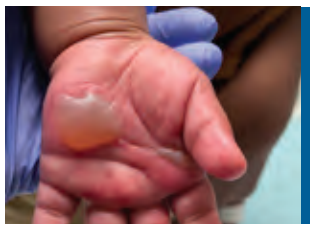

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Artificial Intelligence for Medical Billing

Emergency physicians team up to tackle research on AI for medical billing

by DARRIN SCHEID, CAE

When a team of emergency physicians at Mayo Clinic in Rochester, Minnesota, decided to take on a research piece on artificial intelligence (AI) for medical billing, they first pieced together a team to get it done.

Jacob Morey, MD, MBA, knew they needed an AI expert, and Dr. Morey found Derick Jones, MD, an emergency physician trained in data and analytics. Medical billing's impact on finances begged for an expert in that field. Richard Winters, MD, FACEP, is an emergency physician.

The result is a research piece published online in September in *Annals of Emergency Medicine* that looked at

CONTINUED *on page 6*

ALDA RKIN-STOCK.ADOBE.COM & CHRIS WHISSEN & SHUTTERSTOCK.COM

A Glimpse Into the Future

2025 reimbursement update

by MICHAEL GRANOVSKY, MD, FACEP

The Centers for Medicare and Medicaid Services (CMS) has released the 2025 Physician Fee Schedule (PFS) Proposed Rule, which will affect emergency medicine reimbursement significantly. Following a commentary period lasting until September 9, 2024, CMS is expected to issue its final PFS rule in early November, which will impact services beginning January 1, 2025.

2025 Work RVUs Hold Steady

Acting to protect the safety net, ACEP's RVS Update Committee (RUC) members continually advocate for the recognition of the complexity of our day-to-day bedside care. The ACEP RUC team has been very successful in protecting our work RVUs.

2025 Total RVUs Small Possible Increase

Due to small potential increases in the cal-

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TOXICOLOGY Q&A

PHOTO: JASON HACK (OLEANDER PHOTOGRAPHY)

Traditional and Toxic!

by JASON B. HACK, MD, FACEP

QUESTION: What plant is traditionally used medicinally for bronchitis, tonsillitis, toothaches, and other ailments?

ANSWER *on page 19*

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Inside

UPDATES AND ALERTS FROM ACEP

NEWS FROM THE COLLEGE

ACEP Adds Comment to CMS, Responds to the CY 2025 OPPS Proposed Rule

In addition to a thorough and comprehensive letter responding to the CY 2025 Medicare Physician Fee Schedule proposed rule, ACEP submitted two letters last month in response to the CMS CY 2025 Outpatient Prospective Payment System (OPPS) proposed rule.

The first letter ACEP submitted on behalf of emergency physicians emphasized that a fifth consecutive year of reductions in Medicare physician payments is unacceptable. The Proposed 2025 Medicare Physician Fee Schedule is expected to be released on or around Nov. 1, 2024—with an effective date of Jan. 1, 2025.

In the recent follow up, ACEP is proposing to have CMS enhance the existing emergency services Condition of Participation (CoP) to add a requirement for hospitals to have a plan or protocol on file for when the number of patients boarding in their ED exceeds a particular threshold—then enact when the trigger is reached.

ACEP has been pushing CMS for almost two years to create a new CoP related to boarding. Noticing that the agency was proposing additions to the existing emergency services CoP in this year's proposed OPPS rule, ACEP decided to push for boarding to be added to their new language.

CMS' overall intent with the proposed modification was to expand access to maternal care, especially in rural areas, but because of how their changes were structured and approached, it opened the door for ACEP to address boarding.

ACEP worked with several boarding experts on a proposed approach for a boarding CoP and met with The Joint Commission for technical feedback. In addition to including a proposal in ACEP's overall OPPS response, the College also developed a separate letter to CMS on this change and solicited outside groups to sign.

Also included in ACEP's overall OPPS response letter, among others:

- Support for CMS' proposal to separately pay for the use of non-opioid alternatives for pain management, and encouragement to expand this policy going forward to extend it to the ED setting.
- Feedback on three new measures on health equity and social determinants of health proposed by CMS.
- Caution against public reporting of the Psychiatric/Mental Health Patients stratum of the Median Time for Discharged ED Patients that CMS has proposed.

ACEP NOW

From L-R: Andrew Koons, DO, FACEP; Sarah Bilski, DO; Irtaza Assar, DO; Rachel Armstrong, MD; Taylor Stavely, MD

ACEP Members Save a Life at DFW Airport

Standing in the TSA line at Dallas-Fort Worth International Airport became suddenly eventful for ACEP members traveling home from ACEP's Teaching Fellowship in August.

Andrew Koons, DO, FACEP; Sarah Bilski, DO; Irtaza Assar, D; Rachel Armstrong, MD; and Taylor Stavely, MD, jumped out of line when they heard a woman scream for help and saw a man had collapsed. They immediately called 911, asked somebody to find an AED and started chest compressions.

"There wasn't really a crowd, probably because we do this all time in the ED and remained pretty calm," Dr. Bilski said. "We didn't have an AED—it didn't arrive by the time we were done—but we were able to bring him back."

The 53-year old traveler opened his eyes, sat up and was able to hold a conversation with the doctors. He told them he had never had any heart problems and definitely never had a heart attack. "We told him, 'Well, you have now.'"

ACEP Urges FTC to Challenge Harmful Ruling on Non-Competes

ACEP issued a statement in August, expressing deep disappointment by the decision to block the Federal Trade Commission (FTC) ban on non-compete agreements. Non-compete agreements limit the right of emergency physicians to freely practice medicine in their communities. Our efforts to eliminate these harmful, predatory and coercive clauses will not stop.

The FTC approved a rule banning non-competes in April, a decision celebrated and supported by ACEP. The rule not only prohibited nearly all non-competes, it required employers to notify all current and former workers subject to a non-compete that their non-compete is no longer enforceable. The rule would have gone into effect in early September.

However, a federal judge issued a nationwide injunction in August, preventing the FTC from enforcing this new rule.

ACEP urged the FTC to promptly challenge this decision. As burnout rates and staffing constraints impact emergency departments nationwide, restricting physicians' job options only weakens our health care safety net. The fight to preserve physician autonomy must continue and must include promoting, not limiting, viable career choices.

ACEP Celebrates 50 Years with EMRA

Since inception, ACEP and EMRA have been independent organizations, each dedicated to advancing the specialty and advocating for every emergency physician, EM physician-in-training, and EM-bound medical student. As ACEP reflects on the incredible accomplishments of the partnership, ACEP acknowledges and appreciates each organization's unique contributions.

In a September statement, ACEP emphasized its commitment to EMRA and desire for more decades of working with EMRA.

Both organizations recognize that a strong ACEP and a strong EMRA—as well as a unified and collaborative ACEP-EMRA relationship—are essential for the future of emergency medicine.

This year marks a significant milestone as EMRA celebrates 50 years of incredible growth and achievement, as well as the strength and maturity of the organization. In the statement, EMRA expressed its gratitude for ACEP and the decades of support that have helped develop EMRA into the organization it is today, growing from a startup group of passionate residents to a major voice in the medical community.

ACEP is proud to exclusively partner with the only fully independent resident organization in emergency medicine to together provide the highest quality of support, resources, leadership opportunities, and advocacy for our shared members.

RESIDENCY SPOTLIGHT

KAWEAH HEALTH EMERGENCY MEDICINE RESIDENCY

Location:
Visalia, CA

Instagram:
kaweahem

Year founded:
2013

Number of residents:
39

Program length:
3 years

SEAN OLDROYD

Annual residency retreat, Bass Lake, California.

What does your program offer that residents can't get anywhere else?

Kaweah Health Medical Center is situated in a small city of 150,000, and as the only hospital in the city and only major center in the region, we care for a large catchment area. As such we are the only trauma and STEMI center for a population of approximately 500,000. We care for a medically-underserved population and we consider our connection to our community as one of the main drivers of our mission. Our emergency department (ED) is bursting at the seams with patient volume and acuity. Our residents get real-world, first-hand experience stabilizing and managing patients as there are a limited number of other residencies in the hospital and no fellows in other specialties that would impact the procedural or patient management experience of our residents. Our residents take pride in doing their own orthopedic reductions, engaging with attending-level consultants, feeling comfortable caring for large volumes of sick and injured pediatric patients, and performing rare emergency medicine (EM) procedures such as transvenous pacers, and lateral canthotomies.

We hope to develop not only top-notch EM physicians, but people ready to be leaders wherever they land, so we balance our clinical education with regular discussions of organizational excellence, culture-building, leadership principles and tactics, career longevity, and other high-yield topics.

What is the work-life balance like?

Shifts here are demanding, so we guard our time off fiercely. Our residents have a tight-knit and supportive community within our program and across the other residencies here, as well as with the EM faculty. You'll frequently find people escaping to the mountains to hike, camp, and mountain bike in the summers and ski in the winter, or to visit one of the three national parks in our backyard. We have amazing access to the beautiful central California coast and world-class cities, while enjoying a reasonable cost of living. Our wellness program is a central part of our residency experience and is supported by GME leadership and our faculty, with highlights such as annual attendance at regional or national conferences, quarterly class wellness days, and monthly wellness challenges with prizes funded by our EM attendings.

How should potential applicants learn more about your program?

Check us out at kaweahem.com or on Instagram @kaweahem

The Detroit Trauma Symposium continues to be the premiere event of its kind. For our 72nd year, trauma specialists and speakers from around the country will join us to provide in-depth perspectives. Join us for sessions that will deliver practical and useful insights on multiple topics related to the continuum of care of the injured person. Sessions are relevant for physicians, residents, nurses, EMTs and allied health providers. The 2024 event features in-person and on-demand options with the quality of content you need and expect. Of the many planned topics, here are a few highlights:

- Evaluation and Implementation of PTSD Screening Program
- Use of Evidence-Based Quality and Practice
- Addressing Health Disparities in Trauma
- Updates in Trauma Resuscitation with Whole Blood and Catheter-Based Stop the Bleeding
- Review of Current Management for Critical Care in TBI Patients

Go to **DetroitTrauma.org** for event details, registration, topics, speakers and CME credit details.

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Why Diversity, Equity, and Inclusion Matter in Medical Education (August 2024)

Rep. Murphy is on the right track. It is NOT up to medical schools to re-balance the social delivery of health care based on a small group of minority activists. My ACEP dues should not be going to support this misguided focus on health care.

—David Wood, MD

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By the Numbers

GASTROINTESTINAL BLEED SCORES

RETROSPECTIVE COHORT STUDY FROM PARIS

990
PATIENTS

12
GI BLEEDING SCORES COMPARED

AREA UNDER THE CURVE

0.87 GLASCOW BLEEDING SCORE (GBS)

0.83 CANADA-UNITED KINGDOM-ADELAIDE (CANUKA) SCORE

0.88 ROCKHALL

Source: Thiebaud PC, Wassermann E, de Caluwe M, et al., Assessment of prognostic scores for emergency department patients with upper gastrointestinal bleeding, *Ann Emerg Med.* Published online August 1, 2024.

2025 ACEP Research Forum • September 7–10, 2025 • Salt Lake City, UT

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The American College of Emergency Physicians' 2025 Research Forum is dedicated to the presentation of original research related to emergency medicine by investigators in clinical basic science.

ABSTRACT REVIEW PROCESS
Abstracts will be peer-reviewed in a blinded manner. Review criteria focus on the validity, reliability, generalization, and novelty of the findings, and the projected magnitude of impact on the quintuple aim. Notification letters will be emailed late June 2025.

ACCEPTED ABSTRACTS
The top abstracts will be presented during daily plenary sessions; others will be presented during themed oral and poster sessions.

AWARDS
Best Overall Abstract and Early Career Investigator Awards will be selected among the top scoring abstracts by the ACEP Research Committee. Selected medical student and resident presentations will be judged during a dedicated session by members of the ACEP Research Committee, with award selection based on presentation quality, research methodology, and potential clinical impact.

1. Best Overall Abstract Award
2. Best Early Career Abstract Award
3. Best Resident Abstract Award
4. Best Medial Student Abstract Award

ABSTRACT SUBMISSION REQUIREMENTS
Abstracts must meet the following submission criteria:

1. Abstracts should represent original research that has not been published in peer-reviewed form. Case reports or subject reviews are not accepted.
2. Abstract submission instructions are available on ACEP's website.
3. Abstracts must be submitted by 11:59 PM CT on February 28, 2025.
4. Abstracts must adhere to the Annals of Emergency Medicine format with following subheadings: study objectives, methods, results, and conclusion.
5. Abstracts are limited to 3000 characters not including spaces. Accepted abstracts will be published as received; no copy editing will be performed.
6. A small table or figure will be accepted. Figures must be black and white with at least 300 dpi.
7. Authors should not be identified via the title or body of the abstract.

Learn more at: **acep.org/rf** or call **800-798-1822 ext. 6** or **972-550-0911**
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AI BILLING | CONTINUED FROM PAGE 1

321,893 adult ED encounters from their health system from January to September 2023. They developed an ensemble model, using natural language processing and machine learning techniques to predict billing codes from clinical notes combined with clinical characteristics and orders. By the end, the researchers said their conclusion matched the theory.

Machines could learn patterns and predict evaluation and management professional billing codes from Levels 2-5.

"It was a validation," Dr. Jones said. "What we expected the model to be learning was proven in the results. It was aligned and very reassuring."

While the Mayo team closes the book on this research article, experts in the reimbursement and coding field say the story of AI for medical billing is barely into Chapter 1. One plot could focus on enormous potential to save time and money and streamline a tedious, necessary process of managing reimbursement.

The other storyline warns about putting too much stock in AI too early.

But investigating ways to make things more efficient is worth the work and exactly why the research team said they tackled this research, and the subsequent piece, titled "Artificial Intelligence to Predict Billing Code Levels of Emergency Department Encounters."

They wanted to shed light on the possibilities that exist to improve how physicians are reimbursed for their services.

"Taking our notes and putting them into billing codes is a repetitive process," Dr. Morey said. "That's something that has high potential to be automated by AI. And now, we've seen better AI tools over the past few years. Now that technology is available to take our notes and use natural language processing to be able to take that data, make it into more structured data, in a model and automate it."

