MESSAGE FROM THE CHAIRMAN:

“SCOTT T. REEVES, MD, MBA

Each July, I have the pleasure of addressing the whole department during my State of the Department address. This year’s address was given on July 23. If you were unable to attend, I encourage you to listen to it via our web site, Click Here.

We have much to be thankful for and have seen significant advancements in new technologies being offered to our patients. These advances have allowed all of us to further develop our skill sets and make us more competitive providers of care. Regardless of what metric is used, the quality of care provided by the department is remarkable. In addition, education both locally and nationally has flourished as record numbers of faculty have presented at our national meetings and published book chapters and important manuscripts.

The Affordable Care Act and the position of our state leaders on accepting Medicaid dollars have created challenges for our institution which ultimately affect the department. Significant sacrifices across the university have been made to assist the hospital and college of medicine to become more profitable. The old adage No Margin No Mission is very much true in academic healthcare centers such as ours and is being played out throughout the nation. Collectively we have persevered and will ultimately be an even stronger institution, hospital, college and department.

I am sure that we will face additional challenges this academic year as the Affordable Care Act is implemented in January. There are times when I am sure we all worry, but I would encourage you to look around. We work with a first class group of individuals from our administrative staff, anesthesia technicians, residents, CRNAs, faculty, and nursing and surgical colleagues. Collectively we all make our department GREAT. I am honored to be able to be chairman of such an outstanding group of people. Thank you one and all.
During my yearly evaluation, I showed our CPR study to Scott Reeves, and he asked me to tell the following story behind the study. Ok, here it comes: It all began with the Grand Rounds lecture where I got so fired up—Remember? We were told to adhere to ACLS “letter by letter,” and I said that “ACLS is for laypersons! We do better!...I do compressions longer than 2 minutes!” (That’s not exactly what I said, but I like this version better.) Later, after I had climbed down from the chandelier, I had a long phone call with one of my sons Martin in Germany. Actually, the idea behind the study all began with him 12 years ago. He was the drummer for my doctor’s Rock’n Roll Band in Germany, called “Base Excess” because the bass was always too loud, which was not true to the bass man. Our favorite yearly gig was on the island Langeoog for a party with 150 young emergency doctors, who were having a 7-days, 80-hour ACLS training. To get Martin out of high-school for this gig, I convinced his teachers to let him become the congress’ “presentations assistant”. (I obviously couldn’t say we need the drummer.) Of course, he was keener on messing with the CPR-equipment than fixing boring computer crashes. He was probably the first teenager helping emergency doctors learning CPR! And thus he understood why his dad got so fired up 12 years later about “ACLS letter by letter!”

Martin and I agreed to provide scientific evidence that an anesthesia CPR would be better. We would have to do a study showing that the area under the blood-pressure-time curve (AUC) with “our way of CPR” would be greater. But what is it that we can do better? It is already known that an invasive blood pressure feedback helps optimizing chest compressions. (That’s trivial; that’s how we do it in the ICU). Once one has “learned the chest,” it’s good to keep going as long as possible, at least a little more than just two minutes! …C’mon?

So a study would simulate a scenario where an anesthesiologist – involved in a CPR – would feel the femoral artery pulse, insert an arterial cannula for blood pressure feedback, and provide optimal ongoing chest compressions. We could do this on a manikin in our sim-lab!

Martin, now a doctor of physics and also “Langeoog-trained,” immediately understood and said, “No problem…”

For a start, I made up some blood pressure values, which could result from variations of chest compressions in terms of rates, compression depths, and duty cycles. Martin should have written a computer program for a virtual blood pressure based on those data, but he insisted on doing it more “stylish” and derived a mathematical formula. Actually, he designed a mathematical “hemodynamic model” for a virtual blood pressure, even taking the elastic properties of the aorta into account and programmed the whole thing.

