

SLEEPY TIMES



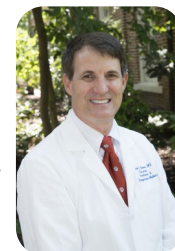
VOLUME 10, ISSUE 2 FEBRUARY 2016

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Message from the Chairman: Medical Center District Creation

-SCOTT T. REEVES, MD, MBA



I would like to use the opening statement portion of *Sleepy Times* this month to highlight the recent announcement to create a new Medical Center District that will feature significant pedestrian walking areas and green spaces. The concept is well described in the following video [Please Click Here For Video Link](#); and *The Catalyst* article below. MUSC will soon be an even more enjoyable place to work.

“New Medical District Means More Green, Walking Space”-*The Catalyst*

Important changes are in the works in downtown Charleston, where city leaders have given the go-ahead for a new medical district. It will mean more green space, walking areas, parking, signs and easier access to the Medical University of South Carolina, Roper Hospital and Ralph H. Johnson VA Medical Center.

MUSC President David Cole, M.D., said the medical district will create many more opportunities for people to gather and connect. “Patients and family members so often say ‘thank you’ for not only the care provided but also the opportunity to walk into a garden or to have a place outside to rest. We are a place of health, healing and education.”

MUSC Office of Health Promotion Director Susan Johnson, Ph.D., said the medical district embodies what she and other campus leaders have been working on for years. “It really embraces this idea of the built environment and green spaces and what that means in terms of people’s behavior and also just their overall health and well-being. We’ve always felt at MUSC that when people are here on our campus, everything they experience needs to be positive for their health and well-being. That helps them heal, whether they’re a patient or a family member.”



Proposed medical district shows Doughty Street looking toward the Colbert Library from ART

Momentum for creating the medical district started in January when Cole called Roper St. Francis President and Chief Executive Officer David Dunlap, and the two met to discuss a proposed parking garage for Roper St. Francis employees. The result was an agreement that allowed Roper Hospital to continue leasing parking spaces in MUSC garages while both hospitals collaborated with the City of Charleston on creating a medical district that everyone could enjoy.

MESSAGE FROM THE CHAIRMAN: MEDICAL CENTER DISTRICT CREATION CONTINUED . . .

Dunlap said the pedestrian mall will give employees, patients and visitors a great way to walk across the hospital campuses and enjoy the beauty of the area. “We expect this medical district to become another iconic Charleston landmark and an incredible addition to the many reasons why Charleston is a world-class city.”

Initial plans for the medical district include:

- Developing a pedestrian-oriented greenway that links the eastern and western parts of the peninsula
- Better managing Courtenay Drive traffic to improve conditions for pedestrians
- Building a garage at Courtenay Drive and Bee Street for parking
- Connecting WestEdge, a planned mixed-use research community, to Colonial Lake, to link the upper west side of the peninsula with the lower part
- Turning part of Doughty Street into a pedestrian area with trees, grass and outdoor seating

The Ralph H. Johnson VA Medical Center joined MUSC and Roper Hospital in supporting the medical district with a goal of improving pedestrian traffic. VA Medical Center Director Scott Isaacks said the hospitals are next-door neighbors that work hand in hand. “We have a significant number of medical staff who hold appointments at the VA, MUSC and Roper, and walk between our facilities multiple times every day. We also have veterans who go to MUSC and Roper for certain appointments, so it is natural that our VA would be interested in improving the environment in this area.”

Last month, MUSC, Roper Hospital and the VA submitted a memorandum of understanding to Charleston, asking city officials to endorse the project. The memorandum set up the initial framework for future development.

City Council voted to support the proposed medical district memorandum on Tuesday during Joe Riley’s final public meeting as mayor. Riley called the proposed changes “unprecedented” and “thrilling.”