The AI used in the study analyzed various factors, such as the number of medical orders, discharge disposition, and specific notes within the clinical record.

Model performance for professional billing code levels of 4 and 5 were AUC-ROC 0.94 and 0.95, accuracy 0.80 and 0.92, and F1-score 0.79 and 0.91, respectively. At a 95 percent decision boundary threshold, Level 5 predicted charts had a positive predictive value of 0.99 and sensitivity of 0.57.

The research team says those numbers tell a story every physician can get behind; AI can save time and money. According to research published in the *Journal of the American Medical Association* in 2021, administrative expenses are a major proportion and growing source of health care costs in the United States, estimating that they contribute 15-20 percent of total national health care expenditures. In the emergency department, it is estimated that the total cost of these activities (e.g. registration and preregistration, physician time, billing, and overhead) is $61.54 per encounter, including professional billing costs of $38.88 (25.2% of professional revenue) for discharged patients, and 32 minutes of total processing time.

"From the finance perspective, it's no different than anything else—we want to prove the concept," Dr. Winters said. "And as we're thinking about, how do we implement it? There are a lot of other things to consider. We want to make sure that we're compliant with the regulations that we're able to adapt. We can't be assigning improper codes because that would have a big effect on the patients and their finances and organizational finances. Like any other organization thinking about AI, we have identified a space where AI can be helpful. Now, what needs to be built around that to make sure that it is valid and that it's something we can rely upon."

Recent advances in AI for medical billing are only possible now because of what Edward R. Gaines III, JD, CCP, calls a generational change in coding standards in 2023. It opened the gates to machine learning, said Mr. Gaines, the Vice President of Regulatory Affairs and Industry Liaison at Zotec Partners, LLC. He has been a member of ACEP's Reimbursement Committee since 2015 and is a longtime faculty member at ACEP's Reimbursement and Coding Conference as well as an honorary ACEP member.

Mr. Gaines said the new standards took away a lot of the subjectivity, the old way of coding. Zotec responded by hiring engineers from Google to develop its machine learning system, which they currently use for hospital clients and physician groups of all sizes.

"A substantial portion of our coding is done with that engine, and it allows us to give feedback to doctors at a level we've never been able to, so accuracy is a huge part of this," Mr. Gaines said. "The machine will call out if you're down coded from a 5 to a 4. It will call out why that happened and will show that maybe you didn't include certain notes that you should have. The machine can develop a profile about how you can document. That activity would take thousands of hours. The machine can do it with relative ease."

The AI in market for billing and coding already stands at $2.4 billion and is expected to grow to $8.4 billion by 2033, according to an article published in March at media.market.us. This expected growth doesn't surprise the Mayo research team, and an important piece to the growth could be patient satisfaction. With less subjectivity built into medical billing, patients could have more information about their care—particularly related to how much it's going to cost.

Patients "always ask, 'What are we going to do, and how much is it going to cost?' Dr. Morey said. "And we never have a good answer for it because we don't know how much it's going to cost until later. And they don't find out until a month after that. If we can improve the ability to use AI to code these charts, maybe we can also know what it's going to cost the. That might be a long way off, but it's a possibility."

While the study demonstrated the potential of AI in automating the billing process, the authors also noted limitations. The model was developed and tested using data from a single health system, which may not generalize to other health care environments with different coding practices or patient populations.

Additionally, the AI model is currently limited to professional billing codes for ED encounters. Future research could explore the application of AI to other areas of the revenue cycle, such as facility charges, procedural charges, or inpatient billing.

Dr. Morey emphasized that the research represents a "proof of concept," but much work remains before AI-driven billing can be widely implemented. Continuous monitoring and retraining of the AI model will also be crucial to its success. As coding guidelines change and new clinical practices emerge, AI will need to adapt to ensure continued accuracy.

It still comes down to the physician, said B. Bryan Graham, DO, FACEP, a frequent speaker at ACEP's Reimbursement and Coding Conference. Graham is an emergency physician at the Cleveland Clinic and Medical Director of the Cleveland Clinic Virtual Emergency Medicine Program. He leads many of the reimbursement- and denial-related initiatives for the Emergency Services Institute at the Cleveland Clinic.

Dr. Graham points out that a lot of coding still comes down to medical decision-making.

"The focus on medical decision making and also the advancements of electronic medical records have allowed there to be an opportunity for AI," Dr. Graham said. "Frankly, if there's not good documentation in the charts, it expands on the differential. What was the thought process the physician was going through when they were diagnosing and treating the patient? I think there are still limitations to AI, but as it continues to be perfected and advance—and the electronic medical records continue to become smarter and more customized to how we interact and document—it will improve over time."

DARRIN SCHEID is communications director at ACEP.

OPINIONS FROM EMERGENCY MEDICINE

A NEW SPIN

A Racing Heart

The intersections of physical and mental health disorders

by JONATHAN D. HARRELL, II, MD, MBA; RACHEL C. BOWER, MD

In the emergency department (ED), physicians face the challenge of making rapid decisions that can significantly impact patient outcomes. These decisions often require a balance between clinical acumen and an open-minded approach, particularly in cases where symptoms could point to both mental health crises and physical health issues. A recent encounter highlights the critical importance of avoiding diagnostic anchoring, especially in patients of color, those who present with mental health crises, and the intersection that lies between them.

The patient, a 25-year-old male of color, arrived at the ED with persistent tachycardia, his heart rate consistently in the 120s. Accompanying this symptom was a significant "heavyweighted" chest discomfort that he had been experiencing for months. He had a prescription for a selective serotonin reuptake inhibitor (SSRI) for panic disorder and anxiety. He had a significant medical history of mental health crises, and this seemed to be his typical presentation pattern. Given his history, it could have been easy to attribute his current presentation to his known mental health conditions. However, the persistence of tachycardia despite fluid resuscitation and dosing with lorazepam to help with his panic disorder raised concerns that warranted further investigation.

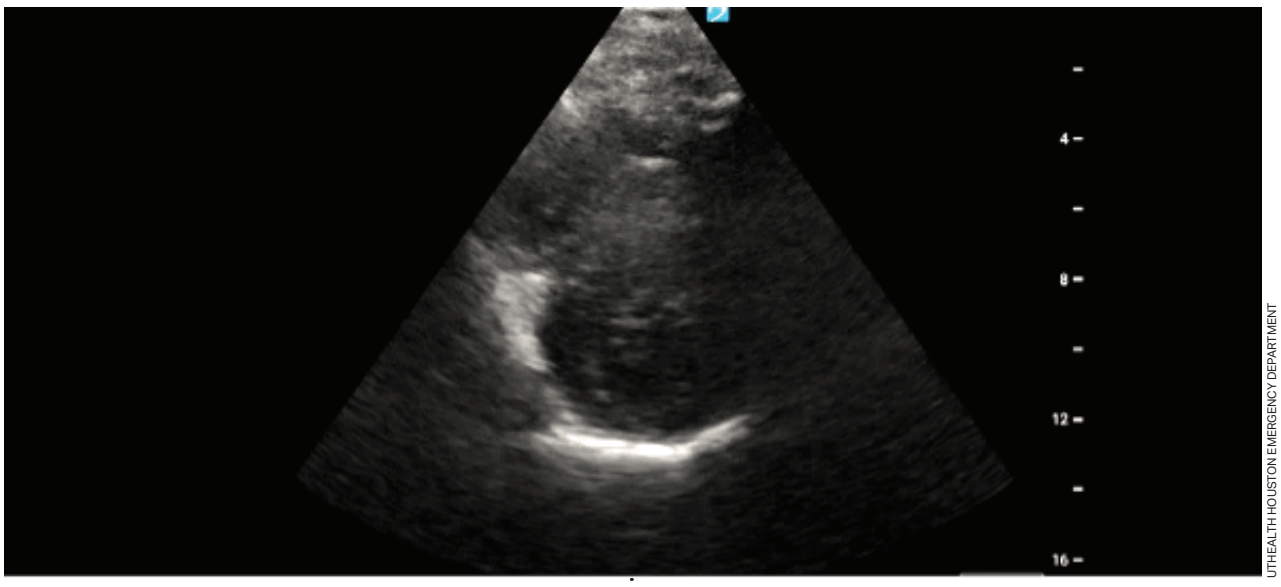
Collaborating with one of my ultrasound faculty, we conducted a bedside echocardiogram to explore potential cardiac anomalies. This examination revealed focal septal hypertrophy and raised concerns for systolic anterior motion (SAM) of the mitral valve, findings that pointed to a potential physical underpinning for the patient's symptoms. The patient had an assortment of previous doctor's visits attempting to identify the cause of his panic episodes. Furthermore, this patient had been having episodes of palpitations that had been worsening since he was a teen, and there was, unfortunately, never an investigation regarding these persistent episodes.

HOCM in the ED

HOCM is not an everyday diagnosis in the ER. However, this should not deter us from including it in our differential, especially among younger patients. Up to 30 percent of people in this population will not have any family history at all before HOCM is identified.[1] The diminished left ventricular function in HOCM is often associated with the thickening of the interventricular septum, which is also associated with increased left ventricular wall thickness equal to 15 mm or more. Furthermore, this genetic cardiac disease is autosomal dominant, presenting 1 in 500 in our general population.[2] This is particularly problematic as we know that many of our HOCM patients, despite being asymptomatic, have nearly a 25 percent chance of sudden cardiac death.[3] This data further emphasizes how life-changing a diagnosis can be if caught early.

Our workup started with an ultrasound and EKG. There is a decreased diameter of the left ventricular outflow tract (LVOT) in the setting of obstructive cardiomyopathy pathology and thickened septum4. This is seen in the parasternal long axis image (Image 1). Furthermore, we can see systolic anterior motion or SAM in patients with HOCM.[5] SAM occurs when the mitral valve is displaced toward the LVOT and causes obstruction causing further dysfunction and limited flow for these patients. EKGs will have abnormalities in about 90 percent, but they are typically nonspecific findings. In addition, we observed in his EKG high-voltage, LVH, left atrial enlargement, tall R-wave in V1, and Q waves that were like needles.[6]

After a diagnosis is made, treatment can start with beta blockers for angina or dyspnea in adults with HCOM, no matter the type of obstruction. Beta-blockers are a class I recommendation per the American College of Cardiology.[7] However, be cautious in the case of sinus bradycardia. Verapamil is also a reasonable option as it is also a class I recommendation. Class IIa recommendations include disopyramide with beta-blockers or verapamil if not responsive to either alone. Oral diuretics are another option. Avoid nifedipine, other dihydropyridine CCB, digoxin, disopyramide alone, and positive inotropic vasopressors, as these can precipitate harm.[7] Once the diagnosis is identified, it is imperative to get cardiology consultation and arrange for a further workup, including a formal echocardiogram.



UTHEALTH HOUSTON EMERGENCY DEPARTMENT

IMAGE 1: Parasternal Long Axis.

The Value of the Story

This case exemplifies the critical need for health care professionals to approach each patient encounter without bias, especially when dealing with populations of color who have recently suffered disproportionately from mental health disorders.[8] Diagnostic anchoring when evaluating patients presenting for seemingly mental health issues can prevent the recognition of pertinent physical health issues, leading to misdiagnosis and inadequate treatment. A study done by emergency medicine physicians in Japan identified that a group of experienced physicians they surveyed had up to 22 percent of diagnostic errors due to overconfidence, confirmation, availability, or anchoring biases.[9] Even for the most experienced, maintaining an open mind to other possibilities can provide our patients with the best care.

Influencing Emergency Medicine Provision

The story demonstrates the necessity of treating each workup as a new investigation, irrespective of the patient's prior medical history. It serves as a reminder that symptoms can have multiple etiologies, and a thorough examination is essential to uncover the underlying cause. When a patient presents with "anxiety," is the symptom masquerading as something more sinister? Are we missing a critical differential or not thinking of an organic presentation? This approach is particularly relevant in emergency medicine, where the pressure to make quick decisions can inadvertently lead to reliance on mental shortcuts, or heuristics, that might not serve the patient's best interest. This mindset shift is crucial for improving outcomes and fostering a more inclusive and equitable health care system.

This case from my early residency experience poignantly reminds me of the complexities inherent in medical diagnosis, particularly at the intersection of mental health and physical illness. By adopting a holistic and unbiased approach to patient care, emergency physicians and other diagnosticians can better serve their patients, ensuring that no stone is left unturned in the pursuit of accurate diagnosis and effective treatment.

DR. HARRELL is a PGY-1 emergency physician at Houston Health.

DR. BOWER is an emergency physician at Houston Health.

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"A New Spin" is the personal perspective of the author and does not represent an official position of *ACEP Now* or ACEP.

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REIMBURSEMENT CONTINUED FROM PAGE 1

culation of Practice Expense, emergency medicine may see a roughly ½ percent increase in Total RVUs for certain key codes.

The Medicare payment per RVU (the conversion factor) is unfortunately dependent on the AMA and the entire House of Medicine successfully convincing Congress to increase the budget for Medicare Part B, which governs payment for physician services.

For 2025, CMS proposes a Medicare PFS conversion factor of $32.3562, a 2.8 percent decrease from the 2024 conversion factor of $33.2875. The 2025 proposed rule, as in past years, is subject to "budget neutrality," a previously obscure factor which is becoming increasingly impactful. The 2024 budget neutrality adjustment was partially offset by 2.93 percent due to a funding patch passed by Congress through the Consolidated Appropriations Act. Unfortunately, the 2024 2.93 percent "patch" was only for one year and was not included in the 2025 proposed CMS calculations.

What Is Budget Neutrality?

The budget neutrality induced potential 2025 decrease is due to the CMS decision to increase reimbursement for the office visit codes back in 2021, a boon for urgent cares, which report physician services using office codes. Due to an historic clause in the payment and budgetary regulations, increases in Medicare part

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Vaccination grant: This project was funded in part by a cooperative agreement with the Centers for Disease Control and Prevention (grant number NU50CK000570). The Centers for Disease Control and Prevention is an agency within the Department of Health and Human Services (HHS). The contents of this resource center do not necessarily represent the policy of CDC or HHS and should not be considered an endorsement by the Federal Government.

B spending beyond $20 million must be offset by decreases to the conversion factor to keep Medicare expenses in check. Unfairly, there is no indexing to inflation, so although expenses continually increase, Medicare payments are not keeping pace.

