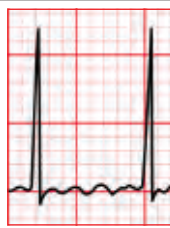




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AUGUST 2024 Volume 43 Number 8

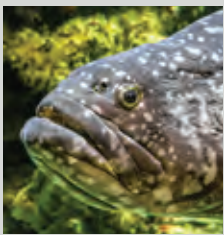
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CASE STUDY  
**Patient with a Fishy Story**  
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**ACEP24: A Re-imagined ACEP Annual Conference**  
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## 2024 ACEP ELECTIONS PREVIEW ✓

### MEET THE PRESIDENT-ELECT CANDIDATES

*The candidates discuss ACEP strategy and member needs*

Each year, ACEP's Council elects new leaders for the College at its meeting. The Council, which represents all 53 chapters, 40 sections of membership, the Association of Academic Chairs of Emergency Medicine, the Council of Emergency Medicine Residency Directors, the Emergency Medicine Residents' Association, and the Society for Academic Emergency Medicine, will elect four members to the ACEP Board of Directors when it meets in September, along with a new President-Elect.

The candidates for Board of Directors will be featured in the September 2024 issue of *ACEP Now*.

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### From Seppuku to Shanks

Management of abdominal stab wounds in modern medicine

by DONIAS DOKO, MD; SAGAR B. DAVE, DO

The incidence of penetrating abdominal trauma accounts for less than 10 percent of all trauma patients, with about half due to stab wounds. Stab wounds that penetrate the abdomen can be difficult to assess, leading to delay in identifying injuries and delayed complications that can add to morbidity. Injuries caused by stab wounds can be life threatening due to bleeding, auto digestion, inflammation, fluid sequestration, contamination, and peritonitis.<sup>1</sup> Although 50 to 70 percent of patients with abdominal stab wounds violate the peritoneum, only 25 to 33 percent of patients with abdominal stab wounds have therapeutic laparotomies, making appropriate assessments critical to treatment modalities.<sup>6</sup>

#### Definition of Regions

Stab wounds can be divided anatomically, anterior (axillary lines laterally and from

CONTINUED on page 5



CASE REPORT

### The Ice Pack Test

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# TOXICOLOGY Q&A



PHOTO: JASON HACK (OLEANDER PHOTOGRAPHY)

## King of the Sea!

by JASON B. HACK, MD, FACEP

**QUESTION:** Which sea-dweller causes skin necrosis upon contact?

**ANSWER** on page 18



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## NEWS FROM THE COLLEGE

## Impact Report Emphasizes How ACEP Defends You and Demands Better

ACEP released its annual Impact Report in late June, detailing recent initiatives, achievements and ongoing advocacy work for emergency physicians and their patients. This comprehensive report highlights ACEP's commitment to addressing critical issues and reinforces a commitment to helping emergency physicians deliver the best possible care.

- EMTALA Obligations and Reproductive Health Care** One of the key highlights of the IMPACT Report is ACEP's dedication to supporting the Emergency Medical Treatment and Labor Act (EMTALA). ACEP has crafted a policy statement, "Access to Reproductive Health Care in the ED," which safeguards decision-making authority, allowing emergency physicians to provide care without fearing criminal repercussions. This policy underscores ACEP's commitment to protecting physicians' clinical autonomy and ensuring patients receive necessary reproductive health care in emergency settings.
- Advocacy for Federal Grants and Legal Protections** ACEP's relentless advocacy efforts have secured \$25.8 million in federal grants to support Alternatives to Opioids and Medication Assisted Treatment programs. These funds are vital for enhancing patient care and addressing the opioid crisis. Additionally, in response to the American Physician Partners bankruptcy, ACEP actively fought for legal protections for affected physicians, urged fair treatment from 130 administrators, and provided access to legal resources, demonstrating its unwavering support for emergency medical professionals.
- Defending Clinical Authority and Opposing Scope of Practice Expansion** ACEP remains vigilant in defending the clinical authority of emergency physicians, aggressively opposing state bills that expand the scope of practice for non-physicians. ACEP stood against the Improving Care and Access to Nurses Act, which threatened to allow non-physicians to take over physicians' roles. ACEP developed model legislation and a playbook to assist Chapters in combating such threats, ensuring emergency physicians maintain their clinical authority.
- Ensuring Fair Payment and Reimbursement** ACEP is the only emergency medicine organization with representation on the Relative Value Scale Update Committee, a crucial body that influences physician payment recommendations to the federal government. ACEP's efforts have prevented an estimated \$30 million in reductions to the relative value units for ED Evaluation and Management codes. ACEP also provided extensive resources, including articles, FAQs, webinars, and podcasts, to help physicians navigate significant changes to CPT Documentation Guidelines.
- Opposing Profit-Driven Motives and Promoting Transparency** ACEP has taken a strong stand against corporatization in medicine. A recent policy statement

condemned dangerous corporate practices and facilitated a conversation with FTC Chair Lina M. Khan at ACEP23, addressing concerns about increasing health care acquisitions. ACEP has also defended physicians' rights to practice freely by opposing predatory non-compete clauses.

- Addressing the ED Boarding Crisis** ACEP has proactively addressed the boarding crisis by hosting a National ED Boarding Summit with key stakeholders to discuss solutions. ACEP mobilized members to bring boarding concerns to Capitol Hill and urged the Centers for Medicare & Medicaid Services to address systemic health system dysfunctions. ACEP's advocacy efforts have led to the formation of a multi-stakeholder initiative on boarding by the Department of Health and Human Services.
- Advocating for the No Surprises Act and Combating Misinformation** ACEP has been at the forefront of advocating for fair implementation of the No Surprises Act, filing amicus briefs, providing testimony, and engaging with agencies to ensure appropriate reimbursement for emergency care. ACEP also has countered misinformation about emergency care, challenging an irresponsible report by the Agency for Healthcare Research and Quality.

ACEP's Impact Report highlights tireless efforts to support the specialty, advocate for fair policies and enhance patient care. Through advocacy, strategic initiatives, and a commitment to transparency and fairness, ACEP continues to empower emergency physicians to focus on delivering quality patient care.



## ACEP Among Nine Medical Organizations to Issue a Statement After Firearm Violence Advisory

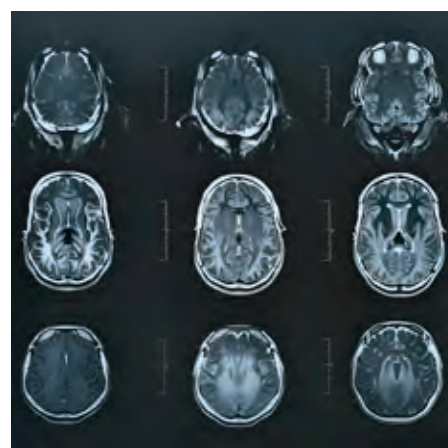
United States Surgeon General Dr. Vivek Murthy declared firearm violence in America a public health crisis, revealing that over half of U.S. adults or their family members have experienced a firearm-related incident. The number of deaths from firearm-related injuries, including suicides, homicides, and accidents, has been rising, making firearm violence the leading cause of death among children and adolescents.

This Advisory, the first from the Office of the Surgeon General on firearm violence, outlines the broad impacts of gun violence beyond death and injury. It highlights the pervasive trauma and anxiety affecting American society, with nearly 60 percent of U.S. adults frequently worrying about firearm violence. Dr. Murthy emphasized the urgency, stating, "Firearm violence is an urgent public health crisis that has led to loss of life, unimaginable pain, and profound grief for far too many Americans."

The rate of firearm-related deaths has steadily increased due to rising homicides and

suicides. In 2022, 56.1 percent of these deaths were from suicide and 40.8 percent from homicide. Nonfatal firearm injuries are estimated to be at least twice as common as fatal injuries.

"By raising awareness of this public health crisis, The Surgeon General's Advisory on Firearm Violence speaks to the gun violence that emergency physicians observe all too often, as well as the repercussions on the communities they serve," said ACEP President Aisha T. Terry, MD, MPH, FACEP.



## Joint Statement Looks at Pediatric Imaging in the ED

ACEP, alongside the American Academy of Pediatrics and the American College of Radiology released a joint policy statement to provide guidelines for the use of advanced imaging tools in pediatric emergency care. This initiative underscores ACEP's commitment to enhancing the quality of care for children in emergency settings by ensuring the appropriate use of advanced imaging techniques such as ultrasound, computed tomography, and magnetic resonance imaging.

The statement, "Optimizing Advanced Imaging of the Pediatric Patient in the Emergency Department," aims to help institutions and medical professionals balance the benefits and risks of advanced imaging in children. This collaboration was published online in *Pediatrics*, the *Journal of the American College of Radiology* and *Annals of Emergency Medicine*.

"These guidelines remind clinicians to weigh the risks and benefits of pediatric imaging routinely," said ACEP President Aisha Terry, MD, MPH, FACEP. "This ensures timely and appropriate decisions that optimize benefits for our youngest patients. Standardized evaluation and diagnosis approaches using evidence-based guidelines can enhance care coordination and shared decision-making between clinicians and families."

## ACEP Responds to Idaho Supreme Court Decision

Idaho's Supreme Court temporarily removed barriers to emergency abortion care for pregnant patients, but ACEP issued a response in June encouraging future courts to clearly and emphatically reaffirm the broad patient protections that already exist in federal law under the Emergency Medical Treatment and Labor Act (EMTALA).

ACEP's policy, Access to Reproductive Health Care in the Emergency Department,

outlines the College's commitment to equitable access to reproductive health care, procedures, medications and other interventions. Amicus briefs filed in 2022 in Texas and Idaho by ACEP in partnership with 22 other leading medical societies defend physician autonomy and reinforce emergency physicians' obligations to offer stabilizing care, including abortions, when medically necessary.

ACEP urges courts in Idaho and throughout the country to avoid restricting or undermining access to vital emergency care. Emergency physicians and care teams must be able to care for pregnant patients without fear of legal overreach into evidence-based medical decision-making.

## In Case You Missed It

- The webinar **Maximize Scoring in the 2024 MIPS Program** is set for Noon (CT) on Aug. 28 and will help you make the biggest gains in MIPS performance for the least amount of effort in refinement and management of quality measure performance. [acep.org/webinars](https://acep.org/webinars)
- A recent **CDC report** found that, although medications for opioid use disorder substantially reduce mortality, they are underused. In 2022, only 25 percent of the patients needing OUD treatment received it, according to the report. ACEP's pain and addiction care accreditation program can help. Pain and Addiction Care in the Emergency Department (**PACED**) establishes standards for high-quality care for pain and addiction management. [acep.org/paced](https://acep.org/paced)
- ACEP and Pfizer Global Medical Grants have partnered to release an RFP focusing on improving outpatient management of emergency department patients with venous thromboembolism (VTE). All EDs are eligible, with a preference for projects serving rural or underserved communities. The deadline for submissions is Sept. 8, 2024.



## CalACEP Advocacy Leads to Historic Medicaid Reimbursement Increase

The recently approved state of California budget includes an advocacy victory for CalACEP and a historic increase in Medi-Cal reimbursement for emergency physicians.

Beginning Jan. 1, 2025, Medi-Cal reimbursement for E&M codes will increase to 90 percent of Medicare and reimbursement for procedures will increase to 80 percent of Medicare. Reimbursement for emergency physicians treating Medi-Cal patients is currently at approximately 54 percent of Medicare.

The CalACEP advocacy campaign included more than 9,800 messages to state legislators to make sure emergency physicians were heard directly about the impact of these decisions on practices and patients. +



# By the Numbers

## Cannabis-Related ED Visits

IN NEW JERSEY FROM 2019-2022

ALL NJ ED VISITS  
**396,410**

CANNABIS-RELATED ED VISITS IN NJ

SIGNIFICANTLY INCREASED DURING THE COVID PANDEMIC



CANNABIS LEGALIZED APRIL 21, 2022

NO SIGNIFICANT CHANGE AFTER LEGALIZATION



**357** TOTAL VISITS

**167** ADULT | **190** PEDIATRIC

KIDS AGED 0-12 ACCIDENTAL EXPOSURE TO CANNABIS EDIBLES

PER 100,000 POPULATION

**91** VISITS WERE CANNABIS RELATED



Source: Kane JP, Ames A, Patel RV, et al. Trends in cannabis use in New Jersey: Effects of COVID-19 and cannabis legalization. *J Am Coll Emerg Physicians Open.* 2024;5(3):e13163. Published 2024 Jun 14.

