SOUTHEAST CHAPTER UPDATE

TRIANNUAL NEWSLETTER | EDITION 29 | SUMMER 2022

OCTOBER 2021 Meeting In Review

TOPIC: Driving Pressure in ARDS: Strategies and Next Steps

By Ellen Huang, PharmD, BCCCP

Matt Siuba, DO
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Associate Program Director, Critical Care Medicine Fellowship
Senior Editor, Airway and Mechanical Ventilation, Critical Care Now, and Zentensivist.com

At the October 10, 2021 meeting, Dr. Siuba presented on the utility and significance of driving pressure (ΔP) in acute respiratory distress syndrome (ARDS). Traditionally, lung protective ventilation in ARDS involves utilizing low tidal volume and higher positive end expiratory pressure (PEEP) strategies to oxygenate and reduce the risk of ventilator associated lung injury (VILI). Dr. Siuba introduced the concept of using driving pressure, defined as the plateau pressure minus the PEEP as a potential prognostic variable in ARDS. Driving pressure is directly related to the static respiratory compliance of the lungs in that as compliance goes down, the ΔP is expected to increase. A 2015 retrospective mediation analysis of ARDS studies found that there was a strong correlation with increased driving pressure and increased mortality and that 75% of benefit in low tidal volume trials and 45% of the benefits in the PEEP trials came from the reduction of driving pressure. In another study of COVID-19 ARDS patients, an increase in driving pressure was associated with 46% higher risk of mortality. Even among non ARDS patients, higher driving pressure has been shown to be associated with increased risk of developing ARDS.

While retrospective in nature, there is a growing body of evidence that indicates increased driving pressure is associated with worse outcomes in mechanically ventilated patients with or without ARDS. Dr. Siuba then discussed the value of using driving pressure to drive therapeutic interventions. The driving pressure can be manipulated by changing the PEEP, the tidal volume, or proning. He argues that based on historical ARDS trials, therapies that may improve oxygenation such as pulmonary vasodilators or higher tidal volume have not improved mortality, and these interventions may lead to further harm. This is because it is lung protective ventilation, and not improved oxygenation that truly decrease mortality risk. By focusing on reducing driving pressures, this potentially shifts the focus from oxygenation targets such as a PaO2/FiO2 ratio to a lung protective target such as driving pressure. He cites several studies that indicate low tidal volume ventilation reduces mortality only if patients are also in a higher lung compliance state and that low tidal volume ventilation benefit is not correlated to the change in the PaO2/FiO2 ratio.

Currently, no high quality trials exist to answer the question of if and how driving pressures can be a therapeutic

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target. Several studies evaluating methods to incorporate lung protective ventilation strategies such as extracorporeal CO2 removal with low tidal volume or PEEP titration have yielded negative results indicating more work needs to be done on how to incorporate this concept in ARDS care. He concluded his presentation summarizing driving pressure as an important prognostic variable and potentially safety marker that intensivists should pay attention to in the care of the ARDS patient.

To watch the full video presentation, please CLICK HERE.

MARCH 2022 Meeting In Review

TOPIC: Forging A Path Towards Health Equality In Critical Care Medicine

By Lindsey Lindsey, PharmD

John Allen, PharmD, BCPS, BCCCP, FCCM, FCCP

Clinical Associate Professor, Associate Dean for Diversity, Inclusion and Health Equity

College of Pharmacy, University of Florida

On March 3, 2022, Dr. John M. Allen spoke on "Forging a Path Towards Health Equality in Critical Care Medicine". Dr. Allen began with defining health equality as providing everyone with fair and just opportunity to be as healthy as possible. He highlighted that health inequity is not new; however COVID-19 shed light and exposed long-standing inequities that have systematically affected the health of racial/ethnic minority populations. An important distinction between health disparities and inequalities was made, health disparities being differences in health status and mortality rates that often affect socially disadvantaged groups whereas health inequalities are the differences in health status and mortality rated affecting socially disadvantaged groups that are systemic, avoidable, unfair and unjust. Dr. Allen emphasized that health inequalities are present during all stages and various levels of critical illness from disease incidence to clinical presentation, clinical management and outcomes.

During the COVID-19 pandemic, racial and ethnic groups had higher rates of COVID-19 acquisition as hospitalizations. With the development of COVID-19 vaccinations, the disparities persisted highlighting the importance of improving access and trust in vaccinations among these populations. COVID-19 was used as the backdrop to illustrate disparities in clinical presentation stemming from access to care and preventative services as well as poorly managed chronic comorbid conditions. It is imperative that policies address shortages and supplies to low-income communities. Disparities in clinical management are driven by healthcare delivery, patient's socioeconomic status and access to care, as well as differences in preferences for care. Disparities in outcomes are impacted by genetic susceptibility as well as the aforementioned disparities in clinical management.