Due to the budget neutrality adjustment in the conversion factor, the whole House of Medicine could see a 2.8 percent decrease in payments per RVU for 2025. ACEP has mounted a vigorous campaign to protect the safety net and is urging Congress to stabilize the conversion factor for 2025 and index future physician reimbursement to inflation.

2025 Update to the Merit-Based Incentive Payment System (MIPS)

The Merit-Based Incentive Payment System (MIPS) represents a payment mechanism that provides for annual reimbursement adjustments related to quality program requirements impacting 2027 payments based on 2025 performance in four categories.

In an advocacy win, CMS is proposing to keep the penalty threshold at 75 points (rather than the previously considered 82 points) due to significant feedback related to the complexity and challenges of the MIPS program.

MIPS Value Pathways

2025 is the third year in which a new reporting option in MIPS called MIPS Value Pathways (MVPs) is available. MVPs represent an approach that will allow clinicians to report on a more clinically integrated set of quality measures built around a specific emergency medicine episode or acute care condition. ACEP developed an emergency medicine-focused MVP that became available in 2024. The ACEP MVP is called "Adopting Best Practices and Promoting Patient Safety within Emergency Medicine." More information about the MVP is available here.

Table 1: ED Work RVUs 2024 and 2025

CODE/ED VISIT LEVEL	2024 WORK RVUS	2025 PROPOSED WORK RVUS
99281/Level I	0.25	0.25
99282/Level 2	0.93	0.93
99283/Level 3	1.60	1.60
99284/Level 4	2.75	2.74
99285/Level 5	4.00	4.00

Table 2: ED Total RVUs 2024 and 2025

CODE/ED VISIT LEVEL	2024 T OTAL RVUS	2025 PROPOSED TOTAL RVUS
99284/Level 4	3.59	3.60
99285/Level 5	5.20	5.22
99291/Critical Care	6.31	6.36

ED Continued Traction with Telehealth Services

CMS has been continually examining which codes placed on the list of approved Medicare telehealth services during the COVID-19 public health emergency should be continued. The current CMS process involves a list of "provisionally" approved codes, which include 99281-99285. The 2025 Proposed Rule is silent to the issue of sunsetting the ED codes, so they are likely to remain provisionally approved for telemedicine for 2025.

For more information regarding pressing ED reimbursement issues, attend the ACEP Reimbursement and Coding Conference in Orlando, Fla., January 20-22, 2025.

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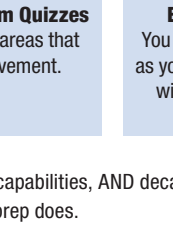

DR. GRANOVSKY is president of LogixHealth, an ED coding and billing company, and currently serves as the course director of ACEP's Coding and Reimbursement courses. He may be reached at mgranovsky@logixhealth.com.

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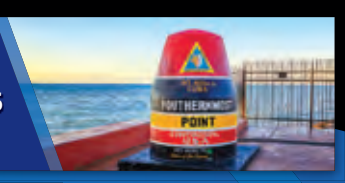

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ACEP4U: ED Accreditation

Emergency physicians have long taken pride in delivering care every day of the week, every hour of the day. ACEP's Emergency Department Accreditation program adds a layer to that, says Marianne Gausche-Hill, MD, FACEP, FAAP, FAEM, Chair of the program's Board of Governors.

"High quality care for anyone, any age, any condition—that's what this program will work to ensure," says Dr. Gausche-Hill, an emergency physician and Interim CEO of the Lundquist Institute at Harbor-UCLA Medical Center. "We understand there are large community hospitals, academic centers and rural hospitals with vastly different resources and needs. However, when a patient walks through the door, they want to know there are resources available for that ED to delivery high quality care."

ACEP's ED Accreditation Program (EDAP) is the next step in ACEP's robust suite of Accreditation programs.

ACEP's Clinical Ultrasound Accreditation Program (CUAP) strives for continuous quality management and patient safety, communication, responsibility, and clarity regarding the use of clinical ultrasound. Accreditation ensures that safe, quality examinations are performed in any ED that utilizes clinical, point-of-care ultrasound.

ACEP's Geriatric Emergency Department Accreditation Program (GEDA) promotes the best clinical practices for older adults. In August, GEDA's work was validated when the Centers for Medicare and Medicaid Services introduced an Age-Friendly Hospital Measure as part of the fiscal year 2025 Inpatient Prospective Payment System rule. This measure incorporates important aspects of the GEDA framework into care delivery.

Finally, ACEP's Pain and Addiction Care in the ED Program (PACED) works to accelerate the transfer of knowledge about acute pain management and secure appropriate resources to care for patients. A June CDC report found that, although medications for opioid use disorder substantially reduce mortality, they are underused. In 2022, only 25 percent of the patients needing OUD treatment received it, according to the report.

Dr. Gausche-Hill says the success of these programs sends a clear message that rigorous and adaptive quality standards are paramount, and therefore, EDAP is a logical next step in ACEP's pursuit of enhanced patient care, transparency and support for frontline workers. Because overall accreditation is so broad, however, she says the work it takes to launch such a program is nothing short of enormous.

EDAP has been more than a year in the making, and launch is expected around Spring 2025.

"It's a pretty daunting task when you think about it," says Dr. Gausche-Hill. "That's because emergency departments include a number of emergency clinicians led by emergency physicians." We want to make the environment not only safe for our patients but also for all our frontline workers—emergency physicians, physician assistants, nurse practitioners, everybody. It has taken a lot of collaboration to reach this point."

The core of the EDAP is to establish a set of criteria EDs must meet to achieve accreditation.

The criteria will encompass staffing levels, quality improvement plans, and transfer policies. This comprehensive approach ensures that EDs are not only prepared to provide immediate care but also equipped to manage more complex cases through effective transfer protocols.

One of the significant advantages of EDAP is its potential to enhance transparency. Patients often face uncertainty about the qualifications of the medical staff treating them. In keeping with ACEP's official stance in support of physician-led teams, part of EDAP criteria will include information about the hospital's inclusion of board-certified emergency physicians.

"We work collaboratively with the entire emergency medicine team to leverage training and resources to efficiently, rapidly and comprehensively take care of patients within an emergency department setting," says Dr. Guasche-Hill. "Who better than emergency physicians to lead that? You want to know when you need care that there's somebody trained and ready for whatever is presented. But what this program does is ensure that the hospital is also committed to ongoing training and improvement."

Four levels of ED Accreditation will be available—Level 1, Level 2, Level 3 and Rural. Hospitals must meet standards based on staffing, physician contracting, quality, policies and resources. These domains are driven by ACEP policies.

ACEP has launched its pilot phase of the program. Five hospitals have enrolled as pilot sites and have agreed to provide criteria and process feedback to the ED Accreditation Board of Governors. This feedback will be instrumental towards a successful nationwide program launch, says Dr. Gausche-Hill.

Pilot participants include:

- The University of Alabama at Birmingham (UAB), Alabama, teaching hospital
- University of Maryland Medical Center, Maryland, teaching hospital
- John Peter Smith Hospital (JPS), Texas, Safety Net hospital
- Holy Cross Medical Center, New Mexico, Critical Access hospital
- Novant Health Forsyth Medical Center

One of the distinguishing features of the EDAP is its commitment to being responsive.

The accreditation criteria will evolve based on feedback, best practices, and emerging trends in emergency medicine. Gausche-Hill says that the program you see at launch in 2025 probably will change based on feedback in 2026.

"The key is thoughtfulness, inclusiveness, and understanding that this is dynamic," she said. "The GEDA Program isn't the same as it was when it was launched, and that's good. We want to adjust over time based on changes within emergency medicine guidelines. We're excited about it. We know this is a program emergency physicians should lead, working with partners, but ensuring that physicians lead the creation of the criteria."

ED Accreditation

ACEP's ED Accreditation Program will include Level 1, Level 2, Level 3 and Rural Emergency or Critical Access Hospital accreditation. There are five sets of domains. Each domain is driven by ACEP policies and the criteria support a physician led emergency health care team including emergency physicians, NPs, PAs and nurses.

- Physician/Other Hospital Staffing
- Emergency Department Planning and Resource Guidelines
- Guidelines Regarding the Role of Physician Assistants and Nurse Practitioners in the ED
- Role of the Emergency Physician in the Care of Trauma Patients
- Social Work and Case Management in the Emergency Department
- Physician Contracting
- Due Process for Physician Medical Directors of Emergency Medical Services
- Medical Practice Review and the Practice of Medicine
- Use of Short Courses in Emergency Medicine as Criteria for Privileging or Employment
- Emergency Department Planning and Resource Guidelines
- Emergency Physician Contractual Relationships
- Quality
- Emergency Department Planning and Resource Guidelines
- Physician Credentialing and Delineation of Clinical Privileges in Emergency Medicine
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2024 CONGRESSIONAL INTERVIEWS

MEET THE EMERGENCY PHYSICIANS RUNNING FOR CONGRESS

by CEDRIC DARK, MD, MPH, FACEP; DARRIN SCHNEID, CAE; RYAN STANTON, MD, FACEP

Every two years, Americans go to the polls to choose our representatives in Congress and at the state level. Few of the candidates vying to represent us have truly walked in our shoes as emergency physicians. However, seven emergency physicians—some incumbents and a few newcomers—are hoping to represent their communities in Washington, D.C. *ACEP Now* reached out to Drs. Raul Garcia, Mark Greene, Ronny Jackson, Rich McCormick, Timothy C. Peck, Raul Ruiz, and Amish Shah, to ask them about their views on issues important to emergency physicians. We were able to speak with three candidates this year. Our interviews, edited for clarity and brevity, are printed below. Full interviews can be found online at ACEPNow.com.

REP. RICH MCCORMICK, MD
(R-GA-7)

SCAN THE QR CODE TO READ THE FULL INTERVIEW ONLINE

ACEP MEMBER AND U.S. REP. RICH MCCORMICK, MD, is a veteran and emergency physician who serves Georgia's 6th Congressional District in the United States House of Representatives. Between deployments, Dr. McCormick earned his Master of Business Administration from National University and medical degree from Morehouse School of Medicine in Atlanta. He completed residency in emergency medicine through Emory while training at Grady Hospital in Atlanta. Most recently, Dr. McCormick served as an emergency physician at Northside Hospital. Incumbent Rich McCormick, Bob Christian, and Charles King are running in the general election for newly drawn U.S. House Georgia District 7.

***ACEP Now*: Boarding has persisted as an issue for the past couple of years. What obstacles do you find in Congress that exist right now when it comes to addressing hospital boarding, and what would be your recommendations on how we could address them from a society organizational perspective?**

REP. MCCORMICK: First of all, the government is very bad at solving problems. Medicine is unique and very complex. We've seen it in the way we pay for medicine, it's a $5 trillion industry in America. That's the same as the third-largest GDP in the world. Between the PBMs, the pharmaceuticals, the hospital systems, the doctors, the mid-levels, the nurses, the techs … it is a complex system of payments. The boarding issue is not just one thing. Why would it be worse after COVID? Are there more people sick? You could say that the population is growing at a set rate, but more so in some areas than others. We have underserved communities in the rural areas. In the Atlanta region, we had AMC, one of the largest hospitals in the region closed. What does that do? Overburden the other hospital systems.

Each hospital system has its own unique challenges. One thing I will say though is the free market is really good at sorting these out, but if you have a certificate of need (CON) for example, you have no way to compete, you have no way to expand, you have no way to reinvest in serving the public.

***ACEP Now*: Dr. Aisha Terry, has focused on the pipeline of leadership for the College this year. How would you encourage other physicians to follow in your footsteps, if they're feeling like they want to get away from the bedside and tackle issues, whether that's in Congress, or a state legislature, or local level?**

REP. MCCORMICK: Don't lose your way. Realize that it's a massive pay cut. Even if you're not in Congress, you can be involved in this process. The reason I think orthopedists have done so well because they've been involved, they've been politically engaged, they've used their assets to preserve their assets. When you're disengaged, guess what? You're in the trough, you're getting fed on. And if you look at ER physicians for example, we have taken essentially a 25 percent pay cut in the last couple of years.

***ACEP Now*: You went to Morehouse School of Medicine, which is one of four historically Black medical schools, which includes Howard, Meharry, and King Drew at UCLA. Morehouse School of Medicine talks about being successful at shifting the curve by accepting matriculants with MCAT scores that are on par for minority applicants, but then outperform on other tests like USMLE, relative to peer institutions. There's this bill called the EDUCATE Act, which you're a co-sponsor of, and which ACEP stands in opposition to. Do you feel like the EDUCATE Act might risk the future success that has been experienced at places like Morehouse School of Medicine?**

REP. MCCORMICK: I'm very proud of my Morehouse heritage. I was actually student body president, elected the same year that Obama was elected President of the United States in a school that's 60 percent female, 80 percent Black, and about 95 percent liberal, a white male conservative was elected student body president. That's based on relationships, it's not based on politics or identity.

I will say this, the reason I'm against DEI, and the reason I co-sponsored this bill is because [DEI] has gone way overboard. It's going to create more racism.

Now, if you're a historically Black school, that's a totally different thing, and I actually have an amendment to this that excludes traditionally Black schools. I think that it's very important to realize there's a tradition, and there's a reason for having Howard, Morehouse, and Meharry. I think there's a reason for those schools. I'm very, very proud of those schools and what they do. I agree, I watched firsthand, people that probably wouldn't have gotten into most schools and did just fine on the USMLE. I think they had individual attention, because they were given a belief system, they had a work ethic, and they just continued to plod and improve, and I loved it.

AMISH SHAH, MD, FACEP
(D-AZ-1)

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ACEP MEMBER AMISH SHAH, MD, FACEP (D-AZ-1) is running against incumbent David Schweikert (R-AZ-1) for a House seat in Maricopa County. Dr. Shah trained at Lincoln Medical and Mental Health in New York.

***ACEP Now*: What are you hoping to accomplish at the federal level that you couldn't at the state level?**

DR. SHAH: The big thing at the federal level is that Medicare and Medicaid are controlled up there at the federal level, right? And a lot of health care financing is done at the federal level that isn't done at the state level. That's really it. We did have some control over the state Medicaid system at the state legislature level, which was good. But you're trying to get everybody covered and lower the costs. I mean that's really it, and it's a much bigger problem. CMS controls a lot of the rules for how things are financed, and therefore that's where you have to go if you want to make changes.

