EPIC

THE MAGAZINE OF THE GEORGIA COLLEGE OF EMERGENCY PHYSICIANS

In this issue...

2022 BILL REVIEW SUMMARY

provided by Travis Lindley & Devin Krecl, Capitol Strategy Group, LLC

THE FOLLOWING NOTABLE BILLS THAT WERE PASSED IN THE RESPECTIVE CHAMBERS AND HAVE BECOME LAW. THE GOVERNORS BILL REVIEW PERIOD BEGAN TUESDAY, APRIL 5TH AND ENDED ON SUNDAY, MAY 15TH. AS A REMINDER, ALL BILLS TAKE EFFECT JULY 1ST, 2022 UNLESS OTHERWISE SPECIFIED IN THE BILL.

Fiscal Year 2023 Budget

The $30.2 billion budget funds state operations, beginning on July 1, 2022. Additional dollars for mental health services and schools were top of the list including a $2,000 pay raise for teachers.

2022 Senate Signed Legislation

GCEP Priority Legislation

• HB 1324 - Rep. Beth Camp Prudent Lay Person
Clarifies that the prudent layperson standard is not affected by the diagnoses given as it relates to insurance coverage. This legislation now includes mental health coverage.

• SB 566 - Sen. Dean Burke, MD - Surprise Billing Consumer Protection Act
Adds clarifying language to the current Surprise Billing law a medical or traumatic condition includes a mental health condition or substance use disorder in emergency medical services including post-stabilization services.

Additional House of Medicine Legislation

• SB 341 - Sen. Kay Kirkpatrick, MD - Prior Authorization
Provides guidelines for the prior authorization of a prescribed medication for chronic conditions requiring ongoing medication therapy under certain circumstances.

• SB 496 - Sen. Dean Burke, MD - Pregnant Female Death
Unattended by a Physician Seeks to require a medical examiner's inquiry after the death of a pregnant woman or a woman who was pregnant within 365 days prior to such female's death and would also define the term "unattended by a physician" for the purposes of medical examiner's inquiry as a patient who has not been seen by a physician within 180 days prior to death.

• SB 573 - Sen. Matt Brass - Surgical Smoke Evacuation Systems
Requires hospitals and ambulatory surgical centers to adopt policies to reduce exposure to surgical smoke during surgical procedures to protect patients and health care workers from the hazards of surgical smoke.

• HB 1355 - Rep. Katie Dempsey - Childhood Lead Exposure Control Act
Updates provisions to comport with nationally recognized guidelines, revise provisions relating to abatement of lead poisoning hazards, and to expand written advisement requirements.

• HB 1013 - Speaker David Ralston - Mental Health Parity and Reform
This extensive bill includes state mental health parity monitoring for private insurers, Medicaid managed care plans, and the State Health Benefit Plan, a requirement to offer mental health services by state-regulated insurance carriers. Additionally, HB 1013 would also forgive student loans for mental health providers who work in underserved areas of the state and take other steps to improve care (provisions related to workforce development, involuntary commitment, mental health and data collection).

• HB 1276 - Rep. Lee Hawkins - State Health Benefit Plan Transparency
Requires that biannual updates will be made on the Department of Community Health website about the types of providers, county level data, hospital utilization, membership enrollment, prescription drug spending data, long-term care data, and other pieces of information.
This will allow individuals to better know what is available and what are the gaps for Medicaid, PeachCare, and State Health Benefit Plan programs

• HB 1304 - Rep. Lee Hawkins - Georgia Caregivers Act
Require that hospitals provide patients the opportunity to identify lay caregivers and provide that inability to contact lay caregivers shall not affect the medical care or appropriate discharge of the patient.

Expected 2023 Legislation

We anticipate the following legislation to be introduced in the 2023 session and will be monitoring all pre-filings as we move into Summer and Fall.

- Death Certificates
- Certificate of Need
- Network Adequacy

Insurance/Billing Issues

If you experience any issues related to billing, please reach out to Devin at devin@capitolstrategy.us. Please include all pertinent details, and redacted PHI so they we can best determine the state agency to reach out to.

Government Affairs Team
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Spring 2022

THE GENFI UPDATE

What is the Pass Through Entity Level Tax?

Generational LLC
FINANCIAL PARTNERS

Federally Deducting State Taxes Via Your Entity

The Problem: the 2017 Tax Cuts and Jobs Act (TCJA) created a $10,000 federal cap placed on deducting state and local taxes (SALT).

The Solution: the pass-through entity-level tax election (PTE). This IRS workaround allows eligible pass-through entities to deduct state taxes at the entity level for federal tax purposes, while providing a credit or income exclusion to the entity owners for state income tax purposes.

Currently there are 25 states that have enacted PTE, including states like GA, NC, and AZ that have implemented it in 2022.

Basic Example:

- Independent contractor EM physician
- Income $350k paid via PLLC (taxed as an S-corp)
- State tax 5.25% = $18,375, paid by PLLC
- $18,375 deducted at federal 25% = $4,600 tax savings

Bottom Line:

Many independent contractor physicians file Schedule-C instead of utilizing an entity and running payroll. With this newly enacted PTE, it might be time to reconsider.

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EMORY UNIVERSITY SCHOOL OF MEDICINE
DEPARTMENT OF EMERGENCY MEDICINE

Before we jump into the Emory EM updates, we would like to extend a thank you and congratulations to GCEP's new EPIC Editors, Melissa Piotrowski and Brad Golden. We look forward to working with you and appreciate all you and Lauren Reagan do to help keep everyone informed.

WELCOMING THE EMORY EM RESIDENCY CLASS OF 2025

The Class of 2025 is 19 strong and outstanding. They hail from across the United States and represent a global view. We are so very proud of their accomplishments prior to coming to Emory and look forward to all they will do and become in residency.

ACGME AWARDS AND RE-ACCREDITATIONS

In 2021, Emory EM was honored to be a recipient of the inaugural Accreditation Council for Graduate Medical Education (ACGME) Diversity and Inclusion Award for residency programs. This national recognition highlights the commitment and passion the Emory Emergency Medicine team brings to equity and inclusion- cornerstones of the Department. Dr. Melissa White, Program Director of the Emory EM Residency and an alumna of the program, said, "We have consistently been able to recruit, engage, promote, and place a richly diverse residency, and while we are proud of this progress, we remain humble as we continue to listen and engage our partners to further the cause of equity and inclusion in medicine." The Morehouse School of Medicine received the related ACGME institutional award for diversity.