STORIES SHAPING THE PRACTICE OF EMERGENCY MEDICINE

# CASE REPORT



## Patient with a Fishy Story

Which classic case is causing this patient's symptoms?



STOCK.ADOBE.COM

by MARK BAKER, MD, FACEP, FAMIA

A 41-year-old woman arrived in a Hawaii emergency department with her husband early in the morning. The nursing triage note indicated vomiting with dizziness and tingling in her hands.

History revealed the patient and four family members had eaten fish for dinner, an 18-inch grouper. Her husband reported she had had similar symptoms about five years prior to this situation, also after eating fish. The patient was the only family member to eat the head of the fish. The island of Oahu had experienced extremely heavy rainstorms the week prior.

Initial vital signs were: temperature of 36.8 degrees Celsius (98.2 degrees Fahrenheit), pulse of 57, respiratory rate of 18, blood pressure of 106 over 57. Physical examination was remarkable for a tired and uncomfortable appearing woman. Sensation in the hands was intact, with no discernible abnormalities related to touching a cold surface. An EKG was performed on arrival, showing no abnormalities. The patient was treated with droperidol for nausea, which cured the vomiting. One hour later, heart rate decreased to 42 and the blood pressure dropped to 80 over 45. One liter of saline was given. Labs were unremarkable. Blood pressure improved with the saline bolus. The patient felt better and was discharged at 7:30 a.m. with instructions related to avoiding future exposure.

CONTINUED on page 14

## The Not So Normal, Normal EKG

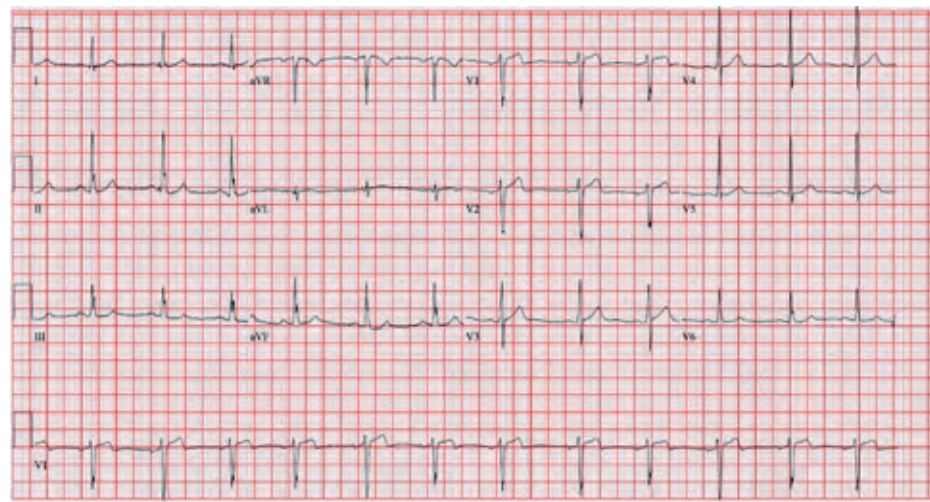


FIGURE 1: First ED EKG

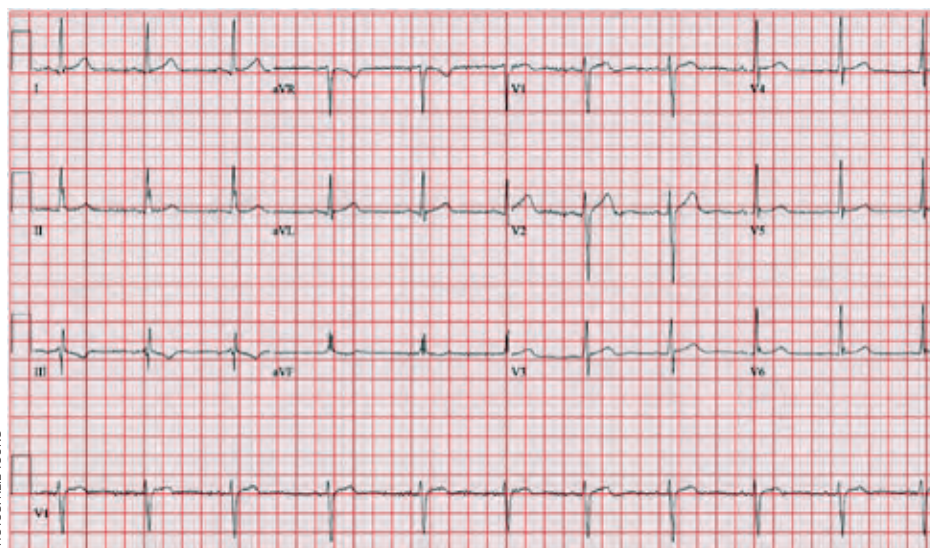
Just because an EKG looks okay now, doesn't mean it's okay

by NEIL YOUNG, MD

A 35-year-old male presented to the emergency department complaining of chest pain that started 1.5 hours prior to arrival. The patient had an EKG performed within 10 minutes of arrival while in triage (see Figure 1). In the absence of significant ST elevations, the EKG was signed and the patient was placed back in the queue to await a bed.

Once placed in a treatment room, further history and physical examination are obtained. Two years prior, he had an NSTEMI requiring RCA stenting and is currently on dual antiplatelet therapy. He has prediabetes, hypertension, hyperlipidemia, and obesity. His vital signs were within normal limits. He appeared uncomfortable and slightly diaphoretic. His cardiopulmonary exam was unremarkable.

He was hospitalized two months prior and had a normal stress test. An EKG during that admission showed T-wave inversions in leads III and aVF (see Figure 2). These inversions have been present since his stent placement.



PHOTOS: NEIL YOUNG

FIGURE 2: Baseline ED from 2 months prior

CONTINUED on page 14



## STAB WOUNDS | CONTINUED FROM PAGE 1

costal margins to groin crease), flank and back. Anatomically, most anterior stab wounds occur in the left upper quadrant, followed by left lower quadrant, right upper and right lower.<sup>1</sup> The diagnostic and therapeutic approach heavily depends on the involvement of the abdominal region, with the upper limit of the abdomen defined by the diaphragm, which can rise up to the level of the nipples during exhalation.

### Diagnostic Approach

A common adage in trauma is that the most missed injury is the second one. It is crucial to undress the patient so as not to miss additional injuries that may be obscured or overlooked. On physical exam, the location of stab wounds, evaluation for tenderness or signs of peritonitis, and a complete vascular exam are important.

Serial abdominal exams can be utilized to help with diagnosis of evolving injuries.<sup>2,3</sup> Unfortunately, physical exam alone may be difficult to determine the appropriate course of action due to confounding factors. Various imaging modalities can aid in diagnosis and drive therapeutic approaches.<sup>7</sup>

X-ray can be used to assess thoracoabdominal and abdominal injuries to identify, pneumothorax, hemothorax, or cardiovascular injury. X-ray can also show signs of gastric contents in the thorax or a gastric tube tracking into the chest cavity to correlate with a diaphragmatic injury. Air under the diaphragm can also be seen in the setting of bowel perforation.

Ultrasound has evolved into a dynamic tool through the extended Focused Abdominal Sonography for Trauma (eFAST) exam.<sup>8,9</sup> eFAST can lead to bedside interventions and identify patients with a strong predictor of injury requiring an operative repair.<sup>10</sup>

Computerized tomography (CT) scan with contrast (IV, oral, and/or rectal) is a focal point of diagnosis in trauma. Triple contrast CT scan has cited the highest accuracy, however, newer high resolution multidetector scanners with IV contrast alone are comparable in sensitivity and specificity.<sup>3</sup> CT may also define intraperitoneal injuries that may be non-operatively managed. CT tractography, a CT scan in which contrast is injected into the stab wound, carries a high false negative rate and should not be used as the sole determinant for decision making. Delayed phase imaging for CT scans can identify collecting system injuries.<sup>2</sup> Penetrating trauma to the suprapubic region in stable patients should undergo a cystography.

Another approach to evaluate abdominal stab wounds is local wound exploration (LWE). This technique helps determine if the fascia was penetrated and peritoneum violated. There have been trials that show that sensitivity and specificity of LWE for peritoneal violation are 100 percent.<sup>4</sup> Even with cooperative patients, LWE is rarely feasible in the emergency department setting as it requires a sterile field, equipment, appropriate lighting, staffing, and anticipation that the incision may need to be extended.

Exploratory laparotomy remains the gold-standard for diagnostic evaluation. This surgical approach evaluates certain injuries that can only be excluded by direct observation, such as diaphragmatic injury.<sup>13</sup> There are risks with this invasive approach such as infection, iatrogenic injury, abdominal pain, and sequelae of abdominal surgery. The use of exploratory laparoscopy is a less invasive alternative to laparotomy.

### Therapeutic Approach

The role of treatment for abdominal stab wounds has changed from an early, definitive laparotomy to damage-controlled resuscitation and non-operative management. Exploratory laparotomy or laparoscopy is recommended in patients with hemodynamic instability, signs of peritoneal irritation, hematemesis, or blood per rectum after an anterior stab wound.<sup>2</sup> In those who are stable, one can utilize the various diagnostic evaluations mentioned earlier.<sup>15</sup> Operating on stab wound victims based on clinical status and diagnostic tools leads to a decrease in nontherapeutic laparotomies, complication rates, and hospital length of stay.<sup>16,17</sup>

Serial clinical exam is a possible management approach that can be utilized to avoid laparotomy. Re-examination should include an abdominal, neurological, and vascular exam.<sup>18</sup> This approach depends on consistent, trained evaluation but can be logistically challenging.



The location of stab wounds, evaluation for tenderness or signs of peritonitis, and a complete vascular exam are important.

As the liver is the largest solid organ in the abdomen, it is the most frequently injured and its extensive vascular supply makes injuries to this organ challenging to manage.<sup>17</sup> Due to this, mortality of operative liver injuries remains high. One adjunct therapy that can help with liver injury is angiographic embolization (AE).<sup>5</sup> Like the liver, the spleen's size makes it a major target and cause of morbidity and mortality in stab wound injuries. Splenectomy is the treatment in patients with hemorrhagic shock and splenic trauma. In hemodynamically stable patients, splenic salvage can be pursued with serial imaging and AE.<sup>25</sup>

Vascular injuries from penetrating abdominal trauma are uncommon, however they can be lethal. These injuries demand rapid control of bleeding and resuscitation. Vascular injuries can be accompanied by hematomas or active hemorrhage. Management will be dictated based on the type of bleed, stability of the patient, and location of injury. AE can also be a diagnostic and therapeutic adjunct for these patients.<sup>3,5</sup>

### New Innovations in Approach and Management

As trauma patients' care evolves, so does the diagnostic and therapeutic approach to patients who suffer stab wounds. For patients who develop hemodynamic instability or cardiac arrest due to abdominal stab wound, resuscitative endovascular balloon occlusion (REBOA) can be placed to aid resuscitation and stabilize to bridge to further diagnostic and therapeutic interventions.<sup>12,13,14</sup> In lieu of a resuscitative thoracotomy and supradiaphragmatic aortic clamp, REBOA can obtain control above the level of the diaphragm to control hemorrhage. Studies have shown a survival benefit over resuscitative thoracotomy, especially in patients who have not arrested, although further studies are needed for this recommendation to be more definitive.<sup>12</sup>

Another developing approach for immediate diagnosis and intervention is mobile digital subtraction angiography. This technique utilizes angiography for dynamic real time diagnosis and provides the ability for therapies such as AE, endovascular aortic repairs, and stenting.<sup>5</sup> Subtraction angiography and endovascular therapies for trauma depend on multiple factors such as location and equipment, skill and availability of proceduralist, potentially transferring the patient, and capacity for hybrid approaches in trauma.