A view of Courtenay Drive looking east toward the water in the new medical district



A view of Courtenay Drive from Calhoun Street, with the new MUSC Shawn Jenkins Children's Hospital on the corner

ASA NEWSLETTER

specialty news

SCA Perspectives: Perioperative Ultrasound Training*Breaking the Barriers*

Feroze Mahmood, M.D., FASE

Linda Shore-Lesserson M.D., FAHA, FASE, President
*Society of Cardiovascular Anesthesiologists*Scott T. Reeves, M.D., M.B.A., FACC, FASE, Immediate Past President
*Society of Cardiovascular Anesthesiologists***Innovation and ingenuity are known to outpace legislation and regulation.**

Nothing highlights this principle more than the introduction of ultrasound (US) in the practice of clinical anesthesiology. This started in the early 1990s with the use of transesophageal echocardiography (TEE) in cardiac O.R.s. It later expanded to use of transthoracic echo (TTE) in critical care settings to US guidance for invasive procedures (vascular access, regional anesthesia). This widespread use of ultrasound has come to be known as perioperative ultrasonography, which is the use of US for patient management during the perioperative period. Current applications of perioperative US that are specific to anesthesiologists include: TTE, TEE, US for procedural guidance (vascular access, regional anesthesia) and emergency point-of-care US (abdominal, chest wall and airway imaging). Of all these applications, only the training and certification requirements for perioperative TEE



are well established.¹ Even critical care and regional anesthesia fellowship programs only require a broad knowledge, equipment requirements and do not put forward specific recommendations to establish competence. The Accreditation Council for Graduate Medical Education (ACGME) and the American Board of Anesthesiology (ABA) have also recognized knowledge of ultrasound as a necessary skill set during anesthesia residency training. Despite being widely practiced and taught during training, expertise in various aspects of perioperative US is neither ubiquitous nor consistent in anesthesia training.

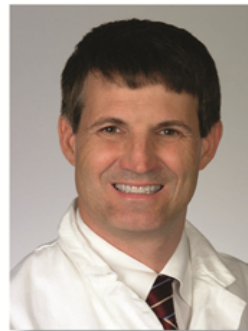
Specific to anesthesiology with varying context, US is used on a daily basis multiple times. Anesthesia residents gain exposure to various perioperative applications of US during subspecialty rotations, e.g., cardiac, critical care and regional anesthesia. Despite having the same physical principles and workflow, these clinical applications are taught to residents in isolation from each other as separate techniques. There is no standardized basic US education curriculum to prepare trainees for specialized applications that results in significant variation in the quality of education conferred. Unfortunately, the proficiency in perioperative ultrasound, a technique that is re-defining our specialty, is not a recognized milestone in our residency training. The ABA/ACGME milestone project includes content outline



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Scott T. Reeves, M.D., M.B.A., FACC, FASE, is The John E. Mahaffey, MD Professor and Chairman, Anesthesia & Perioperative Medicine, Medical University of South Carolina, Charleston.

ASA NEWSLETTER CONTINUED . . .

lists for certain US concepts but does not delineate the specifics for a broad-based standardized education. It appears that as a specialty, we have recognized the importance but have lagged in defining the entire scope of perioperative US in our daily practice. For example, E.R. residency programs have specifically defined the ultrasound-related training milestones during training. Residents are required to demonstrate the acquisition of specific US-related skill sets.²

Our specialty is not the first to encounter introduction of new technology into practice without prior development of guidelines for its use. Introduction of laparoscopic techniques in general surgical practice was a similar challenge. It required introduction of innovative competency-based educational initiatives for fully trained as well as in-training physicians. Trained surgeons as well as surgical residents are now mandated to successfully complete cognitive and simulator-based manual dexterity laparoscopic training programs. The Fundamentals of Laparoscopic Surgery (FLS) and Fundamentals of Endoscopic Surgery (FES) programs are offered through accredited simulation centers across the country. While it was a logistical challenge to create, validate and enforce these programs, they have created opportunities for innovation in medical education.

“The Accreditation Council for Graduate Medical Education (ACGME) and the American Board of Anesthesiology (ABA) have also recognized knowledge of ultrasound as a necessary skill set during anesthesia residency training. Despite being widely practiced and taught during training, expertise in various aspects of perioperative US is neither ubiquitous nor consistent in anesthesia training.”

