MEDICOLEGAL MIND

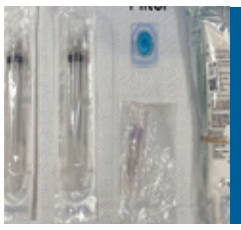
Discharge Tachycardia

SEE PAGE 14

END OF THE RAINBOW

Little Things That Matter

SEE PAGE 16



SOUND ADVICE

Intralipid Protocol

SEE PAGE 18

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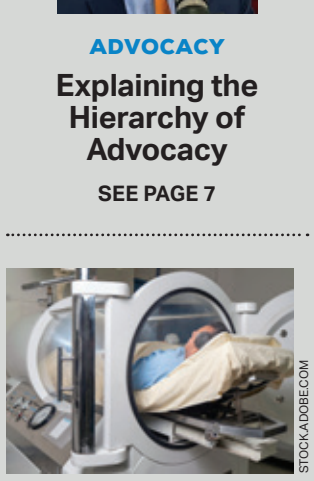
PLUS

ADVOCACY

Explaining the Hierarchy of Advocacy

SEE PAGE 7



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CLINICAL POLICY

Patients Presenting to the ED with Acute Carbon Monoxide Poisoning

SEE PAGE 9

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ABEM

ACEP Now Interviews ABEM President Dr. Diane Gorgas

Upcoming changes to the Board exams, commentary on the Match and ACGME proposals

Each year, *ACEP Now* catches up with the President of the American Board of Emergency Medicine to discuss the state of the specialty, training priorities and education trends. Recently, *ACEP Now* Medical Editor in Chief Cedric Dark, MD, MPH, FACEP, and ABEM President Diane L. Gorgas, MD, sat down for a quick update.

CONTINUED *on page 5*

Chasing Challenges

UCSF resident lives the dream on "Survivor" Season 47

by DARRIN SCHEID, CAE

"Hey, boss? Can I have four or five weeks off?"

Kishan Patel, MD, couldn't believe it. A third-year resident in the University of California San Francisco Emergency Medicine Residency Program, Dr. Patel had somehow survived several rounds of interviews and landed a spot on one of the most popular reality TV shows this century—"Survivor."

Granted permission to take some time off, Dr. Patel was headed to Fiji for the 47th season of the reality television competition where a group of contestants live together on an island and compete in challenges for a prize of $1 million.

Unlike many long-time fans of the show, which has been on for almost 25 years, Dr. Patel only started watching "Survivor" when it popped up as an option on Netflix during the Covid-19 pandemic. He was hooked.

Passion for Emergency Medicine

Dr. Patel, a first-generation physician who studied medicine at the University of Cali-

CONTINUED *on page 10*

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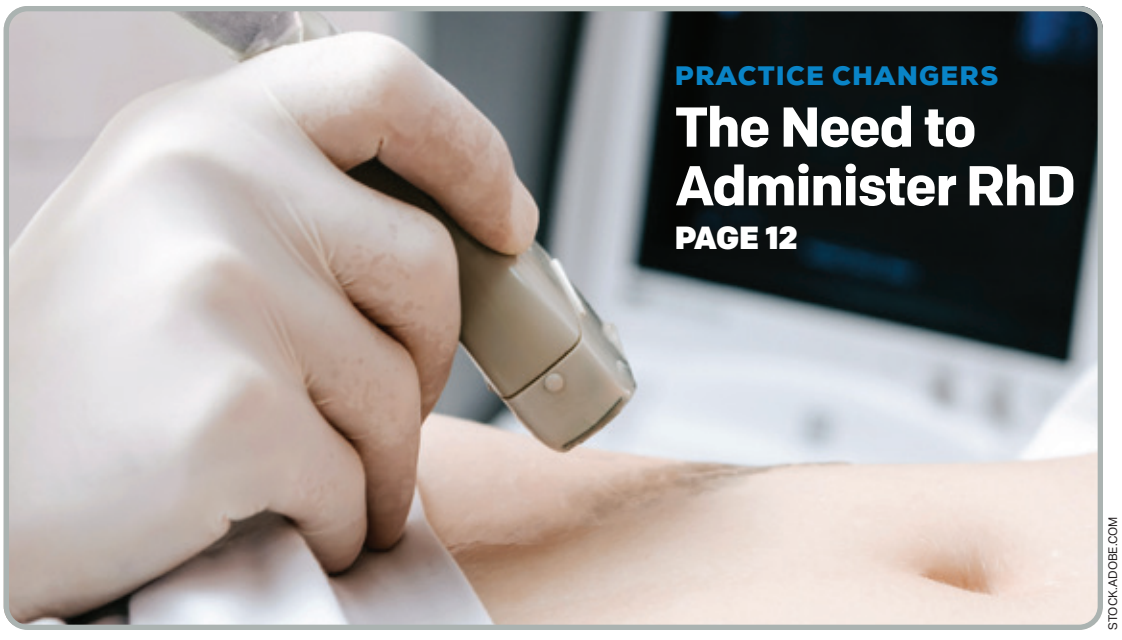

PRACTICE CHANGERS

The Need to Administer RhD

PAGE 12

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NEWS FROM THE COLLEGE

UPDATES AND ALERTS FROM ACEP

ACEP Partners with VisualDx to Enhance Measles Diagnosis and Treatment

ACEP and Visual Dx are working together to deliver a comprehensive tool for physicians to address the measles outbreak, look-alike diagnoses, and all emerging and re-emerging infectious diseases. Through this partnership, ACEP members will be provided with discounted access to VisualDX.

"We're excited to support emergency physicians with a time-critical diagnostic information tool," said Alison Haddock, MD, FACEP, president of ACEP. "This comes at a critical time and will help emergency physicians on the frontlines advance care delivery and protect public health by assisting in prompt, accurate diagnosis and helping slow the spread of this highly disease."

Measles is one of the most contagious infectious diseases, and its delayed diagnosis can accelerate spread and worsen patient outcomes. At least a dozen states have reported more than 250 cases over the past few weeks. VisualDx's clinical decision support software and medical image library can help clinicians quickly identify measles and its variant presentations across patient populations. This collaboration is geared toward reducing further spread.

"Emergency physicians save lives everyday - often while risking their own. It's a privilege to support these unsung heroes as they confront yet another infectious disease challenge," said Art Papier, MD, CEO of VisualDx. "In these difficult times, clinicians need rapid, reliable tools to support their decision-making in seconds. We are proud to contribute to that mission."

With each license, ACEP members will also receive educational training on measles to enhance public health preparedness. Beyond measles, VisualDx is equipped to improve clinical decision-making on more than 3,000 diagnoses thanks to its 48,000 medical images. Through this project, ACEP hopes to improve readiness not only for measles but for any emerging infectious diseases.

Emergency Physicians

Welcome Additional Hospital Reporting Measures on Boarding

Emergency physician-led changes to the 2025 Leapfrog Hospital Survey are in effect and will push hospitals toward more transparent and actionable reporting on the boarding crisis.

Three new measures seek:

- The percentage of ED patients that are admitted to the hospital that had a boarding time in the ED of more than four hours (where lower percentages are desirable)
- The median length of stay in the ED for patients admitted to the hospital (where lower values are desirable)
- The 90th percentile length of stay in the ED for patients admitted to the hospital (where lower values are desirable)

Based on ACEP's comments, additional changes include:

- To recognize the systemic nature of this crisis, Leapfrog will rename the subsection "Hospital Boarding in the Emergency Department (ED)" instead of "ED Boarding."
- Leapfrog will include patients admitted to observation status, as well as those admitted to the hospital's inpatient setting.
- Hospitals will be asked to separate adults from pediatric patients, and those admitted to inpatient psychiatric beds from non-psychiatric beds. The goal of the latter is to inform whether there could be opportunities to improve the approach to patients with behavioral health emergencies.

For now, these measures are optional and not publicly reported for 2025.

But Leapfrog has indicated intent to publicly report in the future to "shine a light on the current crisis and its associated patient safety risks."

ACEP, chapters and members are working at every level to tackle the boarding crisis. Together, we can enhance transparency, improve data sharing and move everyone closer to systemwide solutions that improve care and make it easier for you to save lives.

New AHRQ Report Highlights Emergency Physician Leadership on Boarding Solutions

ACEP is proud to lead the way on collaborative solutions necessary to address the nation's boarding crisis, including the advocacy work that paved the way for the landmark AHRQ summit and newly published report.

The report captures many of emergency physicians' biggest concerns and calls out ACEP-supported solutions to address boarding head-on, including enhancing measurement and standards, re-aligning hospital incentives, and increasing the support necessary to empower emergency physicians to do their jobs and save lives.

"The boarding crisis is straining our emergency departments and putting lives at risk," said Alison Haddock, MD, FACEP, president of ACEP. "The only way to solve this crisis is through collaborative action. We are making progress and we are very eager to see government and health care leaders work together with us to move policies and initiatives from discussion to implementation."

ACEP25 Salt Lake City & More

- Registration is open for ACEP25 in Salt Lake City. Join your emergency medicine friends from September 7-11 for ACEP25, the world's largest emergency medicine conference. The Section Hall Crawl is back. The ACEP25 Block Party just needs you to add some fun, and Olympic gold medalist Scott Hamilton will deliver the Opening Session keynote. Mr. Hamilton will share his inspiring journey of resilience – from childhood illness to cancer battles – offering a powerful message of perseverance, hope, and turning obstacles into opportunities during the Opening Session. A Wellness Hike will get you out in the fresh air, and two nights of mix-and-mingle activities by JamPack offer a great way to end a busy day of learning. Be sure to check out the popular pre-conference courses! acep.org/acep25
- Recognizing the incredible toll that malpractice suits take on its membership, the ACEP Board and the ACEP Medical Legal Committee have created a peer mentorship program for ACEP members. This program does not take the place of your malpractice attorney. What it does is give emergency physicians a way to feel less alone in their journey and talk with another emergency physician who has experience with the medical malpractice system. By filling out a request form, ACEP members will be put in touch with a member of the Medical Legal Committee who will act as a peer mentor. What can a peer mentor do? They can listen and offer guidance on the malpractice process, insight into the timelines and the important steps of a malpractice suit and share experiences with real life situations that we have encountered to help guide you. What this program cannot do is provide specific suggestions for your case because that would entail you sharing specific details with the team that would not be protected from discovery.

RESIDENCY SPOTLIGHT

OKSTATE EMERGENCY MEDICINE

Location: Tulsa, OK
instagram: @okstate_em
X: @okstate_em_res
Year founded: 1991
Number of residents: 28
Program length: 4 years

OK STATE EM FACULTY

Christmas party 70's style!

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

OSU is an ACGME accredited osteopathic program proudly offering first-class facilities and dynamic academic experiences, including international, rural, and urban underserved community rotations. Residents are offered a Master's Degree in Healthcare Administration, Global Health, or Public Health via integrative coursework during training. The university boasts a state-of-the-art simulation lab run by medically trained staff, where monthly didactics are held and residents practice complex scenarios and HALO procedures. Mentorship is an integral component of resident development, with one-on-one attending involvement throughout training. Known for our culture of innovation and approachability, we partner with specialty experts at the nation's largest osteopathic teaching hospital in multidisciplinary didactics and research efforts.

What is the work-life balance like? or What are some fun activities residents like to partake in or recently participated in?

At OSU, you'e family. Residents work 12 hour shifts, allowing more time for activities such as paintball, spa days, fishing, hunting, and group trips. Spouses and kids are welcome, often planning play dates of their own. Attending faculty host showers, graduation parties, and the annual Christmas party, furthering the family feel. Pay is competitive and all licensure and certifications are covered by the program. Moonlighting is allowed and encouraged. Located in downtown Tulsa, the nightlife and restaurant scene is diverse, with many options for live music at Guthrie Green, BOK Center, and the historic Cain's Ballroom.

How should potential applicants learn more about your program?

Email brianne.walton@okstate.edu.

IN CASE YOU MISSED IT: FEBRUARY DIGITAL EDITION

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ACEP

Emergency Care for All People in All Countries

by GAYLE GALLETTA, MD

Liberate Methadone: An Introduction for the Emergency Medicine Physician

by TERENCE M. HUGHES, MD; JOAN CHEN, MD; AND UTSHA G. KHATRI, MD, MSHP

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ACEP

ACEP4U: UAB Achieves First-Ever ED Accreditation from ACEP

Artificial Urinary Sphincter

by LESLIE JEWETT, MD; AND NATHANIEL OSWALD, MD, PHD

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ABEM PRESIDENT | CONTINUED FROM PAGE 1

Dr. Dark: First, I want to start by learning a little bit more about you. Can you tell us about your journey through emergency medicine, how you wound up joining ABEM, and how you took on the role of leading the organization?

Dr. Gorgas: I finished my emergency medicine and residency training in 1994. I got involved with ABEM early in my career. Right after being board certified, I waited for the obligatory five years and then became an oral examiner. I found ABEM to really be a dynamic organization and one whose mission I really believe in. I've had the privilege - or misfortune depending on your perspective - of being a patient and having family members who are emergency medicine patients. I realize how important it is on both sides of the curtain and what that patient-physician interface and interaction looks like. It has really spurred me on in my continued volunteer activity with ABEM.

I am also a clinically active emergency physician. I'm Vice Chair of Academic Affairs and the Executive Director for Global Health at The Ohio State University.

Dr. Dark: I've heard a lot from some newer graduates and people that are in training now about the changes to the certifying oral examination. It's transitioning from virtual back to in person. Can you talk a little bit about the impetus for ABEM to switch it back to an in-person exam from what it's been for the past few years?

Dr. Gorgas: Conceptually, I think it's important to understand that this is not the old oral examination. It will look nothing like what you took, or what I took, as part of an exam. The new certifying exam was the outcome of a two-year-long fact-finding mission to ask, "what is the critical skill set of an emergency physician? What part of that critical skill set are we at ABEM obligated to assess? And what are we assessing now? What were we assessing in 2022 when we started this process? And how much of a slice of the pie is that?" Is it fair to say that somebody is competent without ever looking at their procedure skills, without ever looking at their Ultrasound skills, without ever looking at their patient communication skills, without ever realizing how they manage a changing clinical course?

Medical knowledge is clearly the tenant of what's important in emergency medicine. But how smart you are only takes you so far in your success as an emergency physician. It's important to know how you communicate with your patients, how you communicate with coworkers, how you prioritize patient acuity, and how you think in a fluid environment. Although our previous testing was valid, it needs to be broadened to align with the specialty now and in the future; the practice of EM has drastically expanded in breadth and depth compared to when the oral exam first started. This initiative started in 2021 and really went into 2024 where we sought opinions from 4,300 different individual stakeholders, including employers and hospital administrators, ABEM diplomates, the public, residents, and our ABEM volunteers.