AGME also recently re-accredited the Residency Program and awarded re-accreditation with commendation to the EMS and Medical Toxicology Fellowships.

Of note, Emory EM's Ultrasound Fellowship Program was one of the first programs to receive formal accreditation from the Emergency Ultrasound Accreditation Council (EUFAC). Fellows graduating from the Emory EM program will now be able to train for the focused practice designation (FPD) of Advanced Emergency Medicine Ultrasound from the American Board of Emergency Medicine.

EMORY SCHOOL OF MEDICINE CHIEF DIVERSITY AND INCLUSION OFFICER

Dr. Sheryl Heron from the EM team has been named Chief Diversity and Inclusion Officer for the School of Medicine. Dean Vikas Sukhatme said, "As a leader of the SOM's diversity, equity and inclusion initiatives, Heron will drive progress toward our institutional goals by focusing on several areas, including program and policy development, awareness and education, research, and partnerships and engagement. She will also partner with our education leaders to support diversity, equity, inclusion and anti-racism efforts across pipeline programs, prospective learners and current learners in addition to faculty and staff."

WHITE HOUSE OFFICE OF PUBLIC ENGAGEMENT ROUNDTABLES

The Emory EM team is proud to have two physicians participating in White House Office of Public Engagement Roundtables:

- Dr. Jamaji Nwanaji-Enwerem, an Emory EM Residency Intern, has joined the Clinician Innovators Roundtables Series
- Dr. Monique Smith, leader of Emory EM's Health DesignED, is participating in the Leaders in Health Equity Roundtable Series

RECENT PROMOTIONS

· Drs. Nicole Franks and Ziad Kazzi will be full Professors in September 2022
· Drs. Megan Henn, Lauren Hudak, Kristen Moore, and Anna Yaffee have been promoted to Associate Professors as of September 1, 2022
· Jocelyn Montgomery is the new Chief Advanced Practice Provider of Emergency Medicine for the Emory hospitals
· Dr. Nataisia Terry recently became the Medical Director for Emory EM at Emory University Hospital Midtown

3 NEW BOARD CERTIFICATIONS

· Dr. Joe Carpenter is now triple boarded in EM, Med Tox, and Addiction Medicine! The American Board of Preventive Medicine recently announced his certification in Addiction Medicine
· Dr. Michael Carr passed ABEM's EMS board exam
· Drs. Josh Guttman, Gregg Helland, Usama Khalid, Liang Liu, Laura Oh, and Lekha Shah received ABEM's Focused Practice Designation in Advanced Emergency Medicine Ultrasonography

EDUCATION AWARD

Dr. Jeffrey Siegelman received the CORD Academy Award Distinguished Educator for Teaching and Evaluation

BOARD APPOINTMENTS

· Dr. Michelle Lall will be serving on the SAEM Board for a second 3-year term as a Member-at-Large
· Dr. Liang Liu was elected to the AEUS Board as Treasurer and will be installed at SAEM22
· Dr. Taylor Stavely was elected as AWAEM's VP of Membership
· Dr. Amy Zeidan was elected as AWAEM's VP for Communications
· Dr. Monique Smith is joining the Aspen Global Innovators Group 20022 class of the Health Communities Fellowship

2 NEW GRANTS

· Emory EM is leading a Regional Disaster Health Response System (RDHRS). The U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response (ASPR) has awarded Emory University a $3 million cooperative agreement to lead the RDHRS. The Emory-based site is the fourth site designated by ASPR to develop a regional healthcare response approach to disasters. Emory University will lead a team of collaborators from the Georgia Department of Public Health, Augusta University, and the University of Georgia for the most recently designated RDHRS. The RDHRS aims to improve medical surge and clinical specialty care – including trauma, burn, communicable diseases, radiation injury and other specialty care – during a national emergency, improve statewide and regional situational awareness, and develop metrics for the region's capabilities to save more lives. Link to Emory's News Center Story here. The news release from the U.S. Department of Health and Human Services can be found here.

2 NEW GRANTS CONT'D

· The Health Resources and Services Administration (HRSA) awarded Emory Rural Tele-EMS Network (ER-TEMS) a $1.2 million grant over four years. With this grant, Georgians in 13 rural counties who need emergency medical care will have access to Emory Emergency Medicine doctors and specialists even before they reach a local hospital. The program kicked-off in Randolph County in April 2021

INTERNATIONAL ACCOMPLISHMENTS

· Dr. Ziad Kazzi is leading the second Medical Toxicology Course for a Pakistan Indus Health EM program

· Dr. Yuko Nakajima is the newly Elected President of Doctors Without Borders (MSF) Japan. She is safely back in Tokyo after seven weeks in Mosul, Iraq. You can read the news release here

· Dr. Kazzi organized a fundraiser to support the Ukrainian people. The team raised $1030 and donations went to the International Rescue Committee

· Dr. Anna Yaffee is now working with Emory's Global Health and Equity Office as the Director of Global Health Education

THE EMORY EM TEAM HAS SO MUCH TO BE THANKFUL FOR AS WE REFLECT ON ALL THE ACCOMPLISHMENTS THE TEAM HAS WORKED HARD TO ACHIEVE EVEN IN THE MIDST OF THE PANDEMIC. WE ARE LOOKING FORWARD TO WELCOMING THE RESIDENCY INTERNS IN JULY AND ENJOYING SUMMER DAYS AND EVENTS (INCLUDING THE PEACHTREE ROAD RACE) WITH THE ENTIRE TEAM.

AN UNEXPECTED CAUSE OF ALTERED MENTAL STATUS

Heather Farthing, MD/MPH PGY-2 Emory Emergency Medicine

Introduction

During resuscitation, EM physicians can rely on the ABCDE's to guide initial management. After airway, breathing, circulation and disability have been addressed, E - for exposure - can provide crucial information to guide subsequent diagnosis and treatment, and allow for the early inclusion of subspecialists. In this case, removing the socks from a critically ill patient with acute onset of coma and shock elucidated his life-threatening diagnosis despite a broad differential.

Case Presentation

A 57-year-old previously healthy man who was last seen at baseline by family 2 hours prior to presentation arrived via flight after being found unresponsive. He was brought to the resuscitation bay with GCS of 3T, with an ETT in place and norepinephrine infusing via peripheral IV at 4 mcg/minute. No sedation had been necessary. Initial vital signs included a HR of 69, BP hypotensive at 59/45, etCO2 33, SpO2 100% on FiO2 100%, Temp 33.2'C. The patient was exposed. Initial exam noted no evidence of external trauma, bilateral breath sounds, normal heart sounds, soft abdomen, and a stable pelvis. After removing the patient's socks, a 6 cm, erythematous, foul-smelling wound overlying the right midfoot was appreciated (Figure 1). Family was reached via telephone; they stated that the patient had no medical problems. Recently, however, he had been experiencing urinary urgency to the extent that he had started using his grandmother's adult diapers. He had last been seen 2 hours prior to presentation awake, alert, oriented and at his mental status baseline. He had not been complaining of additional illness.