Dr. Allen addressed how to move forward towards health equity. He noted that many of the driving factors of health disparities overlap and have multiple levels of influence from community, healthcare and individual based. Promoting health equity has shown to improve health outcomes, quality of care, patient satisfaction and reduce healthcare cost. He noted the need for further research in critical care racial disparities to discern the mechanism and impact of intervention. He also stressed the need for better understanding of how patients' families are impacted during an ICU stay and how race affects those experiences. Informed education for the medical team can help healthcare professionals lead culturally and racially sensitive goals of care discussions with the families as well as encourage family participation and facilitate post ICU care for ICU survivors. Lastly, Dr. Allen stressed the importance of looking beyond the critical care medicine lens and examining upstream factors including, but not limited to, social and institutional inequities, and addressing those through policy work, strategic partnerships, advocacy, and community capacity building to best position patients of disadvantaged backgrounds for adequate health education and access to care.

To watch the full presentation, please CLICK HERE.

BITE-SIZED LECTURE SERIES HELD APRIL 2022

TOPIC: Pause Before You Push: Micro Dose Pressors in the Emergency Department

PRESENTERS: Matthew DeLaney, MD, FACEP, FAAEM; Trent Trammel, BSN, RN, TCRN; and Emily Green, Pharm.D., MSHS, BCCCP, University of Alabama at Birmingham

By Mohamud Ali Pharm.D. and Duaa Herraka Pharm.D., Mercer University College of Pharmacy

Traditionally, anesthesiologists have utilized micro-dose vasopressors for post-spinal anesthesia hypotension. In the emergency department (ED), the practice of micro-dose vasopressors is growing in popularity to maintain hemodynamic stability. Despite the increased popularity, limited information about the efficacy and safety of this practice is available. The presenters provided a brief history of emergency care literature and specifically discussed a few studies covering this subject.

1. **Panchal AR, Satyanarayan A, Bahadir JD, et al. Efficacy of bolus-dose phenylephrine for peri-intubation hypotension. J Emerg Med.** *2015;49(4):488-494.*

This study described a retrospective chart review of patients with peri-intubation hypotension. The population consisted of 20 patients who experienced hypotension within 30 minutes after intubation. Every patient received a "push-dose" of phenylephrine. On average, the patients' systolic blood pressure (SBP) improved from 73 to 93 mmHg and diastolic blood pressure (DBP) improved from 42 to 52 mmHg with no appreciable changes in heart rate.

2. **Gottlieb M. Bolus dose of epinephrine for refractory post-arrest hypotension. CJEM.** *2018;20(S2):S9-S13.*

Gottlieb et al. reported a case series with 3 patients for refractory hypotension post-cardiac arrest. Participants with hypotension refractory to intravenous fluids received epinephrine 10 mcg every 1 to 2 minutes for 8 to 12 doses. Although blood pressures improved, the patients required use of epinephrine infusions as well.

3. **Schwartz MB, Ferreira JA, Aaronson PM. The impact of push-dose phenylephrine use on subsequent preload expansion in the ED setting. Am J Emerg Med.** *2016;34(12):2419-2422.*

Schwartz et al. reported a retrospective chart review. Participants received push dose phenylephrine of 100 to 200 mcg for septic shock for peri-intubation hypotension. Approximately 53% of patients received multiple doses, 47% of patients required vasopressor infusions as well, and 21% of patients experienced an adverse event consisting of either bradycardia, hypertension, or ventricular arrhythmia.

4. **Rotando A, Picard L, Delibert S, et al. Push dose pressors: Experience in critically ill patients outside of the operating room. Am J Emerg Med.** *2019;37(3):494-498.*

Rotando et al. published a retrospective study of 146 patients in different ICUs (SICU, MICU and Neuro ICU) who received IV push dose vasopressors (either phenylephrine 50-200mcg per dose or ephedrine 5-25mg per dose) for peri-intubation hypotension or transient hypotension. The mean doses administered were phenylephrine 147 mcg or ephedrine 14.2 mg. Systolic blood pressure improved by 32.5%, while diastolic blood pressure improved by 27.2%. Only 28% of patients needed ongoing vasopressor infusions. There was an adverse event rate of 11.6% and 11.2% of medication dosing errors, mostly related to receiving higher doses than recommended.

5. **Cole JB, Knack SK, Karl ER, et al. Human errors and adverse hemodynamic events related to "Push Dose Pressors" in the emergency department. J Med Toxicol.** *2019;15(4):276-286.*

Cole et al. published a structured video and chart review of 249 patients who received push dose vasopressors (phenylephrine or epinephrine) during resuscitation from 2010-2017. Median doses used included phenylephrine 100mcg and epinephrine 20mcg . Approximately 39% of patients experienced an adverse hemodynamic event and human errors were observed in 19% of patients. There were 7 dosing errors that all involved administering a higher than intended dose.