***ACEP Now*: The FTC is looking into consolidation: What are your thoughts on consolidation among insurers and providers of health care?**

DR. SHAH: We have always regulated monopolies in the U.S., and FTC has always been a group that has protected people from monopoly for the benefit of the consumer and for society at large. And we've seen in other industries like big tech, they've been very hesitant to go after monopolies. Now, I think there is a place for them to carefully examine the market power in any one given industry in a given location and ask whether that meets the definition of monopoly power. I certainly hope they would do that. I was an economics major, you know, and I'd be concerned if somebody were exerting monopoly power at the expense of the consumer.

***ACEP Now*: Should ER docs unionize to get better working conditions?**

DR. SHAH: That's a complicated question. I attended the ACEP panel on this last year, and they talked about the pros and the cons. It may not be for everybody. Some groups and practices have explored the option, understand what they're getting into and have concluded that that they're going to work together to get better outcomes under a unionized model. It has clearly made sense for those groups. It's not a decision to be taken lightly.

TIMOTHY C. PECK, MD
(D-IN-9)

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ACEP MEMBER TIMOTHY C. PECK, MD (D-IN-9) is running against incumbent Erin Houchin (R-IN-9) and Libertarian Russell Brooksbank (L-IN-9) in southeastern Indiana, a district that includes Bloomington and Indiana's Louisville suburbs. Dr. Peck went to medical school at NYU Grossman and trained at the Harvard Affiliated Emergency Medicine Residency Program at Beth Israel Deaconess. He founded multiple novel medical practices and technology companies, including Call9, Curve Health, and CareScout. He also has worked as an advocate in D.C, testifying before Congress to advocate for telemedicine and value based care.

***ACEP Now*: What obstacles exist in Congress to address hospital boarding? What would be your recommendations on how to address them?**

DR. PECK: All my recommendations on health and health care here point back to the problems we have about experience. We don't incentivize experience in our systems and our laws - both the provider's experience as well as the patient's experience, so when it comes to hospital boarding, it falls right in line with that. There's no hard line for how many hours you should be measured on in terms of boarding or in terms of how long you're in the emergency department. I think it's a very easy fix on the Congressional side, to have more physicians in Congress and more people who understand what it is to be on the ground there to just logically put in experience measures –time of boarding being one of them.

***ACEP Now*: What are your thoughts on consolidation among insurers and providers of health care?**

DR. PECK: Right here in Indiana and District 9, I have several critical access hospitals that are part of the consolidation effort of other systems. One of the pieces of reform that needs to happen is how we reward and incentivize not-for-profit systems – to continue to give them the tax breaks that they need and deserve to be a not-for-profit. But we also need much more scrutiny over their reserves. Where are the profits going and how are they using them? Those reserves are used much more for pavilions and surgery centers in wealthy suburbs and urban areas and less so in rural areas and critical access hospitals. When you have billions of dollars in reserves, and I see that critical access hospitals in my district literally don't even have security, that's a problem. I was dumbfounded to see how much more equitable distribution should be required if you're going to be in a system that's consolidating under tax breaks. This question also addresses private equity (PE). There's an incongruency between private equity and the mission of medicine. One is a cost reduction function which is very useful in that industry. Another is to deliver the best patient care you possibly can, and those things don't work very well together. As an emergency physician who has founded a telemedicine practice, treating patients in nursing homes, and worked to reduce unnecessary hospitalizations, I've seen what PE has done to the nursing home industry. The function of PE, which is cost cutting, creates horrible patient experiences for the families, patients and providers. I don't think, in its current form, that private equity should be part of the health care system.

***ACEP Now*: How would you encourage other physicians to follow in your footsteps away from the bedside to tackle issues in Congress or a state legislature?**

DR. PECK: My path may be a little bit different. I became an entrepreneur first, then gained some valuable experience while living in a nursing home for three months. One thing about emergency doctors is that we're problem solvers, right? That's our job. We're just really good at figuring things out. Those skills we learn in emergency medicine translate to entrepreneurship for sure, making something from nothing. But they're also useful in policy and politics, especially the ability to be calm when things are hectic, or somebody you disagree with is yelling at you. As emergency physicians, we're still trying to find solutions. Having the confidence to know that those skills are so transferable will take a little bit of the fear out of making the jump and putting their hat into the ring. I think we need to highlight that at ACEP a little bit more, letting people know that the skills and knowledge emergency physicians have are extremely valuable and something the country needs. When you can change the very way Medicare works or work to preserve physician payment vs. hospital payment with inflation, you have the capability to help literally every physician in the country.

***ACEP Now*: What are you hoping to accomplish in Congress?**

DR. PECK: Making sure physician payments keep up with inflation. There's a chart I've seen that shows physician payment on one line, and it's just flat while hospital payments are skyrocketing up the chart. That can only be fixed through Medicare reform. At the federal level, we also can work on legislation that considers incentives and value, and by value, I mean not only quality but patient experience. There's a lack of understanding by politicians about what patient experience really is – what an end user experience is. Right now, there's no incentive to get people out of the emergency department by hospital administrators. Congress doesn't write laws that requires CMS to consider patient experience in the way we should. We don't have a 4-hour rule anymore, and it's why there's no incentive to get people out of the emergency department by administrators.

OTHER EMERGENCY PHYSICIAN CANDIDATES

REP. RAUL RUIZ, MD
(D-CA-25)

U.S. REPRESENTATIVE RAUL RUIZ, MD, currently serves California's 25th district. He earned a medical degree from Harvard University, a Masters of Public Policy from the Harvard Kennedy School of Government, and a Masters of Public Health from the Harvard T.H. Chan School of Public Health. He completed his residency in emergency medicine at the University of Pittsburgh and a fellowship in international emergency medicine at Brigham and Women's Hospital. Rep. Ruiz, the incumbent, is running against Republican candidate Ian Weeks.

REP. MARK GREEN, MD
(R-TN-7)

U.S. REP MARK GREEN, MD, represents the 7th District of Tennessee. Rep. Green is a business leader, decorated combat veteran, emergency physician, and former Tennessee State Senator. Rep. Green serves as Chairman of the House Committee on Homeland Security and is a member of the House Committee on Foreign Affairs. After graduating from West Point, Rep. Green served in the Army as a flight surgeon and deployed to both Iraq and Afghanistan. His most memorable mission was the capture of Saddam Hussein. After his service in the Army, Green founded an emergency department staffing company that grew to over $200 million in annual revenue. He also founded two medical clinics that provide free health care to under-served populations in Memphis and Clarksville, as well as numerous medical mission trips throughout the world. Green graduated from West Point, then from Boonshoft School of Medicine at Wright State University.

REP. RONNY JACKSON, MD
(R-TX-13)

REP. RONNY JACKSON, MD, serves the 13th District in Texas. Following graduation from medical school at the University of Texas Medical Branch, he began active-duty service in the United States Navy. While serving in Iraq, he was called back to the states to serve in the White House Medical Unit during President George W. Bush's Administration. Dr. Jackson ultimately led the White House Medical Unit as Director of the White House Medical Unit and Physician to the President during the Obama Administration. He was Chief Medical Advisor and Assistant to the President, serving under President Donald J. Trump. He is running unopposed in November.

RAUL GARCIA, DO, FACEP
(R-WA)

U.S. SENATE CANDIDATE RAUL GARCIA, DO, FACEP, is challenging incumbent Maria Cantwell (D-WA) in Washington State. Dr Garcia has been a successful small business owner of his own medical practice, one of the founding Deans of two medical schools, and the Medical Director of two hospitals. He is currently the Medical Director of Astria Toppenish Hospital in Toppenish, Washington. Dr. Garcia founded "Opportunity for Washington" as a non-profit, nonpartisan effort promoting education and change. He helped found the Partnership for Food Security in 2020 to promote COVID-19 education, particularly in the Latino community. Dr. Garcia earned his DO at the New York Institute of Technology College of Osteopathic Medicine and trained at SBH Health System Bronx. A native of Pinar del Rio, Cuba, Dr. Garcia escaped Cuba with his mother at age 11 and later gained asylum in the U.S. and settled in Miami, where he attended college and earned a Bachelor of Science degree in Microbiology/Immunology.

FOR QUICK QUESTIONS WITH THE CANDIDATES TURN TO PAGE 14

2024 CONGRESSIONAL CANDIDATES

QUICK QUESTIONS

The 2024 Congressional candidates agreed to participate in some rapid-fire questions spanning their favorite part about being an emergency physician to who their picks are for this year's World Series.

What is the best thing about being an emergency physician?

REP. MCCORMICK: You get to see people on the worst day of their lives and have real influence. If you want to pick a ministry where you're going to make a difference to somebody, see them on their worst day, people will actually listen to you, and you may have a positive effect on their life.
DR. PECK: I go back to the skills that it gives. It's amazing, like being able to be calm and teach a resident while someone's actively coding in front of you. You don't get that from other places, maybe the military.
DR. SHAH: No matter who you are, where you come from, what your problem is, we will be there for you.

If emergency medicine didn't exist, what specialty would you have chosen?

REP. MCCORMICK: I really love pediatrics, I love working with kids.
DR. PECK: I went to Haiti for a year during Medical School, went to school at NYU and took a year off living in Haiti and did a year of what could be considered tropical third-world medicine. So, if not emergency medicine, I think the idea of developing world medicine.
DR. SHAH: Wow. What a question. I probably would have done orthopedic surgery.

What do you think about artificial intelligence (AI)? Is it going to make medicine better or worse?

REP. MCCORMICK: It has the potential to do both. I hope it'll make it better, I hope it'll make billing better.
DR. PECK: Worse before it gets better, I think, is the answer.
DR. SHAH: I don't know, but I would say, with any new technology, it opens up opportunity and a possibility for abuse as well.

Who do you have for the Major League Baseball World Series this year?

REP. MCCORMICK: Baseball's a hard one with me, if the Braves aren't doing well, I'm kind of out. So I'll stick to rugby.
DR. PECK: That's a tough one for me because I'm from the Midwest and lived on the East Coast. And I have some baseball connections. I'll stick with NL East vs. AL Central.
DR. SHAH: I don't know. I'm a Chicago Bears fan and an NFL guy. I'm not into baseball that much. That's my honest to goodness answer.

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If you have a story idea or drafted article, e-mail the word document file to Editor **Danielle Galian-Coologeorgen, MPS,** and Medical Editor in Chief **Cedric Dark, MD, MPH, FACEP**. We'll review your submission and update you on next steps.

To submit a story pitch, please send a 250 word summary along with bullet points of the following:

- Why our readers would value the story.
- How the story would influence the provision of emergency medicine.
- What you hope the reader would learn from your article.
- Potential outside experts or sources for the story.

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BE A MEDICAL DETECTIVE—BONE UP ON YOUR FORENSIC SKILLS

FORENSIC FACTS

DR. ROZZI is an emergency physician, medical director of the Forensic Examiner Team at WellSpan York Hospital in York, Pennsylvania, and secretary of ACEP's Forensic Section.

DR. RIVIELLO is chair and professor of emergency medicine at the University of Texas Health Science Center at San Antonio.

When the History Does Not Fit

The possibility of non-accidental trauma

by RALPH RIVIELLO, MD, FACEP; AND HEATHER ROZZI, MD, FACEP

It is 0715 hours, and you have just come onto shift when EMS calls that they are bringing in an 11-month-old female who won't stop crying. They do not have any additional information except that she is healthy, with no past medical history, and has stable vital signs. As they wheel past the desk, you observe the child lying on her mother's chest fast asleep. Mom states that the child just started screaming and crying and she could not get her to stop. She has no idea what happened. On physical exam, you notice what appears to be a blister from a burn on her right palm (see photo on cover). The remainder of your physical exam is unremarkable. When you are done, you tell the mother what you found and ask her if there is any way the child could have been burned. She tells you that she was getting ready to go to school and was sitting in front of the mirror with her daughter on her lap while she was doing her hair with an electric straightening device. She states that her daughter was fidgety and was pulling herself up onto the table. It was after doing so that the child began screaming.

Discussion

Minor injuries in children are extremely common, and most do not require medical attention. Emergency department (ED) visits for pediatric injuries are common, and millions of children are seen each year. Fortunately, most injuries are not the result of abuse or neglect. When it does occur, the identification of physical abuse can be difficult. Witnesses are often not present, victims are often nonverbal, perpetrators often do not admit to actions, children may be too frightened or injured to disclose their abuse, and injuries can be nonspecific.

Physicians are taught to rely on parents for accurate information about the child's history and may not be critical or skeptical of the information provided. Another confounding factor is that many accidental injuries sustained by ambulatory, active children are unwitnessed by caregivers. In these cases, parents can describe events surrounding the injury but are unable to describe the exact mechanism of trauma. The emergency physician must maintain a high index of suspicion for the possibility of non-accidental trauma (NAT). Certain histories should raise a concern for abusive trauma:

- No explanation or vague explanation for a significant injury;
- Explicit denial of trauma in a child with obvious injury;
- Important detail of the explanation changes in a substantiative way;
- Explanation provided is inconsistent with the pattern, age, or severity of the injury or injuries;
- Explanation provided is inconsistent with the child's physical and/or developmental capabilities;
- Unexplained or unexpected notable delay in seeking care; or
- Different witnesses provide markedly different explanation for the injury or injuries. [1,2]

Some suggestions to aid in getting a better history to guide your decision making include:

- Standard history, including medical, developmental, and social history;
- Family history, especially of bleeding, bone disorders, and metabolic or genetic disorders;
- Pregnancy history: desired/undesired; planned/unplanned, prenatal care, postnatal complications, postpartum depression;
- Familial patterns of discipline;
- Child temperament, including whether child is easy or difficult to care for; excessive crying in an infant; patents' expectations of the child's behaviors and development;
- History of abuse to child, siblings, or parents;
- Substance abuse by any caregivers or people living in the home; parental mental health problems, law enforcement interactions, and domestic violence history; and
- Social and financial stressors and resources. [1,2]

If there is a concern for NAT, a complete and thorough physical exam should be performed on the child. The child should be undressed, and the exam conducted in a well-lit room. The ED physician should pay attention to areas of bruising, both acute and chronic, patterned injuries, areas of pain or tenderness, and areas of scarring.[1] A helpful mnemonic when NAT is suspected is **TEN 4-FACES**:

- Torso
- Ear
- Neck; and
- In children younger than 4 years of age, and in ANY infant younger than than 4 months old
- Face
- Auricular area
- Cheek
- Eyes
- Sclera[1,3,4]

If abusive trauma is being considered, a skeletal survey and laboratory investigation may be warranted.[1,5] If there is still a concern, child protective services (CPS) should be notified.