The major advantage of these educational initiatives rests in defining and demonstrating a baseline minimum level of competence for all trainees and practicing physicians. This approach also ensures that practitioners are aware of the latest developments of technology and their clinical application. This concept has been taken a step further with the introduction of verification of proficiency prior to clinical exposure in some surgical residency programs.

Recognizing this glaring deficiency in curriculum, numerous anesthesia residency training programs across the United States have developed educational initiatives with a “holistic” approach to perioperative US education. Most of them use the flipped classroom concept with Web-based formal didactics for a basic theoretical understanding followed by the simulation-based hands-on training. The scope of these programs extends from use of US for vascular access and regional anesthesia, to basic TTE, TEE, and abdominal and chest wall US. There is a definite enthusiasm among anesthesiology residents to acquire competence in the use of perioperative US. Cheaper, compact, hand-held US systems are now commercially available and are replacing stethoscopes. Even medical schools across the country have introduced educational curricula for basic US education.³ While these are welcome changes, they also highlight the disconnect that exists in anesthesiology training programs between innovation and regulation.

The Society of Cardiovascular Anesthesiologists (SCA) has recognized the scope and potential of the concept of perioperative US education. The leadership of the SCA appreciates that echocardiography is only one of the applications of perioperative US. The SCA believes that anesthesia residents should have a broad knowledge of the basics of US and workflow a perioperative US examination. Anesthesia residents should be able to display neuro-vascular anatomy, use ultrasound for procedural guidance, and perform a basic/emergency TEE, TTE as well as an emergency abdominal and chest wall examination. Most of these tasks are already taught and practiced during anesthesia training. As anesthesiologists, we have recognized the enormous potential of this modality. Now our specialty needs to formalize incorporation of perioperative US training into our accredited training programs. Currently, competence in perioperative US is a desirable skill for graduating residents; it should be an expectation. Various component societies of ASA have taken initiatives to introduce and promote perioperative US education within their domains. Now is the time to break these barriers and develop a unified basic education curriculum for perioperative ultrasound education.

References:

1. Advanced PTEeXAM®. The National Board of Echocardiography website. <http://www.echobords.org/content/advanced-pteexam%C2%AE>. Accessed October 4, 2014.
2. American College of Emergency Physicians. Emergency ultrasound guidelines. *Ann Emerg Med.* 2009;53(4):550-570.
3. Oxorn D, Pearlman A. Con: physician-performed ultrasound: the time has come for routine use in acute care medicine. *Anesth Analg.* 2012;115(5):1004-1006.

RESEARCH CORNER

BRIEF REPORT

CME **Neuraxial Anesthesia in Parturients with Thrombocytopenia: A Multisite Retrospective Cohort Study**

Christopher G. Goodier, MD,* Jeffrey T. Lu, MD,† Latha Hebbar, MD, FRCA,‡ B. Scott Segal, MD, MHCM,§ and Laura Goetzl, MD, MPH||



Dr. Latha Hebbar

BACKGROUND: The primary aim of this study was to estimate the risk of neuraxial hematoma associated with neuraxial anesthetic procedures in thrombocytopenic parturients.

METHODS: A multicenter retrospective cohort study design was used to estimate the risk for spinal-epidural hematoma in parturients with a platelet count of $<100,000/\text{mm}^3$ receiving neuraxial anesthesia and the risk of complications in thrombocytopenic parturients who receive general anesthesia.

RESULTS: No cases of spinal hematoma were observed in 102 thrombocytopenic parturients receiving epidural analgesia or 71 receiving spinal anesthesia. Including data from the previous published series (total $n = 499$), the exact binomial 95% confidence interval for the risk of spinal-epidural hematoma was 0% to 0.6%. Given the small number of patients at each specific platelet count, the theoretical risks at individual platelet count strata are presented. Overall aggregate serious morbidity rate in women who received general anesthesia secondary to thrombocytopenia was 6.5% (95% confidence interval, 2.1%–14.5%).