The differential for this patient was broad and included posterior circulation stroke and intracranial hemorrhage. In terms of rapid onset of hemodynamic compromise, we considered cardiogenic shock from large PE or ACS, distributive shock from sepsis, and vital sign derangement from ingestion. Given the wound on his foot, we were also concerned for life-threatening necrotizing soft tissue infection. Early interventions included active rewarming, 30cc/kg fluid resuscitation with LR, vancomycin, zosyn, and clindamycin for antibiotic coverage, up-titration of norepinephrine to a MAP goal of 65, and addition of fentanyl infusion for sedation. Bedside point-of-care VBG demonstrated a pH of 6.93, base excess of -20, CO2 of 14. POCT glucose was 570. Surgery was consulted prior to imaging, and CT brain, chest, abdomen, pelvis and foot/ankle were obtained with contrast. CT (Figure 2, 3) demonstrated "extensive subcutaneous gas throughout the fascial planes of the proximal left lower extremity which tracks superiorly of the gluteus muscles and the retroperitoneal compartments on the left, with gas extending to involve the posterior border of the pancreas and the pararenal space as well as mildly into the mediastinum. Gas extends superiorly along the left chest wall both anteriorly and posteriorly and into the neck. Given the extent of the gas in the lack of obvious penetrating injury, findings are highly concerning for necrotizing fasciitis." Formal labs returned with leukocytosis to 32.6 with left shift, anemia to 10.7, lactic acidosis to 7.2. Chemistry returned with hyponatremia to 126, normal potassium, Scr elevation to 2.7, anion gap of 31. Glucose returned at 620 with a beta-hydroxybutyrate of 10.6. Insulin infusion was started as these findings were consistent with DKA.

The surgical team offered operative debridement to family; however, given the extent of disease (from the foot to the base of the skull), the surgery would have been intensive and the prognosis exceedingly poor. Ultimately the family decided that surgery would not have been in keeping with the wishes of the patient but requested continued medical care. He was admitted to the medical ICU and passed away a few hours later.

Learning Points

- Expose all critically ill patients
- NSTI are rare but deadly and should be considered in cases of rapid-onset shock
- Most NSTI do not produce subcutaneous gas
- Add clindamycin to suppress M-protein production from GAS
- Some NSTI do not require an entry point and can occur at the site of a bruise

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Figures

Figure 1: image of the only appreciable wound, patient's left foot

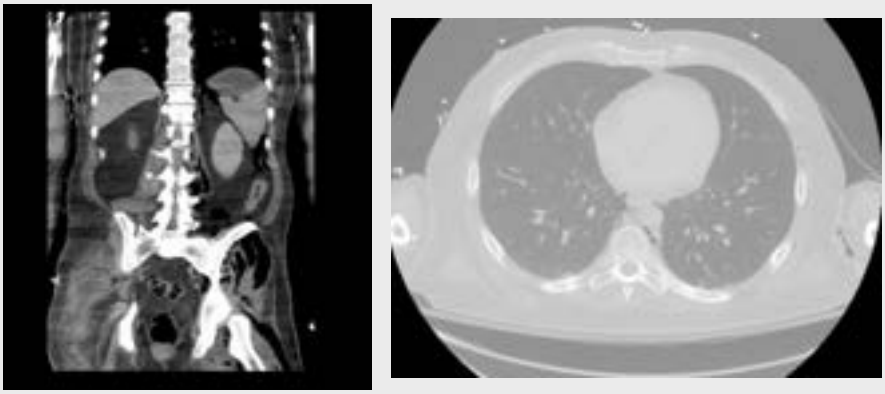


Figure 2: CT chest, abdomen and pelvis with IV contrast: Subcutaneous gas is visible (black) in the patient's left hip, tracking superiorly of the gluteus muscles and the retroperitoneal compartments on the left. It is also appreciable in the mediastinum (chest CT).

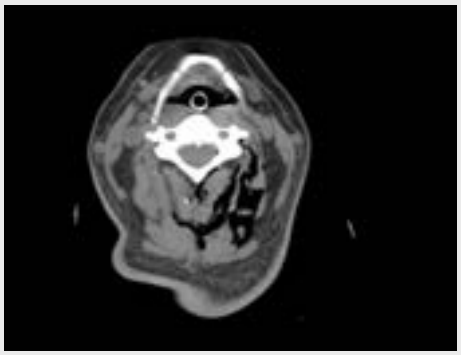
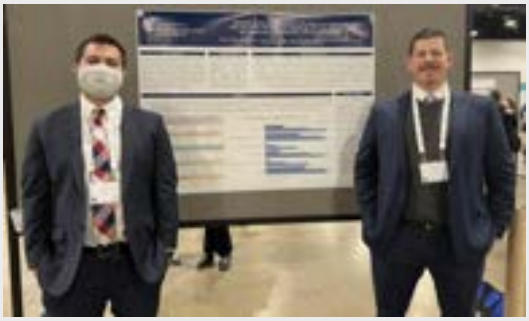


Figure 3: CT c-spine without contrast: There is extensive subcutaneous gas tracking throughout the lower chest and extending up the soft tissues of the left neck.

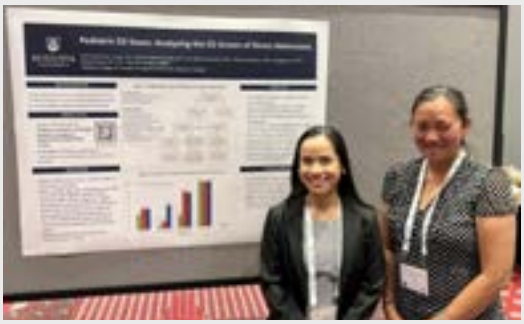
Medical College of Georgia Pediatric Emergency Medicine Fellowship Updates

Another successful MATCH in the books! We welcome Gary Prusky, pediatric resident graduate of the Medical College of Georgia and Natasha Bennett, a pediatric resident graduate of the Children's Hospital of Michigan. The fellowship is now in its 17th year. Our program accepts both emergency medicine and pediatric graduates. Unique aspects of training for our fellows include the ability, through an application process, to simultaneously complete a pediatric emergency medicine ultrasound fellowship or, a teaching fellowship if desired. Fellows get robust training in US longitudinally. They do a month rotation at the Joseph M. Still Burn center which allows exposure to very sick patients and opportunities to extend their airway management experience because of additional time with anesthesia. The academic mission for our fellows is robust and improving annually. Fellows attend the National Pediatric Emergency Medicine Fellows Conference during their first year. This is an opportunity to engage with other fellows and to receive feedback from national experts on their preliminary research projects.