Remember, physicians are mandated reporters in all 50 states.

Case Resolution

Given the location of the burn, pediatric burn surgery was consulted. They evaluated the child and debrided the burn. Even though the explanation for the injury was very plausible, because it was not given initially to EMS and ED staff, CPS was contacted. A skeletal survey was performed and did not reveal any findings. A CPS case worker visited the ED and spoke to the patient's mother. The case worker determined that there was no concern for NAT. The child was discharged with a bacitracin dressing, oral pain medications, and follow-up in the pediatric burn clinic.

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4 Ways the BCC Can Enhance Your Email Practice

Taking the taboo out of this email feature

by ADAIRA LANDRY, MD, MED; AND RESA E. LEWISS, MD

Despite many articles written on how to improve email habits, a notable absence remains when it comes to the blind carbon copy (BCC). The BCC, or the blind carbon copy, is an efficient and convenient strategy to deliver messages to large groups, avoid "Reply All" emails that clutter the inbox, and ensure confidentiality of recipients. When used optimally, the BCC respects the time, inbox, and the identities of email recipients. More often, however, the BCC is misunderstood, underused, and underappreciated—largely from a lack of comprehending the versatility of its capabilities.

We believe in kind and respectful workplace communication, and yet, we've seen people use the BCC to harm others, e.g., by secretly putting supervisors or HR in the BCC line. We want to gently push back on that application. This nefarious use has given the BCC an unfortunately negative reputation. Hiding recipients is rarely fair, honest, or positive for your professional reputation. We have seen this practice backfire. For example, if the person in BCC clicks "Reply All," they enter the discussion and reveal to anyone on the To: and CC: lines that they were hidden.

Once and for all, it's time to resolve the hazy understanding many hold related to the BCC. Here we describe four productive ways to employ the BCC to improve your email etiquette.

1. **When you want to avoid the "Reply All" response:** Each of us has sent an email to 10, 20, 30, or more people and experienced the disastrous downpour of responses. We want you to stop the storm before it starts. When you email a sizable group, drop everyone to the BCC line. At the same time, let everyone know who is BCC'd (e.g., type "Dear Faculty, Residents, PAs:" or "Attention Residents:" as the email greeting). When you're in the BCC line, you cannot see or message anyone else in the BCC line. This way, everyone receives the message, yet no one can respond to the whole group. If a person in BCC presses "Reply," the new message goes to the original sender. If a BCC'd person presses "Reply All," the message will go to anyone on the To: and CC: lines.
   » *Scenario:* There is a promotion in your department, and you want to share the good news. Put the person winning the award or getting the promotion in the To line and put the team in the BCC line. When someone presses "Reply All," it goes to you and the award winner only.
2. **When you need to send a sensitive email to multiple people:** You might have to send an email that contains sensitive information to more than one person. Given the need to protect privacy, listing people individually on the To: or CC: lines is not possible. Save yourself from sending many individual emails one at a time, and drop everyone to the BCC line.
   » *Scenario*: Multiple individuals have

CONTINUED *on page 16*

Pediatric Submersion Injuries

Understanding this common and preventable tragedy

by ANNALISE SORRENTINO, MD, FAAP, FACEP

Pediatric submersion injuries are one of the leading causes of preventable morbidity and mortality in the pediatric population. And while epidemiology of these cases varies by geographic location, the assessment and management are largely consistent regardless of patient population.[1,2]

Clinical outcomes in submersion injuries are largely dependent on the degree of hypoxic injury experienced by the victim, making prehospital care of paramount importance. Optimally, bystander CPR, including the administration of rescue breaths, should be initiated prior to arrival of emergency medical services. Every effort should be made to restore adequate oxygenation, ventilation, and perfusion as soon as possible.[3]

Once the patient arrives in your emergency department, a rapid review of the patient's status and results of resuscitative efforts should be performed. One question that is commonly raised is whether these patients should be trauma activations. One study demonstrated that the minority of the cases reviewed required surgical intervention or had identifiable traumatic injuries, making standard involvement of the trauma team unnecessary.[4] Another study cited only 2.3 percent of pediatric drowning patients with clinically significant traumatic injuries, with intracranial injuries being the most common.[5] As with any pediatric injury, however, non-accidental trauma should be in your differential.

ED treatment should focus on airway, breathing, and circulation with consideration for cervical spine protection depending on the circumstances surrounding the event. Oxygen administration, with or without ventilatory support, is the mainstay of treatment. Fluid resuscitation will likely be warranted, and with crystalloid solution is most appropriate. Although some of these patients will have acidosis, it is typically respiratory in nature, making sodium bicarbonate unnecessary.[3]

Hypothermia is commonly encountered in submersion episodes, regardless of geographic location and season, although case reports have hypothesized improved neurologic outcomes, possibly due to the protective effects of the lower body temperatures.[6,7] Hypothermia is classified as:

- **Mild:** Core body temperature less than 35 degrees Celsius (less than 95 degrees Fahrenheit)
- **Moderate:** Core body temperature 30 degrees Celsius–32 degrees Celsius (86 degrees Fahrenheit–89.6 degrees Fahrenheit)
- **Severe:** Core body temperature less than 30 degrees Celsius (less than 86 degrees Fahrenheit).[7]

Esophageal thermometers provide the most accurate estimation of core body temperature, but bladder or rectal measurements may be used if esophageal probes are not available. There are three main methods of rewarming utilized:

Passive External Rewarming

- Remove all wet clothing
- Warm blankets or forced air warming blanket

Active External Rewarming

- Hot packs and heat lamps to trunk of body

Active Internal Rewarming

(reserved for severe hypothermia)

- Warmed IV fluids
- Warmed humidified oxygen
- Peritoneal, thoracic, or bladder lavage
- ECMO[3]

While neurocognitive issues due to a hypoxic–ischemic event are the most commonly seen long-term complication of submersion injuries, lung injury can be seen in the acute phases. Aspiration of gastric contents is often the cause of the initial insult, but acute respiratory distress syndrome can develop, necessitating the use of positive pressure ventilation and admission to the intensive care unit.[2] All efforts should be made to maximize oxygenation and minimize barotrauma. Steroids have not been shown to be effective in lung injury secondary to submersion injuries and should be avoided. Additionally, there is not a role for prophylactic antibiotics.[3]

Until now, we have largely been discussing significant submersion injuries that require ongoing resuscitation and admission to the hospital, and although it has been suggested that all patients that have experienced a submersion injury should be admitted for observation, growing evidence suggests that some of these children can be safely discharged home. Much of the concern supporting admission for observation arises from the concept of "secondary" or "dry" drowning, which are not physiologically supported clinical entities.[3,8]

Multiple studies have shown that children who are asymptomatic or mildly symptomatic at initial presentation have a high likelihood of being able to be safely discharged from the ED after an observation period. Findings leading to successful discharge included absence of respiratory distress, normal oxygen saturations and age-appropriate vital signs, and lack of need for prehospital intervention.[9,10,11] Blood gas analysis or chest X-ray findings did not contribute to disposition decisions and are largely unhelpful in this clinical subset. A pediatric submersion score was developed and validated in 2017 identifying five factors that, if present, suggest safe discharge from the ED after an eight-hour observation period. They include:

- Normal mentation
- Absence of dyspnea
- Normal respiratory rate
- Normal systolic blood pressure (no signs of hypertension)
- Absence of need for airway support[12]

At this time, a six- to eight-hour observation from the time of the submersion event is widely accepted, although future studies may prove that a shorter observation time is sufficient.[9,11]

As with many pediatric issues, prevention is key. Several studies have identified common misperceptions and gaps in education. One study showed that only six percent of caregivers were able to correctly answer 10 water safety knowledge questions; more than 30 percent got the majority of answers wrong, including not understanding that submersion injuries are a leading cause of death in the toddler age group and that you may not hear splashing or calling for help when someone is drowning. In this same study, one-third of caregivers felt that children didn't need to be supervised as closely after they had received swimming lessons.[13] Another study showed that caregivers felt keeping children within arm's length in the water would be less critical if they were wearing flotation devices or if older children were with the toddler.[14] A third study demonstrated that children living in rental properties with pools, who have caregivers that cannot swim and whose caregivers do not speak English, are at higher risk. Making affordable, culturally appropriate, and accessible interventions available to this population is key.[15] Other efforts should be aimed at education regarding bathtub and bucket drownings, as these are often overlooked.[16]

So, as we continue to care for the children who present to our emergency departments with submersion injuries, remember: Oxygen is vital, observation is essential, and prevention is key.

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BCC | CONTINUED FROM PAGE 15

been selected for coaching based on their performance review. You draft a generic, yet compassionate, email to notify the entire group. Using the BCC allows you to be efficient and respect their privacy. Remind people that they can reach out to you directly for questions or to schedule a meeting. If they accidentally hit "Reply All," the message goes to you only.

3. **When you are introduced to someone new:** When you are introduced to someone via email, you want to thank the person making the introduction. We suggest you generously remove them from the thread and continue the conversation with your new contact. Now, the person making the introduction can exit after the initial emails and be spared further inbox clutter.
   - » *Scenario:* A faculty member introduces you via email to a new fellow. When you respond, place the faculty member in the BCC line, thank them, and continue the conversation with the fellow. Future emails between the fellow and you will not include the faculty.
4. **When you want an email you send to others to appear in your inbox:** Consider the scenario where you are writing an email of high importance and you want to track the message for yourself. Perhaps there is an action item you assigned to yourself. Add your email address to the BCC line and send the email to the group. The message arrives at the top of your inbox for record keeping.
   - » *Scenario:* You are organizing a lecture and want to remind yourself to follow up with the speaker if they do not respond in 48 hours. Add your name to the BCC, and the email goes to the recipient and to your inbox.

The BCC used to elude us too; however, this is a powerful friend, not a foe. It can be challenging to integrate change when your workplace culture doesn't value the BCC. Start with the small action of using the BCC with your immediate team members until everyone gets used to it. Your email communications will carry a bigger, more polished communication impact for everyone.

DR. LANDRY is an assistant professor of emergency medicine at Brigham and Women's Hospital, Harvard Medical School.

DR. LEWIS is a professor of emergency medicine at The University of Alabama at Birmingham.

ONLINE EXCLUSIVES

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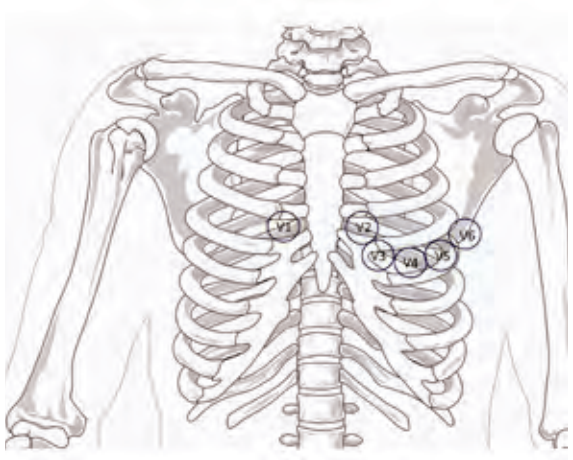
CASE REPORT



Danger Swimming Below the Surface

A common cause of sudden cardiac arrest in a child

by JAY PERSHAD, MD, FACEP; STEPHANIE LACEY, DO

A 10-year-old male with a past medical history significant for autism spectrum disorder and 15q3 deletion, experienced a cardiac arrest at home. There was no family history of syncope or sudden death. EMS found the patient pulseless and apneic, with an initial rhythm showing ventricular fibrillation. He was defibrillated twice and received 2 doses of epinephrine, with return of spontaneous circulation.

I Have a Bad Feeling About This

Putting cutting clinical gestalt to work in the emergency department

by ALEX KOO, MD, FACEP

Gestalt is useful in areas of time-sensitivity and uncertainty. Sound familiar? This is the essence of emergency medicine. Caring for critically ill patients with limited information requires snap assessments and judgements for timely resuscitation and efficient emergency department throughput.

