT:**  
I'm a big Disney fan and  
a collector of Mickey  
Mouse.



**Renee Gaver, MD**  
Assistant Professor  
Pediatric Cardiac  
Anesthesiology

**EDUCATION:**  
**Fellowship**, Mayo Graduate  
School of Medicine,  
Rochester, MN (1998)  
**Residency**, Bowman Gray  
School of Medicine of Wake  
Forest University, Winston-  
Salem, NC (1997)  
**MD**, University of Florida,  
Gainesville, FL (1993)  
**BS** in Neurobiology,  
University of Florida,  
Gainesville, FL (1989)

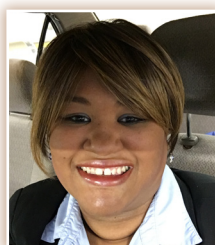
**FUN FACT:**  
I am a homemade soap  
maker.



**Taft Havron**  
Budget/Accounting  
Analyst  
Perioperative Clinical  
Research Institute

**EDUCATION:**  
BS in Finance and  
Economics, University of  
South Carolina, Columbia,  
SC (2014)

**FUN FACT:**  
I have backpacked 150  
miles on the Appalachian  
Trail.



**Latisha Jones**  
Accounting Assistant  
Administration

**EDUCATION:**  
BBA in Business  
Administration, Middle  
Tennessee State University,  
Murfreesboro, TN (2003)

**FUN FACT:**  
Purple is my favorite color.



**Miklos Kertai, MD**  
Assistant Professor  
Cardiothoracic  
Anesthesiology

**EDUCATION:**  
**Fellowship**, Cardiothoracic  
Anesthesiology, The Royal  
Brompton and Harefield  
Hospital, Harefield, UK  
(2008)  
**Residency**, Anesthesiology  
and Intensive Care Medicine,  
Semmelweis University,  
Budapest, Hungary (2006)  
**MD**, Semmelweis University,  
Budapest, Hungary (1995)  
**MSc** in Public Health  
Nutrition, University of  
London, London, UK (1998)  
**MSc** and **DSc** in Clinical  
Epidemiology, The  
Netherlands Institute for  
Health Sciences, Erasmus  
University, Rotterdam, the  
Netherlands (2001)

**FUN FACT:**  
I love traveling, cycling and  
motorcycling. I have lived,  
studied and worked in  
many European counties  
and the USA.



**James Luckett, RN**  
Research Nurse Specialist  
II  
Perioperative Clinical  
Research Institute

**EDUCATION:**  
BSN in Nursing, Belmont  
University, Nashville, TN  
(2014)

**FUN FACT:**  
I became an uncle at 8  
years old and a great uncle  
at 32.



**Timothy Newman**  
Research Lab Technician  
Center for Research and  
Innovation in Systems  
Safety

**EDUCATION:**  
BS in Computational  
Biology, Lipscomb  
University, Nashville, TN  
(2018)

**FUN FACT:**  
I was once a white water  
rafting guide.



**Brandon Theriault**  
Clinical Research  
Coordinator  
Perioperative Clinical  
Research Institute

**EDUCATION:**  
**BA** in Neuroscience,  
Vanderbilt University,  
Nashville, TN (2017)  
**BA** in Psychology,  
Vanderbilt University,  
Nashville, TN (2017)

**FUN FACT:**  
I have seen a beating heart  
during surgery.



# EPIC LEAP

*Continued from front page*

Dunworth said anesthesiology had 35 super-users assigned to the department at the launch, but the department was catching on so quickly that by Monday, Nov. 20, 2017, only eight super-users were needed to cover the whole department.

Dunworth explained the department has reached a point where people are getting comfortable and have begun exploring, sharing what they have found to be the best practices, enhancing workflow and asking questions. “We are moving quicker along the timeline of accepting our new system than we expected to,” he said.

In terms of how *eStar* has affected patient care, Dunworth said, “What we do is take great care of patients, and that hasn’t changed at all. It’s just how we document that.”

The key point to the success of *eStar* is that everything is in one place, Dunworth explained. When patient history gets introduced into the patient’s record, everyone is able to share that and it doesn’t have to be reentered.

As for the next steps after the launch of *eStar*, Dunworth said it is time for polishing. He explained that within one week all the major issues were gone or fixed, so now it is time to start looking at wants and needs for the future.



*Kelly McQueen, MD, MPH, Adam King, MD, and Michael Pilla, MD, participate in the team building activities at the Epic Go Live event on Thursday, Nov. 2, 2017.*

**Photo submitted by Kelly McQueen, MD, MPH, and Michael Pilla, MD**

Brian Rothman, MD, and Jon Wanderer, MD, MPhil, are leading what is called optimization, which is gathering feedback from providers and prioritizing what needs to be worked on first. Dunworth explained that making patient care better is a top priority.

“Our success in anesthesiology was directly attribut-

ed to the attitudes of our department members and providers,” Dunworth said. He elaborated that people knew this was going to be a mountain to climb over and everybody had the right mindset to figure this out together.

“It is really a testament to who we are as a depart-

ment. We are a group of folks who are ready for the challenge of solving a problem. I think we are problem solvers by nature, as shown by what we do. EpicLeap tested that, and we certainly came out on top.”



# Hernandez's article featured on front cover of *Critical Care Medicine*

Antonio Hernandez, MD, MSCI, FCCM, co-authored an article\* titled "National Certification in Critical Care Echocardiography: Its Time Has Come." It is featured on the front cover of the November issue of *Critical Care Medicine*.

Along with being senior author of the article, he serves on the National Board of Echocardiography, where they are developing the formal examination, standardization and certification process for focused echocardiography.