All those stakeholders leaned into this opportunity and spoke to the truth of where they thought some of the strengths of our certification process were – and the opportunities. The big opportunities were procedural, Ultrasound, and communication.

> And we think that ABEM is really the gold standard of that. Every patient should have access to an ABEM-certified physician when they come to the emergency department.

Dr. Dark: It sounds a little bit like transitioning from a tabletop exercise, which I think is the way I experienced the oral examination, to more of a simulation.

Dr. Gorgas: Yes. I think that that's entirely accurate.

Dr. Dark: Let's get back to the written examination. A report recently came out that says the pass rate for first-time test takers on the written "qualifying" exam was 82 percent, down from 88 percent.[1] This is following a trend we've seen for a few years. What do you think the explanations are for changes in written exam performance over time?

Dr. Gorgas: Let me put it this way, focusing on the very early realm of discovery and association without postulating on causation. The number of EM residency training programs has increased. We know the number of medical students who then become residents taking qualifying exams is a larger number than it was before. The model of emergency medicine has expanded over time, and we're going to have another model revision here in another couple months in 2025.[2] The number of patient encounters that an average resident sees during training has gone down; it's gone down to historically low numbers. The number of patient encounters used to be between 3,000 and 5,000. Today, residents in EM are lucky if they can get 3,000 patient encounters during their training.

Dr. Dark: I remember reading somewhere that you need to do something 10,000 times to be an expert at it.[3] So that's very interesting that you bring up that the number of cases that someone sees over time has gone down. It kind of spills into my next couple of questions. *JACEP Open* recently published an article that explored the difference in exam passing rates among programs. The qualifying exam (i.e., the written exam) pass rates were slightly higher for those in three-year programs. The percentages were very narrow, like 93 percent versus 91 percent, probably not clinically significant but statistically different.[4] Does ABEM think there's much difference between a three-year and a four-year program in terms of the quality of the graduates that are being put out there?

Dr. Gorgas: You've clearly done some work for this interview, and you're right. Can you amass the medical knowledge needed to do well on the qualifying exam in a three-year span versus a four-year time span. Yes, the numbers show that. Can you develop some of the other skills that are unique to the oral examination or the virtual oral examination better in a four-year time span than you can in a three-year time span? Well, the statistics are starting to pull apart a little bit there, saying there might be a slight advantage to four-year programs. The next and very interesting question is, as we continue to extend that assessment scope, are we going to see a bigger difference in four-year programs than three-year programs?

What does ABEM believe? ABEM believes the numbers. Are you going to be a better emergency physician if you're seven years into your experience instead of three or four? Likely you will be. What we're looking at is, "What is the definition of competency?" What is that critical skill set to say you are able to independently practice emergency medicine?" That's the fine line of ABEM.

Dr. Dark: Still talking about this three- versus four-year situation. The ACGME recently announced plans to have every emergency medicine program transition into a four-year pathway.[5] Does ABEM have an official comment on that?

Dr. Gorgas: Much like ABEM took a couple of years to make a determination about the certifying exams, the ACGME Emergency Medicine Review Committee (RC-EM) has taken at least a couple of years to come up with their new program requirements. One thing that we will say is, we really respect the RC-EM and their ability and expertise in defining the learning environment that is critical for creating a successful emergency physician. ABEM looks at the individual and certifying the individual. The ACGME looks at the environment and accrediting the environment.

Consider that there are only now three specialties that have only three years of training besides emergency medicine. All three of those are primary care specialties—family medicine, pediatrics, and internal medicine. I think emergency medicine has really tried to label itself as a unique specialty whose primary focus is not primary care.

From a sense of pride, and from a sense of logic, do we belong in a three-year or a four-year bucket? ABEM has not leaned into the public comment period yet. We are hoping to hear from diplomates and candidates for certification as it relates to board eligibility. How do they feel? Board eligibility is going to be impacted by the change, and we will be speaking with the ACGME with that lens in mind.

Dr. Dark: We noticed over the past couple of years changes in the proportions of residency slots filled, and it looks like emergency medicine is back on track. But one of the observations we have noticed is that a larger number of those slots are being filled by international grads. I'm curious if ABEM has been tracking that and noticed any change in the in-training exam based on those kinds of criteria.

Dr. Gorgas: I think it's very perceptive, and you're absolutely correct that emergency medicine residents are now coming from multiple medical school backgrounds. Osteopathic residents traditionally were 10 percent or less of emergency physicians. Now, that number is increasing to the 30 percent range. We don't know that there is an association, and we have not determined if there is a causation of the expansive number of residents and diversity of residents and the in-training exam and the qualifying exam scores. Again, you can use statistics in many different ways, and I would say that we don't know if there is a link.

Dr. Dark: One thing that ACEP believes is that the gold standard is to have a board-certified emergency physician in every emergency department. Why do you think that the public should demand that?

Dr. Gorgas: We're beginning to see publications that show outcomes are different when there isn't a board-certified physician present. We're beginning to understand that, and ABEM has published a few articles on it. I'm looking at State Medical Boards, disciplinary actions against physicians, and the fact that if you are board-certified in emergency medicine, practicing in an emergency department, your risk of a State disciplinary action is lower than if you are practicing in emergency medicine and not board-certified. We know that there are some early studies looking at resource utilization and board-certified emergency physicians versus non-physician providers in the emergency department.

There is no doubt that the rigor of the training, the rigor of the testing, and the rigor of continuing certification within emergency medicine is unmatched from a provider point of view in emergency medicine. And we think that ABEM is really the gold standard of that. Every patient should have access to an ABEM-certified physician when they come to the emergency department.

For more information about ABEM
https://www.abem.org/

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ACEP4U: Ramping Up Residency Outreach

by DARRIN SCHEID, CAE

PHOTOS: ACEP

ABOVE: Residents at HCA Florida Brandon Hospital and Wyckoff Heights Medical Center pose for a photograph after participating in ACEP's Residency Visit Speaker Program.

LEFT: Emergency physician Amy Hummel is shown on the set of "Jeapardy!" last year. A five-time champion on the popular show, Dr. Hummel will serve as host of ACEP's PEER Challenge at ACEP25 in Salt Lake City.

Why should emergency physicians in training care about the business of medicine? What does ACEP do? Who advocates for the specialty, and what does that look like? What career resources are available?

In the middle of a busy shift schedule, Residents across the country are taking time out to get these questions answered through ACEP's Residency Visit Speaker Program. These visits, conducted by ACEP and ACEP Chapter volunteers, took a breather shortly before the Covid-19 pandemic. The recent launch of a new, overhauled version was overwhelmingly supported by ACEP's Board of Directors and continues to grow. In the academic year 2023-24, ACEP leaders spoke with 50 programs. In 2024-25, 111 Programs invited ACEP to visit with residents and learn more about how a strong connection with national and local medical societies can add value to an early career physician.

In 2025-26, ACEP has set a goal to visit 120 programs.

At a recent visit at HCA Florida Brandon Hospital, Nikolas Foresteire, DO, and his fellow Residents heard from Shayne M. Gue, MD, FACEP, an emergency physician and active volunteer for ACEP and the ACEP Florida Chapter. Dr. Foresteire said the discussion brought some of the nuance of health care—particularly the business of medicine—in focus. The two had met before during a rotation when Dr. Foresteire was in medical school.

"It's not always as clear when you're looking at billable procedures, and there are so many different models for reimbursement," said Dr. Foresteire, the Program's Academic Chief resident. "Hearing Dr. Gue speak to us about how we are reimbursed and about all the advocacy work that goes on behind the scenes was a huge educational benefit for me, and I'm sure my fellow residents felt the same. I'm graduating in a few months, so this is something I need to know – how I'm going to be reimbursed and what steps are being taken to maximize that for the care I'm providing for my patients."

One of ACEP's strategies in the new Residency Visit Speaker Program is to find speakers who are not only talented at the craft, but those who easily relate to early career physicians and those in training, either by geography or time in practice. Dr. Gue graduated from Residency in 2018 but is already an experienced speaker on emergency medicine topics.

"The thing that stood out to me the most was how impactful Dr. Gue has been in that short amount of time since graduating residency, and how polished he is as an individual," Dr. Foresteire said. "With the positions he has held, and the advocacy work he has done, for emergency medicine, it's pretty impressive to hear from somebody who is working so hard for all of us."

Residency visits are requested by Program leadership or residents. When the request is submitted, ACEP staff coordinates with volunteers, usually from Chapters and nearby EDs, to choose practicing emergency physicians knowledgeable about organized medicine, emergency medicine advocacy, and the College.

Want to Request a Visit?

In partnership with its Chapters, ACEP would like to visit your program and give your residents valuable information about their future career in emergency medicine. Content is presented by emergency physicians who have recently graduated from residency, focusing on three key areas: professional and legislative advocacy, overall value of organized medicine, and career preparedness. Please complete this form to help ACEP coordinate with speakers and Chapter leaders, and your program can get on the schedule.

Residency Competition at ACEP25 Features "Jeopardy!" Champion

The 2nd Annual PEER Challenge at ACEP25 includes a special guest this year at ACEP25 who emergency physicians across the nation will recognize.

Milwaukee emergency physician, ACEP member, and five-time "Jeopardy!" champion Amy Hummel, MD, will serve as host for the final four in Salt Lake City. The PEER Challenge pits residency programs against each other in a "Jeopardy!" style competition. The questions are specific to medical issues and procedures. Residency Programs started the competition's qualifying round earlier this month and will continue through bracket rounds before the final four is set. The semi-finals are slated for Sunday, Sept. 7. Dr. Hummel will help ACEP crown the 2025 champion on Monday, Sept. 8.

Dr. Hummel made national headlines in 2024 with five consecutive victories, leaning on plenty of practice and her calm playing style.

"'Jeopardy!' was scarier than most things in the ER, except maybe some of the things we see with pediatric patients," Dr. Hummel said. "In the ER, you're used to thinking fast, but being on that stage is nerve-wracking in a different way."

Growing up in Chicago, *Jeopardy!* was a staple of Dr. Hummel's after-school routine. She realized early that she had a talent for answering a wide range of trivia questions and eventually decided to study "Jeopardy!" style questions and strategy—along with studying medicine, of course. A fellow emergency medicine doctor shared a flashcard set that included "Jeopardy!" questions throughout the history of the show. To mimic the buzzers, Dr. Hummel used a toilet paper tube. When accepted onto the show, she took advantage and became somewhat of a celebrity as the subject of national media coverage.

Dr. Hummel admits she likes being kind of famous.

In the ED, she says co-workers occasionally ease patient stress by telling them, "Everything is going to be fine. Your doctor won on Jeopardy!"

"I don't really get tired of talking about 'Jeopardy!'" Dr. Hummel said. "It was really fun."

Residency Spotlight

ACEP Now regularly publishes Residency Spotlights, highlighting what makes a particular residency program unique. Recent articles have featured programs at the Maine Medical Center, the University of Utah, Christiana Care, and Integris Southwest.

Want your program featured? Contact us!

MR. SCHEID is Communication Director at ACEP.

Leadership Opportunities Come When Unexpected Doors Open

ACEP member and N.C. state representative explains the hierarchy of advocacy

by DARRIN SCHEID, CAE

Vote. That's the bare minimum, says North Carolina State Representative and ACEP member Timothy Reeder, (R-D9), MD, FACEP.

When he's not actively pushing for laws in North Carolina that make positive changes in health care, or still working full time in the ED, Dr. Reeder encourages emergency physicians to get involved in advocacy efforts, meet with legislators at the state and federal level, donate money, and run for office. But voting comes first, and it's the foundation of his Hierarchy of Advocacy argument. It sounds basic enough, but Dr. Reeder says you would be surprised.

"Physicians have to vote, that's the baseline, and we know that physicians actually vote less than the general population," Dr. Reeder said. The importance of voting is clear as he won his first race by 354 votes out of more than 30,000 cast. "If 12 people at each precinct had voted the other way, I would not have been elected."

To improve physician advocacy success, Dr. Reeder breaks it down.

His presentation includes a pyramid to show where to start and where to go. Dr. Reeder delivers his Hierarchy of Advocacy talk whenever time permits, from medical students, resident and attending physicians, other health care professionals, and any others who will listen to improve their advocacy skills. This road map to successful advocacy starts small—voting—and leads to a candidacy for public office, something Dr. Reeder never really thought would happen to him until it did. Although he was active in advocacy and health policy on the Board and as President of the North Carolina Medical Society, he did not envision running for office. That changed with a phone call on October 25, 2021, when a former NC House of Representative, an anesthesiologist, called to tell him of the desperate need for a physician voice in the legislature and asked him to run for office.

Dr Reeder had one week to decide to change the course of his career. "As I did leadership training over the years, I said that leadership opportunities come when unexpected doors open up," he said. "Now I had to face my own words and decide if I should follow my own advice."

Here's how the hierarchy works:

- Vote: The foundation of advocacy is participation in the electoral process. Dr. Reeder urges physicians to overcome apathy and recognize that every vote contributes to shaping policy.
- Develop Relationships with Legislators: Advocacy extends beyond the ballot box. Dr. Reeder compares the process of building relationships with policymakers to dating - physicians must cultivate connections over time, becoming trusted sources of expertise. "You want legislators to have your number saved in their phone. When somebody has a question related to health care, you need to be the person they call. Physicians are uniquely positioned to speak for patients. Make sure they call you."
- Make Financial Contributions: While money does not buy votes, it does facilitate access. Dr. Reeder stresses that even modest political donations - $500 to $1,000 - can significantly support candidates aligned with health care priorities. He asks emergency physicians to "give a shift"—their salary for working one ED shift.
- Offer Campaign Support: Engagement deepens when physicians actively participate in campaigns, whether by hosting fundraisers, making phone calls, or knocking on doors. These efforts strengthen relationships and demonstrate a commitment to shaping policy.
- Run for Office: The pinnacle of advocacy is direct political involvement. Dr. Reeder's own journey into the legislature exemplifies how physicians can bring their expertise into governance, ensuring that health care policy is informed by those who understand it best.

ACEP

Dr. Reeder encourages emergency physicians to get involved in advocacy efforts.

ACEP

From Emergency Medicine to State Leadership

Dr. Reeder's journey into medicine began with volunteer work in an emergency department during high school. Drawn to the fast-paced and diverse nature of emergency medicine, he pursued medical education at Ohio State University before completing his Master of Public Health at the University of North Carolina at Chapel Hill. His career at East Carolina University's Brody School of Medicine and leadership roles in state medical organizations set the stage for where he is now.