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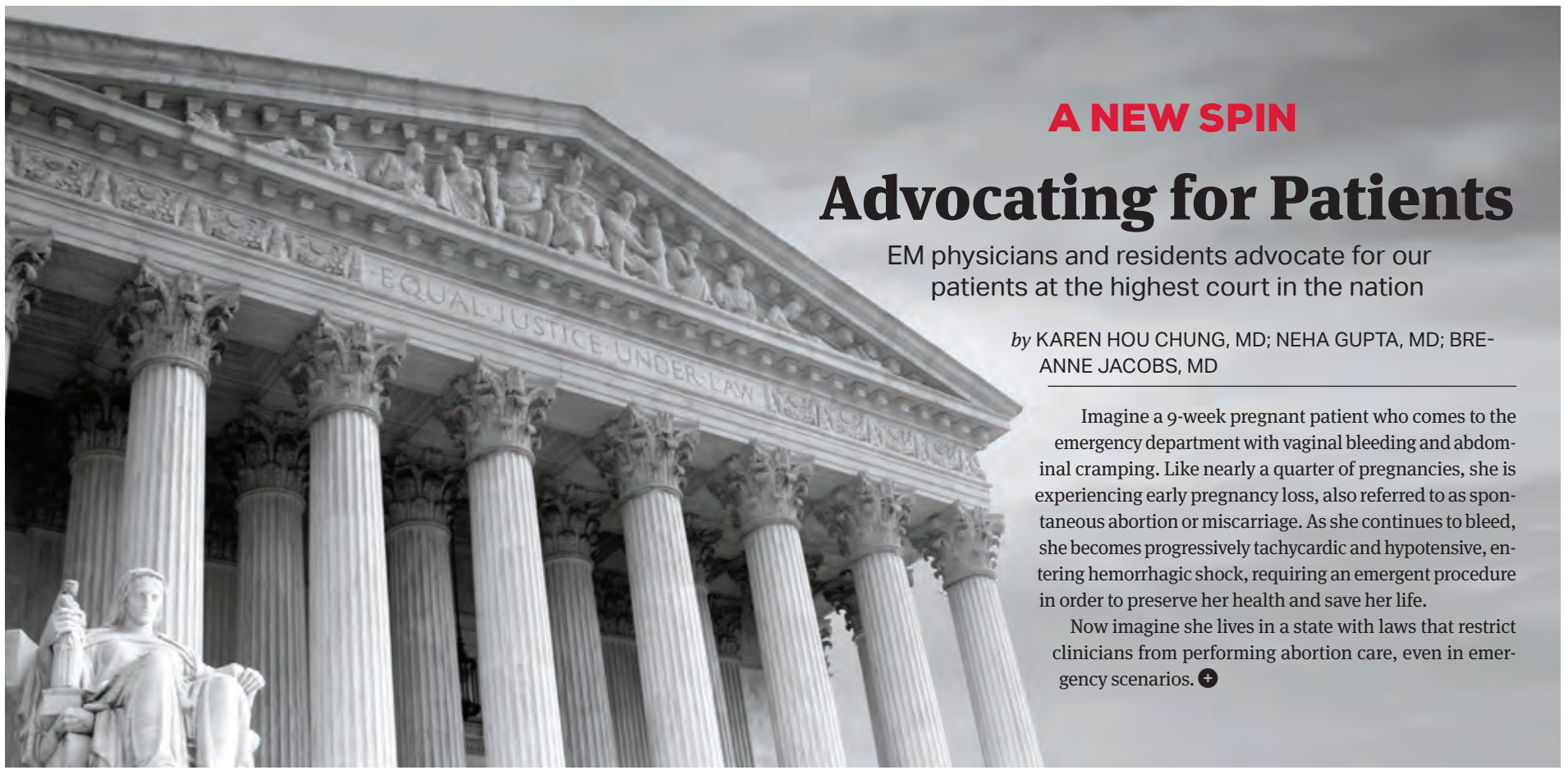
Holy Foley

A Rare Case of Iatrogenic Obstruction

by ADAM HEILMANN, MD

Our patient is a 33-year-old male with spastic quadriparesis due to cerebral palsy with chronic indwelling suprapubic catheter (SPC) who presented to the emergency department (ED) due to concern for Foley catheter obstruction. The patients' mother has attempted to flush the SPC multiple times unsuccessfully at home. The catheter was reportedly due for an exchange the following week. The patient reports pain at the site of SPC but denied fevers, nausea, vomiting, or other systemic symptoms. SPC was exchanged in the ED with clear yellow fluid observed draining into the bag. The patient was discharged with return precautions; however, he returned nine days later with a migraine, emesis, and fever with Tmax of 38 degrees Celsius at home. At the time of evaluation, all symptoms had resolved. SPC was able to be flushed and laboratory evaluation included blood count, metabolic panel and urinalysis, all of which were unremarkable other than suspicion for urinary bacterial colonization. The patient was ultimately discharged home with return precautions and SPC was not exchanged. Two days later, the patient returned for a third time with a fever and new, sharp left flank pain.



A NEW SPIN

Advocating for Patients

EM physicians and residents advocate for our patients at the highest court in the nation

by KAREN HOU CHUNG, MD; NEHA GUPTA, MD; BRE-ANNE JACOBS, MD

Imagine a 9-week pregnant patient who comes to the emergency department with vaginal bleeding and abdominal cramping. Like nearly a quarter of pregnancies, she is experiencing early pregnancy loss, also referred to as spontaneous abortion or miscarriage. As she continues to bleed, she becomes progressively tachycardic and hypotensive, entering hemorrhagic shock, requiring an emergent procedure in order to preserve her health and save her life.

Now imagine she lives in a state with laws that restrict clinicians from performing abortion care, even in emergency scenarios.

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ANSWERING CLINICAL QUESTIONS

PROBLEM SOLVERS

DR. MARCO is professor of emergency medicine at Penn State Health-Milton S. Hershey Medical Center and associate editor of *ACEP Now*.

Missed Hemodialysis

Assessment and management

by CATHERINE A. MARCO, MD, FACEP

A 38-year-old man with end-stage renal disease (ESRD), on hemodialysis, presents by EMS with shortness of breath. He states he has missed dialysis for the past week due to shortness of breath.

Clinical questions:

What diagnostic tests should be ordered?
How should missed dialysis be managed?

Treatment adherence is a significant problem among patients with ESRD on hemodialysis. There seems to be a gap in understanding and compliance with hemodialysis between health care workers and patients. Why might patients fail to adhere to a lifesaving therapeutic intervention?

The medical literature offers some explanations. Contributing factors to nonadherence with hemodialysis may include fatigue, depression, transportation challenges, poor health literacy, lack of trust, cognitive impairment, and lack of family and social support.[1–10]

Complications of nonadherence may be significant and even life-threatening, including pulmonary edema, hyperkalemia, uremia, heart failure, and other cardiovascular events.[11–17]

When attending to patients who have not been adherent to hemodialysis regimens, care should include a medical evaluation and initiation of treatment. Diagnostic studies may include ECG, chest X-ray, serum chemistries, and complete blood count. Initiation of treatment for emergent conditions such as pulmonary edema or hyperkalemia should be undertaken immediately. Arrangement for inpatient or outpatient hemodialysis is crucial to prevent additional complications.

Equally important is identification of barriers to compliance with outpatient hemodialysis to prevent future readmissions and complications of ESRD. Care coordination with primary care, nephrology, home health, and outpatient services, such as transportation, may be of value in improving adherence to hemodialysis.

Case Conclusion

Following stabilization of airway, breathing, and circulation, diagnostic tests included serum chemistries notable for potassium of 7.5 and a chest radiograph that demonstrated pulmonary edema. Treatment was initiated with intravenous calcium gluconate, glucose and insulin, sodium bicarbonate, patiromer, and nebulized albuterol. The patient was admitted for emergent inpatient hemodialysis.

Following stabilization, care coordination was initiated with social work, primary care, and nephrology. Transportation was identified as a barrier to outpatient hemodialysis, and reliable transportation for future outpatient hemodialysis was arranged.

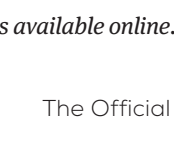
Disclaimer

This article is not a comprehensive review of diagnosis and treatment of ESRD but an overview of management of nonadherence. Authoritative sources should be used for diagnostic and treatment decisions. ⊕

References available online.

PUTTING RESEARCH TO WORK FOR YOU

PRACTICE CHANGERS



DR. WESTAFER is assistant professor in the department of emergency medicine at the UMass Chan Medical School–Baystate and co-host of FOAMcast.

Corneal Abrasions

The most commonly encountered emergent ophthalmologic issue in the ED

by LAUREN WESTAFER, MD

Corneal abrasions are the most commonly encountered emergent ophthalmologic issue in the emergency department (ED) and are generally associated with significant discomfort.[1] Yet, in the ED we often perform a single intervention that appears to instantly cure these patients: instillation of a topical anesthetic (e.g., proparacaine, tetracaine). As a result, emergency physicians have increasingly demonstrated interest in providing patients with take-home relief via topical anesthetics; however, the use of topical anesthetics in patients with corneal abrasions has long stirred up intense debate between emergency phsicians and ophthalmologists.[2] Ophthalmologists, who are on the receiving end of ophthalmic complications, have opposed topical anesthetics in these patients due to concern regarding potential vision-threatening complications such as toxic keratopathy.[3] The concern regarding adverse effects historically stemmed from case reports and series skewed by publication bias and often addressing situations that included welders and those with topical anesthetic abuse.

Now, ACEP has published a consensus guideline that has fueled this controversy. The consensus guideline serves up an interesting read—"spilling the tea" on what went down in this document that began as a joint guideline between ACEP and the American Academy of Ophthalmology (AAO).

First, the guideline gives the following Level B recommendation: "In adult ED patients with simple corneal abrasions as defined in these guidelines, it appears safe to prescribe or otherwise provide a commercial topical anesthetic (i.e., proparacaine, tetracaine, oxybuprocaine) for use up to every 30 minutes as needed during the first 24 hours after presentation as long as no more than 1.5 to 2 mL total (an expected 24-hour supply) is dispensed and any remainder is discarded after 24 hours." This recommendation is a win for emergency physicians who favor doling out topical anesthetics in select patients.

This recommendation was informed by evidence derived from case reports and series, ophthalmology literature after photorefractive keratectomy, four ED-based randomized trials (totaling 307 patients) and two ED-based nonrandomized studies (totaling nearly 2,000 patients). Although the ACEP guideline does not analyze the pooled data, a Cochrane review examining the randomized trials found the relative risk (RR) of incomplete resolution of epithelial defects by 24-72 hours and complications at longest time point not statistically significant in post-trauma corneal abrasions treated with topical anesthetic versus placebo (RR 1.37, 95 percent CI 0.78- 2.42 and RR 1.13, 95 percent CI 0.23-5.46, respectively).[4]

The ACEP guideline gives a smattering of supporting recommendations, including that tetracaine, proparacaine, and oxybuprocaine appear similarly safe, that clinicians should consider patient-specific medical and social factors, and that topical anesthesia appears a more effective analgesic than acetaminophen with or without an opioid. Use in pediatric patients should be avoided due to a lack of studies in these patients.[5]

No, not all patients with corneal abrasions can or should get take-home topical anesthetics; however, a subset of carefully selected adult patients with a simple corneal abrasion can take home a <24-hour supply. When considering dispensing topical anesthetics, the ACEP clinical policy provides additional recommended information to add to patient discharge instructions.[5] Importantly, these instructions highlight the importance of the <24 hour timeframe and potential adverse consequences. These instructions can be adapted for local use and, in my own practice, serve as a stimulus for shared decision making with the patient.

Many ophthalmologists are unhappy with the ACEP recommendations and anecdotally report an increasing number of patients presenting to clinic with entire bottles of topical anesthetic from the ED.[3,6] The guideline contains a description of the drama that unfolded when the joint ACEP-AAO workgroup submitted their recommendations: The AAO supported the literature review but disagreed with the recommendations and eventually withdrew support.[5] Although not supported by published evidence to date, the concerns from our ophthalmologic colleagues should not be ignored. In fact, with regard to rare outcome data, the studies are rather small. Additionally, our Achilles' heel in emergency medicine is the lack of follow-up on downstream outcomes, which can lead to overconfidence in our practice patterns and gestalt. We are unlikely to become aware of our misdiagnoses, such as mistaking microbial keratitis or a corneal ulcer for a corneal abrasion. Emergency physicians are unlikely to see adverse sequelae unless we actively seek follow-up. It is critical to take certain steps when contemplating topical anesthetic for home use.

- Be certain of the diagnosis of a simple corneal abrasion. This means a thorough exam, using the slit lamp, to exclude foreign body/rust ring, ulcer, laceration, infection, or keratitis. Also, be sure to address pertinent features in the history to ensure fewer than two days since onset, no chemical or thermal cause, no history of herpetic eye disease, and similar issues.
- Counsel patients on potential risks.
- Dispense <1.5 to 2 mL (40 drops) of anesthetic and throw away the rest.
- Provide written and verbal instructions to the patient on appropriate use, including duration of use, follow-up, and risks.
- Consider discussing with local ophthalmologists. ⊕

References available online.

Toxicology Q&A Answer

QUESTION ON PAGE 2

ANSWER: The pretty and toxic tobacco (*Nicotiana tabacum*)

Many years ago, fresh out of my New York Toxicology Fellowship, I walked into an early September emergency department (ED) shift my first month as an attending in Eastern North Carolina to find six field workers lined up on hallway beds. They had just arrived—all suffering with severe nausea and vomiting, abdominal pain, and diarrhea. A quick examination revealed they were all relatively bradycardic, tremulous, and weak; they had pinpoint pupils and were soaked in sweat. I immediately ran to find the charge nurse and asked how we could report this cluster of possible nerve gas-exposed patients to the State, and if we should go on lockdown. He looked at me kindly, put a steadying hand on my shoulder, and said in his deep Southern accent, "Don't worry, Dr. Hack, it's just topping season, a little TLC and time, they'll be fine."

History

Tobacco (*Nicotiana tabacum*) is a member of the *Nicotiana* genus—a relative to the nightshade family (potato, tomato, eggplant, belladonna) —that originated in the Americas. It was used for medical, social, and religious purposes by Native Americans for millennia, and introduced to Europeans in 1492 through Columbus' exchanged gifts of fruit, food, and leaves of the tobacco plant during his "discovery."

Later, Jean Nicot de Villemain (1530-1604) introduced tobacco to the French royal court, and his name became synonymous with the plant—*Nicotiana tabacum* and "nicotine." The word "tobacco" is derived from the Caribbean word "*tabaco*" and Spanish word "*tobah*"—the device used to inhale smoke from the plant.[5]

While there are over 75 *Nicotiana* species, *N. tabacum* and *N. rustica* are the major cultivated species for human use. *N. rustica*, "Aztec" or "Indian" tobacco, is considered to be the original species (evidence of its use has been found from over 8,000 years ago) from which other tobaccos were cultivated. The first commercial crop of *N. tabacum*, grown in Jamestown, Va., in 1612 by the colonist John Rolfe (Pocahontas' husband), spread first to eastern North Carolina and quickly became an agricultural foundation of this country. George Washington's 1765 complaint letter to his London agent about the low prices he was getting for his tobacco harvest is evidence of the founding father's involvement in the crop: "... it be ... a little mortifying ... [to] raise none but Sweetscented Tobacco, and ... meet with such unprofitable returns."[13] Tobacco remains today one of the most economically important industrial crops worldwide—about six trillion cigarettes worldwide are smoked each year; 6.68 million metric tons of tobacco were produced in 2019.[12]

The Plant

N. tabacum is an herbaceous annual that has a thick, hairy stem and grows to about two to four feet in height. During its lifecycle, it produces clustered flowers (inflorescence) at its apex, which are tubular and have a corolla with five petals colored white, yellow, pink, or red. [image 2—tobacco flowers]. These flower bundles are physically removed from the plant (called "topping") during a specific period of the growing season to stimulate the remaining green leaves to become bigger and promote root growth. (Nicotine is formed in the roots and sent to the leaves.) The leaves, the economically important part of the tobacco plant, grow alternately up the stem, are elliptical with a point, and grow to be 20 inches long and 10 inches wide. Dew on the leaves can contain up to nine percent nicotine.