CONCLUSIONS: Our work supports the relative maternal safety of neuraxial anesthesia in parturients with mild thrombocytopenia and estimates the maternal complication rate associated with the avoidance of neuraxial anesthesia. Remaining uncertainties at lower platelet counts make a national “low platelet” registry critical to a more accurate assessment of the risk of epidural hematoma and would aid in standardization of anesthesia practice. (Anesth Analg 2015;121:988–91)

Discordance in Grading Methods of Aortic Stenosis by Pre-Cardiopulmonary Bypass Transesophageal Echocardiography

George Whitener, MD,* Jeff McKenzie, MD,* Igor Akushevich, PhD,† William D. White, MPH,‡ Ishwori B. Dhakal, MS,* Alina Nicoara, MD, FASE,* and Madhav Swaminathan, MD, FASE, FAHA*



Dr. George Whitener

BACKGROUND: Current guidelines define severe aortic valve stenosis (AS) as an aortic valve area (AVA) $\leq 1.0 \text{ cm}^2$ by the continuity equation and mean gradient (ΔP_m) $\geq 40 \text{ mm Hg}$. However, these measurements can be discordant when classifying AS severity. Approximately one-third of patients with normal ejection fraction and severe AS by AVA have nonsevere AS by ΔP_m when measured by preoperative transthoracic echocardiography (TTE). Given the use of positive pressure ventilation and general anesthesia in the pre-cardiopulmonary bypass (pre-CPB) period, we hypothesized that discordance between ΔP_m and AVA during pre-CPB transesophageal echocardiography (TEE) would be higher than previously reported by TTE.

METHODS: We retrospectively examined pre-CPB TEE data for patients who had aortic valve replacement, with or without coronary artery bypass grafting, from 2000 to 2012. Patients were excluded if they had ejection fraction $<55\%$, emergency surgery, repeat sternotomy, moderate or severe mitral regurgitation, or severe aortic regurgitation. Only patients with both pre-CPB AVA and ΔP_m measurements were included. Patients were grouped according to severity (mild, moderate, and severe) by AVA or ΔP_m . Discordance was defined as disagreement between severities based on either parameter.

RESULTS: A total of 277 patients met inclusion criteria. There were 227 patients with AVA $\leq 1.0 \text{ cm}^2$. The proportion of these patients with a $\Delta P_m < 40 \text{ mm Hg}$ was 54% (95% confidence interval, 47%–61%). The rate of discordance was significantly higher than the rate (37%; $P < 0.001$) found in previously reported analyses using TTE. Of the patients with a $\Delta P_m \geq 40 \text{ mm Hg}$, only 8% ($n = 9/113$) had a discordant AVA. In contrast, of the patients with $\Delta P_m < 40 \text{ mm Hg}$, 80% ($n = 131/164$) had a discordant AVA.

CONCLUSIONS: We confirmed our hypothesis that grading AS by ΔP_m and AVA during pre-CPB TEE exhibits higher discordance than reported for TTE by others. It remains unclear whether these discrepancies reflect the effect of general anesthesia, imaging modality (TTE versus TEE) differences, inaccuracies in AS grading cutoffs when applied to pre-CPB TEE, or selection bias of the surgical population. (Anesth Analg 2015;XXX:00–00)

WELCOME NEW SOUTH CAROLINA SMARTSTATE ENDOWED CHAIR IN HUMAN FACTORS, KEN CATCHPOLE, PHD



Ken was born just north of London and raised on the south coast of England by a UK Dad, and a New Jersey mom. His undergraduate education was spent at Loughborough University studying Ergonomics, followed by a PhD in Psychology and Physiology at the University of Leeds, researching alarm design and human auditory localization. Beginning his professional career in UK defense research, he explored shared situational awareness amongst airline pilots and led a project that fundamentally improved x-ray security screening at UK airports. He joined Great Ormond Street Hospital in London in 2003 to explore teamwork and error in congenital heart surgery and in 2005 moved to the Department of Surgery at the University of Oxford to continue this research, expanding his work to vascular, neuro, and upper GI surgery, and surgical wards. In 2011 he moved to Cedars-Sinai in Los Angeles to apply the same techniques to trauma care, robotic, and spinal surgery. He is enthusiastic about bringing his field of human factors to MUSC and feels lucky to continue to work with amazing people, doing amazing things.