In 2022, Dr. Reeder was elected to the North Carolina House of Representatives, securing a narrow victory that underscored the impact of physician advocacy at the state level. His platform included a focus on health care policy, Medicaid expansion, and hospital workforce protections, all informed by his firsthand experience in emergency medicine. One of Dr. Reeder's legislative successes is the Hospital Violence Protection Act, which mandates collecting and reporting data on violence toward health care workers and requiring a sworn law enforcement officer at every hospital with an emergency department. He credits his advocacy for bringing attention to workplace safety issues that might otherwise have been overlooked.

Additionally, he has worked on initiatives related to mental health funding, Medicaid expansion, and opioid crisis management. His knowledge of emergency department operations allows him to advocate effectively for policies that improve patient care and physician working conditions.

Breaking Barriers: Physicians as Advocates

Dr. Reeder's advocacy extends beyond policy; he is committed to educating physicians on how to engage effectively in legislative affairs. He frequently speaks at medical conferences, challenging his peers to abandon the mindset that policy is someone else's responsibility.

Physicians, he asserts, often assume that hospital administrators or professional organizations will handle advocacy. However, he warns that this passive approach cedes influence to other stakeholders, including insurance companies and non-physician lobbying groups. "If we're not at the table, we're on the menu," he quips, emphasizing the need for proactive engagement.

To facilitate this, he promotes initiatives like White Coat Wednesdays, where physicians visit the state legislature to discuss pressing health care issues. He also encourages doctors to invite lawmakers into their clinical settings, allowing them to witness firsthand the challenges of emergency medicine, such as ED boarding, limited resources, and administrative burdens like prior authorization.

Overcoming Apathy and Resistance

Despite the clear benefits of advocacy, many physicians remain disengaged. Dr. Reeder confronts this reluctance directly, often using blunt humor to challenge excuses. He dismisses the common claim that physicians are too busy to vote or contribute financially, arguing that prioritizing advocacy is a professional responsibility. "Because I am part of the physician tribe, I can call them lazy," he says.

As Dr. Reeder continues his tenure in the North Carolina House of Representatives, he remains committed to strengthening physician advocacy. Future legislative priorities include prior authorization reform, expanding mental health services, and addressing health care workforce shortages. He also aims to streamline the Interstate Medical Licensure Compact, making it easier for physicians to practice across state lines.

His long-term goal is to inspire more physicians to step into leadership roles, whether within hospital systems, medical societies, or public office. He envisions a future where doctors are not only caregivers but also architects of the policies that shape modern medicine and the health care system.

"Sometimes in our specialty, because we're working for large health systems and institutions, we rely on them to do everything for us, whether it's new technology or advocating for issues that frontline health care workers need," Dr. Reeder said. "We can't rely on them to do this for us. Physicians must defend our profession and create the future."

MR. SCHEID is Communication Director at ACEP.

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Reference: 1. KEDRAB [package insert]. Fort Lee, NJ: Kedrion Biopharma Inc.; 2021.

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GUIDANCE ON THE CLINICAL MANAGEMENT OF EMERGENCY DEPARTMENT PATIENTS.

CLINICAL POLICY

DR. SHIH is currently a professor at the Schmidt College of Medicine at Florida Atlantic University in Boca Raton, Florida. In his spare time he likes to play guitar and pickleball.

Management of Adult Patients Presenting to the ED with Acute Carbon Monoxide Poisoning

by RICHARD D. SHIH, MD, FACEP

On January 22, 2025, the ACEP Board of Directors approved a clinical policy developed by the ACEP Clinical Policies Committee on the management of adult patients presenting to the emergency department with acute carbon monoxide poisoning. This clinical policy was published in the April 2025 issue of the *Annals of Emergency Medicine*, can be found on ACEP's website, acep.org/ClinicalPolicies, and also will be included in the ECRI Guidelines Trust, www.ecri.org/solutions/ecri-guidelines-trust, upon its acceptance.

Carbon monoxide (CO) is one of the leading causes of poisoning with over a million cases of CO poisoning reported worldwide each year. In the United States, CO poisoning is a leading cause of non-suicidal poisoning deaths, with nearly 50,000 emergency department (ED) visits annually.

Acute CO toxicity can cause a wide range of clinical effects, from mild headache or flu-like symptoms to chest pain, shortness of breath, myocardial infarction, dysrhythmia, confusion, altered mental status, and coma. Flu-like symptoms in occult cases of CO poisoning, especially during colder weather, further confound diagnosis.

After the initial CO exposure, patients can develop new neurologic findings 2 to 40 days later. These central nervous system abnormalities can range from problems in concentration and memory to seizures and Parkinson's-like syndrome. Virtually any neuropsychologic abnormality can be seen, including psychiatric ones like depression and psychosis. These late onset findings are called delayed neurologic sequelae (DNS). Risk factors for DNS include older age (≥36 years), higher CO level (≥25%), longer CO exposure interval (≥24 hours), loss of consciousness due to CO poisoning, low Glasgow Coma Score, low Mini-Mental Status Examination score, and positive findings on brain computed tomography scans (general swelling, white matter and/or globus pallidus abnormalities).

Given the continued controversy for the use of HBO2 to treat CO poisoning, this 2025 clinical policy revisited question 2 from the 2017 clinical policy. A writing committee reviewed the eligible literature published since the 2017 clinical policy recommendation, a systematic review of the evidence was conducted, and the committee made recommendations (Level A, B, or C) based on the strength of evidence available. This clinical policy underwent internal and external review expert review and was available for review by ACEP membership during an open comment period. Responses received were used to refine and enhance the final policy.

CRITICAL QUESTION

In ED patients diagnosed with acute CO poisoning, does HBO2 therapy, compared with normobaric oxygen therapy, improve long-term neurocognitive outcomes?

- **Patient Management Recommendations**
  - » **Level A recommendations.** *None specified.*
  - » **Level B recommendations.** *None specified.*
  - » **Level C recommendations.** In symptomatic CO poisoning, selected patients may benefit from HBO2 treatment based on severity of symptoms and availability (distance and time).

More on ACEP's Class of Evidence framework and Recommendation Levels can be found atacep.org/ClinicalPolicies.

fornia Riverside School of Medicine, has a passion for emergency medicine that is deeply personal. Born to immigrant parents from India, he grew up navigating health care through the emergency department (ED). His family didn't have health insurance, and his sister endured more than 20 surgeries to treat her spina bifida.

Dr. Patel wanted to help vulnerable populations, and treating patients in the ED seemed like a perfect fit.

"The ER is such a safety net for so many," Dr. Patel said. "Being able to serve this community is such an honor. I can't think of anything else I'd rather be doing."

The excitement of dealing with unpredictable, sometimes traumatic cases fuels his passion and continues to provide a challenge.

A New Challenge

The journey to becoming a "Survivor" cast member started when Dr. Patel was on a hike, took out his phone, and thought to himself, "Why not?" He recorded a video, submitted it, and didn't have to wait long to hear back. A producer called the next day, inviting him to the first interview. He was invited to another interview, and another, and then another. After each stage, Dr. Patel started to believe he might actually get to compete on the show.

A few weeks later, he was on a plane to Fiji, tossed into the mix with other contestants, all from different backgrounds, about to compete to be the "Sole Survivor."

"We didn't know each other's names or even speak to each other until we landed," Dr. Patel said.

Watching earlier episodes gave Dr. Patel a baseline for game strategy when it was his turn to compete. He also knew the calm-under-pressure skills he picked up from training in the ED would be a huge asset.

"The moment we hit the island we were thrown into a challenge. No introductions, no idea of each other's strengths or weaknesses—just go," Dr. Patel said. "It's kind of like the ED. In both environments, you adapt quickly, form strategies, and build trust with your team, often under immense pressure."

But trying to win on "Survivor" adds a layer of emotional complexity because you're playing a game where trust is such an important currency, he said. Dr. Patel's strategy was to stay under the radar.

The problem was, Dr. Patel also had teammates—called tribe members on the show—who figuratively stabbed him in the back. In the fourth episode, titled "Is That Blood in Your Hair," his Lavo tribe finished last in an immunity challenge; that meant that someone had to be voted off. That night, it was Dr. Patel, who was voted off in what fans call a blindside.

PHOTOS: KISHAN PATEL

ACEP member Kishan Patel, MD, second from left, prepares for a challenge with his tribe in "Survivor" Season 47.

New Perspective

Dr. Patel returned to San Francisco with a huge appreciation for the chance to live out a dream. On an overnight shift immediately after the show's premiere, a patient's partner asked him, "Wait, are you that guy from 'Survivor?'"

From there, Dr. Patel said he was recognized by patients pretty much on every shift.

"It was so much fun, and everybody at work was so supportive," Dr. Patel said. "We would have watching parties when new episodes came on, and everybody kind of got into it. It was weird being recognized all the time, but that's not why I'm so appreciative of this opportunity. I love adventure, and I love a good challenge."

Now back in the ED, Dr. Patel approaches his role with renewed perspective.

"It's a reminder," he said, "to keep chasing experiences that push me."

MR. SCHEID is ACEP's Communications Director.

ACEP member Kishan Patel, MD, submitted his application video to producers of the television show Survivor while on a hike.

TOXICOLOGY Q&A

PHOTO: JASON HACK (OLEANDER PHOTOGRAPHY)

A Deadly Diagnosis

QUESTION: Which plant contains a protein that inhibits cell function if ingested?

by JASON B. HACK, MD

ANSWER *on page 20*

Physician ED Coverage

One in 13 American EDs lack physician coverage

by DARRIN SCHEID, CAE

Research in *JACEP Open*, ACEP's peer-reviewed open access journal, features a map of the United States to show which emergency departments have round-the-clock coverage by a board-certified emergency physician.

"Nothing is shocking at first glance," said emergency physician and research co-author Deborah Fletcher, MD, FACEP. Large patches of land, stretching east-to-west from Minnesota to Wyoming and north-to-south from North Dakota to Kansas reveal little or no physician coverage 24/7. Released in the April 25 edition, "Lack of 24/7 Attending Physician Coverage in U.S. Emergency Departments, 2022," surveyed 5,622 emergency departments, and 4,621 responded to the 24/7 attending physician question.

Dr. Fletcher said the researchers were pleasantly surprised by the 82 percent response rate but disappointed to find that one in 13 EDs are without full-time attending coverage.

"When you think one in 13, that sounds bad enough, but then you realize that one in 13 represents nearly 350 EDs in the country without a physician on site at all hours," Dr. Fletcher said. "This isn't a turf war. It's about patient safety, and emergency physicians care deeply about patient safety and care. Patients in in rural areas or ultra rural areas or whatever we want to call them—ultra frontier—should get quality care, too. I'm probably extra passionate about this because of what happened to me at my own hospital."

Dr. Fletcher was working part time while caring for her children when her physician group was taken over. She was assured that shifts would still be available and nothing would change. One day, her former residency advisor broke the news that her shift would be going to nurse practitioners and physician assistants.

"It's just business, they told me," Dr. Fletcher recalled. "I still loved emergency medicine, and I loved the hospital in my community I worked at for 15 years. But I was replaced. That's when I got more interested in rural emergency medicine and workforce issues. I started picking up shifts in the rural setting and absolutely loved it."

The *JACEP Open* research begs, she said, begs the question—if an emergency physician isn't providing care when a patient presents to the ED with chest pain, what kind of care can they possibly receive? In several states, more than 30 percent lacked 24/7 coverage; the states with the highest percentages were North Dakota (58%), South Dakota (56%), and Montana (46%). Among these 344 EDs, 318 (92%) had annual visit volumes less than 10,000. Most EDs (307 [89%] of 344) were in a critical access hospital (CAH); 248 (72%) were rural, and 6 (2%) were freestanding.

Researchers used data from the National ED Inventory (NEDI)-USA survey, sent annually to the ED director of every nonfederal U.S. emergency department. The 2022 survey (administered in 2023 to all EDs open during 2022) included the question: "Is at least one attending physician (not resident) on duty in the ED 24 h/d?" The NEDI-USA database includes basic ED characteristics such as annual visit volume, critical access hospital (CAH) status, rural location, and freestanding ED status. The authors investigated the association of ED characteristics with a lack of 24/7 attending physician coverage.

The survey hadn't always included the physician coverage question. Dr. Fletcher worked with co-author Carlos A. Camargo, Jr., MD, DrPH, to get it added.

Now armed with data, advocacy work to solve the coverage issue continues.

ACEP has a firm stance, making it clear that there is no substitute for a licensed, trained, and board-certified emergency physician. ACEP launched a campaign in 2023 to educate patients and policymakers about the importance of physician-led care teams. ACEP's Policy Statement released in June 2023, "Guidelines Regarding the Role of Physician Assistants and Nurse Practitioners in the Emergency Department" states that non-physician clinicians do not possess the training and expertise in emergency medicine that may only be acquired through successful completion of an ACGME accredited emergency medicine residency training program.

ACEP believes that regardless of where a patient lives, all patients who present to the ED deserve to have access to high quality, patient-centric care delivered by emergency physician-led care teams. Two states recently achieved this goal. In May 2023, Indiana passed a law requiring a physician on site and responsible for the ED. In April 2024, Virginia lawmakers passed similar legislation.

"That's the gold standard, right?" said emergency physician Leon Adelman, MD, MBA, FACEP, the author of the Emergency Medicine Workforce Newsletter. "If our grandmother is sick or our kids are in a motor vehicle accident, no matter where in the United States, the ideal is to see a board-certified emergency position within a team-based structure where all the elements of the team understand their role in managing acute care."

Dr. Adelman, who is married to a nurse practitioner, said scope creep is particularly worrisome when you consider there were fewer emergency physician in rural areas in 2023 versus 2019.

"Given that reality on the ground, what's the best alternative?" he said. "Is it better to have a family physician rather than a nurse practitioner straight out of an online program?"

How to move forward in a less-than-perfect situation is where some emergency physicians and ACEP members are miles apart.

Some propose a collaboration with physicians trained in something other than emergency medicine. They say it wouldn't be ideal, but it would be better than relying on those who didn't complete a physician residency program. Some say broader telemedicine programs could help. Others say telemedicine isn't a good option at all because it still takes training to implement life-saving measures. Some things can't be explained over the phone to somebody who has never done it. Many keep a firm grasp on ACEP's stance that a board certified, residency trained physician should remain the only option.

In 2020, ACEP's Board of Directors convened the Rural Emergency Care Task Force to assess the landscape and provide recommendations on how to improve rural care. The 20-page document listed several recommendations, including:

- Determine how to better support emergency physicians currently working in rural EDs, acknowledging a spectrum of residency training and board certification status
- Collaborate with hospitals and other health care systems to develop strategies to avoid further rural ED closures, including ongoing support of the Critical Access Hospital (CAH) program.
- Further study small, low volume rural EDs, based on annual patient census and location, to better address specifics unique to rural care delivery.
- Encourage EM residencies to incorporate rural EM practice into their clinical curricula, working with ACGME and its Review Committee-Emergency Medicine (RC-EM) to reduce accreditation barriers program directors cite as currently limiting rural training opportunities.