Then we needed some hardware inside a simulation manikin to measure the chest compression variations. Martin, familiar with the anatomy of a simulation manikin, sent me a shopping list: laptop, microcontroller, linear potentiometer, and several miles of electric wires... and, of course a construction plan. He built a device in Germany just to make sure. So, thanks to our boring TV shows, I found myself at nights at my kitchen table soldering wires, tampering with bolts and nuts, and downloading Martin’s computer programs. The challenge was to place a potentiometer, which measures the position of the manikin’s chest wall, into a space of less than five inches inside the manikin – while forwarding the electrical signal to the “Arduino” microcontroller. And it needed to be robust because the manikin would be tumbled quite a bit with “real” chest compressions!
Since I’m “After-the-war-Germany” generation, spending my childhood hammering rusty nails straight, I could do it, and I got help from the fantastic technicians in the simulation center! Finally, one day the laptop showed a virtual blood pressure curve responding to the movement of the potentiometer. Yeehaw!

Now it was time for the study, and Matt McEvoy was immediately managing everything! I presented the study idea to our scientific groups, and we agreed on having above average physically fit students being able to do compressions for up to ten minutes. We finally designed a 4-by-4 study-set with unchanged versus exchanged compressors, having an a-line feedback or not. We got the IRB approval, and Sam Gado recruited 20 medical students endorsing more than five hours per week in the gym. These fabulous students did a really great job, but Sam turned out to be a genius: Running the computer, scheduling students, documenting everything, keeping compressors hydrated, repairing hardware, always cool and tuned, and never complaining of anything; Sam, you rock! We got the data in no time.

Now, in the 80’s (when one had to sell grandma’s silver for purchasing commercial computer software) I was writing my own “home-made” statistic programs. Thus, I deemed myself still competent… Ha ha! Times have changed! Fortunately, Paul Nietert created an appropriate and more contemporary “statistical model” and made the fabulous graphs that also elucidate the methodical part of the study!

So, the results significantly confirmed our hypothesis: A-line feedback increases the AUC by about 20%! Bitter for me, only half of the students did better with unchanged compressions, depending on body size and gender. However, Sam presented the results in January in Orlando and got an award! Yes! And once we overwhelmed the reviewers of “Resuscitation” with the team, play of Carlee Clark, Larry Field, Cory Furse, and Mat McEvoy, the paper got accepted for publication!

Here’s the message: “Anesthesia” can do better than “ACLS letter by letter!” Pick the RIGHT compressor (someone like Schwarzenegger), get an a-line, and exchange (even “Arnold”) after 5 - 6 min. Ok, with respect to the reviewers I need to add: consider this, further studies are needed.
CONGRATS TO OUR RESIDENTS FEATURED IN THE CATALYST

This month our graduating residents were featured in the catalyst to be honored for their great achievements. We wish them well in their future endeavors.

“The 2013 Department of Anesthesiology & Perioperative Medicine residents gathered with faculty at the Francis Marion Hotel for its June 21 awards ceremony. Those honored were (clinical anesthesia 2/3) Faculty Teacher of the Year – Dr. Latha Hebbar and (CA1) Faculty Teacher of the Year – Dr. Will Hand. Faculty presented the following awards: Dr. John E. Mahaffey Resident of the Year Award – Dr. Trevor Adams; Dr. Laurie Brown Resident Teacher of the Year Award and the Dr. J. G. Reves Resident Research Award – Dr. Kyle Branham.”

-The Catalyst, August 2013
**Meet Our New Programmer: John Fisher**

John Fisher is from Charleston, SC and lived on James Island until College. After several years at the Charleston County School of the Arts (Orchestra and Music Theory), he attended Clemson University and received both his Bachelor's (2005) and Master's (2008) degree in Computer Science. His Master's thesis revolved around SOAP programming and using the program Second Life to visualize real world data collections. John has been published in ACM SouthEast 47 as well as SENSORCOMM 2007.

After college, John returned to Charleston and received a job from Northrop Grumman Aerospace Systems working on the MQ-4C Triton Unmanned Air Vehicle. He has worked on interoperability of systems between the Master Control System and other legacy military applications, such as the GCCS-M system. After three and a half years, John left NGC to work for the Medical University.