For fun, he enjoys biking, hiking, camping, kayaking, snowboarding, and playing the guitar badly.

DANIELLE SCHEURER, MD, CHIEF QUALITY OFFICER, INTRODUCES KEN CATCHPOLE TO THE MUSC HEALTH SAFETY TEAM

 <p>MUSC Health Medical University of South Carolina Changing What's Possible</p>	<h1>Safely Speaking™</h1> <h2>MUSC Health's Daily Safety Tip</h2>
<p>Patient Safety Resources</p> <p>Patient Safety Network</p> <p>NPSE</p> <p>MUSC Patient Safety Webpage</p>	<p style="text-align: right;">January 5, 2016</p> <p>Human Factors Comes to MUSC</p> <p>The Clinical Factors Group describes human factors as: "... all those factors that can influence people and their behaviour. In a work context, human factors are the environmental, organisational and job factors, and individual characteristics which influence behaviour at work." Human factors is quickly growing in its application to healthcare, especially as it pertains to patient safety. <i>Clinical Human Factors</i>, as defined by Ken Catchpole a human factors expert, is: "Enhancing clinical performance through an understanding of the effects of teamwork, tasks, equipment, workspace, culture, organisation on human behaviour and abilities, and application of that knowledge in clinical settings." In an editorial, "Human factors in healthcare: welcome progress, but still scratching the surface" Mr. Catchpole describes common misconceptions and misunderstandings about human factors and calls for a careful application and translation from other industries such as aviation, nuclear power and rail transport into healthcare. We are pleased to welcome Dr. Catchpole to the MUSCHealth safety team in February 2016!</p>

**CONGRATULATIONS TO DRs. BRINKLEY, FRANCIS, FRIEL
AND ROBINSON FOR SCORING IN THE TOP 10TH
PERCENTILE ON THE ABA BASIC EXAM**



Dr. Thomas Brinkley



Dr. Loren Francis



Dr. Jordan Friel



Dr. Stefanie Robinson

NEW BABY IN THE DEPARTMENT



Congratulations to CRNA Marianna Ross and her family

John Patrick Ross

Born December 19, 2015 at 7:17pm

7 lbs, 1 oz, 19 inches

ALLIE POOLE ASSUMES HER NEW ROLE AS ADMINISTRATIVE COORDINATOR WITHIN OUR DEPARTMENT



Allie Poole is looking forward to transitioning into her new role within the department as an administrative coordinator. She has been with the Department of Anesthesia for two years and was previously an administrative assistant at ART. She graduated from UC Davis where she earned a Bachelor of Science in Regional Development. Allie decided to move to the beautiful city of Charleston in the fall of 2011. Prior to joining MUSC she worked in the Reservations and Revenue Department at Wild Dunes Resort.

When Allie is not at work she enjoys going to concerts, hiking, traveling, snowboarding and reading.

HISTORY OF ANESTHESIOLOGY AND MEDICINE: A BRIEF COLLECTION OF *RECOLLECTIONS* FROM DR. LAURIE BROWN

OUTPATIENT ANESTHESIA

“Outpatient anesthesia” and “same day surgery” which is so popular today (1991) seems to have in only the last few years been discovered by many insurance companies and the US government. Such operations are practically mandated at the present time. So is outpatient anesthesia something new?

While I was working with Dr. John Brown as his student during the period from 1950, it was not unusual for him to have several patients for outpatient operations on Saturday mornings. There were also a few afternoon cases and an occasional emergency case which was treated but not admitted to the hospital. Some Saturday mornings, outpatient anesthesia was reserved for the dental clinic in the old Roper Hospital.

There was certainly not a variety of surgical procedures as there are today, and most of the operations consisted of teeth extraction, myringotomies, the setting of fractures, reduction of fractures and application of casts, and excision of some lesions which did not require hospitalization. The patients were brought into the hallway outside of the operating room and if there was sufficient time, premedication consisted of oral atropine, dosage consistent with the patient's age. If there were extensive dental work to be done, Demerol was often used along with the atropine. Practically all of the children received open drop ether and the adults received intravenous pentothal as the anesthetic agents. I recall no endotracheal anesthesia utilized on outpatients at this time. Seldom was laboratory work done on these patients with the exception of those who were to undergo more extensive procedures and it was well planned in advance. Patients who were poor risks always had a hemoglobin done prior to the operation.