Important safety implications of micro dose vasopressors administered as IV push include the unavailability of some of these products commercially, requiring the pharmacist or nurse to perform bedside dilutions and draw up the "correct" dose for administration. Completing these dilutions at the bedside in the stressful, busy ED environment without clear preparation instructions or agreed upon concentrations or doses can lead to a number of errors as pointed out by the nurse speaker. Additionally, miscommunication regarding the intended vasopressor or intended dose can lead to medication errors.

The pharmacist mentioned that improper naming may also contribute to the confusion. Strategies to mitigate errors include adopting the term "micro-dose" instead of "push-dose". Another strategy is to implement simulation exercises. This type of practice could educate and train healthcare professionals to prepare and administer micro-dose vasopressors during urgent patient situations.

Click HERE to watch the full video: *Pause Before You Push Micro Dose Pressors in the ED.*

May is National Critical Care Awareness and Recognition Month (NCCARM)

On Friday, May 20, 2022, the critical care community celebrated Turn Your ICU Blue Day. The Southeast Chapter of SCCM supported a number of hospitals in the Southeast Region to celebrate their ICU teams through treats and fun decorations.





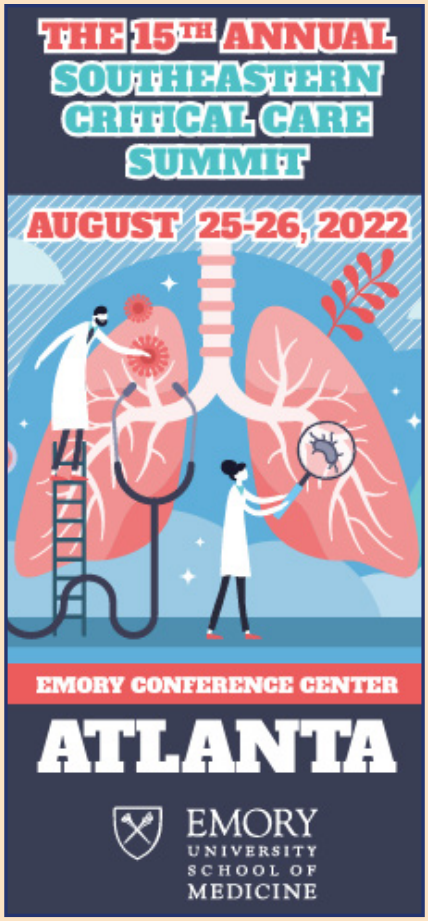

IN CASE YOU MISSED IT - The 15th Annual Southeastern Critical Care Summit

Critical care is one of the most rapidly advancing areas of evidence-based medicine, and also a resource-intensive service where variations in the quality of care contribute to suboptimal patient outcomes and greater costs.

This year, the 15th Annual Southeastern Critical Care Summit was held on August 25 - 26, in the Emory Conference Center in Atlanta, Georgia. This annual summit provides targeted education for common critical care conditions and procedures to multi-professional healthcare stakeholders. The program uses interactive and case-based lectures from content experts across all disciplines (physicians, nurses, NP and PA providers, pharmacists and respiratory therapy personnel as well as administrators), as well as hands-on teaching in breakout sessions. Topics included roundtable discussions with stakeholders and break-out sessions, which can also be beneficial for small-group discussions, teaching and procedural education.

For 2022, the summit included a one-day advanced practice provider (APP) program, with topics such as neurological emergencies, ARDS, arrhythmias, advances in extracorporeal liver support, antibiotics, imaging and more.

Stay tuned for information on next year's summit, and for more information on upcoming critical care events, please click HERE.



September Is Sepsis Awareness Month

This September, will you join us? In 2011, Sepsis Alliance designated September as Sepsis Awareness Month. Every September since, we've invited individuals, healthcare professionals in every area of medicine, and organizations big and small to help save lives by raising awareness of the leading cause of death in U.S. hospitals – sepsis. For more information, please click HERE.

Get Your Sepsis Awareness Month Toolkit Today!
Click HERE to access the Sepsis Awareness Month toolkit! This toolkit includes resources for patients, key messages, digital tools, infographics, ideas to engage your community, coworkers, and more.