Fellows have been actively engaged in research and have recently presented posters at the Pediatric Academic Societies (PAS) national meeting in Denver, Colorado during April 2022.



Andrew Pless, MCG MSII and Marcelo Lacayo- Baez, PGY6 present at the Pediatric Academic Societies National Conference in Denver, Colorado April 24, 2022, on Reunification of Displaced Children In A Disaster: Can Children Provide The Minimum Critical Identifying Information (Cii) Required For Reunification?



Fatima (Tiff) Ramirez-Cueva, PGY5 and Dr. Desiree Seeyave, faculty mentor and co-author present at Pediatric Academic Societies National Conference in Denver, Colorado April 25, 2022, on Pediatric ED Saves: Analyzing the ED Screen of Direct Admissions. This poster was additionally presented at the Academic Pediatric Association Meeting on April 22, 2022 also in Denver, Colorado.

Kelly Rummings, PGY4 and Eilan Levkowitz, PGY4 at a social gathering at the National PEM Conference April 2, 2022 held in Columbus Ohio.

The program additionally hosts a PEM interest group meeting 2-3 times a year to inform and encourage interested residents who might pursue a PEM fellowship. A recent outing found PEM faculty, fellows and interested pediatric residents enjoying PUTT PUTT at the Top Golf venue in Augusta, Georgia.

Medical College of Georgia Emergency Medicine Residency Updates

We had a fantastic 2022 match with 14 military and civilian residents from USUHS, Drexel, USC, UNC, Temple, Harvard, Lake Erie, Campbell, University of Toledo, Rocky Vista, and of course MCG. We are very excited to have them join us as they start the final stage of their medical education.

While residency is starting for one group, it is winding down for 14 graduating heroes. This group of residents was called on during their 1st year of residency to care for patients in a pandemic. They were asked to don PAPR and protective suits and enter rooms when there was little to no information about a blooming COVID virus. They've worked tirelessly to care for the Augusta's sickest COVID patients for more than 2 years. Not only were they caring for ICU patients throughout our ED and newly created ED ICU, hospital leadership's emergency COVID plan had them providing emergency night coverage for ICUs throughout AUMC. AU EM residents also participated in a critical care Telemedicine platform that assisted regional hospitals to care for the sickest populations these small hospital had ever seen. Telemedicine emergency medicine consults saved countless lives when tertiary care capacity was unavailable and gave comfort to families all over the state.

Richard B. Schwartz MD FACEP
Chairman and Professor
Department of Emergency Medicine
Medical College of Georgia at Augusta University

Pediatric Medical Facility Recognition: Improving Emergency Care for Children in Georgia

Hospital trauma, stroke, and cardiac center designation are all rigorous programs that have the capacity to change outcomes for patients in emergencies. The state of Georgia has established all three programs under the administrative direction of the Department of Public Health, Office of Emergency Medical Services and Trauma. Additionally, the Georgia Department of Public Health, Office of Women and Children oversees the designation process for hospitals providing labor and delivery services. The designation process ensures that institutions are following established standards of care designed by respective professional organizations and additional input by state professional clinical expertise. Institutions voluntarily commit to the standards and undergo an initial approved designation and routine review to ensure that they comply. They are additionally required to submit metrics on outcomes on their efforts and select patient populations. There are often tiered designations based on the capabilities of the willing participant institutions. Ultimately, the designation process helps to ensure a coordinated, timely, safe, and appropriate delivery of care for patients who may suffer from an acute traumatic, stroke, cardiac or obstetrical event.

Although the state's trauma designation system includes Children's Healthcare of Atlanta - Egleston, Children's Healthcare of Atlanta - Scottish Rite, and Children's Hospital of Georgia, there is no established designation process to date that addresses the level of care provided at institutions seeing children in an emergency setting for medical illness or other non-trauma related cases. The National Pediatric Readiness Survey of 2013 (1) revealed that trauma designation does not necessarily confer readiness for pediatric patients presenting for any type of emergency care. (2)

Georgia has five excellent pediatric designated hospitals with pediatric emergency departments that collectively see about 350,000 children annually (50-300/daily/ED). However, data from the National Pediatric Readiness Survey of 2013 has identified that about 90% of the 30 million children who seek care in emergency settings across the country are seen in emergency departments that see less than 15 patients a day. Preparedness in the form of pediatric clinical leader presence and oversight, supportive services, adequate equipment, supplies and medications, established guidelines, policies, protocols, pediatric knowledge and skills competency evaluations, pediatric disaster preparedness, pediatric safety measures, and quality assurance, is not uniformly provided in all emergency departments seeing children. The aforementioned items are linked to improved care and outcomes for children in the emergency setting and have been expertly defined as elements related to pediatric readiness (3). Those institutions with a designated pediatric physician and /or nurse clinical leader were found to be most ready.

In 2006, the Institute of Medicine report on "Emergency Care of Children: Growing Pains" identified that emergency care for children across the nation was uneven. (4) The increasing need for public sector agencies to develop performance measures to better inform and guide organizational decisions prompted the Emergency Medical Services for Children (EMSC)

program, a federally funded program in all 50 states and territories, to establish relevant performance measures. The nine most recent performance measures of 2017, include the establishment of a pediatric medical facility recognition program. Performance Measure 04 states that by 2022, 25 percent of hospitals be recognized as part of a statewide, territorial, or regional standardized program and be able to stabilize and/or manage pediatric medical emergencies. There are only 17 states with established pediatric medical facility recognition programs. Our neighboring states of Tennessee and South Carolina are among those seventeen. Literature has supported the benefits in states with pediatric medical facility recognition programs. (5)