He is currently a part of both the Enterprise Technology Architecture (ETA) Team and the Enterprise Data Warehouse (EDW) team. John helps to support our OACIS and McKesson systems and assists in getting data into our data warehouse. His additional work also includes developing iPhone/iPad applications for the hospital, including a trauma guideline app and a pressure ulcer guidance app. John is also currently working on an influenza and pneumococcal screening application.

John took over iVital when Michael McEvoy left a few months ago. In addition to trying to fix any problems our current version has, he is beginning to work on migrating iVital to be able to interface with Epic, as opposed to PICIS. He hopes after everything is all said and done, physicians will not see any difference between the two iVitals and that the transition will be seamless.

**American Society of Echocardiography (ASE) Meeting**

**By: Alan Finley, MD**

The 24th Annual Meeting of the ASE was held June 29-July 2, 2013 in Minneapolis. The meeting was highlighted for the department when Alan Finley was elected to be the next Vice Chairman of the Council for Perioperative Echocardiography. This is the initial position in the ascension track to chairman of this important committee that establishes national standards and guidelines in the field of perioperative echocardiography. Alan also lectured during the daylong symposium *Multidisciplinary Approach to Complex Intraoperative Decision Making*. His talk was entitled, *Elective Aortic Valve Replacement with Dilated Aortic Root: Should it be Replaced? Postoperative: Is There Outcome Data? Who Will Be Back?*

Jack S. Shanewise, MD 1st recipient of the Outstanding Achievement in Perioperative Echocardiography Award, Alan Finley, MD and Roman Sniecinski, MD at the ASE Award Gala.
On my recent trip to Tanzania, I had the opportunity to observe a simulation training session for a group of Emergency Medicine residents at the Muhimbili National Medical Center in Dar Es Salaam. This EM Residency is supported by the University of California at San Francisco with a grant from Abbott Laboratories. I met two faculty from the University of Chicago and South Africa who were each spending 3 months there. UCSF is responsible for assuring that international faculty are present all 12 months of the year. The first group of 8 residents were scheduled to graduate the 3 year program within a month and 6 were staying on as faculty. WOW!

The faculty had crafted a mannequin out of foam and were in the middle of doing mock ACLS training exercises when I arrived. The residents were given a patient history and were asked to initiate appropriate treatment as the scenario unfolded. It was fascinating watching them respond to the changes in the patient’s condition with treatment following ACLS. There were no ACLS cards, iPAD apps, etc. available-only ACLS wall charts.

Following the ACLS sessions we proceeded to learn intubation skills. Being an anesthesiologist, they were interested in my thoughts of their airway simulator pictured below.

This simulator will become an integral part of the resident curriculum as we expand both transthoracic and transesophageal training.

Despite the technology available to us in the United States, it is easy to lose track of the power of simple simulation exercises and check lists to improve all of our performance and ultimately patient safety. Recently the department purchased a CAE echocardiography simulator with pathology cases.
OR i-STAT Quality Codes

The OR is continuing to perform the iSTAT exceptionally well! Here are the latest quality check code error rates:

Jan. = 2.97% (organization = 5.5%)
Feb. = 2.69% (organization = 5.2%)
Mar. = 1.4% (organization = 5.3%)
Apr. = 4.22% (organization = 5.2%)
May = 1.96% (organization = 4.95%)
June = 2.63% (organization 5.1%)

“Congratulations to the Anesthesia Tech staff for doing a great job with the i-STAT compliance. They started off strong and have continued to do an incredible job with the compliance. The Anesthesia Techs play an integral role in providing care to our patients so please thank them for all they do to ensure excellent care to surgical patients.”

-Karen Weaver

NEW MUSC Children’s Hospital Logo

The Medical University of South Carolina has been caring for children since 1955. The MUSC Children’s Hospital was established in 1987 and has been advancing the health of children in South Carolina and beyond. To enhance this fact, we are pleased to provide an update to the well-established Children’s Hospital logo. You will note the change in name from Children’s Hospital to The Children’s Hospital of South Carolina.