### Conclusion

In conclusion, patients with abdominal stab wounds must be assessed in a methodical manner utilizing appropriate exposure, physical exam, imaging modalities to best determine appropriate management. Management has evolved to focus on stabilizing the patient, minimally invasive interventions, and holistic evaluations. As the field of emergency medicine and traumatology grows, so will diagnostic and therapeutic interventions. +



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**DR. DAVE** is a dual-boarded emergency and surgical critical care physician who is an intensivist at Emory School of Medicine and emergency medicine attending at Grady Memorial Hospital.

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# The Doc Side of the Loon

Birding as mindfulness for one emergency physician

by MICHAEL PRATS, MD, FACEP

Every once in a while, I get a text from a friend of a meme decrying the inevitability of becoming interested in birds as you age. In a way, it's true; it came out of nowhere for me. And granted it can seem peculiar to the uninitiated. But now that I have been indoctrinated for a couple of years, it has become much more than a hobby to me. I see it as a healthful exercise, a practice in mindfulness. I want to share it with you because I think many emergency physicians would benefit from this practice and are especially poised to enjoy and succeed in it. If you hear me out, maybe you can come to see it as a simple, cheap, and surprisingly fun way to make your life a little better.

Scan the QR code above to read more online. +



**DR. PRATS** is an associate professor of emergency medicine at the Ohio State University Wexner Medical Center and runs the Ultrasound GEL podcast that reviews articles in point-of-care ultrasound.



A Cape May Warbler in Ohio during the spring migration.

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# ACEP24: A Re-imagined ACEP Annual Conference

## DEEPER, MORE MEANINGFUL CONNECTIONS

If you're looking for deeper, more meaningful connections at conferences, ACEP24 is your best bet. We've doubled down on flexibility, unique experiences, and more networking time based on your feedback in surveys and focus groups. Education is always top notch at the world's largest emergency medicine conference. But this year, even more content on bedside decision-making and courses that range from clinical to practice and lifestyle topics make ACEP24 a can't-miss opportunity.

Emergency physicians asked for a redesigned, re-imagined conference. ACEP has responded with loads of new features at ACEP24. Here's a look at what you'll find Sept. 29–Oct. 2 in Las Vegas.

### An Exhibit Hall Designed for You

At this year's Exhibit Hall, everything you need for career development will be in one place, bordered by ACEP's Resource Center, the new Connection Hub and the much-anticipated coffee station. ACEP invented this specific Career Hub for two reasons.

First, this layout makes it easier to navigate if you are looking for career resources. Rather than spreading staffing companies throughout the exhibit space, a quick pass through this area allows you to spend less time searching and more time advancing your career.

Second, ACEP issued a policy statement last year on the corporate practice of medicine. The statement reaffirmed the core belief that the physician-patient relationship is the moral center of medicine. ACEP leaders, including the Education Committee who coordinate the annual meeting, want to eliminate any misperception that corporate physician staffing groups might have excessive representation at the meeting. Attendees should feel free to make employment decisions in their own best interests.

The Career Hub establishes just two booth sizes for all exhibiting employers, creating a more balanced approach to display opportunities for job seekers. ACEP also requires all exhibiting employers to have completed a profile in the ACEP Open Book ([openbook.acep.org](http://openbook.acep.org)) encouraging greater transparency of group structure and policies. High-profile advertising and sponsorship opportunities at the annual meeting are limited this year.

At ACEP24, the main Exhibit Hall will be a showcase for medical device companies and new industry technology. Some other different features this year include:

- **Integrated Research Forum:** Get ready for an electrifying experience at ACEP's Research Forum, emergency medicine's premier research event! This year, we're unveiling an impressive new platform for oral and poster presentations, situated right in the heart of the ACEP24 Exhibit Hall.
- **Skills Zone:** Put new knowledge to practice in the Skills Zone. After non-CME courses, attendees will be invited to the Exhibit Hall to practice skills like nasal



fiberoptic intubation and ventilation techniques with support from exhibiting companies.

- **The Connection Hub:** Connect with existing communities and form new connections on topics that matter to you. ACEP's updated app allows attendees to reserve seats for one-on-one and small group conversations. Every 30 minutes, a range of topics draws new participants to discuss everything from mastering ultrasound techniques to finding career mentorship.
- **Expanded Hours:** ACEP has expanded exhibit hall hours to provide more opportunities for attendees to stroll the halls, have conversations, and solve problems. The new hours are:
  - » **Day 1**—Sunday, Sept. 29: 10 a.m.–4 p.m.
  - » **Day 2**—Monday, Sept. 30: 9 a.m.–4 p.m.
  - » **Day 3**—Tuesday, Oct. 1: 9:30 a.m.–3:30 p.m.

### Fewer Schedule Conflicts. More Time for Connections

The ACEP24 schedule has been designed with more breathing room, emphasizing connections and activities outside the classroom. This approach leaves space for education while also prioritizing time spent with friends and colleagues. No more course selection during registration means you can enter course rooms without the need for badge scanning—and the flexibility to change your mind based on what you are learning in real time, wanting to share a course with a friend, or even just pop in if you overhear something of interest.

In Las Vegas, attendees will have more bandwidth for relationship building and can complete any missed courses with their Virtual ACEP24 subscription, complimentary for those

who register before August 30. Take advantage of more flexibility at:

- **Networking Breaks:** ACEP24 will feature some longer breaks between courses throughout conference. These breaks follow courses that lend themselves to deeper dives, allowing for continued conversations in course rooms or in common areas to keep the idea exchanges flowing.
- **Coffee House Chats:** Engage in discussions on significant advocacy topics while enjoying a cup of coffee in a relaxed, conversational atmosphere. The Coffee House Chat Room will be available on Sept. 30, starting at 8 a.m. for one day only. Topics include:
  - » Embracing Diversity in Medicine
  - » Working as a Female in the ED
  - » Brewing Success in the Transition from Resident to Attending
  - » What's Next? Strategies for Reinventing Your Career in Uncertain Times
  - » Is it Possible? Future Optimism and Joy in Emergency Medicine
  - » Innovative Solutions to the ED Nursing Crisis

### It's Game On!

Emergency physicians are competitive. That doesn't go away when you get off the plane in Vegas. A BattleDocs Arena in the Exhibit Hall will feature three different events in stadium-style seating to get your adrenaline going. Chances to compete or cheer include:

- **escAPED: Trauma Escape Room:** Join this new gamified lab option where attendees must work together on quick procedures to escape the room with their team. Registration and a \$20 admission fee are required.
- **Game On! Course Series:** Play educational games in a fast-paced course room setting, testing knowledge against colleagues for a grand prize: an ACEP25 complimentary registration.

- » Dermatology Jeopardy
- » Radiology Jeopardy
- » Eye Can See the Problem
- » Head and Neck
- » ECG Games: Seize the Iron Throne

- **ACEP Knowledge Bowl:** Flex your medical knowledge and compete against your peers in the BattleDocs Arena.
- **PEER Challenge:** See which residency program wins this March Madness style competition. It started with 32 teams—watch the final four compete live in the BattleDocs Arena. One team will have its shining moment at ACEP24.
- **EM Showdown Quiz:** Watch emergency physicians enter the BattleDocs Arena to answer tough medical questions for a chance to be crowned champion.

### Section Hall Crawl Adds Some Flair to the Agenda

ACEP's Sections of Membership are encouraged to have their annual meetings on Sunday, Sept. 29 at 5 p.m. But after their business meetings, it's time to let loose. All physician attendees are invited to the ACEP Section Hall Crawl, ACEP's take on a classic pub crawl. This event offers attendees a chance to spend time with their community and then set off on an adventure down the "Hall of Sections." Some sections will have food and drink stops along the way, providing attendees the opportunity to visit different sections and explore new professional interests in a fun, social environment.

### New Tracks and the Return of Pre-Conferences!

Past attendees asked for it, so ACEP is delivering with the return of pre-conference courses at ACEP24. But this year, they're even better. Get a personal financial plan, immerse yourself in hands-on training, brush up on your ultrasound and more.

- **White Coat Investor Boot Camp:** A two-part series on navigating student loans and achieving financial success as a doctor. (Sept. 28: 10 a.m.–5 p.m.)
- **Procedural Cadaver Lab** (two half-day sessions): (Sept. 28: 8 a.m.–5:30 p.m.)
- **Emergency Ultrasound Management Course:** (Sept. 28: 8 a.m.–5 p.m.)
- **GEDA: The Dementia Friendly Emergency Department:** From Vision to Reality (Sept. 28: 3 p.m.–6:30 p.m.)
- **PACED: Ultrasound-Guided Regional and Joint Anesthesia for the Emergency Medicine Physician: A Starter Kit** (Sept. 28: 1 p.m.–4 p.m.)

### New Tracks

- **Advocacy:** Empower attendees to use their voice for change at all levels.
- **Diagnostician:** Enhance diagnostic skills with complex clinical scenarios.
- **Resuscitation:** Hone life-saving clinical measures.
- **Off Track:** Non-CME education curated from sections and committees. +



SAM CRAY

IMAGE 1: Forward gaze on presentation

# The Ice Pack Test

A diagnosis of myasthenia gravis in the emergency department

by SAM CRAY, DO; AUSTIN BENNETT, DO

**T**his patient is a 52-year-old male with past medical history of hypertension and hyperlipidemia who presented to the emergency department (ED) with approximately one month of progressive bilateral ptosis and one week of progressive bilateral diplopia and photophobia. The patient reported that these symptoms were more noticeable later in the day and worsened with reading and typing. The patient's gaze disturbance was first noted by his wife, and he agreed to be evaluated by an optometrist. The patient was seen and instructed to report to the ED for concern of neuromuscular or intracranial pathology. After an unremarkable initial workup at an outside ED, which included head CT/CTA, blood chemistry, chest radiograph, and ECG, the patient was transferred to our tertiary care center for further neurological evaluation.

The patient's vital signs were within normal limits aside from mildly elevated blood pressure. Review of systems was

positive for headache, diplopia, and photophobia. He denied recent fever, seizures, vertigo, limb weakness, stiffness, or pain. Reassuringly, the patient denied having any respiratory complaints. On physical exam, the patient exhibited bilateral ptosis (see Image 1). Extraocular range of motion was intact, but he had some difficulty with vertical gaze, which was easily fatigable and accompanied with noticeable compensation by the frontalis muscle (see Image 2). Further ocular testing revealed positive accommodation but marked photophobia. This prevented pupillary light reflex testing because the patient squeezed his eyelids shut to bright light. He was unable to complete visual field testing due to diplopia. The patient's neck exhibited full active and passive range of motion with no tenderness or meningismus.

The remainder of physical and neurological exams were unremarkable.

CONTINUED on page 16



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- Christopher S. Kang, MD, FACEP, Immediate Past President



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## Emergency Medicine Cardiology Course

with Amal Mattu, MD

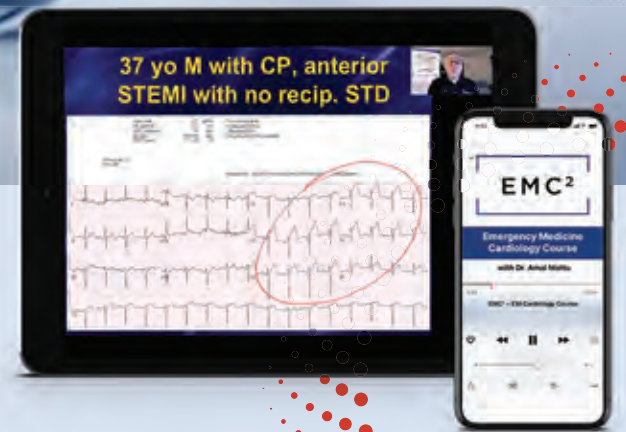
The all-new, 13-hour **Emergency Medicine Cardiology Course (EMC<sup>2</sup>)** is an online self-study program taught exclusively by Dr. Amal Mattu, a national authority on EM cardiology and an award-winning educator. Enhance your knowledge of ECG interpretation and ED-related cardiac presentations.