In the poor risk patient, there were often lots of advice from the patient's own physician. I can recall one patient who was in her late 70's who had a badly abscessed tooth and who her internist said was “too sick to be put to sleep” so just give her open drop ether. I knew better, but it was a Saturday afternoon, I was alone, and felt that I could accomplish the procedure but I must say it was a strain on both the patient and on me, although there were no problems or complications.

Intravenous pentothal was utilized as the sole agent for many brief procedures. One patient that I can recall had to be admitted to the hospital overnight after I had administered intravenous pentothal to him for the extraction of wisdom teeth. The procedure took longer than predicted, naturally, and this large man who was a classmate of mine received almost 2 grams of pentothal, the procedure was done in the afternoon, but my classmate was still highly inebriated until the wee hours of the morning.

No, more than 35 years later, outpatient anesthesia has become a separate specialty.

HISTORY OF ANESTHESIOLOGY AND MEDICINE: A BRIEF COLLECTION OF *RECOLLECTIONS* FROM DR. LAURIE BROWN

HYPOTHERMIA

As soon as the technique of hypothermia anesthesia was developed to our satisfaction it was transferred to patients in the operating rooms at Old Roper Hospital. All of the initial patients had intra-atrial septal defects.

The patient was brought to the operating room, anesthesia was induced and the patient was then immersed into a bathtub filled with crushed ice and water. The tips of extremities were kept out of the cold solution in order to prevent frostbite. As the patient began the cooling process, the lungs were inflated as rapidly as felt feasible with 100% oxygen, thus continuing throughout the procedure until the rewarming process was complete.

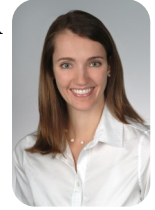
After the patient was cold, and the temperature had reached 27-28 degrees centigrade, he or she was removed from the ice bath, transferred to the operating table, dried and prepped for the operation. Prior to opening the heart, the aorta was clamped and potassium chloride was injected into the aorta in order to stop the slowly beating heart. When the operation was completed, the clamp was released; the heart often began beating with no massage. After the chest was closed, the wound was sealed with Collodion and the patient immersed in a warm water bath. Hyperventilation was continued until spontaneous respiration resumed and the patient was reaching near body temperature. Removal from the bath was then accomplished and the patient often awoken fairly rapidly. Details of this procedure, copies of old anesthesia records and operative reports, and papers describing the first such operations are in the Department Archive.

A small or regular size bathtub was used for the first hypothermia cases in the operating rooms. The tub really was not big enough to accommodate a large and tall individual and only one such adult case was attempted in that tub. Crushed ice was obtained by the hospital from the "Ice House" for each one of the cases. When I moved into the Medical College Hospital, the hospital gave me \$25.00 to buy a tub at Mr. Garfinkle's Junk Yard. I obtained a large "Old Charleston" tub which would accommodate an adult of almost any size. The Maintenance Department built a frame for this tub and made it portable in order that it could be rolled easily in and out of the operating room. This tub was used as long as we used hypothermia in the heart cases. Later, the lowering of the temperature of the patient during cardiac bypass was accomplished by running the blood through a cold water bath attached to the oxygenator.

An additional note is that during the early phase of these operations, we were able to obtain what was then a newly marketed "telethermometer" which was an electronic device with a long probe which could be put into the rectum to measure temperature without having to use a mercury thermometer. When we first obtained this telethermometer Dr. Ashmore was intrigued by the idea of being able to measure the temperature of a well-digger utilizing the long probe because since we were children, we had heard the term that something was "as cold as a well-digger's-," well that part of the anatomy in which we were measuring the temperature. To the best of my knowledge he never was able to carry out this experiment, partially due to the fact that well-diggers had also gone out of style at that time.