Dr. Camargo and Dr. Fletcher, co-authors of the *JACEP Open* research along with Krislyn M. Boggs, MPH; Ashley F. Sullivan, MS, MPH; Janice A. Espinola, MPH; and Maeve Swanton, remain active members of the ACEP Rural EM Section. Frederick Carlton, MD, FACEP, an emergency physician at a regional hospital in Corinth, Mississippi, and current Rural EM Section Chair, said you would have a hard time finding a board-certified emergency physician who doesn't think ACEP and ACEP state chapters should continue to advocate for the gold standard—a physician-led team and an emergency medicine trained physician in every ED 24/7.

He said states like Indiana and Virginia have done something all ACEP chapters should continue striving to achieve. But there's a reality that should be recognized, he said.

"This isn't something that can be fixed in a year or two," Dr. Carlton said. "Maybe it's trying to work with state legislatures to provide funding to encourage board certified emergency physicians to work in these critical access rural hospitals. It's unpopular to say in certain circles, but maybe we look at more collaboration with family physicians who want to work in these areas. Maybe we increase rural exposure in residency rotations. We have doctors who come from rural areas. But when they go to the city for residency, it's hard to get them back."

Anthony Gerard, MD, FACEP, an emergency physician and EM Rural Section member, said emergency physicians and family physicians are worlds apart when it comes to skillset right out of residency. He should know. Dr. Gerard trained in family medicine but practices at an ED in rural Pennsylvania. Despite the difference, he said the gap between family physician and PA or NP is exponentially wider. Rather than expect a PA or NP to learn on the job providing critical care, he said family physicians could be a better option and suggests ACEP collaborate more closely with the American Academy of Family Physicians to fill some of the gaps in frontier locations.

"I don't think ACEP should change the gold standard for emergency medicine," he said. "This (*JACEP Open*) study is important, but it points out something Dr. Carmargo published about and spoke about: we can't continue to leave these patients out in the desert without the best possible care. We have to do something."

Dr. Adelman and Dr. Fletcher point out that a closer look at the research suggests state advocacy is a path forward.

Between 20 and 29 percent of EDs in Mississippi don't have physician coverage 24/7, but that's not the case in Louisiana or Alabama. The same goes for Nevada and New Mexico. Nevada reports zero EDs with a lack of coverage, while neighbor Utah is at least 10 percent. New Mexico is sandwiched between Texas and Arizona but reports full, 24/7 attending coverage.

In Louisiana, Dr. Fletcher said physicians have been working with lawmakers for more than five years on various scope of practice bills, pushing back on encroachment by NPs and PAs. Meanwhile, she said Mississippi allows telemedicine as a substitute for physician coverage.

"It's not the same," she said. "A physician must be on site for that to count."

The new law in Virgina wasn't represented as scope of practice legislative effort, said emergency physician Todd Parker, MD, FACEP, Virginia ACEP Past President and current board member. And that's part of the reason it passed.

Dr. Parker said Virginia ACEP did two things that helped. First, they gathered information on all the EDs in the state and realized that there wasn't a single ED in the state that didn't already have 24/7 physician coverage. It wasn't necessarily emergency physician coverage, but it was physician coverage around the clock. Second, the chapter invested money to commission a poll from a respected pollster and asked Virginians, "If your loved one had to go to the ER, who would you want treating them?" The results were overwhelmingly in favor of physician coverage. That provided some important data. But it still took some luck, he said. They found a law passed 50 years earlier that stated all EDs had to have a physician on call 24/7.

Having 24/7 coverage is completely necessary, Dr. Parker said, because the distance between hospitals and specialists makes transfer a challenge. He might have to manage a critically ill patient for hours before they can be moved. You need an emergency physician for those challenges, he said.

"You could make an argument that rural hospitals need emergency physician coverage more than anybody else," he said. "If you or a family member is traveling across western or southwestern Virginia, get into a bad car accident, or have some sort of medical emergency, don't you want to know that if you go to the ER that a physician is going to be taking care of you?"

MR. SCHEID is Communication Director at ACEP.

PUTTING RESEARCH TO WORK FOR YOU

PRACTICE CHANGERS

DR. WESTAFER (@Lwestafer) is an assistant professor in the departments of emergency medicine and healthcare delivery and population science at UMass Chan Medical School, Baystate, and co-host of FOAMcast.

The Need to Administer RhD IG

And when to obtain a blood test

by LAUREN WESTAFER DO, MPH, MS, FACEP

A patient presents with vaginal bleeding, positive pregnancy test, and estimated to be at 7 weeks of gestation. Physical exam and pelvic ultrasound are diagnostic of spontaneous abortion. She is hemodynamically stable with mild bleeding and appropriate for outpatient treatment. Does she need to wait for blood type to assess the need to administer RhD immunoglobulin (e.g., RhoGAM)?

Approximately 15 percent of individuals in North America are RhD-negative. When an RhD-negative pregnant person is carrying an RhD-positive fetus, this exposure results in production anti-D antibodies, placing future pregnancies at risk for RhD alloimmunization. Enter RhD immunoglobulin. The introduction of RhD immunoglobulin in the 1970s resulted in a drastic reduction in the rate of fetal and neonatal morbidity and mortality worldwide due to hemolytic disease of the fetus and newborn (HDFN).[1] The proven benefit to RhD prophylaxis is in the routine prophylaxis performed in the setting of prenatal and postpartum care (typically at 28 weeks of gestation and post-partum if the newborn is RhD-positive). However, emergency physicians often care for patients with vaginal bleeding in the first trimester and/or early pregnancy loss, prior to the 28-week prophylactic dose. As a result, the treatment of spontaneous or induced abortions in the Emergency Department (EDs) historically involved assessing the pregnant patient's blood type and Rh status and administering RhD immunoglobulin if RhD negative. This is time consuming in packed EDs, more costly, and wasteful, as the proper dose of RhD immunoglobulin for this type of patient (50 µg) is less widely available than the 300 µg dose.

In 2017, the American College of Obstetrics and Gynecology (ACOG) did indeed recommend that RhD immune globulin *should be considered* in first-trimester spontaneous abortion, particularly those further along in the first trimester (expert opinion).[2] Recommendations were stronger for those who receive instrumentation for treatment of the abortion and for those who had either medical or surgical pregnancy termination. More recently, however, multiple professional society guidelines have opposed routine use in individuals less than 10 to 12 weeks of gestation, including the World Health Organization, the Society of Obstetricians and Gynaecologists of Canada, the Society of Family Planning, the National Institute for Health and Care Excellence Abortion Care, and others.[3,4] In 2024, ACOG completely reversed their prior recommendation: "ACOG suggests *forgoing routine Rh testing and RhIg prophylaxis*" in patients less than 12 weeks (and zero days) of gestation experiencing pregnancy loss or undergoing abortion.[5]

What prompted the ACOG change?

Re-examination of the data that this specific recommendation was based on (i.e., none) coupled with new data and external circumstances likely prompted the new recommendation. Like many therapies in pregnancy, we lack rigorous, controlled data evaluating the routine practice of RhD immunoglobulin administration in first trimester abortions (spontaneous or induced). The only randomized placebo-controlled trial to date, published in 1972, found no evidence of Rh isoimmunization in spontaneous abortions but was too small to capture rare events.[6] Imperfect population-level data found no increase in prevalence of clinically significant anti-D perinatal antibodies in the Netherlands (no RhD prophylaxis for spontaneous abortions less than 10 weeks or induced abortions less than 7 weeks) compared with Canada (RhD prophylaxis in all first trimester abortions in Rh-negative patients). Further, the best data to date suggest no relationship between first-trimester abortion and change in fetal red blood cell (fRBC) count that would result in sensitization (125 fl RBCs/5 million total RBCs). In prospective cohort study of 506 pregnant individuals undergoing first-trimester abortion care evaluated pre-abortion and post-abortion fRBC count by flow cytometry. In this cohort of individuals with a mean gestational age of just over 7 weeks, no participants (0 percent; 95 percent CI,0 percent-0.59 percent) had newly elevated fRBC counts above the sensitization threshold post-abortion. Three participants (0.6 percent) had levels above the sensitization threshold pre-abortion, and 1 (0.2 percent) continued to have a fRBC count above the threshold post-abortion.[7]

Importantly, RhD immunoglobulin is currently a finite resource, a blood product that is currently dependent on volunteer plasma donors with high titers of anti-D (who sometimes require boosting with RhD positive blood). As a result in late 2023, the United States Food and Drug Administration (FDA) announced a shortage of RhD immunoglobulin.[8] The shortage is ongoing as of March 2025. Continued overuse in very low risk situations threatens the ability of RhD-negative pregnant patients without anti-D antibodies to receive the proven benefit of prophylaxis at 28 weeks gestation.

So, who should get RhD immunoglobulin?

It is important to note that recommendations for RhD immunoglobulin in patients experiencing any abortion greater than or equal to 12 weeks of gestation remain unchanged, and these patients should receive 300 µg of RhD immunoglobulin as soon as possible. Similarly, these recommendations only apply to spontaneous or induced abortion, not other potential indications. Lastly, some patients may have strong feelings about RhD prophylaxis. For example, the Society for Maternal Fetal Medicine continue to take a conservative stance, recommending testing and prophylaxis when logistically and financially feasible.[9] Due to the very low likelihood of benefit in patients with spontaneous abortion at less than 12 weeks of gestation, it is reasonable to engage in shared decision making with your patient.

Please see references online.

Emergency Medicine Trends Upward in 2025 Match

by ACEP NOW

A record number of medical students matched into emergency medicine, according to results released in March by the National Resident Matching Program.

More than 3,000 applicants matched into the specialty.

Out of 3,068 positions, just 65 positions went unfilled, a 97.9 percent fill rate. The number of available positions increased by 42 from 2024.

Emergency Medicine continues to rebound from a decline in 2023, which saw an 81.8 percent fill rate. That rate went up to 95.5 percent last year. This year's rate returns emergency medicine back to rates before the Covid pandemic, typically in the 98-99 percent range. The NRMP statistics show 3,003 applicants matched into the specialty, up from 2,456 applicants obtaining PGY-1 positions in 2023.

"Interest in emergency medicine is at an all-time high for good reason, said Alison Haddock, MD, FACEP, president of ACEP. "As demand soars, students and trainees increasingly see emergency physicians at the center of solutions to health care's biggest challenges. There's no doubt, it is a challenging and deeply rewarding time to be an emergency physician. Congratulations and welcome to the new generation - the future of emergency medicine is bright."

A joint statement of ACEP, the Emergency Medicine Residents Association, the Council of Residency Program Directors in EM, and several other emergency medicine stakeholders said that "between the hours recruiting, educating, and reviewing applicants to EM, it has been amazing to watch the EM family of organizations and individuals come together in this effort. This year we excitedly welcomed over 3,000 new residents to Emergency Medicine. Together, we strive to make Emergency Medicine the best specialty in the House of Medicine. We welcome our new group of residents as they embark on their journey to fulfill their calling of 'Anyone, Anything, Anytime.'"

ED PHARMACIST QUICK TIPS

PHARMED OUT

DR. MAY is an emergency medicine pharmacy specialist at Carolinas Medical Center in Charlotte, NC.

DR. GIBBS is the chair of the department of emergency medicine at Carolinas Medical Center in Charlotte, NC.

Desmopressin for Antiplatelet Reversal in Intracerebral Hemorrhage in Adults

by ALYSSA MAY, PHARMD, BCPS, BCEMP; MICHAEL GIBBS, MD, FACEP, FAAEM

Case Vignette

DP is a 70-year-old male with a past medical history significant for peripheral vascular disease (PVD) on clopidogrel who presents with acute intracranial hemorrhage. The team is discussing antithrombotic reversal treatment options.

Why?

DDAVP causes release of endogenous coagulation factors such as factor VIII, von Willebrand factor (vWF), and tissue plasminogen activator (tPA) which increases plasma factor levels, enhances platelet adhesion, and reduces bleeding time. vWF is responsible for platelet adhesion to collagen and may also bind platelets through their glycoprotein IIb/IIIa receptors. Increased vWF may help compensate for the platelet dysfunction caused by antiplatelet agents.

When?

It is reasonable to consider the use of desmopressin (DDAVP) for patients with life-threatening bleeding with platelet dysfunction or in the setting of anti-platelet therapy.

READ *more online*

DR. BEDOLLA, is national director of risk science at US Acute Care Solutions and assistant professor at the University of Texas Dell Medical School.

Discharge Tachycardia: Remember the Big 4 and Don't Play with Fire

by JOHN BEDOLLA, MD, FACEP, FAAEM

A 61-year-old male with diabetes mellitus presented with generalized malaise, low grade subjective fevers. Review of systems was negative for chest pain, respiratory symptoms, abdominal pain, or localizing infectious symptoms. Temperature was 99.1, respiratory rate 18, blood pressure 146/80, pulse 110, and oxygen saturation was 98 percent. The documented physical exam included a brief HEENT exam, normal heart sounds without murmurs, abdomen soft and non-tender. There was no back exam, skin was noted as "no rashes" and the neurological exam was described as "alert and oriented." Influenza, COVID, and chest radiograph were negative for infection. CBC was normal and UA negative. Glucose was slightly elevated, but the anion gap was normal. The patient remained tachycardic and was discharged with a diagnosis of "viral syndrome."

The patient presented approximately 18 hours later with hypotension and multiple sepsis markers. Back exam showed a rapidly expanding area of cellulitis with blebs. Despite rapid surgical intervention for necrotizing fasciitis, he died of fulminant sepsis.

In deposition, it was clear the clinician did not perform a thorough examination, in particular an exam of the skin and back. Furthermore, the plaintiff expert described the persistent tachycardia as a "smoking gun." Rather than risk a trial and exemplary damages, the defense team, with the clinician's consent, settled the case for an undisclosed amount.