*"This is the best CME course I have taken in 20 years of practice."*

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*"An excellent course with an amazing teacher who maintains humility and humour. Thanks, Dr. Mattu!"*

*"Dr. Mattu has an incredible ability to demystify emergency cardiology. This is definitely worth the time."*



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*"This course was exceptional, between the caliber of presenters to the review content."*

*"All of the presentations exceeded my expectations and I was blown away by the effectiveness of this conference."*

*"I learned so much! Really enjoyed all the presentations!"*

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CONTINUED FROM PAGE 1

# MEET THE PRESIDENT-ELECT CANDIDATES

## President-Elect Candidates



## PRESIDENT-ELECT

Candidates for ACEP President-Elect responded to this prompt:

How will you mitigate the threat of losing members of the College when encountering divisive topics that may make large portions of the membership feel alienated or disenfranchised?

### L. Anthony Cirillo, MD, FACEP

**Current Professional Positions:** EM residency-trained emergency physician working clinically as a Regional Traveler; Director of Government Affairs, US Acute Care Solutions

**Internships and Residency:** Transitional internship, George Washington University Hospital; emergency medicine residency, UMASS Medical Center, Co-Chief Resident

**Medical Degree:** MD, University of Vermont College of Medicine (1990)

#### Response

✓ Sometimes, in order to see clearly into the future, you have to look to the past. On August 16, 1968, John Wiegstein, MD, and seven other emergency physicians met in Lansing, MI and founded ACEP. The founders had come together with a singular goal to “facilitate the exchange of information among physicians practicing emergency medicine.”

The founding of ACEP seems so long ago, and you might think that it was easy to start the specialty of emergency medicine back then, since those were “simpler times.” The reality of 1968 however, was anything but simple, and historians have deemed 1968 to be the “worst year of the 20th century.” 1968 saw the assassinations of Martin Luther King, Jr. and Bobby Kennedy, which prompted month long violent riots in Washington, DC, Chicago, and Baltimore. The Vietnam War escalated with the Tet Offensive. Another wave of riots occurred in Chicago after the Democratic National Convention. Governor George Wallace of Alabama ran as the American Independent Party candidate on a segregationist platform winning electoral college votes of five states in the Presidential election. And yet, despite this turmoil, Apollo 8 successfully orbited the moon, the Civil Rights Act of 1968 was passed and signed into law by President Johnson, and yes, the American College of Emergency Physicians was founded.

So, what’s with the history lesson? Even during a year of national turmoil, dissention, and violence not seen since the Civil War, the founders of ACEP brought the College to life by focusing on a singular common reason. The founders joined together with a shared com-

mon purpose to create an organization that would improve the care of patients seeking emergency care and to establish that those physicians who chose to practice emergency medicine would be recognized for their unique knowledge and skills. Somehow, despite all of the issues that were dividing the country, the founders were able to put aside personal opinions on those topics and work together to create the specialty of emergency medicine because that was the work that needed to be done for the greater good of the nation and future emergency physicians.

So here we are 56 years later. The nation is once again (or maybe still) divided on a number of issues. Some of the issues are new, and some remain wounds that refuse to heal. These divisive issues have hyperpolarized the nation, fueled by a 24/7/365 social media and news cycle that deliberately stoke the flames of discord and disagreement. Every day, it feels that both our society at large, and our community of emergency medicine are being pulled further apart, especially by those who choose to tear apart rather than build together.

And yet, every day the patients come ... and every day we care for them. Despite the myriad of issues that divide us, both as a society, and as a College, everyone in this country needs the emergency care system to be there in their time of need. That’s the common thread that binds us ... doing the incredibly hard but rewarding work of being the bedside healers of a nation. In a recent update of our Mission, Vision, and Values, the mission of the College now reads: “To support and advocate for emergency physicians and to promote quality emergency care for our patients and the public.” Seems like that although the words may be a little different (who doesn’t love a little wordsmithing), ACEP’s mission hasn’t significantly changed since 1968. Despite all of the difficult and divisive issues that we have faced since 1968, are facing today, and will face tomorrow, ACEP’s strength will always come from the work that we all do together, advocating for our patients and our profession. That’s why every emergency physician should be a member of the College ... because just like in 1968, we have common work to do to enhance the specialty of emergency medicine and the support the physicians who provide it.

### Jeffrey M. Goodloe, MD, FACEP

**Current Professional Positions:** Attending emergency physician, Hillcrest Medical Center Emergency Center, Tulsa, Oklahoma; professor of emergency medicine, EMS section chief, and director, Oklahoma Center for Prehospital & Disaster Medicine, University of Oklahoma School of Community Medicine, Tulsa; chief medical officer, medical control board, EMS System for Metropolitan Oklahoma City & Tulsa; medical director, Oklahoma Highway Patrol; medical director, Tulsa Community College EMS Education Programs

**Internships and Residency:** Emergency medicine residency, Methodist Hospital of Indiana/Indiana University School of Medicine, Indianapolis; EMS fellowship, University of Texas Southwestern Medical Center, Dallas

**Medical Degree:** MD, Medical School at University of Texas Health Science Center at San Antonio (1995)

#### Response

✓ I will not alone; that is for certain. However, WE, working together can make ACEP an even more welcoming organization to any residency-trained, board-certified emergency physician or emergency physician in training ahead and all current members. The foundation of my beliefs—in ACEP, in ACEP’s potential, and pointedly in US as ACEP members, is how much WE share in common. Let us acknowledge differences and how what we then share helps us navigate these differences when they occur.

With 40,000 members, we will always realize differences in opinion on practically every issue that impacts emergency medicine and our professional lives. The key to finding advocacy that we can support in advancing our specialty and our futures is to recognize that differences do not have to be oppositional junctures. Differences can prove opportunities for learning. Learning can then bring us to a “stronger together” organization. I commit to continuing transparency in my leadership, encouraging any member to communicate directly with me. If I sense that a member feels alienated or is becoming disenfranchised by an official ACEP policy or an advocacy stance, particularly when in development, that is a prime point in which to ask and listen, not assert and talk. I am a believer that the best response to evi-



dent difference(s) are these questions: “Can you help me better understand how you see this topic?” and “What am I missing in evaluating this current position?”

Often, we all simply want to be heard. We can all respect democracy and that none of us gets our first choice every time in life. As long as we can effectively communicate—via email, via text, via social media, via phone, and my favorite way, in person—and do so respectfully to each other, then the end result of hearing multiple perspectives and ideals is a product, service, or advocacy stance that is more informed and more inclusive than trying to champion our causes alone. WE really are stronger together.

We are literally the first part of “welcome.” We should feel comfortable and “welcomed” in our differences as we share so much in common as emergency physicians. If we have never met, though we share membership in ACEP, then I know how much in common we can find. We can trust we each have a genuine interest in helping everyone that needs our skills. We can trust we each have a sincere desire to make a positive difference during some of the most challenging and terrifying moments in someone else’s life. We can trust we each had to navigate an appropriately arduous journey of undergraduate and graduate education to become emergency physicians. We can trust we each had to sacrifice a lot of immediate gratification for the “delayed rewards” of being emergency physicians. Those are just a few of the many trusts in each other we can enjoy.

That common ground, through shared values, beliefs, and commitments in selflessly serving others, affords us a wealth in opportunity that is not measured in monetary terms alone. The greatest asset of ACEP is not our headquarters in Texas or any of its physical contents. Our greatest wealth of ACEP is in each other as member emergency physicians. When we pause in our differences in topics that historically divide—reproductive rights, firearms, types of professional practices that are “best”—and in topics that are emerging—unionization, the role of artificial intelligence—we can then realize that our differences are built upon the foundation of shared experiences, values, and beliefs.

At this stage in our careers, listening, sharing, learning, and respecting may seem basic. Let us remember that basic fundamentals done consistently well produce winning teams, in sports and in life. Our often-fractured world confirms that more than ever, we all need a winning team of emergency physicians doing what WE do better than others—advocating for our patients, for our profession, and for each other!

### Ryan A. Stanton, MD, FACEP

**Current Professional Positions:** Emergency physician, Central Emergency Physicians, Lexington, Kentucky; medical director, Lexington Fire/EMS; medical director, GMR Motorsports/NASCAR/SRX/USF

**Internships and Residency:** Surgery internship, James H. Quillen College of Medicine, Johnson City, Tennessee; emergency medicine residency, University of Kentucky  
**Medical Degree:** MD, James H. Quillen College of Medicine (2003)

#### Response

✓ I have always said “that if nobody disagrees, you didn’t say anything.” We have an ever-growing collection of wedge issues that are meant to divide rather than achieve progress. While I have always felt we should steer well clear of wedge issues, we must still be active advocates for our members, profession, and patients. The key is threading the needle regarding issues that are important, but also have significant political and belief system overtones. There are ways that we can plant a flag as a College without wading into the politics of the topic. The beauty and risk of our profession is that we are overall balanced along the spectrum of politics and beliefs. The diversity helps us move forward, but also means that any given topic has a similar spectrum of positions. As the VP of Communications, I have worked with our comms staff and leadership to respect the positions of our members and find the opportunities

to forward our profession and our ability to care for our patients.

The reality is that no membership is guaranteed. We must continue to fight for each and every member. This includes the willingness to listen, dialogue, and find the common ground which will hopefully lead to the best positional direction of the college. Mitigating the threat of losing organizational members when encountering divisive topics requires proactive strategies that foster inclusion, respect, and open communication.

Firstly, creating a culture of respect and inclusivity is paramount. ACEP must maintain and enforce clear policies that promote respect for diverse opinions and backgrounds.

Secondly, leadership must exemplify open communication and active listening. As the Board, staff, and leaders, we should encourage dialogue for mem-

bers to express their views with the knowledge that it may lead to a compromise, position shift, or something in between.

Thirdly, focusing on common goals and shared values can unite members despite differences. Emphasizing ACEP’s mission and the collective benefits of diverse perspectives can help reframe divisive topics as opportunities for growth and progress.

Finally, not being afraid to take a position if it is in the best interest of emergency physicians, our specialty, and patients. We don’t have to swing at every pitch, but also don’t need to be afraid to put our foot down. This also means that we must all be flexible, open minded, and looking at the bigger picture that is emergency medicine. If there is one thing I have learned throughout my life, I don’t always get what I want ... and sometimes, that’s ok. 🍀

## ACEP’S ELECTION EXPLAINED

### NOMINATION PROCESS

The ACEP Nominating Committee accepts nominations from individuals and component bodies for the national ACEP Board of Directors.

To qualify for a Board position, a candidate should:

- Be highly motivated to serve ACEP and be committed for three years for a Board position;
- Be an ACEP member in good standing with no delinquent dues;
- Show evidence of ACEP involvement in both national and chapter activities (such as current or past chapter officer, current or past national committee leadership, current or past Council membership, or current or past section leadership);
- Show chapter and/or section support for candidacy.

### SELECTION PROCESS

The selection process confirms that each nominee’s membership is in good standing - and they have confirmed their willingness to serve a three-year term to the Board, superseding all other outside organizational involvement if elected.

Through this deliberative process, every Committee member independently and objectively reviews each nominee’s supporting documents and curricula vitae, prior to the meeting, to assess their engagement in the specialty of emergency medicine, life experiences, and leadership history. Ideally, candidates will have more than five years of ongoing membership and a proven history of leadership within ACEP.

Collectively, the Committee evaluates each nominee’s qualifications, both new applicants and incumbents in terms of: service to the College through work with state chapters, section leadership, national ACEP committees, and Council; ability to contribute as a thought leader; and capacity to uphold ACEP’s mission and ideals.