We wanted to reflect the impact that the Children’s Hospital’s dedicated team has had on South Carolina’s children by providing an environment that supports excellence in pediatric patient care, education and research. Our focus is on providing excellence in pediatric care from the tiniest of newborns to teenagers. Every team member is 100% dedicated to providing the most advanced care possible for children.
IMPLEMENTING MILESTONES

“In preparation for the Next Accreditation System (NAS), specialty groups developed outcomes-based milestones for resident performance within the six domains of clinical competence. The milestones are competency-based developmental outcome expectations that can be demonstrated progressively by residents and fellows from the beginning of their education through graduation to the unsupervised practice of their specialty. Each specialty’s Milestone Working Group was co-convened by the ACGME and relevant American Board of Medical Specialties (ABMS) specialty board, and was composed of ABMS specialty board representatives, program director association members, specialty college members, ACGME Review Committee members, residents, and others. Residents’ performance on milestones will become a source of specialty-specific normative data for the specialty Review Committees to use in assessing the quality of residency programs, and facilitating improvements to program curriculum and resident performance if and when needed. The milestones will also be used by the ACGME to demonstrate accountability of the effectiveness of graduate medical education within ACGME-accredited programs in meeting the needs of the public.”(http://www.acgme-nas.org/milestones.html)

Implementing the milestones will cause a change in the way that resident evaluations appear. For example, a proficient physician performs independently and implies that the resident does not require attending supervision and is ready to leave residency. The low-score notifications for our residents have been disabled in order for faculty to evaluate appropriately, without a lower score being assumed as negative. With the new milestones, residents will have specific expectations, areas of improvement identified, more defined feedback, and earlier identification of problem areas.
The ABA requires each residency program to submit an Evaluation of Clinical Competence in January and July for every anesthesiology resident. Our department’s CCC meets on a quarterly basis to review rotation evaluations, 360 evaluations, peer review evaluations, test scores, complaint and complementary letters, disciplinary actions and attendance records to evaluate resident performance. Committee members are selected to represent all subspecialty areas and target faculty who are objective, experienced, and fair in their evaluations of resident performance. The resident’s evaluation is thereby made objective as possible and provides feedback and mentorship to the resident in the ACGME competency areas. The CCC will become even more important with the implementation of the ACGME milestones evaluation project.

Dr. Scott Walton has served as Chair of the CCC since 2001. He is stepping down from that position to concentrate on his pediatric leadership role. The department has been well served by his many years of steady guidance of the committee.

Effective immediately, Dr. Latha Hebbar will be the new chairwoman of the committee with Dr. Eric Nelson serving as vice-chair. The combined fresh perspectives of these two departmental role models and leaders will be required to remold the CCC workflow to match the ACGME milestones evaluation methodology.

ABA Requirements
- CCC should include membership reflecting the composition of the department, clinical rotation sites, etc.
- Program Director/Department Chair must not chair the Clinical Competence Committee. (ABA rule)
- The recommendations of the CCC (in conjunction with other evaluations) must be taken into account in assessing admission qualifications for the board examination process.

Responsibilities
- Complete the Clinical Competence Committee Report every six months as required by the ABA.
- Develop and manage systems for evaluation of residents from multiple sources (e.g., faculty, peers, patients, self, other professional staff).
- Manage a faculty advisor system to provide resident mentorship and feedback about performance at least semi-annually.
PERIPHERAL NERVE BLOCKS BROCHURE

Pain control after surgery

After surgery nearly everyone has pain. This is called acute pain and will naturally decrease as the body heals. Controlling pain is a team effort. At MUSC, the Department of Anesthesiology and Perioperative Medicine has a special team of doctors who make up the Regional Anesthesia Pain Service (RAPS). Your surgeon may request RAPS to use advanced techniques to effectively help with your postoperative pain.

Do I need a nerve block?

That is entirely up to you. The RAPS team will offer a nerve block at the request of a surgeon, anesthesiologist, or patient. Each patient will be visited and evaluated on an individual basis.

Peripheral Nerve Blocks

What is a peripheral nerve block? Numbing medicine (local anesthetic) is placed near a nerve to decrease pain after surgery. The nerve that is numbed depends on the type of surgery that you are having.