Introduction

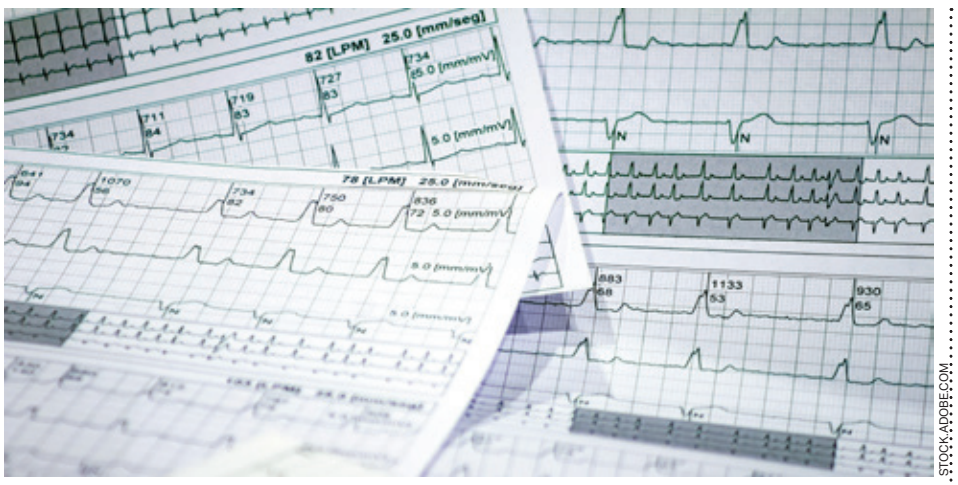
Studies show 20-25 percent of patients presenting to the Emergency Department (ED) have tachycardia.[1] Of these, 80 percent are admitted, while 20 percent are discharged. However, the 20 percent who are discharged with tachycardia (4 percent of all ED patients) account for up to 71 percent of unexpected deaths with potential diagnostic error.[2]

The good news is that by carefully screening this small subset of discharged patients, you can significantly reduce adverse outcomes in discharged patients.

Background

The causes of death after discharge are highly heterogeneous. Among these, there are four conditions which, when missed, are most likely to present with generalized, minimal, or no symptoms and tachycardia. They constitute up to 40 percent of unanticipated deaths after discharge from the emergency department.

1. Sepsis, especially occult sepsis and early pneumonia[3]
2. Pulmonary Embolism[4,5]
3. Silent Myocardial Ischemia
4. Acute Cardiomyopathy/Congestive Heart Failure



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Before discharging any patient with unexplained tachycardia, consider these four conditions.

Sepsis

Approximately 20 percent of ED patients present with an infection, and 40 percent of those have sepsis. The source of infection is evident 95 percent of the time, but in 5 percent of cases, it is not immediately apparent.

High-risk cryptic infections include:

- X-ray negative pneumonia
- Early or subacute endocarditis
- Early epidural abscess
- Early osteomyelitis
- Early necrotizing fasciitis
- If the patient clinically has pneumonia but the chest x-ray is negative, consider treating with antibiotics anyway because chest x-ray a 10 percent false negative rate.[6] You do not need to confirm the diagnosis with CT. For the remaining infectious diagnoses, the key is to do a thorough physical exam. Look for and document pertinent negatives and follow-up on any positives. You can defend a "miss" when you looked and there was no evidence of an infection in the skin (the more you can examine, the better), axilla, back, or feet, and no murmur or signs of peripheral embolization. You can't defend it when you just write "WNL" ("Within Normal Limits," sometimes derided as, "We did Not Look" or "We Never Looked").

Pulmonary Embolism (PE)

Emergency physicians rarely miss PEs presenting with classic symptoms (chest pain or dyspnea). However, a significant percentage of PEs are present with tachycardia and no chest pain or dyspnea. Look for signs of DVT (present in 40 percent of patients with PE), and tachypnea (RR20).[7] Consider further investigation if either is present. The respiratory rate obtained by the RN is not always reliable.[8] In the setting of unexplained tachycardia, consider doing it yourself. Doing so will make your care more defendable even in the case a pulmonary embolus is later diagnosed.

Myocardial Infarction (MI)

Missed myocardial infractions are 7-55 percent of unexpected deaths after discharge from the emergency department.[9] Silent MI is relatively uncommon in young patients and in patients with no risk factors, but more common in patients with diabetes mellitus and up to 15 percent in the elderly.[10] Tachycardia, or alternately, high unexplained variability, can be the only sign of silent MI.[11]

In elderly patients or patients with multiple cardiac risk factors and tachycardia where you have other explanation, consider an ECG, Troponin, and HEART Score. Be on the lookout for atypical symptoms such as extreme fatigue, acutely decreased exercise tolerance. Document the absence of typical and less typical coronary symptoms, and the absences of and S3 or S4 heart sound and JVD.

Acute Cardiomyopathy/Congestive Heart Failure

- Acute non-ischemic cardiomyopathy/myocarditis and undiagnosed congestive heart failure are underappreciated causes of sudden death after discharge but may be the cause in up to 10 percent.[12] We don't miss the obvious cases, but subtle cases can escape and die later from lethal arrhythmias.
- Risk factors for acute cardiac pump dysfunction in patients not previously diagnosed include: S3, abdominojugular reflux, JVD, recent MI, crackles, paroxysmal nocturnal dyspnea, any murmur, and lower extremity edema. If any of these are present, a BNP may be warranted. Before you get the BNP result ascertain your clinical Gestalt for CHF—if it's low and the BNP is also normal, the chances of CHF are very low.[13]

Other Considerations

For most conditions, a thorough physical exam is key:

- Check for cardiac murmurs, and note no S3 or S4
- Full skin exam—selective for GU area/breasts if asymptomatic.
- Palpate the back and percuss costovertebral angle
- Check feet/toes in diabetic patients
- Check for signs of peripheral embolization.

Do I need to admit all patients with persistent tachycardia?

No. Admitting all patients with tachycardia would create more preventable mortality and morbidity through nosocomial and iatrogenic complications, which are not to be ignored. But if you are discharging 20 percent of your patients with persistent tachycardia, that is probably too high. For example, about 16 percent of patients who meet sepsis criteria are discharged, and they have measurable increased risk.[14] In our own experience with infectious diagnoses, we found that a rate of discharge around 10 percent reduces claims by 50 percent. This strikes a good balance between sepsis capture versus over-capture with nosocomial/iatrogenic complications. A significant number of patients can be discharged with no complications but choose them carefully. Most importantly, consider any patient with persistent tachycardia as having double the risk as a matched patient with no tachycardia, and take a pause to consider if the patient might have sepsis, MI, PE, Acute Cardiomyopathy/CHF. Take patient frailty into account. A study using Charlson Comorbidity Index found that an index of 4 or more triples the chances of unexpected death after discharge.[15]

What If I Do Discharge a Patient?

The discussion with the patient, documentation, and discharge instructions are the key elements to defending you good care. Explain to the patient what you did to look for dangerous causes of tachycardia, and explain that, in the absence of these findings, the risk is low. Document patient capacity, understanding, and assent. Consider a 24-hour follow-up in the ED for patients you discharge.

Takeaways

The four main killers after discharge with unexplained tachycardia:

1. Sepsis
2. Pulmonary Embolism
3. Myocardial Infarction
4. Acute Cardiomyopathy/Congestive Heart Failure

Depending on the chief complaint and history, there are high risk features you can search for on history and physical exam. If they are present, one or more of the following tests can be a valuable follow-on screening tool: Lactate, Troponin, BNP, D-Dimer, and ECG.

In the setting of persistent tachycardia, a thorough history and physical with attention to finding pertinent negatives and will be appreciated by the patient, enhance you reputation is a physician, and make your care more defendable.

Please see references online.

AIRWAY ESSENTIALS FOR TODAY'S EMERGENCY PHYSICIAN

AIRWAY

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Airway Considerations in Prehospital Cardiac Arrest

by BRIAN L. MILLER, MD, FACEP; AND JONATHAN GLAUSER, MD, MBA, FACEP

Endotracheal intubation (ETI) has long been defined as the "gold standard" for airway management to secure the airway. It is historically the "definitive airway" and, in the setting of cardiac arrest, a successfully placed and confirmed endotracheal tube connected to a well-managed ventilator removes the bulk of airway and breathing concerns from the Basic Life Support (BLS)/Advanced Cardiovascular Life Support (ACLS) algorithms. For many emergency physicians and paramedics, intubation is a standard and satisfying procedure that not only secures a definitive airway but also patient disposition. For these reasons, we often tend to perform ETI as the default mechanism for cardiac arrest. The question remains as to whether it is always the best intervention for airway management in prehospital cardiac arrest.

ETI has a long list of potential medical complications including esophageal intubation, hypoxia, infectious disease exposure, and aspiration. In the setting of cardiac arrest, the interruption of chest compressions can be a significant detriment. ETI takes time: unzipping all the bags, opening the packages, connecting the syringe, checking the cuff, putting in the stylet, connecting one's preferred blade to a laryngoscope, hooking up the suction, and, finally, positioning the patient. These are all more complicated when they are being performed by a three-person crew on a 50-foot-high mezzanine at the brickyard, as opposed to a beautiful, spacious and well-lit resuscitation bay at the trauma center. One of the authors has been in both scenarios, and, unfortunately at the brickyard, the syringe happened to slip off and we had the pleasure of watching the thing fall through the perforated metal floor into a sandpit directly below. Yes, there was a backup in the bag, but digging it out took even more time.

Experience, Timing Matter

It is widely accepted that frequent experience in performing the complex procedure of ETI is what matters most in ascertaining competency. In a large emergency department, intubation is a frequent enough event to generate confidence. However, paramedic experience for intubation may entail one to eight attempts per year.

In a retrospective analysis from Victoria, Australia, it was demonstrated that paramedic intubation experience was associated with successful tube placement but not with cardiac arrest survival to discharge. This study involving highly trained paramedics demonstrated that previous experience correlated with intubation success, which in turn was correlated with return of spontaneous circulation (ROSC). Notably, the authors observed that first-pass success might be the key element in increasing both ROSC and survival to hospital discharge. The authors consequently suggested that paramedics who lack adequate experience should consider using supraglottic airway (SGA) devices.[1]

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Other studies validated this suggestion with mixed outcomes. The PART trial, a well-conducted, pragmatic, cluster-crossover trial from 2018 evaluated outcomes of 3,000 out-of-hospital cardiac arrest (OHCA) patients in the United States. Approximately half of OHCA patients were randomly assigned to ETI and half received a supraglottic laryngeal tube (King-LT, often called King airways) as the intervention. Survival after 72 hours was 18.3 percent in the LT group compared with 15.4 percent in the ETI group, a statistically significant difference. Notably, however, the first airway attempt after EMS arrival in the LT group was 2.7 minutes shorter than with the ETI group. It is therefore possible that in this study, the timing mattered more than the specific intervention. Unsuccessful insertion for the ETI group was 44.1 percent compared with 11.8 percent in the LT group. Finally, it should be noted that EMS's LTs were converted to ETI at the receiving emergency department 64.4 percent of the time.[2]

The AIRWAYS-2 trial was a massive cluster-randomized controlled trial from the United Kingdom that evaluated 30-day good functional outcomes in OHCA survivors. The clusters were assigned to a specific type of SGA (iGel) versus ETI. The dataset was large enough to include 9,296 patients; no difference was found between the two groups. Although the study had limitations, it appears that it would be fair to conclude from AIRWAYS-2 that iGels are noninferior in the prehospital setting to ETI and vice-versa. Therefore, from this single study, we would be willing to challenge the "gold standard" idea when it comes to OHCA and paramedics. Subsequent three-month and six-month follow-up seems to corroborate the initial data of AIRWAYS-2, with the caveat that a very low percentage of patients responded to request for follow up.[3,4]

Which is Best?

In an official position statement, the National Association of EMS Physicians (NAEMSP) favors the use of prehospital SGAs: "*SGAs have utility as a primary or secondary EMS airway intervention.*"

EMS agencies that perform endotracheal intubation must also equip their clinicians with SGA devices and ensure adequate training and competence.

In select situations, drug-assisted airway management may be used by properly credentialed EMS clinicians to facilitate SGA insertion.

Confirmation of initial and continuous SGA placement using waveform capnography is strongly encouraged as a best practice.[5]

If SGAs are as efficacious and safe as ETI, the question arises as to which type of SGA is the best. Several different styles are commercially available. A comparison between the King-LT and iGel was attempted in OHCA situations and, overall, the outcomes were not hugely different. There were some nuanced differences. Survival to discharge home was approximately the same between the two groups when the SGA was the primary airway device; but when the SGA was used as a rescue device for failed intubation, the iGel did better. The authors therefore concluded that the iGel for adult OHCA resuscitation had better outcomes as compared with the King-LT.[6] It may be reasonable, as a conclusion, to keep it simple: Both devices are good, so one might choose the easiest one to use. The iGel does not have a cuff, meaning no syringe is required for insertion and it really has no failing parts.

From the articles cited above, a theme begins to emerge: Early placement of the airway, along with first-pass success, are important considerations. Practitioners must consider ROSC. Without ROSC, there really is no 72-hour or 30-day outcome at all. It is likely that the airway in the prehospital setting has something to do with ROSC. The time interval between EMS arrival and definitive airway placement is likely a key factor. In a striking secondary analysis of the ROC PRIMED data that included more than 7,000 patients, it was demonstrated that the earlier the airway is placed, the higher the likelihood there is of ROSC regardless of initial heart rhythm.[7]

In light of this data, it appears that ETI can be an appropriate EMS intervention in OHCA provided the following conditions are met: the paramedic is skilled and experienced; the endotracheal tube goes in on the first attempt without interrupting CPR or delaying defibrillation; and the airway is placed less than five minutes after EMS arrival. These conditions can exist in the real world but unfortunately may not apply for many reasons.

This leaves the emergency physician with a decision: When EMS brings in a well-ventilated OHCA patient who has an SGA in place, should they leave the iGel in or spend time replacing it with an endotracheal tube before either pronouncing the patient dead or sending the patient on to the cardiac cath lab in the case of ROSC? The case for removing the SGA may in some cases be a difficult one to make.

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THE END OF THE RAINBOW

DR. DAHLE blogs at www.whitecoatinvestor.com and is a best-selling author and podcaster. He is not a licensed financial adviser, accountant, or attorney and recommends you consult with your own advisers prior to acting on any information you read here.

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Little Things That Matter

Holes in your financial plan

by JAMES M. DAHLE, MD, FACEP

In a recent meeting, I heard about an 80-year-old worth @25 million who recently lost his wife and realized he doesn't have a will in place nor any close family members. If he died, a distant cousin that he never even talks to would inherit all that money.

There are many people out there who have been financially successful but still have huge gaping holes in their financial plans. Let's talk about a few of those holes and make sure you have them all filled.

The first is at least a basic estate plan. This is absolutely critical if you have minor children. A will dictates who will be their guardian and who will manage their money on their behalf until they come of age. But it also determines where your property and money go when you die. Additional useful documents may include a power of attorney, an advanced health care directive, and perhaps a revocable (living) trust.