**The Committee is tasked with selecting an inclusive slate of candidates who:**

- Represent the diverse nature of our membership
- Offer a diversity of thought and depth of expertise
- Have a comprehensive understanding and a willingness to speak knowledgeably on a range of emergency medicine priorities
- Will contribute to a collaborative, decisive leadership body for ACEP

Each of the nominees will be notified regarding their nomination status after the slate is finalized. Nominees selected as candidates by the Nominating Committee will move forward in the election process. Nominees not selected have the option to seek nomination from the Council floor in accordance with the Council Standing Rules. All floor candidates must notify the Council Speaker of their intentions in writing. Upon receipt of this written notification, the candidate becomes a “declared floor candidate,” with all the rights and responsibilities of candidates otherwise nominated by the Nominating Committee and must comply with all rules and requirements of the candidates. Additional details may be found in the ACEP bylaws.

### ELECTION PROCESS

Nominated and floor candidates are presented to the ACEP Council, a deliberative body made up of members representing ACEP’s 53 chartered chapters, its Sections of membership, the AACEM, CORD, EMRA and SAEM.

Each year, Council elects the ACEP President-Elect and members to the Board of Directors. Every other year, Council elects the Council Speaker and Vice Speaker. Election by Council ensures grassroots involvement in the democratic decision-making process.

Elections for the Board of Directors and ACEP President-Elect will occur on Saturday, Sept. 28, 2024, during the Council meeting in Las Vegas.





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# Oh Baby, What to Do!

The complete guide to childcare for emergency physicians

by DUNCAN GROSSMAN, DO, MSED; TIM SOO, MD; MICHELLE HAIMOWITZ, MD

**E**mergency medicine requires flexibility as we work irregular shifts, nights, weekends, and holidays. Unlike the general populace, we face the unique challenge of seeking childcare options that can adapt to unpredictable and often nontraditional work hours, requiring creative solutions or adjustments to the typical childcare options. Here are some to consider.

## Daycare Centers

**“[My daycare] does drop-in day care. You buy five days at a time and then let them know the week before you want to use one. Only weekdays though.”**

—Dr. Kaps

Day cares and programs are great options if you have partners who work more “regular” hours. Many day cares have drop-off as early as 7 a.m. and pickup as late as 6 to 9 p.m. As your child gets older, they may start attending educational programs with shorter hours, but these facilities often offer extended or flexible care options. Day care can be a more affordable option than nannies and babysitters and has the added benefit of early socialization.

## Nannies and Babysitters

**“I posted on every social media platform, and almost everyone we talked to said they weren’t interested in our erratic schedule. We found one woman who quit after just one summer, and the search had to start all over again.”**

—Dr. Grossman

Hiring an in-home caregiver (e.g., nannies, nanny shares) can be especially challenging, as caregivers often expect regular daytime hours. Be up front in searching for caregivers who are willing to adjust their schedules to meet your needs. When negotiating pay structures with in-home caregivers, you may need to increase compensation for added flexibility. A mutually agreed-upon contract that is finalized before the start date will help set expectations and get everyone on the same page.

Potential options:

- **Hourly Rate with Shift Differentials:** Offer an hourly rate, with higher pay during evenings, nights, weekends, and holidays.
- **Guaranteed Minimum Hours:** Provide guaranteed payment for a minimum number of hours per week or month, regardless of the actual hours worked.
- **Standby Pay:** Offer standby pay for times

when the caregiver is required to be available but not actively caring for the child, such as when you’re on call.

- **Overtime Pay:** Clearly outline overtime policies and rates for hours worked beyond a certain threshold in a day or week to fairly compensate caregivers for extended shifts or last-minute schedule changes.

## Night Nanny/Night Nurse/Night Doula

**“I had a rough pregnancy and worked until the day I went into labor. I also experienced postpartum complications. Having a ‘baby nurse’ or ‘night nurse’ was crucial for me during that first month because it allowed me to get the extra sleep I needed to recover and be there for my baby. It also was helpful, as a first-time parent, to learn from an experienced professional how to take care of a newborn. It definitely reduced my anxiety significantly.”**

—Dr. Haimowitz

Especially for nocturnists or any emergency physician on nights, hiring a night nurse, night doula, or night nanny can be a crucial and anxiety-relieving support system. These caregivers, who have varying levels of training (from RNs

to CNAs to nannies), specialize in newborn overnight care and can help guide parents in establishing healthy sleep patterns. Even before returning to work, having additional assistance at night can be helpful for any parent needing to regain some much-needed sleep.

## Au Pair

**“Au pairs can be awesome, but the program has flaws. For the most part, you’re bringing in a teenager to your house who has never been outside their native country, which can come with all the teenage problems. We were fortunate to have two great au pairs, but a third left after five months. It is not the panacea for childcare.”**

—Dr. Propersi

Au pairs are typically college-age adults from other countries who live in your home. Au pairs have certain working-hour guidelines they must abide by.

Screen potential candidates carefully to ensure they understand and are comfortable with the demands of your irregular shift schedule. Establish clear communication and expectations from the outset, including a written agreement outlining the au pair’s duties, schedule, compensation, and any special arrangements



related to your shift schedule. Maintain open and ongoing communication with your au pair to address any concerns or adjustments needed as your schedule changes over time.

### Family and Friends

Enlisting the help of family members or trusted friends can be a valuable childcare option, especially for sporadic or last-minute shifts. Build your babysitter network early, and don't be afraid to take advantage of your network of medically trained colleagues.

### Emergency Backup Care Services

Some companies and hospitals offer emergency backup care services for employees, providing temporary childcare in case of unexpected schedule changes or emergencies. Check to see if your employer provides this benefit or if there are local agencies offering similar services.

### Flexible Childcare Apps

Several childcare apps connect parents with vetted caregivers who offer flexible scheduling options. Apps like UrbanSitter or Care.com allow you to search for qualified caregivers who are available during irregular hours. These can be especially helpful when you need last-minute childcare for an unexpected shift.

### Community Resources

Investigate community resources such as childcare cooperatives, community centers, or religious organizations that may offer flexible childcare options or support networks for parents with nontraditional work schedules.

### Shift Adjustments at Work

When considering childcare options such as daycare or nannies, it's essential to align your work schedule to facilitate seamless coordination. Here are some strategies for adjusting your shifts at work to accommodate childcare arrangements:

**Request more rigid shifts.** If you are opting for daycare or hiring a nanny, consider requesting more rigidity in your shift schedule to make it easier to schedule childcare. This could involve requesting the same schedule every week or asking for consistent days off each week.

**Explore nocturnist roles.** If you have nighttime help available, transitioning to a nocturnist role can automatically add a degree of regularity to your schedule and may even decrease your number of required hours. Night shifts often follow a more predictable pattern, making it easier to coordinate childcare during the day.

**Bolus your shifts.** If you have out-of-town family or friends coming to help with childcare, bolusing your shifts each month can be useful. Concentrate your shifts into specific blocks of time, allowing you to maximize the support from your family while minimizing the number of days they need to assist each month.

**Reduce hours during early months.** During the early months of parenthood, consider reducing your clinical hours as you adjust to parenthood. Have this conversation with leadership early to ensure adequate coverage should you choose to reduce your hours or take extended leave. Remote work oppor-

tunities:

If you're able to supplement your income with telemedicine or remote work opportunities, consider a more remote work schedule on a temporary basis.

Finding suitable childcare as an emergency physician with irregular shift schedules requires creativity, flexibility, and careful planning. Remember to prioritize clear communication, reliability, and consistency when selecting childcare arrangements, and don't hesitate to reach out for support from colleagues, friends, and community resources. With careful consideration and proactive planning, managing childcare alongside a career in emergency medicine is achievable. +



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**DR. HAIMOWITZ** is a clinical instructor for the emergency medicine ultrasound department at New York Presbyterian Queens.




**DR. SOO** is the associate medical director at Illinois Emergency Medicine Specialists in Chicago, Ill.



# WHAT ARE YOU THINKING?

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Ciguatera fish poisoning, a foodborne illness caused by consuming reef fish contaminated with ciguatoxins, is characterized by a combination of gastrointestinal, neurological, and cardiovascular symptoms. It is more common in tropical areas. The World Health Organization estimates that between 50,000 and 500,000 people are affected by ciguatoxin yearly, indicating that reporting is limited.<sup>1</sup> Ciguatoxins are difficult to detect and quantify: They are odorless, tasteless, heat stable, and present at very low levels in contaminated seafood.<sup>1</sup> Friedman and colleagues indicate regional levels of risk.<sup>3</sup> If water temperatures continue to rise, the distribution of ciguatera poisoning may change.

The triage note for this patient offered a clue to the cause of the vomiting: altered sensation in the hands. Cold allodynia—the sensation that cold things feel hot to the touch is nearly pathognomonic for ciguatera poisoning.<sup>1</sup> The patient indicated that washing her hands in cold water felt strange.

Grouper are among the species of fish commonly associated with ciguatera. The local marine ecosystem, especially after heavy rains, can foster the growth of the microalgae that produce ciguatoxins. These toxins are then bioaccumulated up the food chain, from smaller fish to larger predatory reef fish like groupers. The most common species implicated in ciguatera poisoning include barracuda, grouper, snapper, wrasse, moray eel, and parrotfish.<sup>2</sup> The toxicity of fish can be dependent on the species, size, seasonal variations, water temperature, and location.

The consumption of certain parts of the fish, such as the head, guts, liver, or roe, poses a higher risk for ciguatera poisoning because these parts can contain higher concentrations of the toxin.<sup>2</sup> Cooking, drying, salting, and freezing do not de-



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stroy ciguatoxins.<sup>1</sup> The California Department of Public Health recommends that patients recovering from ciguatera should avoid eating reef fish, fish sauces, shellfish, nuts/nut oils, and alcoholic beverages for up to six months, because these foods may provoke a recurrence. Future exposure can result in more severe symptoms.<sup>4</sup>

Treatment of ciguatera poisoning is supportive and symptomatic. Mannitol has been used; the literature is mixed related to potential benefit. Hospitalization may be necessary for persistent symptoms.

Take-home points include the following:

- Ciguatera poisoning can cause gastrointestinal, cardiac, and neurologic symptoms.
- An altered reaction to cold can be considered confirmatory.
- Periods of heavy rain increase the risk of ciguatera poisoning.

- Reef fish are most often implicated.
- The head, liver, and roe are riskier parts of the fish to eat than the flesh.
- Prior exposure increases the risk of symptoms from repeat exposure.
- Treatment is symptomatic.
- Hospitalization may be necessary for persistent symptoms.
- Patients should be warned about potential future recurrent symptoms.

In conclusion, avoid eating reef fish after periods of heavy rain, especially the head or roe. +



**DR. BAKER**, a Hawaii-based emergency physician with a long-standing interest in toxicology, finds himself both fascinated and concerned by the dangers posed by natural toxins like ciguatera and man-made ones like methamphetamine.

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### Diagnosis and Treatment

The patient was given aspirin, morphine, and nitroglycerin. He was pain-free and serial EKGs were performed showing a gradual return to his chronic inversion in lead III (see Figure 3). High-sensitivity troponins returned at 6 ng/L and 15 ng/L 1 hour apart (normal 0-20 ng/L). Given his EKG findings and presentation, he was started on heparin and admitted. His troponin peaked at 7,449 ng/L. One day after his initial presentation he was taken to the cath lab where it was discovered that he had severe in-stent restenosis of the RCA. He underwent balloon angioplasty with success and was subsequently discharged.

### Discussion

The initial EKG performed demonstrated pseudonormalization of the T-wave in the presence of myocardial ischemia. Persistent T-wave inversions can occur for many different reasons such as underlying heart and pulmonary disease, persistent juvenile T-wave pattern, or for idiopathic reasons, amongst others. In the presence of ischemia, reversal of the inversions can occur. The relationship of this phenomenon to ischemia was first described in the 1970s in 38 patients where half displayed pseudonormalization of T-waves on stress test and half with anginal chest pain.<sup>1</sup> The relationship was reconfirmed in several additional studies. It was later shown with continuous EKG monitoring that this process can occur when ischemia is present even in the absence of typical anginal symptoms.<sup>2</sup>

It has been suggested that these changes arise from the same mechanisms that create the hyperacute T-waves that can precede ST elevation MIs.<sup>3</sup> Hyperacute T-waves arise from a shortening of the action potential in the ischemic myocardium which alters repolarization leading to increased T-wave amplitude in affected leads. When this process is superimposed on regions of the myocardium that have chronic ischemic changes, the effect is flattening and eventually positive T-wave transformation.