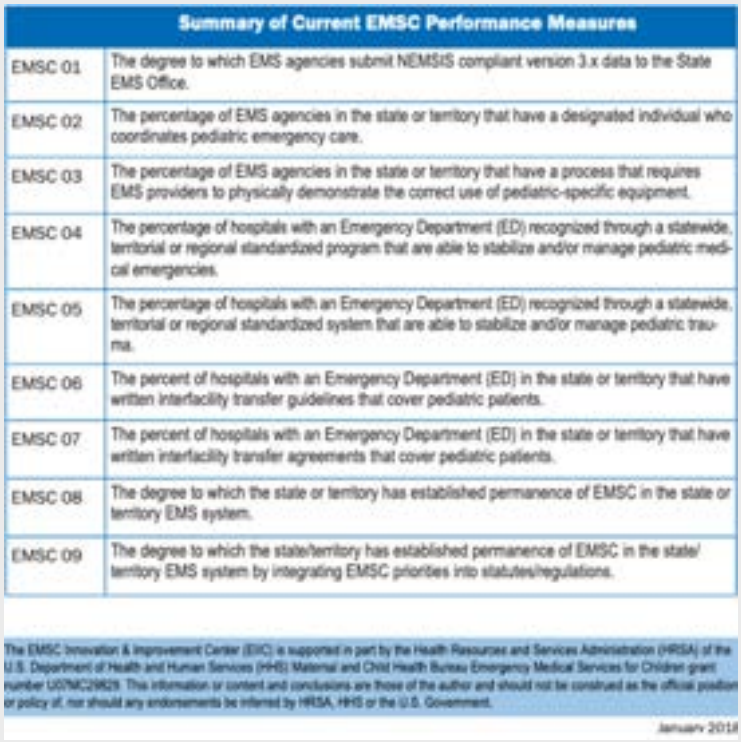
States with Established Pediatric Medical Recognition Programs (6)

In the fall of 2019, members of the Georgia Emergency Medical Services for Children Advisory Council (EMSCAC) met in Atlanta at the Department of Public Health, Office of EMS, and Trauma, with national representatives from the Health Resources and Service Administration (HRSA), and the National EMSC Data Analysis Resource Center (NEDARC) and the Emergency Medical Services for Children Innovation and Improvement Center (EIIC) to begin Georgia's quest towards implementation of a similar program. Representatives from the national program included Theresa Morrison-Quinata, Branch Chief, EMSC, HRSA, Eduardo Zamora, Research & Evaluation Specialist, NEDARC, Diane Fendya, Trauma/Acute Care Specialist, EIIC, and Rachael Atler, State Partnership Co-Lead, EIIC, and others assisted in the meeting.

As a result of this meeting, several work groups were developed. A pediatric champions workgroup (EMSC 02), a statewide skills curriculum workgroup (EMSC 04) and finally a medical facility recognition workgroup (EMSC 05). These workgroups are administratively housed under the Georgia EMSCAC.

The workgroup developed for the facility medical recognition proceeded to identify key stakeholders for the project. Representatives from various state organizations including Georgia EMSC, Georgia AAP, Georgia College of Emergency Physicians (GCEP), Georgia Pediatric Health Improvement Coalition(GA-PHIC), Georgia Hospital Association (GHA), Georgia Emergency Nurses Association, Georgia Trauma Commission, Georgia Office of Rural Health, representatives from Children's Hospital of Georgia, Children's Healthcare of Atlanta, Piedmont Columbus Regional Children's Hospital, and Atrium Health Navicent/Children's Hospital all serve as stakeholders in the process. These representatives meet monthly to help develop criteria and engage institution and organizational leadership to determine the best methods of rollout and marketing for this recognition.

A key hurdle is to initially establish the permanence of the designation process in State Rules and Regulations, which has been slated for summer of 2022. Next, and ongoing, is the development of the criteria needed to be designated as a Pediatric Readiness Center (PRC) with levels I, II, or III. The highest readiness is level I. Criteria are entering their final draft form, and efforts will be made to test and fine-tune the criteria by piloting it in various interested institutions. Then, institutions may choose to voluntarily apply for the designation process through the Office of EMS and Trauma.



Summary of Current EMSC Performance Measures	
EMSC 01	The degree to which EMS agencies submit NEMSIS compliant version 3.x data to the State EMS Office.
EMSC 02	The percentage of EMS agencies in the state or territory that have a designated individual who coordinates pediatric emergency care.
EMSC 03	The percentage of EMS agencies in the state or territory that have a process that requires EMS providers to physically demonstrate the correct use of pediatric-specific equipment.
EMSC 04	The percentage of hospitals with an Emergency Department (ED) recognized through a statewide, territorial or regional standardized program that are able to stabilize and/or manage pediatric medical emergencies.
EMSC 05	The percentage of hospitals with an Emergency Department (ED) recognized through a statewide, territorial or regional standardized system that are able to stabilize and/or manage pediatric trauma.
EMSC 06	The percent of hospitals with an Emergency Department (ED) in the state or territory that have written interfacility transfer guidelines that cover pediatric patients.
EMSC 07	The percent of hospitals with an Emergency Department (ED) in the state or territory that have written interfacility transfer agreements that cover pediatric patients.
EMSC 08	The degree to which the state or territory has established permanence of EMSC in the state or territory EMS system.
EMSC 09	The degree to which the state/territory has established permanence of EMSC in the state/territory EMS system by integrating EMSC priorities into statutes/regulations.

The EMSC Innovation & Improvement Center (EIIC) is supported in part by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) Maternal and Child Health Bureau Emergency Medical Services for Children grant number U07MC29629. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

January 2018

What does this mean for families, community physicians, emergency medical services personnel, and emergency departments? The hope is that through a designation process, care for children will become more equal, whether urban or rurally situated. Clear tier designation allows pre-hospital personnel to understand better the availability of appropriate pediatric resources and capable personnel. Families and community physicians can feel more confident and understand better the level of care provided at any emergency department that may choose to undergo the designation because of the rigorous process and criteria that will need to be met. Clinicians in the emergency department may be encouraged to know that their hospital supports the enhancement of caring for children and can expect better policies and protocols, training, and equipment provisions for providers.

Data from the pediatric readiness survey (https://www.pedsready.org/) indicates that Georgia does well. In 2013, the overall and median readiness score for participating hospitals in Georgia was 71% (national median was 69%). There is still work to be done; often in the readiness elements of pediatric disaster preparedness and the presence of a nurse/physician leader. Ensuring that daily care for children is done well ensures improved morbidity and mortality and will hopefully make the state better prepared when a disaster strikes affecting children disproportionately. The "time is now" to strengthen collective knowledge about this program and encourage support for its adoption and ultimate success. The 2021 survey has yet to release the national results for an update on each state's level of readiness. Hopefully, Georgia is still making progress in the emergency care of children.