Insurance is another gap frequently seen in do-it-yourself financial plans. If you are not yet financially independent, you likely need a disability insurance policy. While these are sometimes provided by employers, an individual policy is not only portable should you leave that employer but generally provides a more comprehensive definition of disability and better additional features. If you are not the only one who depends on your income, you probably need a large term life insurance policy too. An early career physician will often appropriately carry a $1 million to $5 million policy. Luckily, even this amount of coverage is generally dramatically cheaper than your disability coverage and your malpractice coverage.

Speaking of malpractice, it's a good idea to think through an asset protection plan at some point. It is extraordinarily rare for physicians to lose personal assets to a malpractice lawsuit, but insurance definitely provides the first line of defense. This is true on the personal side, as well. Far too many doctors own a million-dollar malpractice policy but are only carrying $50,000 in liability coverage on their car. Increase your home and auto liability coverage and stack a seven-figure umbrella (personal liability) policy on top of it. Unlike malpractice, personal liability coverage is actually pretty cheap. It might only cost you $300 a year to get $1 million of coverage. Beyond insurance, recognize that some assets are available to creditors in bankruptcy in your state and some are not. It is a good idea to at least know what those are long before you are ever the defendant in a lawsuit. For example, some retirement accounts are protected in all states and most retirement accounts are protected in most states. That is to say, if you had a judgement against you for $10 million above your policy limits judgment and had to declare bankruptcy, you would get to keep the money in your retirement accounts. That's just one more reason to max them out every year. The laws protecting your home, annuities, cash value life insurance, and belongings are highly variable by state. In my book on asset protection, fully half the book ended up being a state-by-state list of the relevant asset protection laws. Another gaping hole in many financial plans, especially among residents and early career physicians, is proper student loan management. Just on the day I wrote this article, I interacted with a doctor who mistakenly refinanced loans that would have been eligible for Public Service Loan Forgiveness (a $350,000 mistake), a two-doc couple expecting over $1 million in loans forgiven, and a Caribbean medical student facing 11.25 percent interest student loans if he ever wants to become a doctor. Spending a few hundred dollars to get student loan specific advice could end up saving you tens of thousands of dollars in the end. Choosing the right income driven repayment plan and determining whether (and when) to refinance can be surprisingly complicated.

The secret to having a lot of money in your retirement accounts is simple: put a lot of money in your retirement accounts. Perhaps the most important number in a physician's financial life is their savings rate, i.e. what percentage of their gross income goes toward retirement each year. This is well worth calculating each year and comparing to past years. I generally recommend you save about 20 percent of your gross income for retirement. That can be very challenging for many physicians because they don't have any sort of written plan ensuring their money goes toward what they care about most. However, a budget should not feel constraining, it should feel empowering. Saving enough for the future, while still allowing you to have a wonderful life requires a careful balance and reasonable dose of discipline.

There is more to a financial plan than just a list of investments. Whether you use a low-cost, fiduciary advisor or do your own financial planning, make sure you don't leave any gaping holes in your plan.

THE NEXT GENERATION OF EM

RESIDENT VOICE

DR. CHUNG is a PGY-4 resident in emergency medicine at George Washington University in Washington, DC.

Health Care in a New Administration

Medicine and public health in Trump's second term—a resident's perspective

by KAREN HOU CHUNG, MD

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The first 100 days of the new administration have seen considerable activity surrounding health policy, both through direct policy actions and as downstream consequences of other policies. Several key issues may have far-reaching implications for emergency medicine. As emergency physicians, we must pay close attention to changes that may affect us, our patients, and our hospitals. This Resident Voice column explores several of these topics from the perspective of one newly entering the specialty.

Federal support for public health initiatives, including research, information dissemination, and treatment programs, is facing scrutiny and potential cuts under the Trump administration. Within days after inauguration, the new administration temporarily blocked the disbursement of many federal grants and loans, with exceptions for direct-aid programs like Medicare and Social Security. Additional directives and legal challenges led some to confusion and uncertainty, further influencing the services and funding that were available.[1] Public health experts were dismayed at the administration's pause on external communication from federal agencies, including the Centers for Disease Control and Prevention, Department of Health and Human Services, the National Institutes for Health, and the Food and Drug Administration. Though temporary, the resulting unpredictability raised concern for researchers, federal agency employees, and the general public. Funding may prove an ongoing concern, as the administration proposes drastic reductions in grants for some medical research at hospitals and universities. At the time of this writing, some cuts are on hold following federal judges' rulings. Whatever the outcome, there may be consequences for years to come.[2]

The overall direction of public health priorities, agency funding, and staffing and programmatic restrictions will be greatly influenced by the leadership of these federal agencies. Notable among them are the new Secretary of the Department of Health and Human Services, Robert F. Kennedy, Jr., and the new Administrator of the Centers for Medicare and Medicaid Services, Dr. Mehmet Oz. Both have backgrounds outside of traditional health policy roles and have been known for opinions that diverge from traditional medical consensus.[3,4] As part of his role, Secretary Kennedy will chair the Make America Healthy Again Commission established by President Trump. The Commission has outlined a focus on chronic diseases. However, it has not fully addressed other crucial public health concerns, such as the ongoing measles outbreak, substance use, gun violence, and mental health services, all of which have implications for emergency medicine.[5]

Globally, President Trump ordered the United States to withdraw from the World Health Organization (WHO) via executive order. Because the United States has historically been the largest contributor in the WHO, withdrawal may have far-reaching implications on funding for WHO programs in lower-resourced countries. The United States may cede a large role in international governance and negotiations for global health programs. Experts warn that this could limit international cooperation on disease surveillance and emergency response, perhaps impacting disease transmission to and within the United States.[6] Other global health organizations will also be affected by the cessation in federal funding, including the President's Emergency Plan for AIDS Relief (PEPFAR) and the US Agency for International Development (USAID), which imperils these programs' abilities to provide critical services.[7]

Weakened public health and global health infrastructure could limit the country's ability to respond effectively to future public health emergencies like disease outbreaks and disasters, placing further strain on emergency departments during crises.

Insurance and Access to Care

Compared to countries of similar size and wealth, the United States has the highest health care expenditures per capita. In 2023, the United States spent 4.9 trillion dollars, or 14,570 dollars per person. Nearly 40 percent funnels through the Medicare and Medicaid.[8] Congress continues work on the federal budget, which may involve changes to these programs in order to reduce federal spending. To accomplish this, the administration has advocated for restructuring Medicaid into block grants, implementing per capita caps, or enacting work requirements on beneficiaries.[9] These modifications may restrict eligibility and limit the benefits that patients may receive. There has also been promotion of Medicare Advantage plans, which could lead to narrower physician networks and additional prior authorization requirements compared to traditional Medicare.[10]

Even individuals with traditionally preferred insurance plans may see their preventive health benefits impacted. The Supreme Court has agreed to hear arguments from a Texas-based company that challenged the Affordable Care Act's coverage of certain preventive services, which would remove requirements that private insurance must cover services like lung and colon cancer screenings, PrEP medications for HIV prevention, and behavioral counseling.[11,12]

Medicare drug price negotiations will also remain an important area of focus. In a process that began under the Inflation Reduction Act in 2022, negotiations with drug companies for certain medications under Medicare Parts D and B aim to lower overall Medicare spending and reduce out-of-pocket drug costs for Medicare beneficiaries.[13] The second round of price negotiations is underway, however the outcomes and direction of this and future rounds remain uncertain.

Regulations

Soon after taking office, President Trump issued a series of executive orders focused on immigration restrictions and increasing enforcement. Among these orders was a recission of a Biden Administration policy that protected against enforcement in "sensitive areas," including hospitals and other health care facilities.[14] Allowing Immigrations and Customs Enforcement (ICE) agents access to hospitals may intensify fear and reluctance among immigrants seeking care, even those who are lawfully residing in the United States. Health care systems and physicians may face challenges helping patients feel safe, protecting patient information, and establishing protocols to respond to potential encounters with ICE agents.

Carrying over from the first Trump administration, hospitals will be mandated to publish the prices they accept from insurers for all services, including medications, procedures, and imaging, in an emphasis on greater transparency in health care pricing overall.[15] The goal is to empower patients to make informed decisions about their health care and to stimulate market-driven price reductions.[16]

The first Trump administration proposed tort reforms that advocated to cap non-economic damages in medical malpractice claims, shorten the statute of limitations for filing claims, and define protections for physicians following evidence-based guidelines.[17] Although these did not come to pass, it remains to be seen what may be proposed again.

Conclusion

As the second Trump administration continues to reshape health policy, there will be ongoing shifts in leadership, funding priorities, and regulatory approaches. The extent of these changes may have downstream ramifications on patients, resources at academic medical centers, and financial and legal implications on emergency physicians. As changes unfold, it is essential for emergency physicians to stay informed and engaged so that the needs of physicians and our patients are supported through advocacy.

Please see references online.

ONE MORE REASON NOT TO ORDER AN X-RAY

SOUND ADVICE

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A Simplified Protocol for Intralipid Administration in the ED

by ARUN NAGDEV, MD; JUSTIN MOORE, MD; DAVID MARTIN, MD; KAITLEN HOWELL, MD and MIKAELA CHILSTROM, MD, FACEP

Ultrasound-guided nerve blocks (UGNBs) are becoming more common in emergency medicine practice. These techniques allow the modern emergency physician to deliver targeted pain control in conjunction with using lower doses of other analgesics. Recently, numerous Emergency Department (ED) groups have demonstrated the efficacy of UGNBs for pain control with a low rate of complications.[1–3] This cohort study included data from the National Ultrasound-Guided Nerve Block Registry, a retrospective multicenter observational registry encompassing procedures performed in 11 EDs in the US from January 1, 2022, to December 31, 2023, of adult patients who underwent a UGNB. The primary outcome of this study was complication rates associated with ED-performed UGNBs recorded in the National Ultrasound-Guided Nerve Block Registry from January 1, 2022, to December 31, 2023. The secondary outcome was patient pain scores of ED-based UGNBs. Data for all adult patients who underwent an ED-based UGNB at each site were recorded. The volume of UGNB at each site, as well as procedural outcomes (including complications. Even with these encouraging data, local anesthetics can be toxic, and the larger doses of anesthetics associated with UGNBs increase the risk of toxicity. Any clinician administering local anesthetics, especially in large doses, should be aware of the prevention, diagnosis, and treatment of local anesthetic systemic toxicity (LAST). Departments should create a clear policy outlining the dosing and administration of the antidote (20% intralipid solution) in the event of this rare, but dangerous, complication. Our goal is not to perform an exhaustive review of LAST, but rather define a simplified collaborative process to establish a protocol that we have implemented in our ED.[4]

What is Local Anesthetic Systemic Toxicity (LAST) and how to detect it?

Local anesthetic systemic toxicity is a serious, life-threatening complication of local anesthetic use with both cardiovascular and central nervous system (CNS) manifestations.[4–6] Toxicity is thought to be the result of local anesthetic binding to sodium channels within the myocardium and/or the thalamocortical neurons in the brain, although potassium and calcium channel blockade may also play a role. While LAST may occur with any route of administration, the vast majority of cases occur as a result of regional anesthesia.[7,8] Anesthesiology and ED studies drawing on registries and case reports estimate an incidence of 0.04-1.8 major LAST events (cardiac arrest or seizures) per 1,000 peripheral nerve blocks.[8,9] The frequency of minor LAST events (e.g., perioral paresthesias, tinnitus, dizziness, metallic taste) is less clear, as cases may be unrecognized and unreported. Unfortunately, the presentation and progression of LAST does not follow a simple pathway and clinicians must be aware of early/minor symptoms. (Table 1)

Previously, it was thought that LAST only occurs when anesthetic was administered inadvertently into a vein or artery; however, rapid vascular absorption from an acute hematoma or highly vascular plane blocks has been reported as the source in numerous cases.[10,11] Direct vascular injection generally causes symptoms within 5 minutes, but systemic absorption from injection sites causes a more delayed, gradual onset of symptoms, sometimes more than an hour after injection. 5,7 For this reason, we recommend continued cardiac monitoring of patients for at least 60 minutes following the vast majority of UGNBs.[7]

Table 1 Symptoms of LAST:

GENERAL		NEUROLOGIC	CARDIOVASCULAR
• Nausea • Vomiting • Shivering • Dizziness	Early	• Non-specific: • Tinnitus • Perioral numbness • Metallic Taste • Vision Changes • Dysarthria • Excitatory: • Anxiety • Confusion • Agitation • Seizures	• Hypertension • Tachycardia
	Late	• CNS Depression: • Somnolence • Coma • Respiratory depression	• Hypotension • Bradycardia • Dysrhythmias • Cardiac arrest

Key safety point: Based on our 15-year experience performing UGNBs, we have observed cases of suspected early LAST with thoracic fascial plane blocks and hematoma blocks (including erector spinae plane, serratus anterior, and sternal hematoma blocks). After calculating the maximum accepted dose of anesthetic and drawing up less, we believe that clinicians should take more time to perform these blocks by waiting 30 seconds to 2 minutes between each 3-5 mL aliquot of anesthetic injection. During the pauses, clinicians should monitor the patient's vital signs and inquire about symptoms to enable early detection of toxicity. We recognize that pausing between anesthetic injections should be standard for all UGNBs, but feel special attention should be paid when placing local anesthetic in highly vascular regions in close proximity to the heart.

Treatment Protocol

Early recognition and treatment of LAST is critical. The cornerstone of treatment is intravenous lipid emulsion, which is believed to draw lipophilic local anesthetic from sensitive tissues, like the brain and heart, into the bloodstream and act as a "lipid sink," binding and inactivating local anesthetic.[4] We highly recommend that a simplified protocol for intralipid administration be discussed and practiced by clinicians performing UGNBs, clinical administrators, and hospital pharmacists far in advance of the first block performed in the ED. As with all critical, time-sensitive, and uncommon procedures (like cricothyrotomy and thoracotomy), a simplified pathway reduces cognitive load during stressful events.

In cases of suspected LAST, there is no clearly defined point at which intralipid should be administered. In patients with late symptoms (seizure, altered mental status, dysthymias, cardiac collapse, etc.), the pathway is obvious and intralipid should be administered immediately. In patients with possible early symptoms, the decision can be challenging; however, based on our experience, we recommend frequent and careful monitoring, with immediate administration of intralipid if symptoms progress.

In addition to early intralipid, seizures should be treated with benzodiazepines and standard Advanced Cardiac Life Support (ACLS) guidelines should be followed for arrhythmias and cardiac arrest, with some notable modifications. Smaller doses of epinephrine are recommended (start at <1mcg/kg). Local anesthetics, beta blockers, calcium channel blockers, and vasopressin should not be used.

Highland ED Protocol for Intralipid Administration

Because LAST is a very rare (and stressful) event, we have developed a simplified process for our clinicians. As part of our departmental protocol, all patients receiving USGNBs must have functional intravenous access and be placed on a cardiac monitor prior to starting the procedure. Also, the patient must be kept on a continuous cardiac monitor for 60 minutes after the block has been completed. UGNBs distal to the elbow or knee (forearm and tibial nerve blocks specifically) that require volumes less than 10ml of anesthetic can be performed without continuous monitoring.