Pseudonormalization in the absence of the correct clinical context may not carry a high sensitivity nor positive predictive value. In a study looking at stress tests from 4,353 participants, 140 patients exhibited pseudonormalization but only 33 patients had a reversible perfusion defect on SPECT imaging.<sup>4</sup> In a similar investigation of 50 patients noted a relationship between pseudonormalization and ischemia although the study was underpowered to meet clinical significance.<sup>5</sup> Studies looking at this phenomenon

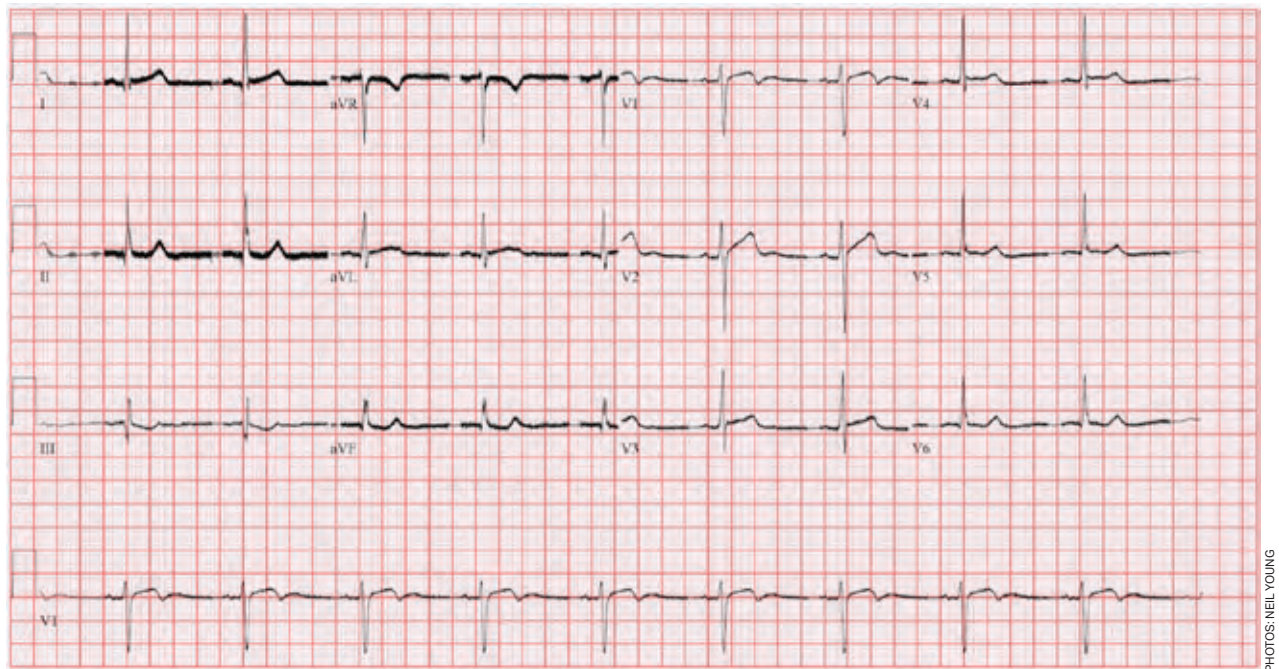


FIGURE 3: Second ED EKG

in the emergency department setting for patients presenting with chest pain are lacking. Considering hyperacute T-waves have been accepted as STEMI equivalents, it is possible that pseudonormalization could gain more recognition as an indicator of ACS.<sup>6</sup>

This case shows the importance of close comparison of an active EKG to prior EKGs, especially without knowing the full clinical scenario. Having an understanding of the pseudonormalization of T waves should serve as another tool in our diagnostic toolbox when reviewing EKGs from triage can help expedite emergent department care. This can be used with other aspects of the clinical presentation to more effectively stratify the need for admission and cardiology consultation. +



**DR. YOUNG** is an emergency physician at Saint Francis Hospital and Medical Center, Hartford, Conn.

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# What's Causing Uncontrolled Movements?

A look at how diabetes plays a role

by SAMANTHA MAHON, MD; KRISTINA DRAKE, MD

**A** 61-year-old African American male with history of uncontrolled Type 2 diabetes mellitus, hypertension, anxiety, major depressive disorder, prior Bell's palsy, and neuropathy, presented for worsening left upper extremity rhythmic movements and frequent falls over the last month. The movements worsened throughout the day, and he

would hold his left arm at night to prevent hitting his partner.

On presentation, he was mildly hypertensive but otherwise normal vital signs. On physical exam, he was initially holding his left arm down, and when released, showed rhythmic, jerking movements. He also had diminished sensation to the left upper and lower extremities.

CONTINUED on page 17

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## Diagnosis and Initial Treatment

The decision was then made to test for myasthenia gravis (MG) by application of an ice pack. A plastic bag was filled with ice, and the patient was instructed to hold this over his eyes for two minutes (Image 3). The ice pack was then removed, and both patient and examiners observed noticeable improvement. The patient's ptosis was absent (Image 4). Extraocular range of motion was normal (Image 5), and the patient reported resolution of diplopia and photophobia. Pupillary light reflex was assessed and found to be normal. This effect lasted for approximately 90 seconds before ptosis reappeared. The test was conducted twice, approximately 15 minutes apart, with identical results, and the diagnosis of MG was made.

The patient was admitted to the hospital for continued neurological workup. Blood samples were sent to an outside lab to check for the presence of anti-acetylcholine (ACh) and anti-muscle-specific tyrosine kinase (MuSK) antibodies. Soon after arriving to the floor, the patient was evaluated by the staff neurologist, who agreed with our diagnosis and ordered prednisone and pyridostigmine. A chest CT demonstrated no thymic or respiratory abnormalities, and brain MRI was unremarkable. Approximately 24 hours after first arriving in the ED, the patient reported that his symptoms had greatly improved and exhibited no ptosis or vertical gaze deficit.

## Discussion

Myasthenia gravis is the most common disorder of neuromuscular transmission.<sup>2</sup> The prevalence of MG in the United States is estimated to be 37 per 100,000, with estimated incidence ranging from 4.1 to 30 cases per million person-years.<sup>3,4</sup> The disorder most commonly initially presents in females more than 40 years old and men over the age of 60. MG may present at any age in either sex, although it is rare in children.<sup>3</sup> MG has a strong association with thymic hyperplasia and thymoma. It is estimated that 13 percent of patients with MG have one or more coexisting autoimmune diseases, most commonly affecting the thyroid gland. The estimated rate of co-occurrence is 7 percent with Graves' disease and 3 percent with Hashimoto's thyroiditis, which may contribute to symptoms of ophthalmopathy and weakness if present.<sup>5</sup>

Most patients initially present with intermittent flares of ptosis, extraocular muscle weakness, and diplopia. The second most common presentation involves bulbar muscle weakness, dysphagia, dysarthria, and frequent aspiration.<sup>6</sup> A key feature in diagnosis is weakness that worsens with muscle use and improves with rest. Left untreated, weakness may spread and become generalized. In severe flares, known as myasthenic crises, the diaphragm and accessory muscles of breathing may become significantly weak, requiring noninvasive positive airway ventilation or intubation with mechanical ventilation. For this reason, prompt diagnosis and initiation of treatment are vital for individuals experiencing their first MG flare.

The mechanism in ptosis and in MG is believed to be the inhibition of the levator palpebrae superioris muscle at its lower motor neuron synapse with the oculomotor nerve. This is caused by the blockade of nicotinic ACh receptors by autoantibodies. Several mechanisms have been proposed to explain the temporary improvement of ocular MG symptoms after cooling.<sup>1</sup> Although colder temperatures have been demonstrated to decrease the speed of nerve conduction, they also inhibit the action of acetylcholinesterase, resulting in a greater amount of neurotransmitter for a longer period to be present in the gap junction. This mechanism is also applied in the use of the acetylcholinesterase inhibitor pyridostigmine as first-line treatment for myasthenic flares.<sup>6,7</sup>

In addition to pyridostigmine, immunosuppression with glucocorticoids or azathioprine is indicated for acute myasthenic flares. Second-line immunosuppressive agents include methotrexate and cyclophosphamide. For patients experiencing myasthenic crisis, intravenous immunoglobulin or plasmapheresis are indicated to prevent respiratory collapse due to their rapid onset. Thymectomy is recommended in patients with evidence of thymoma, seronegative disease, or anti-nicotinic-ACh subtype of disease if presentation occurs between the ages of 15 and 50.<sup>6</sup>

The initial diagnostic workup for patients with MG symptoms should include a complete neurological exam. Additionally, cranial imaging should be used to rule out stroke or intracra-



IMAGE 2: Upward gaze on presentation, note frontalis muscle compensation to lift eyelids



IMAGE 4: Forward gaze after ice pack test

nia mass, which may present with similar symptoms. Patients should also undergo CT or MR imaging of the thymus, as well as measurement of thyroid-stimulating hormone to investigate concomitant autoimmune thyroid disease. Differential diagnosis may include disorders of the neuromuscular junction or the peripheral nervous system, such as Lambert-Eaton Syndrome, botulism, Horner Syndrome, neuromyotonia, or Guillain-Barré Syndrome. Diagnosis may be confirmed by nerve conduction study or by the presence of anti-ACh or anti-MuSK antibodies, although a small percentage of patients are seronegative.<sup>8</sup> Historically, checking for symptom improvement in response to intravenous edrophonium, a short-acting acetylcholinesterase inhibitor, was seen as the gold standard diagnostic test for MG, but this has since been supplanted by serologic and nerve conduction studies due to the concern for serious side effects, including bradycardia and bronchospasm.<sup>1</sup> The ice pack test has proven to be an effective initial method of diagnosis for ocular MG. When used to detect MG in patients presenting with diplopia, ptosis, or both, the ice pack test has been reported to demonstrate a sensitivity of 76.9 percent and a specificity of 98.3 percent.<sup>9</sup> The authors of this study found the test to remain highly specific, even in patients with co-existing thyroid dysfunction.

## Conclusion

Patients presenting with their first MG flare require prompt diagnosis and treatment to prevent progression of symptoms. The initial diagnosis of MG is largely clinical. Results from anti-ACh and Anti-MuSK serologic testing may take several days, and treatment should not be withheld for confirmatory testing. In this patient's case, ice pack testing could have easily been done at the first ED. A correct diagnosis was made quickly at our facility, which allowed for rapid admission and initiation of treatment. With maintenance immunosuppression, the prognosis of individuals with ocular MG is good; most live a normal life expectancy with minimal disability.<sup>8</sup> +



IMAGE 3: Administering the ice pack test



IMAGE 5: Upward gaze after ice pack test



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# THE END OF THE RAINBOW



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## 1099 Problems

What changes as an independent contractor

by JAMES M. DAHLE, MD, FACEP

### Question

**My** new employer wants to make me a “1099.” What do I need to know as I transition away from being a true employee?

### Answer

First, let’s make sure we understand the terminology. Emergency physicians are typically “paid on” one of three types of tax forms: W-2, K-1, or 1099. Those who receive a W-2 at the end of the year are employees, those paid on a K-1 are partners, and those paid on a 1099 are independent contractors. Thus, there is no such thing as a “1099 employee.” If you’re given a 1099 at the end of the year, you’re not an employee; you’re in business for yourself. You’re self-employed. You are the employer and your business contracts with the hospital or other business for your personal services. As the employer, you are now responsible for things your employer would have provided if you were an employee.