Focused echocardiography uses ultrasound to view the heart and lungs and is used in emergency and critical care medicine to identify problems quickly and see if

treatment is working. Hernandez explained the exam performed by the cardiologist is very specific and provides valuable diagnostic information. "The focused echocardiogram exam is directed towards assessing changes in cardiac function. You may give a medication to a patient and repeat the focused echocardiography exam 30 minutes later to evaluate if the patient is responding to therapy."

The article discusses the importance of formalizing focused echocardiography standardization. Dr. Hernandez said that as the exam has become popular, there is a danger of someone acquiring poor quality images or incorrectly interpreting quality images.

"For example, when a pregnant patient receives an ultrasound for assessment of her baby, the process and images are standard, regardless of the clinic or hospital in which she receives care. Our aim is to standardize a process so that certification in focused echocardiography will yield a reproducible quality focused echocardiography exam with little variability. This standard will require expertise in basic knowledge and a skill set related to focused echocardiography" he said.

Dr. Hernandez said at this

time certification is not required to perform focused echocardiography, but the existence of this certification will set a bar and likely promote a healthy competitive environment that may lead to strong collaboration and communal education efforts in healthcare fields where focused echocardiography plays a role. "The absolute goal is to improve quality. We want to make sure people who perform a focused echocardiography exam deliver a quality exam."

He explained that recognizing a specific problem in a patient that is in extremis often requires rapid administration of therapy, and ultrasound has been used to improve our ability to make a diagnosis in emergency or critical care medicine. "As this technology becomes more common in our clinical environments, I suspect we may observe an improvement in care and possibly patient outcomes," he said.

The development of the focused echocardiography examination and certification process will have contributions by Dr. Hernandez. He is currently one of the authors of the examination, the chair of the Society of Critical Care Medicine Fundamentals and Live Advanced Ultrasound



The front cover of the November issue Critical Care Medicine.

Courses, and a chair of the Ultrasound Committee. He said because of this, he was appointed to serve on the National Board of Echocardiography Committee.

There will be two parts to the certification, the cognitive exam and verification of practical skills. The first exam will be offered in January 2019.

"We are trying to create a certification process that is fair, with milestones that can be achieved at most institutions without compromising quality," he said. "As members of the committee for the National Board of Echocardiography, we have agreed not to compromise on quality."

\*Díaz-Gómez JL, Frankel HL, Hernandez A. National Certification in Critical Care Echocardiography: Its Time Has Come. Crit Care Med. 2017 Nov;45(11):1801-1804. doi: 10.1097/CCM.0000000000002707. PubMed PMID: 29028695.



Antonio Hernandez, MD, MSCI, FCCM



## Recent Publications

- Amin A, **Lane J**, Cutter T. An Anesthesiologist's View of Tumor Ablation in the Radiology Suite. *Anesthesiology Clinics*. 2017 Dec;35(4):611-615.
- Bansal V, Shastri U, Canlas C**, Gadsden JC. Diaphragm-Sparing Nerve Blocks for Shoulder Surgery: An Alternative Approach. *Reg Anesth Pain Med*. 2017 Jul/Aug;42(4):544-545. doi: 10.1097/AAP.0000000000000606. PubMed PMID: 28632682.
- Bellomy ML, Eagle S, Pretorius M**, Barton BR, **Liang Y**. Point-of-Care Ultrasound Facilitated Detection of Femoral Occlusive Septic Emboli During Mitral Valve Surgery: A Case Report. *A A Case Rep*. 2017 Aug 10. doi: 10.1213/XAA.0000000000000619. [Epub ahead of print] PubMed PMID: 28806175.
- Berman MF, Iyer N, Freudzon L, Wang S, **Freundlich RE**, Housey M, Kheterpal S; Multicenter Perioperative Outcomes Group (MPOG) Perioperative Clinical Research Committee. Alarm Limits for Intraoperative Drug Infusions: A Report From the Multicenter Perioperative Outcomes Group. *Anesth Analg*. 2017 Jul 27. doi: 10.1213/ANE.0000000000002305. [Epub ahead of print] PubMed PMID: 28759483.
- Bhagavatula SK, **Lane J**, Shyn P. A Radiologist's View of Tumor Ablation in the Radiology Suite. *Anesthesiology Clinics*. 2017 Dec;35(4):617-626.
- Broman KK, Phillips SE, **Ehrenfeld JM**, Patel MB, Guillaumondegui OM, Sharp KW, Pierce RA, Poulouse BK, Holzman MD. Identifying Futile Interfacility Surgical Transfers. *Am Surg*. 2017 Aug 1;83(8):866-870. PubMed PMID: 28822393.
- Bruehl S**, Olsen RB, Tronstad C, Sevre K, Burns JW, Schirmer H, Nielsen CS, Stubhaug A, Rosseland LA. Chronic pain-related changes in cardiovascular regulation and impact on comorbid hypertension in a general population: the Tromsø study. *Pain*. 2017 Sep 25. doi: 10.1097/j.pain.0000000000001070. [Epub ahead of print] PubMed PMID: 28953193.
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## Department Leadership



**Warren S. Sandberg, MD, PhD**  
Chair, Department of Anesthesiology  
Vanderbilt University Medical Center

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

**Compassionate:** Offering exceptional perioperative care and pain management to a complex population.

**Creative:** Advancing the frontiers of science, healthcare and technology.

**Committed:** Equipping future leaders with solid education and training, both here and abroad.

**Collaborative:** Working across Vanderbilt University Medical Center and beyond to achieve measurable outcomes.

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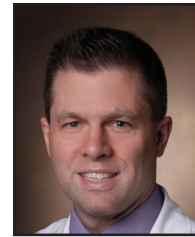
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