Intralipid solution is readily accessible in our ED, stored in a clearly marked box within the ED block cart and in two automated medication dispensing systems. The ED block cart, which contains all block supplies, including 250 mL of intralipid, is brought to the patient's bedside for all UGNBs. In conjunction with pharmacy colleagues, we developed a simplified protocol for the administration of intralipid based on the American Society of Regional Anesthesia (ASRA) guidelines, with all supplies and instructions located inside the block cart. The "Open – Pull – Push" technique was created for the initial bolus of intralipid. First, the clinician "opens" the box and removes all the supplies (**Figure 1**). The clinician then "pulls" a full 50 mL syringe of intralipid through the filter (to reduce large particulate matter) (**Fig-**

ure 2). A 50 mL intralipid "push" is then rapidly administered through the preexisting IV, with this process repeated a second time in rapid succession for a total dose of 100 mL (**Figure 3**). If the patient remains unstable, this 100mL bolus can be repeated one more time using the contents of the initial bag. After administering the initial boluses of intralipid (100mL x2), start the patient on an infusion of 0.25 mL/kg/min. If the patient continues to remain unstable, the infusion can be increased to 0.5 mL/kg/min. In this way, intralipid administration is simplified to a bolus, which is repeated if hemodynamic stability is not achieved, followed by an infusion dose, which is doubled if hemodynamic stability is still not achieved. Once hemodynamic stability is achieved, continue the infusion for at least 15 minutes. The intralipid drip should be made and ready to administer while the clinician is stabilizing the patient with intralipid boluses and ACLS. A laminated information sheet attached to the cart details the ASRA guidelines, which include details on intralipid administration, treatment of seizures, hypotension, and arrhythmias.[12] We recommend conducting simulated cases of LAST in the department, so physicians are familiar with the pathway and the equipment.

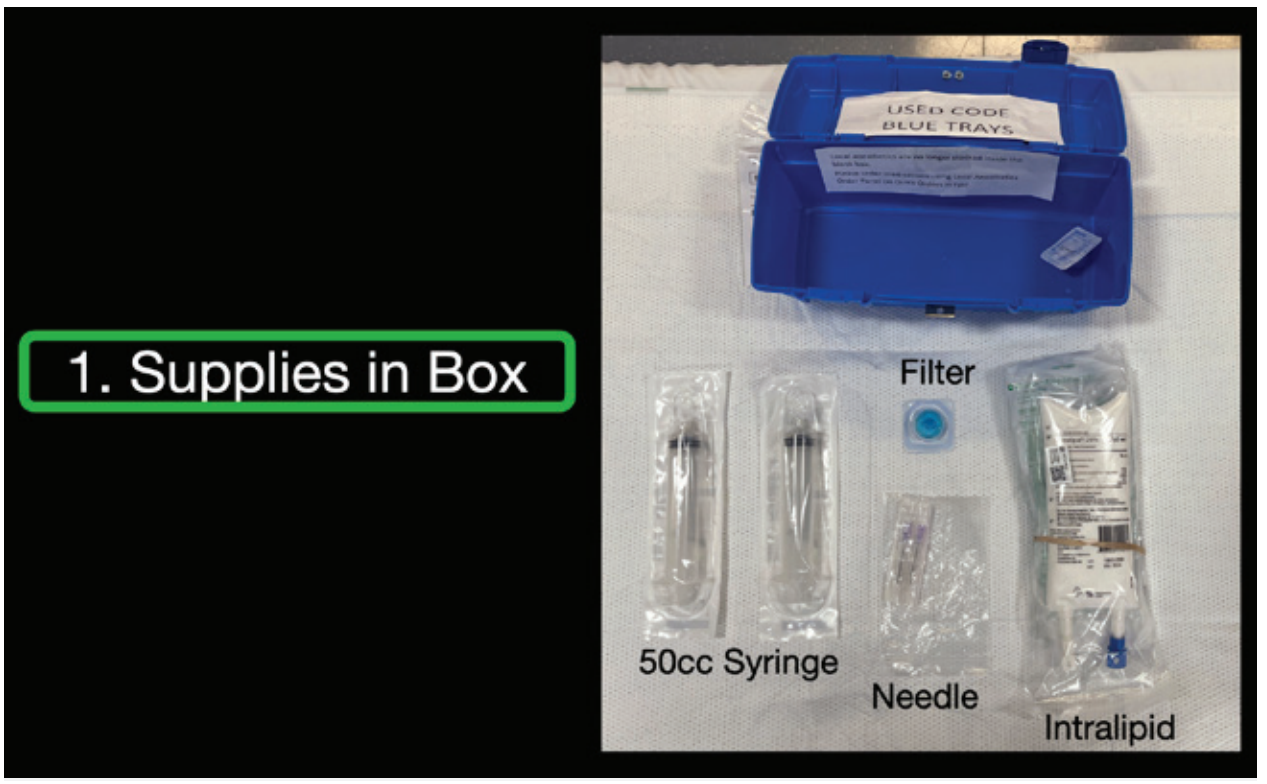

Figure 1

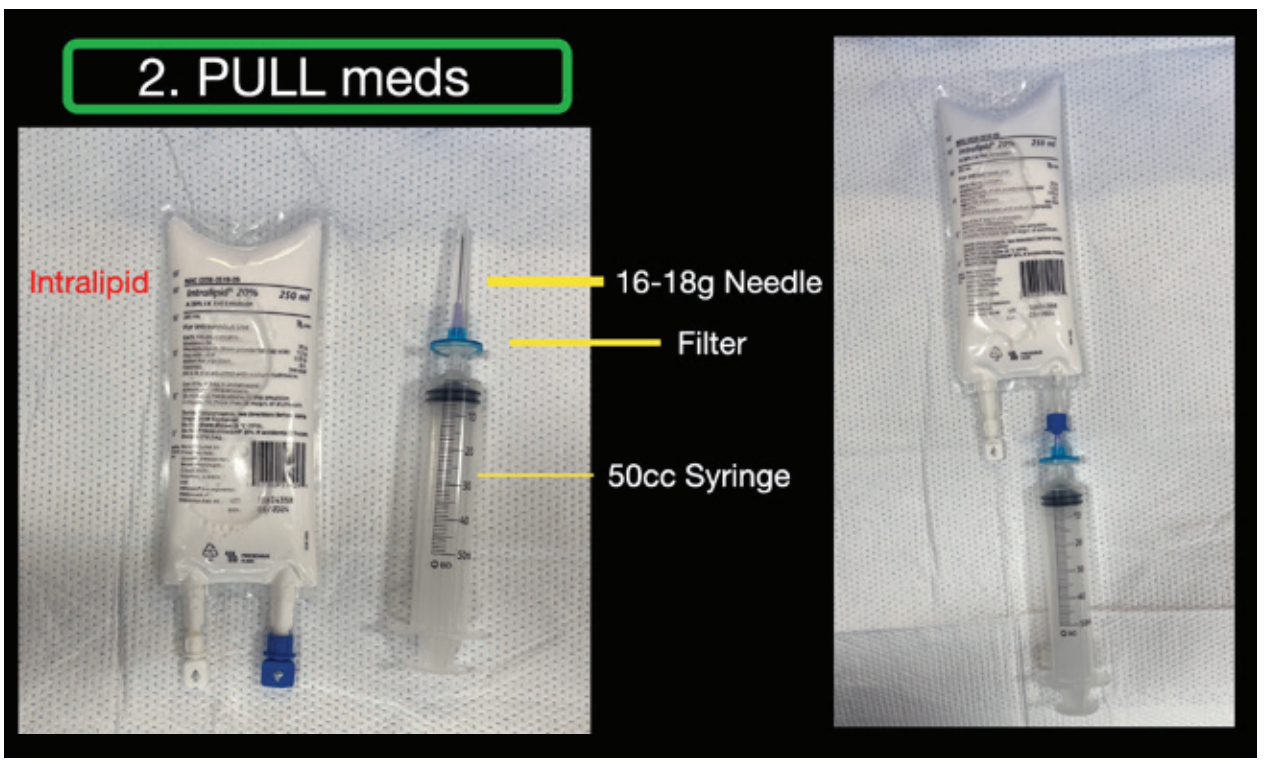

Figure 2

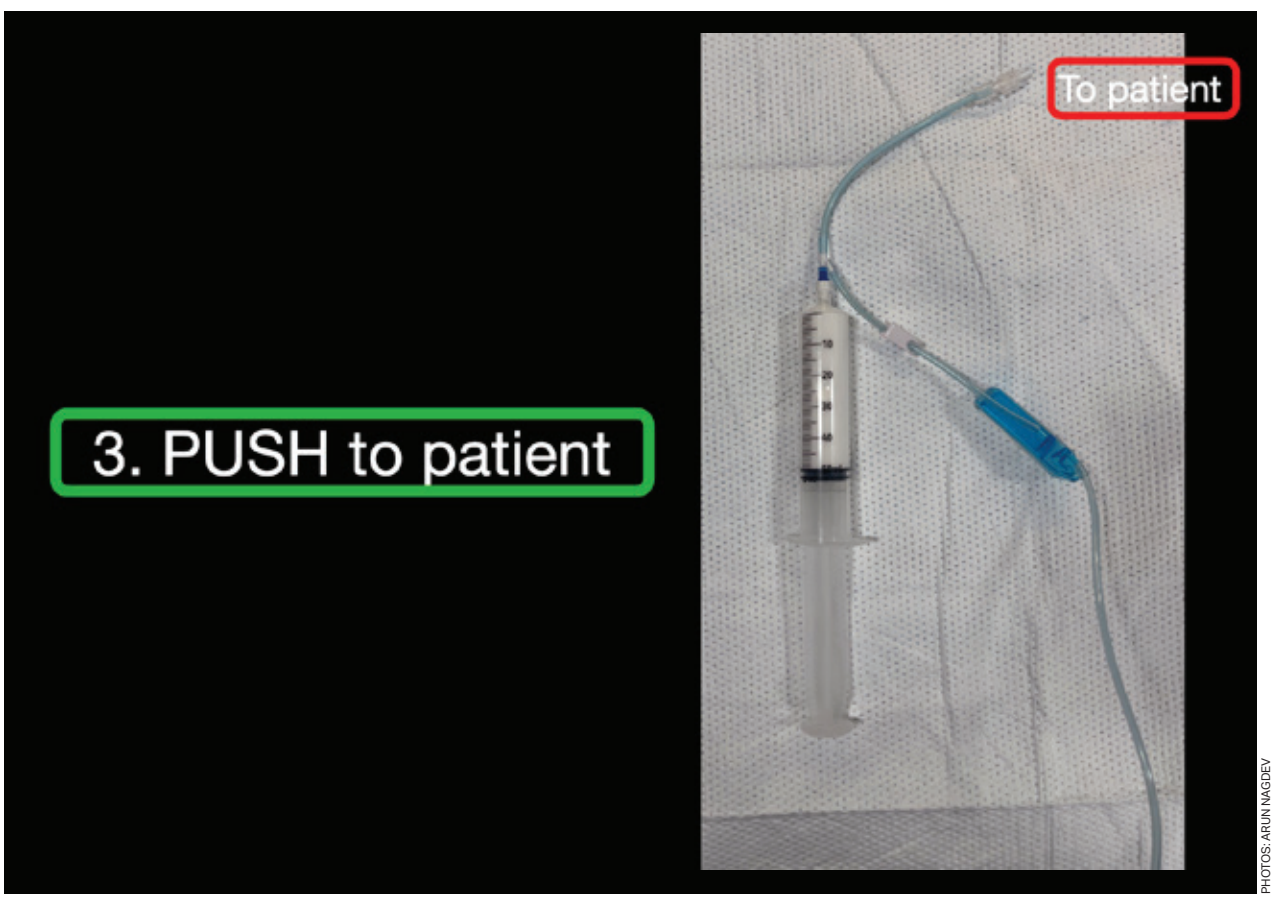

Figure 3

Summary

Optimal pain control in the ED is a growing field that relies on clinicians learning how to use novel agents (ketamine, nitrous, etc.) as well as UGNBs. With this expansion of knowledge, clinicians must be aware of complications from these novel agents and procedures. For UGNBs, clinicians must be vigilant about patient selection, preparation, and detection of complications. The possibility of LAST should be considered in every case, with proper monitoring and intravenous access, and simple pathways must be in place for antidote delivery. Each ED group should meet with their pharmacy colleagues to ensure there is a clearly defined process for immediate intralipid access and administration during a LAST episode. Stocking our ED block cart with all the supplies to deliver intralipid and our "Open-Pull-Push" technique comes from our desire to ensure all providers have a simplified plan. Aspiration of intralipid through a filter with a large bore needle, and rapid administration should be a learned pathway for all clinicians performing UGNBs in the ED. Like other uncommon procedures, simulated practice will reduce confusion and error in the event of LAST.

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PHOTO: JASON HACK (OLEANDER PHOTOGRAPHY)

Image 2(**ABOVE**) and Image 3(**RIGHT**)

JEQUIRITY BEAN

Abrus precatorius

Toxicology Q&A Answer

QUESTION ON PAGE **10**

ANSWER: Jequirity Bean

The jequirity bean (*Abrus precatorius*) is a very ordinary looking climbing plant found in warm climates across the world that has very attractively colored seeds that are very toxic.

Common names: Buddhist Rosary Bead, Crab's Eyes, Indian Bead, Jequirity Bean, Love Bean, Prayer Bean, Precatory Bean, Rosary Pea, Seminole Bead. Seeds are often used in jewelry, strung on a line for necklaces or bracelets, or used in rattles because of their hard shell.

