**Why:** Early goal-directed therapy (EGDT) is an important component of initial management of severe sepsis and septic shock. The Surviving Sepsis Campaign (SSC) guidelines recommend a protocolized approach for resuscitation of the septic patient in order to attain certain physiologic goals within the first 6 hours. These recommendations are based on the landmark EGDT trial conducted by Rivers and colleagues in 2001. The focus of this single-center trial was optimization of tissue oxygen delivery within the first 6 hours of sepsis recognition by following central venous pressure (CVP), mean arterial pressure (MAP) and central venous oxygen saturation (SCVO2) to guide management. The authors found a reduction in mortality in the EGDT group when compared to standard therapy (30.5% vs 46.5%, p=0.009). Despite this positive outcome EGDT has not been universally adopted due to concerns with generalizability and protocol feasibility. Recently, three multicenter trials were conducted to address these concerns. In 2014, the results of the first two trials, Protocolized Care for Early Septic Shock (ProCESS), and Australasian Resuscitation in Sepsis Evaluation (ARISE) trial revealed that there was no difference in all-cause mortality between EGDT and usual care. The purpose of the third trial, Protocolised Management in Sepsis (ProMISE) was to determine whether the EGDT protocol was superior to usual care based on clinical and cost-effectiveness measures.

(continued on Page 2)
HOW: ProMISE was a pragmatic, open, multicenter, parallel-group, randomized controlled trial conducted in 56 hospitals in England where routine use of EGDT did not occur. Inclusion criteria consisted of adults >18 years who had a known or suspected infection within 6 hours after presenting to the ED, two or more Systemic Inflammatory Response Syndrome (SIRS) criteria, and either refractory hypotension (systolic BP <90 mm Hg or MAP <65 mm Hg despite at least 1 liter of intravenous fluids (IVF) given within 1 hour) or hyperlactatemia >4 mmol/L. Exclusion criteria included patients < 18 years old, known pregnancy, primary diagnosis such as acute coronary syndrome or pulmonary edema, seizure, drug overdose, do-not-attempt resuscitation (DNAR) order, hemodynamic instability due to gastrointestinal hemorrhage, requirement for immediate surgery, history of AIDS, and contraindication to central venous catheterization or blood transfusion. Patients were randomized within 2 hours of meeting inclusion criteria to either EGDT group or usual-care group. The usual care group received treatment at the discretion of the treating clinician whereas the resuscitation protocol was initiated in the EGDT group for 6 hours following randomization. Patients in the EGDT therapy received a central venous catheter for continuous SCVO2 monitoring. Of note blinding to study group assignments was not possible.

Results: There were 1260 patients enrolled in the study with 630 assigned in the EGDT group and 630 in the usual care group. However, due to study withdrawal and ineligibility, 1243 patients remained (623 in EGDT group and 620 in usual-care group) for analysis of outcomes. Baseline characteristics were similar between groups including IVF volumes before randomization, median times to randomization, APACHE II score, and site of infection (mostly lung infection). Interestingly, all patients received antibiotics prior to randomization. Mortality at 90 days was not significantly different between groups (29.5% vs. 29.2%) with a relative risk in the EGDT group of 1.01 (95% CI, 0.85 to 1.20, p=0.90). After adjusting for baseline characteristics the odds ratio was 0.95 (95% CI, 0.74 to 1.24; p=0.73). For secondary outcomes, there were significant differences between EGDT and usual care related to SOFA scores at 6 hours (6.4 vs 5.6; p = <0.001), receipt of advanced cardiovascular support (37.0% vs 30.9%; p=0.026), and length of ICU stay (2.6 days vs 2.2 days; 0.005). There were no differences in other secondary outcomes. Additionally, the EGDT group received more IVF, vasopressors, dobutamine, and red-cell transfusions, and were more likely to be admitted to the ICU (88.2% vs 74.6%). Average cost was also higher in the EGDT group ($17,647 vs $16,239; p=0.26) and probability of EGDT being cost effective was below 20%.

Impact: While EGDT is considered standard of care for management of severe sepsis and septic shock, the results of more recent studies (ProCESS and ARISE) call into question this recommendation. In contrast to the Rivers study, patients in both the EGDT and usual care groups in ProCESS and ARISE were identified early and received IVF and antibiotics early. Therefore, there was little impact on mortality between groups (ProCESS: 18.2% vs 21%; p=0.83 and ARISE: 18.6% vs 18.8%; p=0.90) in comparison to the Rivers study (31% vs 47%; p=0.009). Similarly in the newest study ProMISE, patients
The Southeast Chapter of the SCCM has been ‘Growing Like a Weed’

The Southeast chapter has been very active recruiting new members, as membership has grown approximately 400% since the revival of the chapter back in 2012!