Toxins

The plant's major toxic alkaloid is nicotine, which binds to nicotinic acetylcholine receptors (nAChRs), is considered a psychostimulant, can produce analgesia and anxiolytic effects, and stimulates specific reward pathways in the brain at low doses. In larger doses, its effects include directly agonizing the medullary emetic chemoreceptor trigger zone, causing vomiting. Nicotine also stimulates sensory and parasympathetic nerves from the gastrointestinal (GI) tract, increasing fluid secretion and peristalsis and interacting with the nicotinic receptors in the central nervous system (CNS) and post-synaptic autonomic ganglia, causing CV fluctuations, weakness, and CNS excitement.

Tobacco also contains thousands of metabolites, which are being explored for both chemical and biologic uses—isoprenoids, flavonoids, cembranoid compounds volatiles, and recently acyclic hydroxygeranyllinalool diterpene glycosides have been characterized.[4,11,14]

Toxicity*: (*There is not enough room in this column to discuss the oncologic, pulmonary, hematologic, and other effects of tobacco or nicotine on humans. We will focus on one toxicity directly from the plant.)

Green Tobacco Sickness

Nicotine poisoning may occur from occupational exposures in workers who come in direct contact with the plant or its liquids, even through intact skin during crop maintenance—activities such as topping (cutting the flowers off), sucker removal (taking off the smaller side leaves), harvesting the leaves for processing, and working in the drying (curing) areas.

Several factors contribute to nicotine exposure and poisoning during this work—(1) Leaf harvesting usually occurs in late August or September when there is elevated ambient temperature and humidity, and frequent rain; (2) this causes sweating; (3) the heat discourages wearing protective clothing; and (4) physical labor increases dermal vascular dilation, which increases nicotine absorption by 45 percent; (5) water or dew on the tobacco leaves absorbs nicotine from the plant and can contain up to nine mg of nicotine per 100 mL; the average worker is exposed to approximately 600 mL of nicotine-containing dew per day (54 mg = 36 cigarettes) [cigarettes contain about 10 mg nicotine; 1.1-1.8 mg are absorbed through smoking]).[2,8] Younger workers are especially vulnerable to green tobacco sickness because of their size and lack of tolerance and experience.[2]

Signs and Symptoms

- Onset varies between 15 minutes and 10 hours.
- The general symptoms are dizziness, generalized weakness, and prostration.
- GI symptoms include severe nausea, vomiting, and abdominal pain.
- CV symptoms: bradycardia/tachycardia and hypertension/hypotension
- Neurologic: headache, tremor, and seizure
- Somatic: muscular cramping, fasciculations, weakness, and respiratory muscle weakness

PHOTOS: JASON HACK (OLEANDER PHOTOGRAPHY)

Image 2: Tobacco flowers.

Treatment

- Primary goal is separating the patient from the exposure—removal of clothes that have been exposed or are wet, copious washing of the victim's skin is critical to stop continued exposure.
- Anti-emetic and hydration as needed for fluid losses; benzodiazepines can be used for persistent vomiting and for comfort.
- Green tobacco sickness is usually a self-limiting condition—recovery occurs in one to three days.
- Prevention is paramount and consists of gloves, long sleeves, water-impermeable clothing, along with the ability and opportunity to wash skin with soap and water during work if contaminated with tobacco sap or dew.[3]
- Although not recommended, many tobacco workers self-treat by starting to smoke or chew tobacco to build a nicotine tolerance.

Tobacco Leaf Use Primer

Selected forms of tobacco—cigars, which are rolls of cured tobacco wrapped in tobacco leaf or paper that contain tobacco or tobacco extract, and cigarettes, which are uniform in size and usually contain less than one gram of tobacco each. U.S. cigarettes are made from different blends of unfermented tobaccos and wrapped with paper; chewing tobacco comes from loose leaves and is sold in various forms: pellets /"bits," plugs (tobacco leaf pressed with a sweetener, usually licorice), twists (leaf tobacco rolled and twisted), and chaw—shredded and chewed leaf. These are placed in the mouth, usually between the cheek and lower lip, and may be chewed. Snuff is toasted and powdered for inhalation.[10]

Other Uses

- In various cultures, tobacco leaves (or their extracts) are used medicinally for bronchitis, tonsillitis, toothaches, wounds, sore throat, stomach infections, and arthritis.[14]
- Nicotine is used as a pesticide in many places in the world (in the United States, one product no longer available was Black Leaf 40).
- Blowing tobacco smoke up the rectum of a drowned person was a resuscitative technique widely used in the 1700s with variable success.[1,6] This is no longer recommended.

DR. HACK is chief of the division of medical toxicology and vice chair for research at East Carolina University in Greenville, North Carolina.

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DR. TERRY is president of the American College of Emergency Physicians.

Leadership Column

Emergency physicians changing the world

by AISHA T. TERRY, MD, MPH, FACEP

Physician leadership is a priority for ACEP President Aisha T. Terry, MD, MPH, FACEP. She's approaching the issue from all sides. As she builds a programmatic approach within ACEP to identify and cultivate leaders, she is strengthening the "pipeline" and creating opportunities for newer physicians to thrive. In this spotlight. Dr. Terry interviews CVS Health's Vice President and Chief Health Equity Officer Joneigh S. Khaldun, MD, MPH, FACEP.

The Leadership Spotlight highlights examples of emergency physicians using their foundation in emergency medicine to lead, teach, and inspire the next generation. Whether inside the hospital or beyond, the foundation laid by deep experience in the specialty is versatile, unique, and invaluable.

DR. TERRY: You've done so many things in terms of your career, and your current position is such a massive undertaking and impactful role. Was it always your intention to lead in this type of capacity? You've had certainly local leadership and state leadership and government related leadership roles in terms of advocacy and health policy. Did you anticipate being where you are today?

DR. KHALDUN: As a child, I knew I wanted to be a doctor because I saw my parents, who are from the east side of Detroit, deal with health issues in my family's community. There were things that I saw as preventable, and I just had this fire in me where I wanted to fix it. I wanted to make my community healthier. Being a physician was the way to fix health, because as doctors, that's what we do. I quickly figured out in my medical training path, certainly in medical school, that I wanted to make this a significant part of my career.

Through all my roles, whether it was at the Office of Health Reform at HHS or Chief Medical Officer in Baltimore or Director Detroit Health Department or leading Medicaid Public Health for the State of Michigan—and now at CVS—the common thread is that I really want to make changes in the health care system at scale. Public health is a good way to do that.

But I still practice emergency medicine at Henry Ford in Detroit and have practiced throughout all my other roles. I love the practice of emergency medicine, especially urban emergency medicine, and I love working with medical students and residents because it keeps me grounded.

DR. TERRY: Most of your work has been through government, local, state and federal. How is your current role different?

DR. KHALDUN: There are some things that you learn, at least that I've learned in my career, which is when you get into leadership roles, the important thing is not your technical knowledge. The important things are often how you inspire and lead teams, how you address problems, how you determine what's urgent, what's not urgent, what's important, what's not important. It's also how you build a team, how you manage a budget, how you work through change. In my roles, I've done that and then some. Those are similar things that I do at CVS Health. That's what leadership is.

Yes, I'm in a company that is publicly traded now, right. It is a little different; how you engage is a little different. It's also a company with 300,000 colleagues and businesses within the company. Things move very fast, so it's fun. My ER doc self loves different things.

DR. TERRY: Did you seek out these roles, or were you sought after for the roles you've had?

DR. KHALDUN: What I've always sought out is an opportunity to be helpful. I sought out, of course, the fellowship at George Washington University because I had this itch where I wanted to get more training and understanding of health policy, and how I could be helpful for my career. I serendipitously was asked to be in those roles in in the city of Baltimore, city of Detroit, for the state of Michigan. But throughout my career I've taken chances and leaps. I've taken jobs where there was no job description where I wasn't quite sure exactly what I was going to be doing, but I knew the true north of this seems to be an opportunity where I can potentially do some good and work with great people. And it is not lost on me that, as a Black woman from Detroit, I was behind the scenes doing operations but also trying to lead the masses of people. What it meant for there to be a woman of color in that role, and working on operations but also working behind the scenes on policies and decisions that were being made. I feel like I made an impact, and it matters that there's diversity in the room when policies are being made.

DR. TERRY: You've spent your entire career trying to push the needle, certainly in your role in Michigan during the pandemic and pushing for positive change when it comes to health inequities. In the pandemic, there was amplification around how certain communities were impacted compared to others. Do you think we're making progress when it comes to closing the gaps?

DR. KHALDUN: I think that progress is not linear. Do I believe that as a country we are in a better place than we were 100 years ago or 50 years ago? Absolutely. There's no question. Think about my 97-year-old grandmother, who just passed away recently, may she rest in peace. She was orphaned at 6, lost both of her parents and was raised by her 11 siblings. She talked to me a lot about picking cotton. She never got past 6th grade, and you know, she came to Detroit for a better life with one of her older siblings, and she walked miles to clean other people's homes and take care of their children while she had her own children at home. That's the opportunity that she had, and she managed. I forgot how much it was, but somebody gave her and my grandfather a small amount of money to buy their house in an all-white neighborhood in Detroit. She made a life for herself there, and I'm benefiting from her hard work. My life will never be as challenging as hers was.

Have we made progress? Absolutely. But like I said, progress is not linear. If you look back through history, there have always been ebbs and flows. This work of health equity, the core work of it, is not new. It has been around for decades. Now it's called different things, right? I think progress has been made. I think the challenge is to get beyond, as a society, the rhetoric and speeches. How do we get to the point where you embed that health equity lens into how you make decisions, how you look at data, how your policies impact people who might have been left behind. But I'm optimistic that there are many people, a lot of expertise, a lot of folks who want to do this work well. We just have to kind of stay the course and do the work.

DR. TERRY: There are people, some of whom are colleagues, suggest that health equity and focusing on things like social determinants of health are not in our lane as physicians – that we should just focus on the Science of medicine, the pathophysiology - taking care of patients in that way and leave the rest up the social workers or community activists. What would your response be to that?

Dr. Khaldun: Everyone has their own reason for why they went into medicine or emergency medicine. I don't pretend to speak for everyone. But I know I certainly went into medicine because I wanted to help people be healthier. We know that most things that make people unhealthy have nothing to do with what we do inside the walls of an emergency department. And we also know that for many of our patients, especially as emergency physicians, we are the only touch point. And there are all kinds of reasons for that. It's not ideal, but it's a fact. For many of our patients, the health care system has failed them.

XXXXX

I would love for everybody to have a primary care physician they can call anytime and get in whatever time, after hours and weekends, that they want. That's unfortunately not what our system is set up for. I do believe that we have a duty to care for the entire patient. You can't write a prescription, knowing that it's not going to be successful because the patient doesn't have a roof over their head and can't store their insulin, whatever the case may be. I don't think everybody has to want to lead. But you have to at least have the awareness and competency to understand that there are other things going on in people's lives. You should at least be open to thinking things through and asking yourself how you can make people's lives better.

DR. TERRY: You've done so much from the bedside to the boardroom to the C-Suite. What would you say to your younger self? What advice would you give 18-year-old Joneigh Khaldun?

DR. KHALDUN: I think my piece of advice would be, "Don't worry about it. Keep being you, and you'll be able to have the impact that you want to have." I'm very grateful that I didn't really tell myself that I had to do this job or I'm going to do this job. I never had it planned out. But I always had this burning fire to want to have an impact at scale. I used to feel anxious if I wasn't having an impact every day. I'd ask myself, "What are you doing with your life?" I'm much more comfortable now. I'd tell my younger self to just be more comfortable in what you're doing.

DR. TERRY: Any other advice that you might give to a younger person who is interested in this work, this work of systems change and health policy and advocacy, perhaps through the lens of health equity? Somebody who wants to be like you?

DR. KHALDUN: The first piece of advice is to be true to yourself. I would also say to seek opportunities where there is clearly a need, whether it's from a population health perspective or just somebody needing somebody to show up and lead when no one else really has the capacity to do it. Find out where you can add value and fill the gaps. And don't forget how important your connections are. First and foremost, show up and do a good job.

DR. TERRY: This has been a joy for me, learning more about you and talking with somebody truly passionate about this work and somebody who understands the importance of it. This gives me hope and inspires me. Thank you for everything you're doing and thank you for your time.

AIRWAY ESSENTIALS FOR TODAY'S EMERGENCY PHYSICIAN

AIRWAY

DR. TURNER originally trained at the Medical University of South Carolina, is an EM intern at Hershey Medical Center in Hershey, PA.

DR. GLAUSER is professor of emergency medicine at Case Western Reserve University at MetroHealth Cleveland Clinic in Cleveland, Ohio.

The Pediatric Airway

Considerations and challenges

by MATTHEW TURNER, MD; AND JONATHAN GLAUSER, MD, FACEP, MBA

A 5-year-old child involved in a motor vehicle crash (MVC) presents with altered mental status and a Glasgow Coma Scale (GCS) of 8. Her vital signs are: 76 over 43, heart rate of 170, respiratory rate of 6. Her breathing is irregular. What is the most appropriate treatment at this time?

Introduction

Pediatric intubations in the emergency department (ED) occur at only a tenth the frequency of adult intubations.[1] Pediatric rapid sequence intubation (RSI) in the ED is associated with a higher frequency of failed first attempts and adverse effects than in adult patients.[2] One study found that up to two thirds of pediatric patients experienced at least one adverse event during RSI.[3] This is due to difficult airways, a lack of physician trainee experience with tracheal intubations, and the general lower acuity of pediatric patients, providing fewer opportunities for physicians to practice and hone their craft in RSI.[2,4,5] Given these issues, it is imperative that emergency physicians anticipate the unique challenges of RSI in this patient population.

Preparation

If possible, AMPLE (allergies and airway history, medications, past medical history, last oral intake, and events leading up to the intubation) history should be obtained, as well as a physical exam.[6] Before any pediatric RSI is initiated, the proper equipment should be prepared.