How is a peripheral nerve block placed? After an intravenous (IV) line is started, a few needles will be placed and you will be provided with oxygen and mild sedation for your comfort. The numbing medicine is placed below the skin with the aid of an ultrasound and/or nerve stimulator. Both of these technologies help to make sure that the numbing medicine will be close enough to the nerve to numb the correct area of the body.

What are the risks? All of the risks are very rare but include infection, bleeding, incomplete block, reaction to the medication, and damage to nerves. With certain blocks, there is a risk of lung puncture as well.

How should I expect to feel? Numbness may last 0-24 hours depending on the type of nerve block and numbing medicine. You may experience weakness or be unable to move the numb extremity during this time. A "pins & needles" sensation may occur and is normal. This often occurs as the nerve block is wearing off.

How do I care for the numb area? Be careful if preparing hot towels or drinks and prevent spills to the numb area. Be careful if applying heat or cold to the affected extremity as decreased sensation could lead to injury. If the lower extremity is affected, always have assistance for getting up or walking. Keep pressure or restrictive clothing away from the affected extremity. Use pillows for support, and avoid falling asleep on the numb extremity. Use split splints or devices ordered by your surgeon and check pressure points for redness or irritation as you may not feel this due to decreased sensation.

Could I still have pain after the nerve block? Yes. A nerve block does not guarantee that you won't have any pain. Everyone's nerves do not function the same pathways and sometimes surgeries are more involved than initially intended. Your surgeon will prescribe pain pills to take to help with additional pain.

How do I manage my pain? Fill your pain medicine prescriptions on your way home from the hospital whether or not you have pain at that time. Take the prescribed pain medicine before going to bed for the night or if you feel your pain increasing.

What are side effects? These include breathing from the injection site and numbness lasting longer than 48 hours. If you experience numbness around the lips or tongue, metallic taste in the mouth, visual disturbances, or ringing in the ears, notify your doctor immediately or call the hospital operator (843) 792-3232 to reach the RAPS attending anesthesiologist on call. Call 911 for any emergency situation.

Continuous Nerve Block Catheters

What is a continuous nerve block catheter? Numbing medicine (local anesthetic) may be given as a single injection or as a continuous infusion. A tiny tube (about the size of fishing line) is placed below the skin near a nerve. This is later connected to an infusion pump set to deliver a specific dose of local anesthetic continuously.

How long will I have the continuous block? 2-3 days depending on the type of surgery.

How is the catheter removed? The tube is removed (the most uncomfortable part) and the catheter will come out (relatively painless).

What if I have pain after the catheter is removed? Your doctor will prescribe pain pills to take to help with additional pain.

Joint Replacement Goals

The goals of our service for patients having a total joint replacement are to (1) improve and expedite ambulation and (2) improve range of motion while decreasing pain. Unfortunately, a completely numb extremity may not allow you to actively participate in your therapy. Therefore, our overall goal is to improve your comfort without impeding your therapy.
GRAND ROUNDS FOR THE MONTH OF AUGUST

“Update on Preoperative Testing”
August 6, 2013
Tod Brown, MD
Medical University of South Carolina
Assistant Professor

“Anesthesia Medically Challenging Case Conference”
August 13, 2013
George Guldan, MD and Ryan Gunselman, MD
Medical University of South Carolina
Assistant Professors

“Update on Common Situations Encountered in the Holding Area”
August 20, 2013
Greg Schneppeker, MD
Medical University of South Carolina
Assistant Professor

“Goal-Directed Therapy, Are We on Target”
August 27, 2013
Will Hand, MD
Medical University of South Carolina
Assistant Professor
Don’t forget to nominate your co-workers for ‘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 Crisp. Thanks so much!!

Holiday Party: December 7, 2013  
Location: Carolina Yacht Club.

**Sleepy Times**

**August 2013**

**Standard of the Month**

Be receptive to constructive criticism.

**We Would Love to Hear From You!**

If you have ideas or would like to contribute to *Sleepy Times*, the deadline for the September edition will be August 23, 2013.

I HUNG THE MOON

Don’t forget to nominate your co-workers for ‘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 Crisp. Thanks so much!!