Plant: *Abrus p.* was introduced to the United States from its native habitat in Asia in the 1930s. It is now considered an 'undesired invasive weed' and cultivation is prohibited in many areas. The plant is an herbaceous perennial climbing plant with small deep green oval leaves (image 1) and a deep tap root that makes it difficult to eradicate. It has grouped pale pink flowers that bloom from May to September. Seed pods develop later (Image 2) and each contains 3-6 strikingly colored scarlet-red, shiny seeds with a black spot (Image 3). These seeds are so uniform in size and weight (about 7 mm and 1/10th of a gram) they were historically used in India as standard unit (Ratti) for weighing gold.[1]

Exposure: Typical exposure is oral in humans and pet animals (although birds can eat them without injury). Illness and subsequent fatality depend upon the amount, route, and mechanism of exposure. Most described exposures are from seed ingestion (either suicidal or inadvertent) where degree of toxicity depends upon the integrity of the seed's water impermeable shell. If they were swallowed whole, the toxicity may be limited; if the seed was chewed or if the seed shell was drilled open and strung in a line (e.g., for a bracelet) toxicity may be more profound. Intentional large dose ingestions and parenteral exposures produce severe illness and can be fatal.[2,3]

Toxicity/Toxin: The entire plant contains abrin, a toxalbumin. This is the most toxic naturally occurring plant poison known. The jequirity seeds have the highest abrin amount per weight—with an estimated fatal human dose between 0.1-1 microgram/kg or about one chewed seed—this is about twice the potency of caster bean's ricin.[4,5]

Mechanism: Abrin contains a sulfur-linked A and B chain. The B chain *binds* to the cell membrane and causes invagination and delivery of the A chain to the ribosomes. The A chain *attacks* the ribosomes 60S subunit and removes *adenine* from

Image 1

positions 4 and 324 of the 28S rRNA which stops protein synthesis and causes acute cellular death. Abrin induces cellular death, vascular leak syndrome (tissue edema), and red blood cell agglutination; inhalation of the toxin results in pulmonary edema.[4]

Symptoms: While many exposures have mild to moderate symptoms before resolution, severe symptoms may develop. After seeds are eaten, if symptoms occur, they usually develop in hours or days. Initially, the findings are suggestive of viral gastroenteritis.[6] A retrospective analysis of 112 cases supports the most common initial symptoms are GI:[7] nausea, vomiting, severe abdominal pain and bloody diarrhea—pharyngeal pain with ulcerative lesions of mouth and esophagus can develop. Severe symptoms include prostration, hallucinations, cerebral edema and seizures; fatal exposures will develop hypotension, high heart rates, shock and fever; ultimately with multi-organ failure—renal, CNS, and liver.[8]

Management/Treatment

General: Avoidance and education. These include—don't buy the poison seed bracelet, don't put the poison seeds in your mouth.

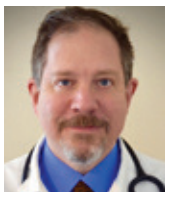
GI decontamination: If early in exposure (e.g. just happened or suspected ingestion—prior to onset of symptoms) activated charcoal with WBI may be considered. Ipecac use with cathartics has been previously described.[9]

Antiemetics, fluid resuscitation for volume and electrolyte repletion as needed.

Laboratory assessment: serial evaluations for electrolyte derangement, LFTs, renal function, assessment of mental status.

There is no antidote for abrin poisoning—care is primarily supportive.

The author thanks the brilliant and observant Dr. Jordan Celeste of Central Florida, who sent him seeds that were growing wild in her neighborhood.



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Q&A ABOUT OUR LITTLEST PATIENTS

KIDS KORNER

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DR. CANTOR is the emeritus medical director for the Central New York Poison Control Center and professor of emergency medicine and pediatrics in Syracuse, New York.

Influenza, Muscle Pain, and an Elevated Serum Creatine Kinase

The best questions often stem from the inquisitive learner. As educators, we love—and are always humbled—by those moments when we get to say "I don't know." For some of these questions, you may already know the answers. For others, you may never have thought to ask the question. For all, questions, comments, concerns, and critiques are encouraged. Welcome to the Kids Korner.

Question

"In children with influenza, muscle pain, and an elevated serum creatine kinase (CK), is there a specific CK level that predicts acute kidney injury or renal failure and warrants admission for continued inpatient hydration?"

It feels like it has been a busier influenza season this year. You may have seen one or two ... or a thousand of them. Anecdotally, at our location, it feels like myositis and rhabdomyolysis associated with influenza didn't really rear its head until later in the flu season. Maybe it was this strain of influenza? Maybe it was our location? Maybe it's recall bias? Any-

CONTINUED *on page 22*

way, that association prompted this question.

Rhabdomyolysis is rapid muscle tissue breakdown that results in elevated levels of serum creatine kinase (CK) and can lead to systemic injuries such as acute kidney injury (AKI) and electrolyte imbalances. In adults, there is a scoring system—the McMahon score—that predicts the likelihood of mortality or acute kidney injury (AKI) in patients with rhabdomyolysis patients. The McMahon score incorporates age, sex, and electrolytes abnormalities in addition to CK results.[1]

The RIFLE criteria are another system that has been explored to predict the severity and prognosis of AKI in adults.[2] For children, though, we are unfamiliar with any similar scoring system. The question arises "Is there a particular CK value that predicts an AKI in children with myositis/rhabdomyolysis from influenza?" While every case has other factors that contribute to our decision-making that should be considered, is there a specific CK value that we should really take note of? We're only seeking to evaluate viral-induced myositis/rhabdomyolysis and not rhabdomyolysis caused by other etiologies such as trauma or heart disease.

We were unable to find any strong conclusion on a specific CK level or its prognosis for AKI in children. Most pediatric studies on rhabdomyolysis were retrospective, had small numbers, and included variable causes of rhabdomyolysis. For instance, a 2000 retrospective study by Watemberg et. al., identified 19 children with rhabdomyolysis over an 8-year period.[3] The most common causes were trauma (5), non-ketotic hyperosmolar coma (2), viral myositis (2), dystonia (2), and malignant hyperthermia.[2] Additionally, the study found that "coma" occurred in 7 patients, suggesting an extremely sick patient population. Even with the variation in etiology and severity of illness, though, the authors stated, "There was no significant difference in serum creatine kinase levels in patients with versus without acute renal failure." However, it is a single small study and thus is difficult to draw any real conclusions.

Fast forward a few years to another retrospective study of 28 children with a mean age of 11.1 plus or minus 5.6 years (median 12.5 years old).[4] The most common cause of rhabdomyolysis was infection (43 percent), exertional (25 percent), trauma (10.7 percent), unknown (10.7 percent), DKA (3.6 percent), seizures (3.6 percent), and toxin from spider bite (3.6 percent). All the patients were admitted to the hospital and the authors sought to determine what factors were associated with acute renal failure requiring dialysis. CK, IV fluid bolus administration, use of sodium bicarbonate fluids, and electrolytes were among the values recorded. Those who received an IV fluid bolus were less likely to require dialysis, but the number was not statistically significant. Seven of the 28 children required dialysis. The authors did not find any significant difference in admission or peak CK levels among those who did versus did not require dialysis. They did mention, though, that all the patients who required dialysis had a peak CK level greater than 5000 U/L. While the results are interesting, they don't really address the ED setting, as all the patients were admitted patients with variable causes of rhabdomyolysis. Perhaps a CK of 5,000 U/L is an important number and provides a hopping-off point for discussion. A separate 2013 retrospective ED study by Chen et. al., also identified 5000 U/L as a number with increased probability of developing acute renal failure.[5] It's difficult to draw any true conclusions related to children, as only 20 percent of the study participants were children and the overall predominant causes of rhabdomyolysis were trauma (27 percent) and infection (18 percent). There was another inpatient 10-year retrospective study in Taiwan that looked at 172 children with rhabdomyolysis.[6] The mean age was 7.3 years old. The most common cause of rhabdomyolysis was viral myositis (72 percent). Although limited by the non-ED setting, the authors identified some factors associated with acute renal failure. They include: an elevated serum CK, elevated serum AST, and an elevated serum myoglobin. The serum CK in those with and without acute renal failure was 20,780 versus 7,124 IU/L, respectively, so a higher number seemed to be associated with renal failure, but there was no magic number.

A more recent study from 2021 by Kuok et. al., retrospectively identified 54 children with a median age of 7.8 years old who were admitted for rhabdomyolysis.[7] Again, it's an inpatient study. Most of the rhabdomyolysis was caused by viral myositis (72 percent), though, which is good for looking at our question of interest. The peak CK in children who did versus did not develop AKI was 23,086 versus 3,960 IU/L, respectively. The peak values were recorded over the first 72 hours of admission. Specifically on admission, though,

the CK level for the two groups was 2,727 and 3,014, respectively—so it was not significantly different. An AKI developed in 18.5 percent of the children and just two children warranted dialysis. In general, those that developed an AKI seemed to be more dehydrated with obvious signs of rhabdomyolysis on the urine dipstick test and the presence of metabolic acidosis. Another 10-year, retrospective 23-hospital multicenter study in South Korea found similar results. In that study of 880 inpatient admitted children with rhabdomyolysis, there was no significant difference in admission CK levels in children who did and did not develop an AKI—3,161 versus 1,986 U/L—respectively.[8] It was more about the overall clinical picture of dehydration, associated elevation in AST, urinary abnormalities, and the presence of an AKI at presentation. It appears that a specific screening CK level is less important than the overall clinical picture of the child. Still no magic number.

Now on to some pediatric studies specifically in the ED setting. The first was an eight-year retrospective study at two Italian pediatric EDs and included 113 children ages 2 to 13.2 years old (median 6 years old).[9] Specifically, the authors were interested in evaluating benign acute childhood myositis (BACM)—which is a viral-induced myositis that typically affects the calves and is associated with an elevated serum CK level. This is the group that we are specifically interested in with our question today. The most common viral illness in the study was influenza. Children were hospitalized in 85 percent (96/113) of the cases in this study. No one required dialysis or had significant electrolyte abnormalities observed during their admission. The median age was 6 years old and the median serum CK level at admission was 1,413 IU/L with a range of 257 to 12,858 IU/L. That's a large range of serum CK values but all children had a benign course and excellent clinical outcome. Another 2018 retrospective study of 54 children with benign acute childhood myositis had similar results (n=54).[10] The mean age was 7.4 years old-with a mean initial CK of 1,872 I/U (median 2207 IU/L) at admission. No patients developed an AKI or developed renal failure. In this study, an AKI was defined as an increase in serum Cr concentration of 50 percent or more from baseline. Again, this study supports a benign disease process where there is no particular CK cut-off value that suggests concern for the development of an AKI or renal failure. The highest serum CK in the study was 8,086 IU.

Conversely, though, a final study of benign acute childhood myositis suggests a different outcome.[11] It was a four-year retrospective study that included 114 children with a median age of 7 years old. The median CK was 3,332 IU/L (range 427 to 50,185). Unlike the prior studies, two of these patients did develop acute renal failure and the study only admitted 23 percent of the patients. All patients in the ED got IV fluid rehydration and alkalization of urine—which may not regularly happen in all ED settings. Acute renal failure occurred in two patients who both demonstrated serum CK levels greater than 20,000 IU/L. Both these patients reportedly appeared sick. In general, this does suggest that, overall, the disease is benign—but acute renal failure can and does occasionally occur.

Summary

There is no specific elevated CK value in viral-induced myositis/rhabdomyolysis that suggests the development of acute renal failure. Many children develop elevated CK levels in the 3,000 IU/L range with good outcomes. The overall clinical picture of the patients appears to be the best indicator. Myositis associated with elevated CK levels in the setting of viral illnesses (particularly influenza) is referred to as Benign Acute Childhood Myositis. Acute renal failure can occur, but it is very uncommon.

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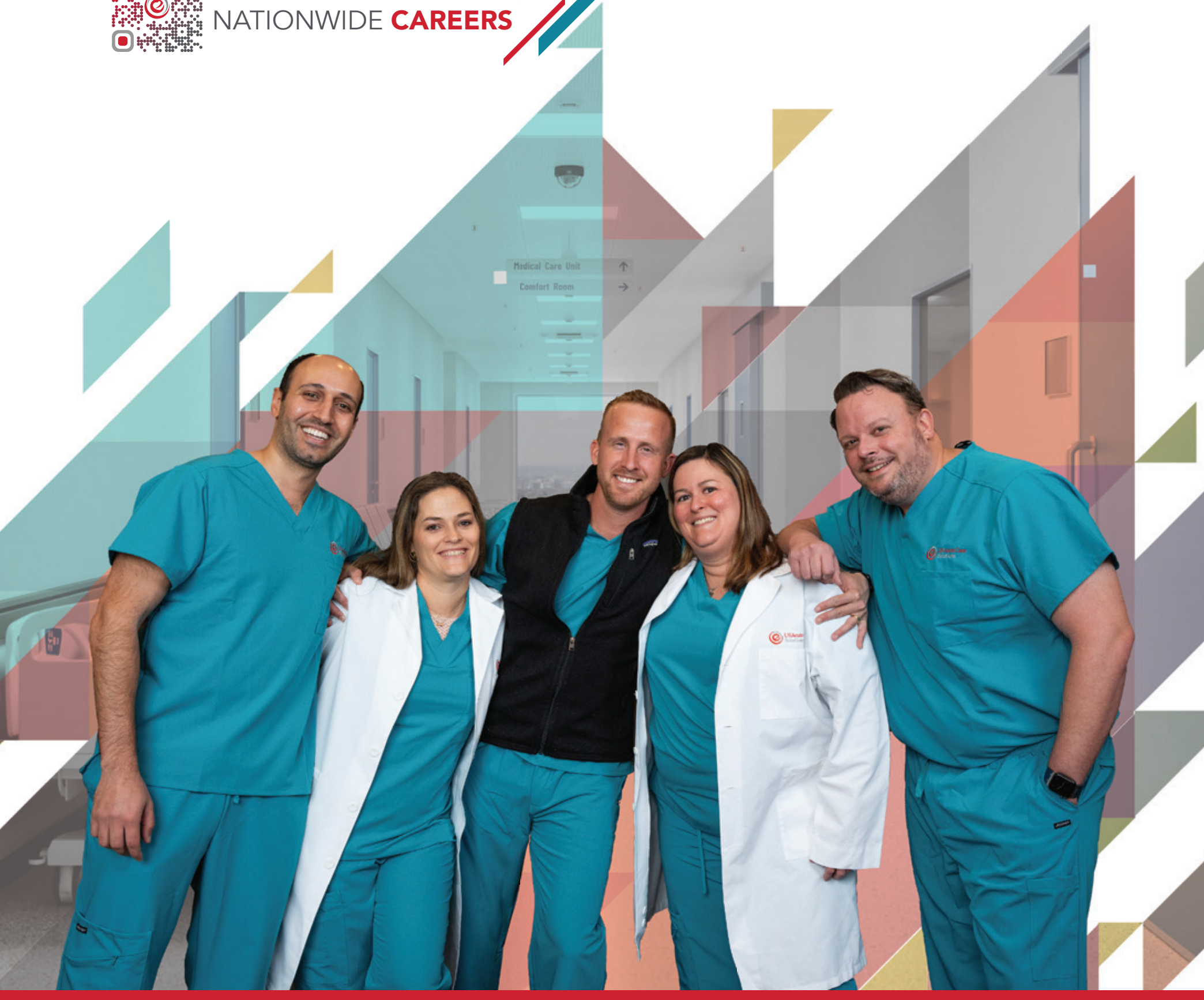

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