HIGHLIGHTS OF THE 2016 AHA GUIDELINES UPDATE ON CPR AND EMERGENCY CARDIOVASCULAR CARE

BY: DR. CATHERINE TOBIN



Hello All! As an American Heart Association (AHA) Instructor, I wanted to share a few interesting updates and new Guidelines for 2016. It has been 5 years since the guidelines were updated. Of note, adult, pediatric, and neonatal resuscitation guidelines have all been updated in 2016 from 2010. One summary document of all these changes from AHA is 33 pages. I have done a summary of changes I found interesting. Highlights of the update can be found online at: [Please Click Here for Link](#)

Chest Compressions:

RATE: GO FAST, BUT NOT TOO FAST

New 2016: The recommended rate for chest compressions is 100 to 120/minute.

Old 2010: Go at least 100/min, but faster if you can.

Why? This set rate of 100 to 120/minute allows for complete chest recoil.

Depth: HARD, BUT NOT TOO HARD

New 2016: The recommended depth is 2 inches (5cm), avoiding excessive chest compression depths greater than 2.4inches (6cm).

Old 2010: Go at least 2 inches but did not specify an upper limit of depth.

Calling for Help:

Use twitter, iPhone apps, etc.

The new 2016 Guidelines say it is reasonable for communities to use social media technologies to summon rescuers who are in close proximity to a victim of OHCA (Out of Hospital Cardiac Arrest) and who are willing and able to perform CPR.

Ventilation with Advanced Airway:

New 2016: Give 1 breath every 6 seconds (10 breaths per minute) while continuous chest compressions are being performed.

Old 2010: Give 1 breath every 6 to 8 seconds.

Why? The simple single rate should be easier to learn and remember.

NO MORE VASOPRESSIN

New 2016: Vasopressin in combination with epinephrine offers no advantage as a substitute for standard dose epinephrine in cardiac arrest. Vasopressin has been removed from the cardiac arrest algorithm.

Old 2010: One dose of vasopressin 40 unites IV may replace either the 1st or 2nd dose of epinephrine in cardiac arrest.

Why? Both epinephrine and vasopressin administration during cardiac arrest improve ROSC (Return of Spontaneous Circulation). There is no benefit of using vasopressin and epinephrine as compared to epinephrine alone. In interest of simplicity, vasopressin has been removed from the algorithm.

HIGHLIGHTS OF THE 2016 AHA GUIDELINES UPDATE ON CPR AND EMERGENCY CARDIOVASCULAR CARE CONTINUED . . .

BY: DR. CATHERINE TOBIN

Post Cardiac Arrest Drug:

Lidocaine is OK.

New 2016: Lidocaine either initiation or continuation may be considered immediately after ROSC if arrest was from VF/pulseless VT. (Ventricular Fibrillation or pulseless ventricular tachycardia)

Why? Earlier studies showed association of lidocaine after myocardial infarction with increased mortality. More recent shows a decrease in recurrent VF/pulseless VT but no long term benefit or harm.

Extracorporeal Techniques and Invasive Perfusion Devices:

New 2016: Extracorporeal CPR may be considered an alternative to conventional CPR for select patients who have cardiac arrest when suspected etiology is potentially reversible.

Why? Extracorporeal CPR needs a highly trained, specialized equipment, and multidisciplinary support. It involves emergency cannulation of a large vein and artery. Strict inclusion criteria should be reviewed. The criteria is variable, most use ages 18 to 75. No clinical trials available for extracorporeal CPR. Note: ECMO is not available at all hospitals.

ETC02 for predication on Failed Resuscitation

New 2016: In intubated patients, failure to achieve an ETC02 of greater than 10mmHg by waveform capnography after 20 minutes may be considered as one component of a multimodal approach to decide to end resuscitative efforts. Yet you cannot use ETC02 in isolation to decide.

Why? Extremely poor chance of survival if after 20minutes, ETC02 is less than 10mmHg in intubated patients.

Targeted Temperature Management (TTM)

New 2016: All comatose patients with ROSC after cardiac arrest should have TTM of 32C and 36C selected, achieved, and then maintained constantly for 24 hours.