Please do not hesitate to reach out for more information by contacting myself as chair of the Georgia EMSCAC or the Office of EMS and Trauma.

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Northeast Georgia Health Systems and Georgia Emergency Department Services

It's a season of growth and expansion for Northeast Georgia Health Systems (NGHS) and Georgia Emergency Department Services (GEDS). We are excited for our first class of emergency medicine residents coming in July. Our 12 new residents – many of whom have ties to Georgia –will be working at our Gainesville and Braselton campus emergency departments. This has been a number of years in development and in preparation GEDS has hired a number of fellowship-trained physicians to build out the faculty including Josh Mugele (Disaster Medicine), Sid Nagrani (Simulation), Anitha Mathew (Research), Kartik Shah (Toxicology), Spencer Masiewicz (EMS), Grace Dion (Ultrasound), Jonathan Snyderman (Ultrasound), Jordan Dow (Ultrasound), and Hersh Mathur (residency trained in both Internal Medicine/Pediatrics and Emergency Medicine). We firmly believe that the combination of a community hospital environment, high-volume and high-acuity emergency departments, and a strong democratic group of faculty will be an ideal environment for training strong emergency medicine physicians.

In other news:

- We are approaching our 1-year anniversary of implementing our MAT program for opioid use disorder at our primary Gainesville Campus. It's been a slow ramp-up, but we have seen increasing buy-in from our ED providers, our psychiatry colleagues who see our patients in follow-up, and from our community.
- GEDS continues to move ahead with our strategy to staff all of our emergency departments with board certified EM physicians and to that end we continue to aggressively hire qualified applicants who are willing to work in some of our more rural sites (GEDS staffs the emergency departments in Gainesville, Braselton, Lumpkin, Barrow, and Habersham).
- We have broken ground on a new state-of-the art emergency department in Gainesville, which will be completed in about four years. The new emergency department is one of the largest expansions in the state of Georgia and will increase our emergency department capacity substantially.
- GEDS continues to expand its observation capabilities, and in addition to emergency run observation units at Gainesville and Braselton we are exploring obs units at our more rural sites in Lumpkin and Barrow.
- NGHS in Gainesville is currently a level 2 trauma center, but we are actively seeking a level 1 certification, bolstered by our surgery residency as well as new additions to the trauma service as well as other subspecialty services.

Toxicology Case of the Month: A Stimulating Encounter

Andres Guzman-Soto, MD, Cristina Flores, MD, Mark Layer, MD, Melissa Gittinger, DO FACMT

HPI: You are working a morning shift when a 23-year-old male with a prior history of depression and methamphetamine abuse presents to the ED reporting ingestion of 20 tablets of 200mg caffeine several hours ago in a suicide attempt. He reported feeling depressed and suicidal as the effects of his recent methamphetamine use were wearing off. As time passed from the time of ingestion, he began to develop a sensation of palpitations, a rapid heart rate, dizziness, and unsteadiness, prompting his roommate to call EMS. Initial evaluation by EMS revealed a heart rate greater than 200; they administered 5 mg of Versed (for agitation), 4 mg of Zofran, and transported him to the your ED.

Physical Exam: On arrival, the patient's physical exam was most notable for his persistent tachycardia (now in the 160s) and anxiety, but he was normotensive and without hyperthermia.

ED Initial Evaluation:

A 12-lead EKG was taken on arrival, notable primarily for a regular, narrow-complex tachycardia at 168 BPM, and an incomplete RBBB.

Blood and urine testing were obtained, and relevant results are shown:

Na	141
K	2.4
Cl	104
CO2	19
AG	18
Gluc	168
BUN	12
Cr	1.0
Ca	9.6
AST	16
ALT	5

(Urine) Amphetamine	Detected
Barbiturates	None
Benzodiazepines	Detected
Cannabinoid	None
Cocaine	None
Opiates	None
Methadone	None
Fentanyl	None
(Serum) Ethanol	<10
Acetaminophen	<10
Salicylate	<2.5
Caffeine	Pending

Emergency Department Course:

Initially, the patient was normotensive with a normal mental status, denied chest pain, and did not demonstrate ischemic changes on EKG. He was given multiple rounds of benzodiazepines and copious IV fluids, but exhibited minimal improvement in his heart rate.

As you determine your ongoing management of this patient, you consider the following questions:

Q1: Should I give Adenosine (as per ACLS guidelines) for narrow-complex tachycardia?

A1: Adenosine is likely to be ineffective in the treatment of caffeine toxicity. Caffeine is a methylxanthine (related to theophylline) and inhibits adenosine receptors. ACLS protocols should be followed in an undifferentiated patient, but in known caffeine or methylxanthine overdose, patients may be refractory to traditional methods of cardioversion and require alternative therapies. Adenosine will likely be ineffective in a caffeine overdose, given its short half-life and the blockade of its receptor by caffeine.

Throughout his stay in the ED, the patient's tachycardia persisted, and he began to develop episodes of hypotension. He was given a 100J shock by synchronized cardioversion, and aggressive IV fluid hydration, with no significant response. Multiple PVC's were seen on the cardiac monitor.
A second 12-lead EKG was obtained (above), remarkable for a regular, wide complex tachycardia with frequent PVCs. At this time toxicology was consulted and suggested initiation of an esmolol infusion to treat this patient.

Q2: Why is esmolol recommended in a hypotensive patient?

A2: At therapeutic doses, caffeine indirectly causes beta-1 (increased HR/contractility) and beta-2 adrenergic (vasodilation) stimulation through increased norepinephrine release. In significant overdose, these beta-2 effects can cause peripheral vasodilation and hypotension minimally
AST 16 Acetaminophen <10
ALT 5 Salicylate <2.5
Caffeine Pending
responsive to IV fluids. Esmolol, a short-acting beta-adrenergic receptor antagonist, acts primarily on beta-1 receptors to decrease the heart rate, but has competitive beta-2 antagonist activity as dosing increases. With beta-2 blockade, systemic vascular resistance increases, and blood pressure rises proportionally.

Secondly, in stimulant overdose with severe tachycardia, a patient can exhibit dramatic rate-related reductions in cardiac output (CO = SV x HR), particularly when their maximum physiologic heart rate (220 – age) is exceeded, which esmolol further helps to correct.

Q3: This patient is hypokalemic. Why is this and should I replace his Potassium?