Medications

Emergency physicians should be familiar with the pediatric dosing of induction and paralytic agents, as well as their various indications. Induction agents include etomidate, typically dosed at 0.2–0.4 mg/kg IV, ketamine at 1.5–2 mg/kg IV, and propofol at 1.5–3 mg/kg IV. Paralytic agents include rocuronium at 1 mg/kg IV and succinylcholine at 1-2 mg/kg IV.[6]

Unique Pediatric Airway Challenges

Young pediatric patients have a larger head, larger tongue, and shorter mandible; they are obligate nasal breathers until 5 months of age and have a higher larynx and vocal cords angled in an anterior–inferior setting, among other differences.[8] In addition, physicians may experience increased stress when dealing with critical illness in very young patients. However, many of these differences can be compensated for with proper preparation.[8]

Patient Positioning

Pediatric patients have a larger head relative to their body size than adults, which leads to a flexed airway when the patient is laid on a flat surface. Emergency physicians may fold a towel underneath the patient's shoulders to allow extension of their head and adjust their airway into a neutral position.[8] The patient should be positioned so that their external auditory meatus is in line with the anterior border of the shoulder, in a "sniffing" position.[8]

Preoxygenation

Pediatric patients are also significantly predisposed to hypoxemia, due to higher metabolic requirements and reduced functional residual capacity.[8] According to the National Emergency Airway Registry for Children, 13 percent of all pediatric patients have desaturated prior to or during intubation, with nearly half of all difficult pediatric intubations included in that number.[9]

As soon as the team determines that RSI is required, the patient should be preoxygenated with 100 percent oxygen. If possible, the patient should be given five minutes of 100 percent oxygen on a nonrebreather mask, or eight vital capacity breaths to grant three to four additional minutes of apnea before hypoxemia sets in.[7] In particularly difficult airways, organizations such as the Pediatric Difficult Intubation Collaborative recommend passive oxygenation via nasal cannula during the intubation attempt.[10] Humidified, high-flow nasal cannula oxygenation during the patient's apneic periods has also been shown to significantly delay the time to desaturation.[9]

Upper Airway Obstruction

Some physicians prefer using the straight Miller blade in patients younger than 4-5 years old, as it directly lifts the anteriorly shifted epiglottis to visualize the cords, while a curved Macintosh blade indirectly lifts the ligamentous connections of the epiglottis for cord visualization.[8] In cases where ventilation with a face mask is warranted, an oral airway may be used to relieve any obstructions caused by posterior displacement of the tongue.[8]

Blade Selection

A wide range of conditions in pediatric patients, including syndromes such as Pierre Robin and Trisomy 21, can make it difficult to visualize the vocal cords.[11,12] In recent years, videolaryngoscopes (VL) designed for pediatric patients have become far more available on the market. VL blades may include options for standard direct laryngoscopy (DL) blades, such as the Miller and MacIntosh designs. Hyperangulated blades—designed specifically for VL intubation—are also growing in popularity.[10] However, in infants weighing less than

CONTINUED *on page 22*

CLASSIFIEDS

Baylor College of Medicine
HENRY J.N. TAUB DEPARTMENT OF EMERGENCY MEDICINE

Academic Faculty Openings including Ultrasound and Nocturnist

The Henry JN Taub Department of Emergency Medicine at Baylor College of Medicine (BCM) is looking for **Faculty of all levels** who are interested in a career in Academic Emergency Medicine. We are also hiring faculty of all ranks and seeking applicants who have demonstrated a strong interest and background in a variety of areas such as ultrasound, research**,** or operations. Clinical opportunities including nocturnist positions are available at our affiliated hospitals. Our Ultrasound team is currently seeking an **Assistant Director of US** to support current educational, clinical, and research elements of the program while also creating growth opportunities in our department.

Baylor College of Medicine is located in the world's largest medical center in Houston, Texas. The Henry JN Taub Department of Emergency Medicine was established in Jan 2017. Our residency program, which started in 2010, has grown to 16 residents per year in a 3-year format. We offer a highly competitive academic salary and benefits commensurate to academic level and experience.

Our department features clinical practices at Baylor St. Luke's Medical Center, Ben Taub General Hospital, and Texas Children's Hospital. Baylor St. Luke's Medical Center is a quaternary referral center with high acuity patients and is home to the Texas Heart Institute and multiple transplant programs. Ben Taub General Hospital is a public hospital with about 80,000 annual emergency visits each year and certified stroke, STEMI, and Level 1 trauma programs. Texas Children's Hospital is consistently ranked as one of the nation's best, largest, and most comprehensive specialty care pediatric hospitals. These affiliations, along with the medical school's preeminence in education and research, help to create one of the strongest Emergency Medicine experiences in the country.

MINIMUM REQUIREMENTS
Education: M.D. or D.O. degree
Experience: Previous experience in an academic area of expertise preferred but not required
Licensure: Must be currently boarded or board eligible in Emergency Medicine and eligible for licensure in state of Texas.

Those interested in a position or further information may contact Dr. Dick Kuo via email at dckuo@bcm.edu. Please send a CV and cover letter with your past experience and interests.

The Henry JN Taub Department of Emergency Medicine at Baylor College of Medicine seeks a Vice Chair of Research to oversee research operations for the department.

Baylor College of Medicine (www.bcm.edu) is recognized as one of the nation's premier academic health science centers and is known for excellence in education, research, healthcare and community service. Located in the heart of the world's largest medical center (Texas Medical Center), Baylor is affiliated with multiple educational, healthcare and research affiliates (Baylor Affiliates).

Salary, rank, and tenure status are contingent upon candidate qualifications. The rank and tenure status awarded will be based upon qualifications in alignment with Baylor College of Medicine's promotion and tenure policy.

Qualified applicants are expected to have a research record with significant extramural funding and leadership skills to develop a strong multidisciplinary collaborative Emergency Medicine research program and continue to grow current departmental research efforts. In addition to the above responsibilities, other duties may be assigned by the Chair.

Please include a cover letter and current curriculum vitae to your application.

This position is open until filled. For more information about the position, please contact Dick Kuo, MD via email [dckuo@bcm.edu].

MINIMUM REQUIREMENTS
Education: M.D. or D.O. degree
Experience: Research Fellowship not required for application
Licensure: Must be currently boarded in Emergency Medicine and eligible for licensure in state of Texas.

5 kg, VL with a standard Macintosh or Miller blade appears to be associated with a significantly greater success rate than that achieved with hyperangulated blades.[13]

Some studies suggest there is no significant difference between these blades in the 1-24 month age group.[14] However, other studies maintain that the Miller blade is significantly more effective in intubation in pediatric patients aged 2-6 years.[15] In children younger than 2 years of age, the size 1 Miller may be used to lift the epiglottis, or a Macintosh blade may be used to lift the base of the tongue.[16]

Non-angulated VL blades have a reduced viewing angle that simultaneously makes passing an ET tube a less complex maneuver for the clinician.[10] Similarly, the efficacy of VL versus DL remains controversial within the wider literature.[10]

In cases of severe upper airway obstruction, supraglottic airways such as the laryngeal mask airway (LMA) may be used.[8] An LMA may temporarily secure the airway, while a bronchoscope is passed through the LMA into the patient's trachea. Afterwards, the LMA may be removed and an endotracheal (ET) tube passed over the bronchoscope to intubate the patient.[8]

ET Tubes

ET tube insertion may be difficult due to the vocal cords being aligned in an anterior–inferior angle rather than the posterior-superior angle seen in adults. This increases the risk of the ET tube becoming obstructed or blocked by the vocal folds.[8] The 2023 Pediatric Advanced Life Support (PALS) guidelines recommend the following formulas for ET tubes.[17] Three times the tube size for ETT depth is also commonly used.[18]

In stressful situations in which calculations may be difficult, Broselow tape is also an effective measure to estimate ETT size.[19]

Cannot Intubate, Cannot Oxygenate

The most severe cases are referred to as a Cannot Intubate, Cannot Oxygenate scenario (CICO).[10] If the patient cannot be intubated, mask ventilation should be optimized; then an LMA supraglottic airway should be attempted, followed by surgical airway.[11]

For patients younger than 8 years, a surgical cricothyrotomy may be performed to create a space through which an ET tube may be inserted.[7] Needle cricoidotomy is often difficult, due to the flexible cricoid and trachea in this population, as well as the small size of the neonatal cricothyroid membrane.[8,10] Cannula-based cricothyrotomy, is a potential alternative, particularly with products such as the Ventrain device.[10]

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CLASSIFIEDS

To truly change someone's life is a special part of practicing emergency medicine. Even on the hardest days, I can't imagine doing anything else.

+ SHAWNA GELORMINO, DO, FACEP
Envision Emergency Medicine Physician
Clinical Leader, Global Health Initiative

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Baylor College of Medicine
DEPARTMENT OF EMERGENCY MEDICINE

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Emergency Medicine Residency Program Director

The Henry J.N. Taub Department of Emergency Medicine at Baylor College of Medicine is looking for outstanding applicants for the position of Emergency Medicine Program Director. Applicants should have a strong background in medical education with a career path directed towards graduate medical education. We are seeking an applicant with at least three years of experience as a core faculty member that meets requisite ACGME qualifications. This applicant will embody our residency values of service, education and leadership. Applicants will be able to embrace the lived experiences of our residents while encouraging their growth and development into phenomenal emergency medicine physicians.

About Baylor College of Medicine:
- Located in Houston, Texas
- Nationally recognized for clinical research and educational rigor
- Has a collaborative affiliation with eight world-class hospitals and clinics in the Texas Medical Center, the largest medical center in the world

About our department:
- Received departmental status in 2017
- We provide clinical services at the following locations — Ben Taub Emergency Center, Baylor St. Luke's Medical Center and its affiliate, freestanding McNair Emergency Center and Texas Children's Hospital Emergency Center
- Offer a highly competitive academic salary, comprehensive benefits and FTE support commensurate with role, academic level and experience

About our Emergency Medicine Residency Program:
- Three-year residency was established in 2010
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- Based primarily out of our local public hospital, Ben Taub General Hospital, one of the largest Level 1 trauma centers in southeast Texas with certified stroke/STEMI programs and a dedicated emergency psychiatry team
- Secondary clinical sites include: Texas Children's Hospital, a nationally recognized pediatric hospital, Baylor St. Luke's Medical Center, home to the Texas Heart Institute and the Debakey Veteran Affairs Emergency Department

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- Holds current board certification in Emergency Medicine through ABEM or ABEOM
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- Provides outstanding clinical care to a diverse patient population
- Communicates in a collaborative and effective manner
- Creates a positive learning and work environment

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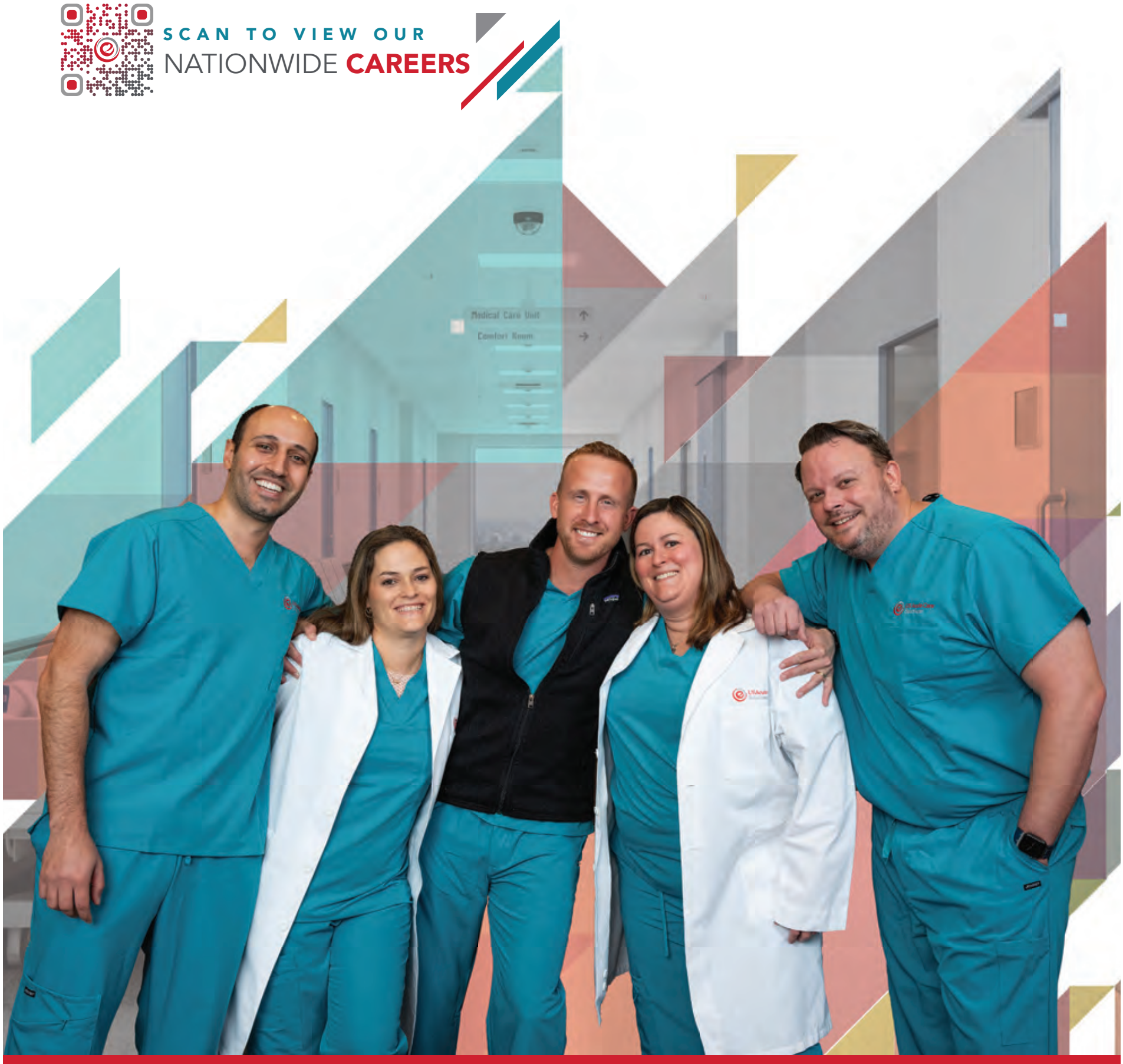

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