Old 2010: All comatose patients with ROSC after cardiac arrest should have TTM of 32C to 34C for 12 to 24 hours.

Why? One single target temperature should be picked. Recently study compared 33C and 36C with outcomes similar, so now clinicians can pick from a wider range of temperatures.

Intravenous Lipid Emulsion

New 2016: It is reasonable to administer intravenous lipid emulsion (ILE) combined with standard resuscitative care to patients who have premonitory neurotoxicity or cardiac arrest due to local anesthetic toxicity. It is also reasonable to give it in other forms of drug toxicity when patients are failing standard resuscitative measures.

Old 2010: It may be reasonable to consider ILE in local anesthetic toxicity.

Why? Since 2010, some animal and human studies case reports have used ILE with drug toxicity not due to local anesthetic infusion and have shown mixed results. As prognosis of those failing standard measures is poor, it may be ok to give empiric ILE despite weak and conflicting evidence.



RENOVATED PACU AND FAMILY WAITING ROOM SPACE



GRAND ROUNDS FOR THE MONTH OF FEBRUARY

“Neuromonitoring ”
February 2, 2016
Jessica Barley, PhD
Medical University of South Carolina



“Adult Head Injury: Are Guidelines Improving Outcome?”
February 9, 2016
Audree Bendo, MD, MS
Professor and Executive Vice Chair
SUNY Downstate Medical Center

“Morbidity and Mortality Conference”
February 16, 2016
Guldan, MD & Gurselman, MD
Medical University of South Carolina



To Be Announced
February 23, 2016
Susan Harvey, MD
Associate Professor
Medical University of South Carolina



DEPARTMENT OF ANESTHESIA AND
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CHECK OUT OUR WEBSITE AT:
[HTTP://WWW.MUSC.EDU/ANESTHESIA](http://www.musc.edu/anesthesia)

Future Events/Lectures

Intern Lecture Series

Feb 4th — Bleeding and Transfusion,
Dr. Roberts

Feb 18th — Hematologic Disorders, Dr. Finley

CA 1 Lecture Series

Feb 3rd — Obstetric Anesthesia & Maternal and
Fetal Physiology and Anesthesia, Dr. Hebbar

Feb 10th — Anesthesia for Patients with
Endocrine and Neuromuscular Disease, Dr.
Stephanie Whitener

Feb 24th — Hepatic Physiology and
Anesthesia & Anesthesia for Patients with
Liver Disease, Dr. Hebbar

CA 2/3 Lecture Series

Feb 1st — Anesthesia for Complex Spine
Surgery and Trauma PBLD (Barash Ch. 39),
Dr. McSwain

Feb 8 — Visiting Professor Lecture-All
Residents, Dr. Bendo (SUNY)

Feb 15th — Intravenous Anesthesia
(Barash Ch. 18), Dr. Wilson, Moodle

Feb 22nd — Resident Forum with Program
Directors, Drs. Guldan and Gunselman

Feb 29th — Neurophysiology, Cerebral
Protection and Monitoring (Barash Ch. 54),
Dr. Skorke, Moodle

Grand Rounds

Feb 2nd — Neuromonitoring, Jessica Barley,
PhD

Feb 9th — Adult Head Injury: Are Guidelines
Improving Outcome?“, Dr. Audree Bendo
(SUNY)

Feb 16th — Morbidity and Mortality
Conference, Drs. Guldan and Gunselman

Feb 23rd — To Be Announced, Dr. Harvey



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 be turned in
to Kim Pompey. Thank you!

Ben Sokol, CRNA and Shelley Richardson, CRNA—Great teamwork
during an airway!

Keara Cox, CRNA—Helping out on a tricky transport for a TSS case.
Thank you!

Ray White, CRNA—Amazing Courage and good airway skills! Thank you!



Resident Graduation, June 17
Founders Hall at 6:00pm

Department Holiday Party, December 2
Carolina Yacht Club

February 2016

Standard of the Month

**Accept responsibility for
my own learning.**

We Would Love to Hear From You!

If you have ideas or would like to contribute
to *Sleepy Times*, the deadline for the March edition will be
February 22, 2016.