Sepsis Superhero Challenge + Tag the Chapter in Your Activities

Join advocates around the globe for the 6th annual Sepsis Superhero Challenge! Run, walk, swim, dance, or do any other activity for a mile in September, which is Sepsis Awareness Month. The Sepsis Superhero Challenge is an opportunity for advocates from around the globe to come together during the entire month of September to raise sepsis awareness and honor those affected by sepsis. Participants can complete one mile (doing an activity of their choosing) in a team or alone. Tag the Southeast Chapter in your posts and pictures on Social Media (Twitter and Instagram @SCCMSE).

Spike Out Sepsis is Back!

After a brief hiatus, we are excited to announce that our annual fundraiser benefiting the Sepsis Alliance will be back in full swing this October!

Spike Out Sepsis is a unique 6-on-6 sand volleyball tournament designed to raise awareness and funds for Sepsis Alliance.

Spike Out Sepsis is hosted by the Southeast Chapter of the Society of Critical Care Medicine in beautiful Chattanooga, TN. We are looking forward to seeing you there. Registration is open until Wednesday, September 14. To sign up your team or to join an existing team, click HERE.

Unable to attend? You can still support the Chapter's endeavors in raising money for Sepsis Alliance or support your favorite team by directly donating to their team.

CHAPTER EVENTS

Southeast Chapter of the Society of Critical Care Medicine proudly presents a quarterly lecture and discussion on

"Challenges and Management of Critically Ill Patients Boarding in the Emergency Dept."

VIRTUAL ONLINE PRESENTATION

TUESDAY, OCTOBER 11, 2022

6 - 7:30 P.M. EST | 5 - 6:30 P.M. CST

SPACE IS LIMITED REGISTER TODAY!

Heatherlee Bailey, MD, FAAEM, FCCM
Emergency Medicine Intensivist
Department of Emergency Medicine
Durham VA Medical Center

COURSE OBJECTIVES:
At the conclusion of this learning activity, participants will be able to:
1. List common factors contributing to boarding of patients in the Emergency Department.
2. Articulate the morbidity risks associated with prolonged length of stay (LOS) in the Emergency Department
3. Discuss hospital based solutions that mitigate patient LOS in the Emergency Department.
4. Describe the different models of Resuscitation Care Units (RCU).

CME CREDITS WILL BE PROVIDED FOR SE SCCM MEMBERS.

Registration is required. Register Today!
https://attendee.gotowebinar.com/register/3510820216890518288

This event is not commercially sponsored.
For more information, and for future events, please visit our website
https://sccmse.org/

2023 Critical Care Congress, January 21 - 24, 2023, San Francisco, CA

The Society of Critical Care Medicine's (SCCM) 2023 Critical Care Congress is the solution for any critical care professional looking to acquire the latest knowledge and research. SCCM is a recognized leader in critical care education. The annual Congress has delivered an exceptional and comprehensive experience for over 50 years.

SCCM returns to in-person learning January 21-24, 2023, at the Moscone Center South in San Francisco, California. Network and collaborate with colleagues and critical care experts from around the world; explore the latest research, knowledge, tools, and technologies that improve patient care; and unwind, have fun, and gather with friends in the vibrant and distinctive San Francisco culture. In-person attendees gain access to Congress Digital which includes additional CE/ACE and MOC opportunities.

Can't join for the in-person experience? Congress Digital will ensure that you don't miss valuable educational content with access to more than 120 presentations focused on the latest research and hot topics. Plus, you can still earn CE/ACE credit and MOC points.

For more information and to register, please click HERE.

ANNOUNCEMENTS

New Grad Recognition

Congratulations to our Southeast Chapter of SCCM Members for completing their post-graduate training. We are so excited to have you all as colleagues!

Speaker Suggestions

Have any topics you'd like to hear more about in the future? Email our programming chair Doug Smith Jr. leland.d.smith.jr@gmail.com.

Industry Contacts

Do you know someone who would be interested in sponsoring Spike Out Sepsis or another Southeast Chapter event? Email our fundraising chairs Katleen Chester (kwyatt@gmh.edu) or Marina Rabinovich (mrabinovich@gmh.edu) for more details.

Join Us On Social Media

Follow us for Chapter updates!

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- Website: www.sccmse.org
- Instagram: @SCCMSE
- YouTube: youtube.com/c/SoutheastChapterSocietyofCriticalCareMedicine





Want To Become More Involved?

Looking to build leadership skills and connect with other professionals in the region? Get involved with our Chapter as a committee chair or as a member. For current or future members interested in joining a committee, please contact us at **communications@sccmse.org**, and let us know how you'd like to become involved or inquire about ways to remain active with the Southeast Chapter of SCCM.

Newsletter designed by JDM Graphic Designs,
E-mail: jackiemoore@bellsouth.net

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 Guide Your Professional Journey

∞ Networking with Healthcare Professionals of All Disciplines

∞ Exciting and Cutting Edge Conferences

∞ Community Outreach

∞ Leadership Opportunities