The first question a self-employed physician should ask themselves is what kind of business structure they should use. The simplest is

CONTINUED on page 21



## UNCONTROLLED MOVEMENTS | CONTINUED FROM PAGE 17

### Diagnosis and Management

Patient’s history and physical were initially concerning for a neurological abnormality with unknown cause. The differential included ischemic stroke, focal seizure disorder, lesion of the cervical spine, sequelae of prior Bell’s palsy, hemorrhage, or psychological disorder. He was resting comfortably, holding his arm down, in no acute distress and hemodynamically stable. Because of the unclear etiology, a CT head was ordered alongside CBC and CMP. A capillary blood glucose was drawn which revealed his hyperglycemia. With concerns for diabetic ketoacidosis (DKA) or HHS, we broadened our workup to include urinalysis, osmolality, and venous blood gas. These showed a normal anion gap without acidosis and trace ketonuria, excluding DKA from the differential. Initial labs were significant for glucose 582, trace ketonuria, osmolality 303, pH 7.37, sodium 134, potassium 4.3, chloride 94, serum bicarbonate 29, Hgb A1c 14.1 percent. He did have a mildly elevated osmolality although not meeting diagnostic criteria for HHS.<sup>2</sup> He was

given 2 liters lactated ringers, 50meq potassium chloride, and 10U IV regular insulin for treatment of hyperglycemia. CT of the brain was unremarkable, suggesting against any acute pathologies such as ischemic stroke, large hemorrhage, or tumor burden.

Neurology was consulted who recommended magnetic resonance imaging (MRI) of the brain and an electroencephalogram (EEG). The patient was admitted for aggressive glucose control in the setting of nonketotic hyperglycemic hemiballismus (NKHH). Brain MRI showed a small right-sided subdural hemorrhage and a nonspecific FLAIR hyperintense signal in the periventricular and supraventricular white matter and dorsal pons without evidence of acute ischemia. EEG was negative. Symptoms improved within 24 hours of starting an insulin regimen and resolved by discharge on day four. His diagnosis of NKHH was made from laboratory evaluation, physical exam, and improvement of symptoms with glucose control.

The patient was admitted to the medicine floor with neurology consultation. He was ad-

mitted for four days and discharged home after glucose was controlled and symptoms resolved.

Uncontrolled hyperglycemia can have variable presentations, ranging from polyuria to neurological complications. Hemiballismus, a unilateral movement disorder, is a rare neurological process that is usually related to acute strokes but can also be a stroke mimicker.

### Teaching Points

- Hemiballismus, although uncommon, can be seen in acute ischemia and other pathologies.<sup>3</sup> When imaging is not consistent with ischemia, other diagnoses, including hyperglycemia, need to be considered.
- Although this patient did not meet standard HHS criteria as his glucose was less than 600 and osmolality less than 320, he had obvious neurologic symptoms that resolved with glucose control. It is important to consider that HHS may be a spectrum of disease that can be treated earlier with knowledge of various presentations.<sup>2</sup>
- In NKHH, as in this case report, patients

may have unilateral rhythmic, jerking movements that develop sub-acutely. Movements will worsen with activity and patients may report worsening symptoms towards the end of the day. Once confirmed with lab work, patients should be admitted for strict glucose control as symptoms will improve with resolution of their hyperglycemia. ⊕



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# Toxicology Q&A Answer

QUESTION ON PAGE 2

## ANSWER: Lionfish (*Pterois* spp)

Lionfish (*Pterois* species) are members of the family Scorpaenidae, which includes lionfish (*Pterois*), scorpionfish (*Scorpaena*), and stonefish (*Synanceia*). They also are commonly called butterfly cod, firefish, peacock lionfish, and turkeyfish in some places.

They deliver one of the most painful stings a human can receive from a marine creature. People are most commonly stung in the hand while snorkeling, diving, spearfishing, cooking them, or feeding them in aquaria.<sup>1</sup>

They are venomous, voracious piscivores that prey on small reef fish and crustaceans up to their own body size, and they naturally inhabit the Indo-Pacific oceans, living near corals, sea grass, or hard-bottomed areas. In 1985, they were spotted in Dania Beach, Fla., and have spread invasively with the sea currents up the East Coast of the United States (spotted in North Carolina in 2000) and into the Caribbean.<sup>2</sup> The *Pterois miles* and *volitans* invasion exemplifies a bioinvasive species that was inadvertently introduced through anthropogenic corridors, such as trade, ballast water dumping, and unwanted pet disposal, into non-native areas where they have profound effects.

Lionfish are “perfect storm” invaders: Females can lay two million eggs a year; they grow faster than other species in the area; they have a very broad generalist diet and more tolerance for fasting than their competition; they are adaptable to many living environments, tolerating varying salinities and temperatures, for example; they have few to no natural predators in new areas that can bypass their anatomic defenses; and they have parasite resistance.<sup>3</sup> These attributes allow them to kill or displace native species, causing profound changes and damage in these novel regional coastal ecosystems.<sup>4</sup> Lionfish are one of the most ecologically harmful marine fish invasions to date.

### Lionfish Anatomy

The dramatic striped fins of the lionfish hide a painful surprise for anyone who unwisely tries to pet or grab one of them. The red lionfish has 18 venomous spines (13 dorsal spines, two pelvic spines, and three anal spines). When threatened, the fish turns its back to the threat and assumes a defensive head down posture, frilling the dorsal spines. The pectoral (lateral chest) spines are not venomous.<sup>5</sup>

### Spine Anatomy

In nature, spines are multifunctional biological materials that assist organisms in gripping, injecting, damaging, and defending. In lionfish, each spine consists of a rigid core spike that has three longitudinal grooves—in cross section, it’s tri-lobed and looks like a three-leaf clover—that contain embedded venom-producing glands wrapped in a “sheath” of tissue, presumably so the venom isn’t washed away. Unlike the keratin spines found in porcupines, hedgehogs, and echidnas, these central, needle-sharp, hard spikes are made of hydroxyapatite and collagen.<sup>5,6</sup> When a spine punctures soft tissue, the pointy tip of the rigid core depresses, piercing the thin tissue sheath and jabbing the venom-filled grooves into the



PHOTOS: JASON HACK/OLEANDER PHOTOGRAPHY

ABOVE: People are most commonly stung in the hand by the lionfish.

LEFT: Lionfish are venomous, voracious piscivores.

flesh.<sup>7</sup> Depending on velocity of contact, this action can fracture the spike and leave foreign body fragments of the spine within the tissue.<sup>5,8</sup> Interestingly, the break forms a new point that can be used for future defense.

### Symptoms of Envenomation

**Local effects:** Local effects of lionfish envenomation include severe localized pain, swelling, and potential tissue necrosis. Dermal wounds are classified into:

- Grade I: local erythema, pallor, or cyanosis
- Grade II: vesicles at the sting site
- Grade III: local necrosis

Sensory alterations, such as anesthesia, paresthesia, or hypesthesia, can occur and may persist for weeks.<sup>8</sup>

### Systemic Effects

Systemic effects are infrequent but can include nausea, diaphoresis, dyspnea, weakness, hypotension, and chills. More severe systemic reactions like delirium, seizures, limb paralysis, blood pressure changes, respiratory distress, dysrhythmia, myocardial ischemia, and syncope are rare.<sup>9</sup>

### Pain

Extreme pain is a universal symptom of lionfish stings; it’s described as one of the most painful stings a person can receive from a marine creature.<sup>10</sup>

A survey study of more than 500 lionfish sting victims revealed that the immediate and intense pain caused by the sting extends radially from the wound, reaching its full potency after about one to two hours, and can continue for 24 hours or even weeks. This excruciating pain is described by many victims as a continuous burning, tingling, and numbness.<sup>1</sup>

### Mechanism of Action

The pain-producing (algogenic) mechanisms of the lionfish venom are interesting. While bradykinin (found in the venom of the Hymenoptera order of insects) and capsaicin receptors (found in the venom of several tarantulas) do not contribute to the pain caused by the lionfish venom, it does contain hyaluronidases, acetylcholine (which causes swell-

ing and inflammation), and other heat-labile peptides that have a specific excitatory effect in the central and peripheral nervous system and act almost exclusively on small-diameter nonpeptidergic nociceptors while nearby large-diameter neurons are unaffected.<sup>10</sup> This nociceptor specificity likely developed evolutionarily as a defense mechanism to deter predators, not as a means to immobilize prey.<sup>11</sup>

### Treatment for Lionfish Envenomation

Atkinson and colleagues performed a literature review on traditional treatments of marine envenomations, including vinegar, fig juice, boiled cactus, heated stones, hot urine, hot water, and ice.<sup>12</sup> They concluded that the only effective pain treatment for fish spine injuries is to immerse the affected area in hot water.

Although not standardized, the most commonly suggested method is hot water (42-45 °C) immersion (hot but not scalding shower) for 30- 90 minutes or until the pain resolves.<sup>13</sup> The heat is thought to either denature the venom, lessen the discomfort by causing a modulation of pain receptors, or both.

Additional pain management interventions include analgesic pain medicine, infiltration of the area with lidocaine, or regional blocks.

Other local wound care includes irrigation, debridement of necrotic tissue, X-ray if there is suspected retained foreign body, and tetanus immunization if needed.

Antibiotics are broadly recommended for wounds that appear infected; prophylactic antibiotic administration is contested except with deep punctures, wounds contaminated with material, or those with significant tissue insult.

Antibiotic selection must cover a multitude of saltwater bacteria, including *Vibrio*. If chosen, prophylactic antibiotics would be ciprofloxacin or trimethoprim-sulfamethoxazole.

Parenteral antibiotics include cefotaxime, ceftazidime, chloramphenicol, gentamicin, or tobramycin.

Fulminant infections should be treated with imipenem/cilastatin until cultures return.<sup>14</sup>

No antivenom is currently available for lionfish venom.

Soft tissue wounds left by lionfish may take weeks or longer to heal.

### Other Uses

Once the venomous spines are carefully removed, these fish are reportedly delicious. I saw a cookbook for lionfish that includes lionfish eggs Benedict and lionfish croquettes. +



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# Guidelines on Management of Atrial Fibrillation

Updated AHA/ACC guidelines on atrial fibrillation

by LAUREN WESTAFER, DO, MPH, MS, FACEP

The American Heart Association and American College of Cardiology released a comprehensive guideline on the management of atrial fibrillation (AF).<sup>1</sup> Most of the AHA/ACC recommendations are either irrelevant to the general emergency physician or common sense. For example, if a patient has hemodynamic instability attributable to AF, perform immediate electrical cardioversion. That recommendation is not controversial; however, some interesting recommendations within these guidelines may reshape clinician practice, particularly regarding rate control strategies.