Currently we have 375 members which span across 21 states and 2 countries.

The majority of our members are from GA (~45%), followed by TN (~23%), and AL (~8%).

Our members comprise more than 10 different disciplines, with the majority being physicians, pharmacists, and nurses (49%, 21%, and 17%, respectively).

Due to the expansion of programming outside of Atlanta, our remote chapters have also grown by ‘leaps and bounds’. There are 87 members in the Memphis chapter, and 39 in the Birmingham chapter.

We hope to continue growing our chapter in this manner by offering webcasts and live programming throughout the Southeast.

If you are interested in growing our chapter in your area, please let us know!

Remember that in-training clinicians can join for FREE, with proof of training program.

Please spread the word about this awesome chapter so that we can all come together, do great things, and provide the best care for our patients.
Trial of Early, Goal-Directed Resuscitation for Septic Shock
Naureen Lalani, PharmD Candidate 2016 (continued from Page 2)

presented to the emergency department with early signs of sepsis and septic shock and were randomized to EGDT or usual care. The study was un-blinded; however risk of bias was reduced through a central randomization process. All patients received IVF and antibiotics early regardless of treatment group and there was no difference in mortality. Mortality was 29% as opposed to the predicted 40% used to determine the study’s power so small differences between groups cannot be excluded. However, mortality rates in all three studies were lower than the Rivers study. This may be a reflection of the overall paradigm shift in initial management of sepsis, which favors early identification and management. In clinical situations where mortality rates are higher, these results may not be applicable. Additionally a significant portion of patients in the usual care group received arterial catheters (62.2%), CVCs (50.9%), and vasopressors (46.6%) indicating that components of EGDT were utilized. However, very few patients received SCVO2 monitoring (0.3%) in the usual care group as compared to the EGDT group (87.3%) implying that this is likely an unnecessary component of management. The ProMISE study completed the planned trio of studies comparing EGDT to usual care. All of which revealed no difference between EGDT and usual care when septic patients are identified and managed early. In all three studies, SCVO2 monitoring was shown be an unessential component of early management of severe sepsis and septic shock.

References:

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Support the Southeast Chapter of the Society of Critical Care Medicine by shopping at www.smile.amazon.com instead of amazon.com. Select the Southeast Chapter as your charity, and every time you make a purchase using smile.amazon.com, Amazon donates a portion of the purchase price to our local chapter. Merchandise prices are exactly the same as on the regular website with your regular amazon account. We hope you will consider Amazon Smile for your next Amazon purchase.
APRIL Meeting In Review
Topic: Updates in Extracorporeal Membrane Oxygenation
https://www.youtube.com/watch?v=U_cexAKpzY8

The Southeast Chapter of the Society of Critical Care Medicine was honored to have Dr. James Blum present in our monthly meeting about extracorporeal membrane oxygenation (ECMO). Dr. Blum is currently Chief of Critical Care Medicine and Surgical Specialty Anesthesiology at the Emory School of Medicine. During the meeting, he reviewed the variety of indications for ECMO, the technical components of ECMO machinery including supportive systems such as continuous renal replacement therapy (CRRT), as well as the commonly seen complications of this therapy.

The primary purpose of ECMO is to provide circulatory and ventilatory support for a patient suffering from a life-threatening but theoretically reversible disease state. Examples include acute respiratory distress syndrome (ARDS) or cardiac failure. Additionally, ECMO can serve as a bridge to destination therapy, such as lung transplantation. An important note is that ECMO is supportive care only and is not curative, so the discussion of key contraindications was helpful. He further discussed complications associated with the use of ECMO, most notably including bleeding and coagulopathies. If you missed this excellent presentation, you have another chance to view it here: https://www.youtube.com/watch?v=U_cexAKpzY8

JUNE Meeting In Review
Topic: The Critical Care Aspects Of Organ Donation
https://youtube.com/watch?v=2X2kODYYeDY