A3: The previously discussed beta-2 stimulation from his large caffeine ingestion caused an intracellular potassium shift. Because the observed hypokalemia is redistributive in nature, no replacement is required acutely. There is no significant total body potassium loss, and aggressive replacement could cause rebound hyperkalemia and fatal dysrhythmias as the initial toxicity resolves. Prior studies report that replacing a potassium level of 2.5 mmol/L could result in significant hyperkalemia within a period of 3.5 hours in the setting of redistributive hypokalemia.

Hospital Course:

An esmolol drip was started at 50mcg/min. The patient's blood pressure and heart rate improved rapidly after esmolol was started, multi-dose activated charcoal was given, and he was admitted to the MICU. He was weaned off the Esmolol drip over the course of 24 hours. Repeat lab work during the patient's hospital stay was remarkable for correction of hypokalemia, to 3.4 by day 2, and 4.2 by day 3. Although supplemental potassium was given, no significant rebound hyperkalemia was seen. The caffeine level was still pending at the time of discharge and later returned at >90 mg/L (with a "therapeutic" range of 5-20mg/L).

Psychiatry determined the patient's suicide attempt to be likely secondary to methamphetamine-induced psychosis rather than organic suicidal ideation. The patient was discharged on hospital day 3 feeling well and with stable vital signs.

Q3: What are the toxic and lethal oral doses for caffeine?

A3: Toxicity can be seen above the therapeutic dose of 20 mg/kg (1400mg for a 70kg adult, or about 5 x 16oz cups of Starbucks coffee). The lethal oral dose is approximately 150-200mg/kg (10.5 grams for a 70kg adult).

Caffeine Info - Pharmacokinetics:
Caffeine has near-100% oral bioavailability. Peak concentration occurs 30 to 60 minutes after oral intake. It has a relatively low volume of distribution (Vd) at 0.6 L/kg, and relatively low protein binding at 36%. These characteristics make it an ideal candidate for removal by hemodialysis in life threatening ingestions.

Caffeine Info – Management Highlights:
As with any significant poisoning, the patient's airway, breathing, and circulation should first be evaluated and supported. Decontamination by multiple dose activated charcoal is recommended for elimination of methylxanthines both by limiting initial GI absorption, and removing caffeine during its enterohepatic recirculation.

Benzodiazepines are recommended for agitation, seizures, and anxiety, and can also help generally decrease adrenergic stimulation. Lorazepam is preferred due to the long acting nature of methylxanthines. Seizures may be refractory to treatment, and escalation to barbiturates (or propofol, if hemodynamics permit) should not be delayed if seizures persist. Phenytoin and Fosphenytoin are notably contraindicated in methylxanthine-induced seizures, as they have been shown to shorten time to seizures and increase mortality without providing any anti-epileptic benefit in these patients.

The primary cardiovascular effect of hypotension is caused by beta adrenergic agonism, and therefore vasopressors with alpha-adrenergic agonist activity such as phenylephrine are recommended. As described above, a short-acting beta-adrenergic antagonist such as esmolol is also recommended to treat rate-related and vasodilation-induced hypotension.

For managing SVT in a case of known methylxanthine toxicity, adenosine and electrical cardioversion may be ineffective. Benefits from adenosine are expected to be transient, as methylxanthines block adenosine receptors long after the adenosine is metabolized. As in many cases of toxin-induced dysrhythmia, electrical cardioversion may similarly only provide temporary improvement to ongoing cardiac toxin stimulation.

For methylxanthine-induced vomiting, which can be severe and prolonged, ondansetron is recommended; however, the QTc should be monitored for prolongation, as this can be exacerbated by intracellular potassium shifting as described above.

Caffeine Info – Dialysis:
Finally, enhanced elimination by hemodialysis should be considered in patients with persistent seizures, life-threatening dysrhythmias, shock, increasing methylxanthine concentrations or those above 100 mg/L, or clinical deterioration despite appropriate treatment. Methylxanthines are optimal for hemodialysis due to their relatively low volume of distribution and protein binding.

1. Extracorporeal xenobiotic removal is recommended if:
    a. Serum theophylline or caffeine concentration >100 mg/L (555 mmol/L).
    b. Seizures are present.
    c. Life-threatening dysrhythmias are present.
    d. Shock is present.
    e. Theophylline or caffeine concentration is rising despite optimal treatment.
    f. Clinical deterioration occurs despite optimal therapy.
2. Extracorporeal xenobiotic removal is suggested if:
    a. Theophylline or caffeine >60 mg/L (333 mmol/L) in chronic exposure.
    b. The patient is <6 months or >60 years of age and the theophylline or caffeine >50 mg/mL (278 mmol/L in chronic exposure.
    c. Gastrointestinal decontamination cannot be performed.

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2022 RURAL EMERGENCY PRACTICE CONFERENCE

The 2022 Rural Emergency Practice Conference happened on February 19th and 20th in Savannah, GA. This was the best conference yet, with our 167 attendees welcoming a return to a fully in-person conference. We owe a huge thanks to all of the instructors that volunteered their time to make this conference a success.