Over the last few decades, awareness has dramatically increased regarding the controversial topic of organ donation in the setting of brain death. The Southeaster chapter of SCCM was privileged to host Dr. Anuradha Subramanian, Medical Director of the Surgical ICU at Grady Memorial Hospital and faculty with the Emory School of Medicine. She discussed the role of critical care practitioners in the process of organ donation specifically with regard to the early identification of clinical triggers needed to initiate early organ donation referrals and in providing proper family support. She reviewed the prerequisites for brain death testing and methods for performing brain death examinations in patients with specific conditions such as cerebral hemorrhage or near drowning. Definitions for brain death and circulatory death were discussed, focusing on the criteria required to meet each type of organ donation. Further, she discussed the use of steroids and hormonal therapy during catastrophic brain injuries. If you missed this intriguing presentation, you have another chance to view it here: https://www.youtube.com/watch?v=2X2kODYYeDY
The Southeast Chapter of the Society of Critical Care Medicine proudly presents a bi-monthly lecture and discussion on

“Post-Intensive Care Syndrome (PICS): Strategies to Meet the Needs of the Patient During and After Critical Illness.”

Physician, nursing, pharmacist and dietitian CE/CME credits will be provided.

Special Guests - Live at the Memphis Location
from Vanderbilt University Hospital in Nashville, TN
Delirium and Cognitive Impairment Study Group

James Jackson, Psy.D.
Assistant Professor of Medicine

Joanna L. Stollings, PharmD, BCPS
MICU Clinical Pharmacy Specialist

Aimee Hoskins, BSN, RN
Research Nurse Specialist III

Thursday, October 22, 2015 | 4:30 – 6:30 P.M. CST
Baptist Memorial Hospital | 6019 Walnut Grove Road, Memphis, TN 38120
Location: Garrett Auditorium (Park in the Hospital Parking Garage)

Dinner | Networking | Exhibitors Booths 4:30 – 5:00 P.M.
Keynote Speakers Presentation/Discussion 5:00 – 6:00 P.M.
Q&A | Raffle Announcement | Closing 6:00 – 6:30 P.M.

Registration is required for dinner. This event is not commercially sponsored. Register today.
Live web cast will be available for remote participation. Register at the website listed for your area.

Chattanooga Location: http://tinyurl.com/sesccmchattanooga10-22-2015
Atlanta Location: http://tinyurl.com/sesccmatlanta10-22-2015
Critical Care Awareness and Recognition Month was celebrated by the Southeast Chapter in both Atlanta and Memphis this year. Intensive care units throughout the metro Atlanta area at Emory Midtown Hospital, Emory University Hospital, Grady Memorial Hospital, and Northside Hospital campuses celebrated by sharing what “Right Care, Right Now” meant to them on large banners. On May 15, 2015, we turned these ICUs blue by sharing blueberry bagels and badge holders for Critical Care Awareness and Recognition Day. On May 27, 2015, we hosted a member social at Eclipse di Luna where numerous disciplines from area hospitals met to network and celebrate Critical Care Awareness Month. Memphis hosted a happy hour at Local Gastropub and was attended by various disciplines representing hospitals in the greater Memphis area. We look forward to increasing our Critical Awareness Month celebrations to our new remote sites next year!
SAVE THE DATE!
Thursday, December 10, 2015
The Southeast Chapter of the Society of Critical Care Medicine
Bi-Monthly Lecture and Discussion
Grady Memorial Hospital, Atlanta, GA
Details will be provided in the near future.

Streaming Live!
The Southeast Chapter is streaming live broadcasts of the bimonthly meetings and lectures via webcast.

Reminder:
CE/CMEs Now Offered!
Great news! CE/CMEs now offered at meetings for RDs, PharmDs, RNs and MDs. Education hours can also be earned by watching the Webinar live.

Web link for April/June Presentations:
https://www.youtube.com/watch?v=U_cexAKpqY8
https://youtube.com/watch?v=2X2kODYYeDY

Thank You to Our Dedicated Supporters
April Meeting

Thank You to Our Dedicated Supporters
June Meeting

Southeast Chapter Member Benefits

∞ Bimonthly Educational Meetings with Renowned Speakers

∞ Triannual Newsletters with Chapter Updates

∞ Continuing Education Credits and Contact Hours

∞ Research Opportunities and Research Mentorship

∞ Mentors To Help Guide Your Professional Journey

∞ Networking with Fellow Healthcare Professionals of All Disciplines

∞ Exciting and Cutting Edge Conferences

∞ Community Outreach Activities

∞ Leadership Experiences

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