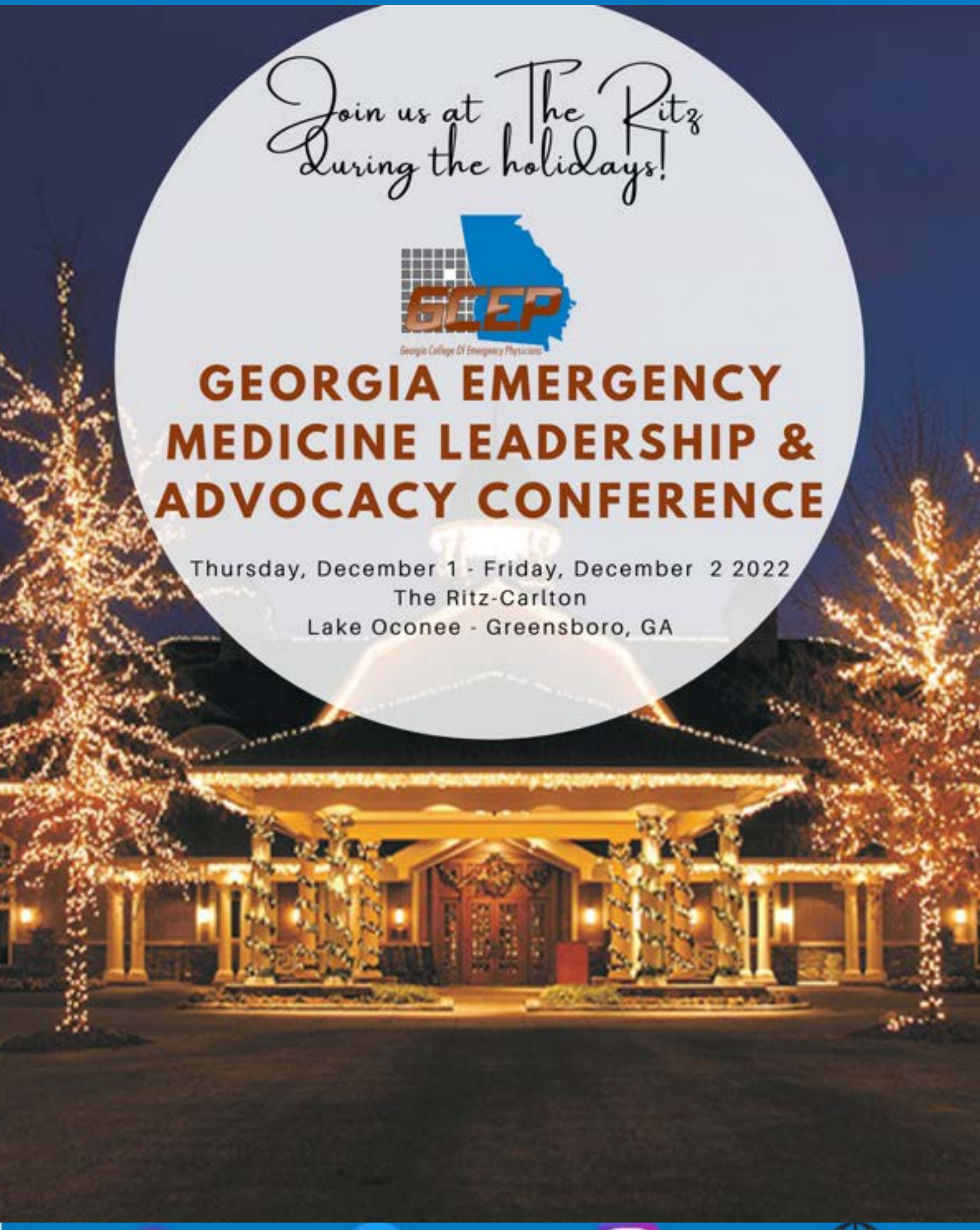
The focus of the conference this year was care of the critically ill. Rural providers were frequently tasked with prolonged care of critical patients in the emergency department, as transfers became increasingly challenging during the pandemic. Topics including ventilator management, intubations, DKA care, vent weaning, cardiac arrest, renal failure, and epilepsy were all covered.

The Critical Care Rodeo procedure course had hands-on teaching for a variety of procedures and cases. Advanced airway techniques, ultrasound skills, air transport, sedation, and ventilator management were all covered. Attendees got hours of instruction in these skills with providers from across the state.

One of the highlights of the course was the 2nd annual "Cases n' Beer" with our MC Max Bursey. This interactive quiz show was held at Service Brewing Company. A great time was had by all, with the opportunity to learn about some advanced medical topics while having a drink at the brewery. The combination of some hard questions about critical care and some nice cold beer was enjoyed by all.

We look forward to the 2023 Rural Emergency Practice Conference to be held in Augusta, GA. It promises to be even bigger and better than ever before. There will be a huge procedure lab, more excellent lectures, and the next Cases n' Beer will be our largest ever. We can't wait to see you there!

- Dr. Daniel McCollum, MD


Join us at The Ritz
during the holidays!
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Georgia College Of Emergency Physicians
GEORGIA EMERGENCY MEDICINE LEADERSHIP & ADVOCACY CONFERENCE
Thursday, December 1 - Friday, December 2 2022
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Save the Date!

2023 Rural Emergency Practice Conference

Feb. 25-26, 2023 | Augusta, GA

Medical College of Georgia at Augusta University

- Save the date for a hands-on, interactive course featuring world-class lectures, a chance to ask the experts, and a live emergency procedures course!

1) Ultrasound Lab - practice your hands-on Point of Care Ultrasound (POCUS) skills for Ultrasound Education. This state of the art lab will provide a unique opportunity to practice ultrasound skills using simulators, phantoms and live patients.

2) Live Tissue Lab - practice your life saving procedural skills in a live tissue lab. This lab will include high acuity, low volume invasive procedures that can save lives in the ER. This lab will be limited in the number of participants.

3) Cadaver Procedure Lab -practice commonly performed procedures in the cadaver lab: including central venous access, paracentesis, nerve blocks, suturing, etc. This lab may be limited in the number of participants.

4) Simulation Lab - practice your medical decision making in a state of the art simulation lab at Augusta University. You will have the opportunity to work through several cases using your life saving and medical diagnostic skills.

Melissa Piotrowski

Melissa Piotrowski is an Assistant Professor of Emergency Medicine at Emory University working at Grady Memorial Hospital. She is a graduate of University of Toledo Medical school and completed her residency at Case Western Reserve University at Cleveland Clinic and MetroHealth Hospitals in Cleveland, Ohio. She started her career in academic medicine at MetroHealth Hospital with a focus on prehospital care and flight medicine. She then moved to community practice in Asheville, North Carolina until she relocated to Georgia in 2018 to return to academic medicine.

Her professional interests include prehospital and flight medicine, policy and advocacy for emergency medicine and administration in EM.
She enjoys spending time with her husband and 5 year-old son, traveling, cooking and reading.

Bradley Golden

As a native Texan Bradley started his medical career in the emergency medicine services at the age of 17, volunteering for his city's EMS. Bradley graduated with a Bachelor's of Science in Nursing from Texas Tech University Health Sciences Center and worked as a registered nurse in the Emergency Department for 5 years. While working as a nurse, he became passionate about education and taught as a faculty associate for the Texas Tech University School of Nursing. He earned his medical degree from the University of New England College of Osteopathic Medicine in Biddeford, Maine. Bradley completed his Emergency Medicine residency at Conemaugh Memorial Medical Center in Johnstown, PA. After completing an EMS fellowship at the Medical College of Georgia, he stayed on as a faculty member. He lives in North Augusta, SC with his wife and 7 year old son. When he's not working, he can be found on the golf course.

National Association of EMS Physicians:

- NAEMSP is the organization of physicians and other professionals providing leadership and fostering excellence in EMS.
- Www.NAEMSP.org
- 2023 annual meeting, January 23-28 in Tampa, FL

GA-NAEMSP Info:

- Georgia chapter of the National Association of EMS Physicians.
  https://naemsp.org/membership/chapters/georgia/