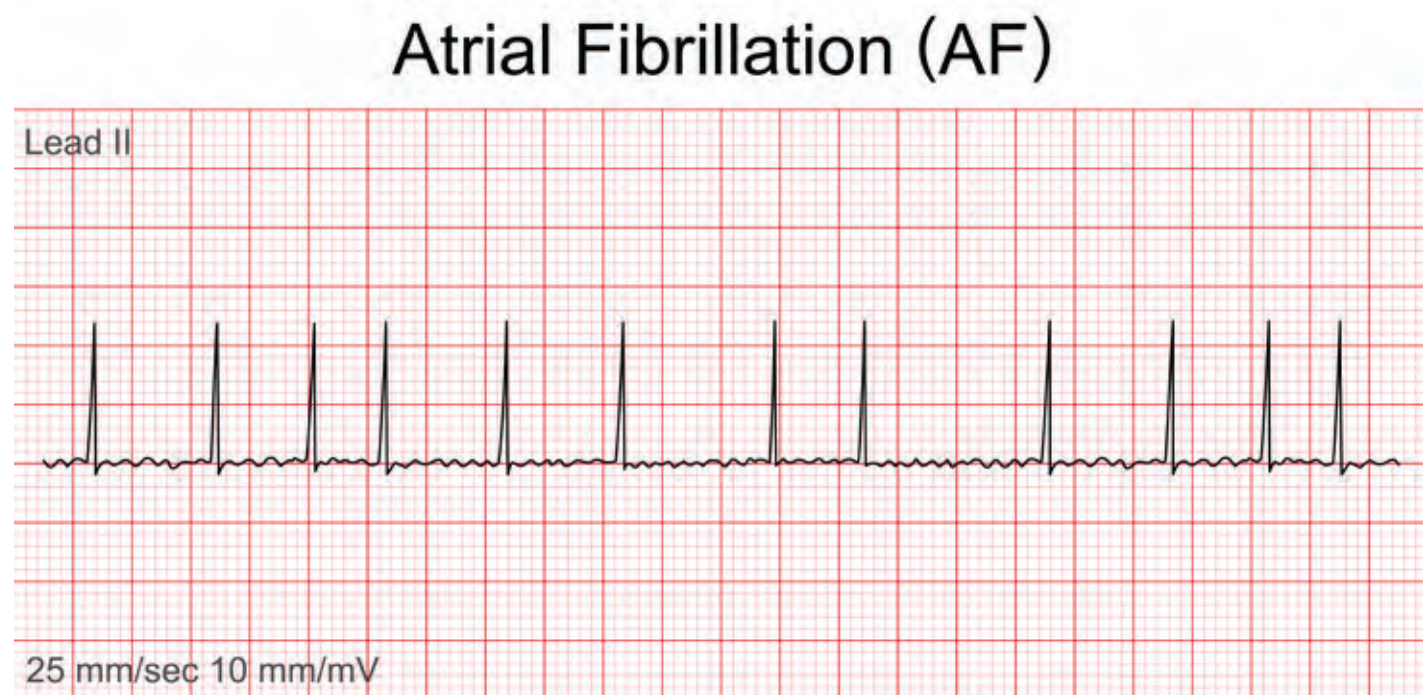
## Rate Versus Rhythm in the ED

The 2023 AHA/ACC guideline doesn't give explicit recommendations or preference regarding initial rate or rhythm control strategy for new-onset AF patients who are hemodynamically stable. The guideline states that electrical cardioversion can be performed (Class 1, Level B evidence from randomized trials) and suggests that, if you go this route, you should start with at least 200 joules to increase success (Class 2a, Level B evidence from randomized trials).

## The Beta Blocker Versus Calcium Channel Blocker Debate

The ideal control agent for patients with AF with rapid ventricular response (AFRVR) is widely debated in emergency medicine. Often, the best means of rate control is control of the underlying disease process (e.g., antibiotics and fluids or diuresis); however, most emergency clinicians probably have a "favorite" means of rate control for patients with AFRVR. Intravenous (IV) metoprolol and diltiazem are the most commonly administered rate control agents for AFRVR. The current iteration of the guideline does not signal a preference between beta blockers and nondihydropyridine calcium channel blockers (CCBs) for most patients. In fact, few studies compare the two classes.<sup>2</sup>

Heart failure, however, is a different story. The 2023 AHA/ACC guideline has warned clinicians to essentially toss their IV nondihydropyridine CCBs in the trash for any patient with systolic dysfunction. The panel gave a rare Class 3: harm recommendation for the use of IV nondihydropyridine CCBs in patients with AFRVR and known moderate or severe left ventricular systolic dysfunction with or without decompensated heart failure (HF). This recommendation is a departure from the 2014 guideline iteration that only recommended against CCBs in patients with



decompensated heart failure.<sup>3</sup> The guideline cites low quality evidence from small studies and fear of negative inotropic effects. Unfortunately, few studies have directly compared acute management strategies for patients with AFRVR and acute decompensated heart failure, and those that have done so have woefully inadequate sample sizes to detect somewhat uncommon but critical harms.<sup>4</sup> The 2023 recommendation is based on consensus and two retrospective studies demonstrating some negative outcomes with exposure to diltiazem (acute kidney injury, worsening HF symptoms); however, diltiazem was not associated with mortality and hypotension. The guideline recommends amiodarone for rate control in patients with AFRVR and decompensated heart failure. Although the recommendation against CCBs for acute rate control in patients with any systolic dysfunction is largely consensus based, a paucity of data suggests that beta blockers are any more effective in this subgroup. So, while clinicians can continue to use judgment and the best medications for a given patient, the guideline will likely encourage the use of alternatives in patients with AFRVR and systolic dysfunction.

## Magnesium Benefit May Be Overestimated

Much like ketamine and tranexamic acid, magnesium is a darling of emergency medicine. Use of magnesium to augment rate and, to some extent, rhythm control in AFRVR has had some support.<sup>6</sup> The new AHA/ACC guideline states that in patients with AFRVR, the addition of IV magnesium to

standard measures is reasonable to achieve rate control. The committee gave this a class 2A (moderate) recommendation, citing the highest level of evidence (A) from more than one randomized control trial (RCT) or meta-analysis of high quality RCTs. The AHA/ACC cites a meta-analysis including five RCTs of 745 participants. On the surface, this meta-analysis found that the IV magnesium had greater odds of rate control (OR 2.49; 95 percent CI 1.80-3.5) as well as conversion to sinus rhythm (OR 1.75; 95 percent CI 1.08-2.84).<sup>7</sup> Digging into the meta-analysis, a few important details emerge. First, a single study by Bouida and colleagues drove the meta-analysis, contributing over 60 percent of patients. The study compared four grams and 9.5 grams of IV magnesium to placebo, doses considerably higher than the two grams of magnesium often administered in the emergency department (ED). Further, the patients in this trial are not representative of U.S.-based care of ED patients with AFRVR. Over one-third of patients in this study received digoxin as their rate control agent, and about half received either diltiazem or a beta blocker. In fact, in the meta-analysis, digoxin was the most commonly administered agent. Consistent with guideline recommendations, digoxin is not commonly administered as a rate control agent in the U.S. due to the lengthy onset of action and higher risk profile compared with CCBs and beta blockers. Second, the outcomes definitions rate and rhythm control at four and 24 hours are far beyond times relevant in emergency medicine in the U.S. The evidence suggests that large doses of

magnesium (4.5 g) may improve rate control in patients receiving digoxin.

## Summary

The AHA/ACC guideline is a mixed bag, mostly centered on limited data for a bread-and-butter disease process. Cardiovert when it's indicated or in concordance with patients' wishes and the AFRVR is the cause. Try to avoid CCBs in patients with systolic dysfunction, understanding that there is limited evidence. And magnesium? Sure, add if you're giving digoxin and/or failing at other rate control attempts with primary AFRVR. +

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# Building Bridges to Health Equity

## Why diversity, equity, and inclusion matter in medical education

by JAYNE KENDALL, MD, MBA, FACEP, CPE

The inclusion of diversity, equity, and inclusion (DEI) principles in undergraduate medical education is considered crucial for creating a just and fair health care system. Though DEI education, including critical race theory and its derivatives, is still a topic of public debate, many industry specialists and educators believe that it forms the foundation of high quality health care practices and the achievement of health equity. The introduction of a bill in March by North Carolina Congressman Greg Murphy, MD, reignited the debate on the role of DEI in medical education. The bill, known as the Embracing Anti-Discrimination, Unbiased



Curricula, and Advancing Truth in Education (EDUCATE), aims to limit federal financial support for educational institutions with DEI policies, leading to concerns that the act may hinder efforts toward health equality.<sup>12</sup> Recent legal developments, such as the Supreme Court's ruling on affirmative action programs at Harvard and the

University of North Carolina, have further fueled the debate on DEI in education.<sup>6,10</sup> Additionally, several states have recently proposed bills to regulate DEI initiatives in public schools and universities, highlighting the issue's controversial nature. While many of these legislative efforts are ongoing, the implications for DEI programs in medical education remain a significant concern. Furthermore, the importance of DEI in medical education goes beyond academic discussions.

Rep. Murphy's proposed EDUCATE Act aims to change the Higher Education Act of 1965 to prevent medical schools from mandating or providing incentives for students, faculty, or staff to express specific views on diversity. This includes limiting conversations about how systemic factors influence racial inequalities and avoiding terms like "oppressor" and "oppressed" when referring to racial or ethnic groups. Furthermore, the bill restricts diversity initiatives in medical schools by prohibiting diversity statements, diversity offices, race-based courses, and consideration of diversity factors in accreditation. Rep. Murphy states in the press release introducing the bill, "Medicine is about serving others and doing the best job possible in every circumstance. We cannot afford to sacrifice the excellence and quality of medical education at the hands of prejudice and divisive ideology."<sup>9</sup>

However, Rep. Murphy is short-sighted in that the impetus behind his bill needs to consider the reality that DEI goes beyond mere symbolism: Diversity, equity, and inclusion directly benefit patients. Studies consistently show that having a diverse physician workforce leads to improved patient outcomes, lower mortality, reduced morbidity rates, and, ultimately, a more robust health care system.<sup>2</sup> Diversity fosters better understanding and trust between patients and physicians.<sup>4,5</sup> When patients feel respected and valued by their health care professionals, they are more likely to seek medical care and adhere to treatment plans. While there has been progress in promoting diversity in health care, the underrepresentation of minority groups, particularly in the physician workforce, remains a significant concern. Statistics reveal a notable disparity between the demographics of physicians and the general population, with a particularly noticeable lack of racial diversity among African American physicians.<sup>4</sup> Therefore, it is crucial to prioritize comprehensive diversity, equity, and inclusion (DEI) education to establish a health care system that is fair and meaningful for all individuals.



### Beyond Inclusion: How Diverse Health Care Teams Improve Patient Care

Diversity within the health care workforce plays a crucial role in addressing the unique needs of various patient populations. While Hispanic physicians represent 6.9 percent of practicing physicians, the representation of other ethnic groups, such as American Indian, Alaska Native, Native Hawaiian, or Pacific Islander, remains significantly lower.<sup>12</sup> This lack of diversity emphasizes the importance of fostering a health care environment that is inclusive and representative of the communities it serves.<sup>2,4</sup>

With cultural competency, health care workers from diverse backgrounds possess unique perspectives that enable them to navigate cultural nuances, implicit biases, and communication styles. Literature has demonstrated that when patients seek treatment from individuals of their own race or ethnicity, they are more likely to take their prescriptions and engage in prevention services.<sup>13,14</sup> A study conducted in New York City on patients with hypertension and cardiovascular symptomatology demonstrated that when treated by doctors of a concordant race, patients were more likely to adhere to medication compliance guidelines.<sup>11</sup>

A study at Stanford University School of Medicine further underscored the impact of cultural competency on patient engagement. Involving over 1,300 Black men in Oakland, Calif., the study revealed that patients assigned to Black doctors were more inclined to openly discuss health concerns and participate in screenings for conditions like diabetes and cholesterol.<sup>1</sup> The connection between culture, diversity, and care is fundamental in promoting positive patient outcomes and restoring a positive perception of health care.<sup>14</sup>

The infusion of DEI in medical school curricula and admissions processes is crucial to ensuring that the workforce reflects the patient population. When institutions of higher learning commit to training and recruiting a diverse cohort of medical students, they prepare a qualified workforce poised to deliver quality and equitable care to patients of all backgrounds. Educating all health professionals on culture and bias elimination is also essential in promoting a care environment that offers high quality care to all patients.<sup>3,7,8</sup> As a result, actively supporting DEI in medical education and practice is not just a mat-

ter of ethics; DEI is a viable tactic for improving the quality of health care delivered to all members of the public. The active implementation of measures aimed at diversifying discourses and making them more compassionate allows for the development of a fairer and more comparable health care system that will address patients' individual needs and create a healthier environment for generations to come. +

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a “sole proprietorship,” which is what you have if you don’t deliberately form something else. While best practice is to get an Employer Identification Number (EIN), which can be obtained online in 30 seconds for free at <https://www.irs.gov/businesses/small-businesses-self-employed/apply-for-an-employer-identification-number-ein-online>, you are allowed to just use your Social Security number when you fill out a W-9 for the “employer.” Some emergency physicians consider forming a limited liability company (LLC) or a corporation, thinking this will somehow reduce their malpractice risk. In reality, malpractice is always personal, and a business shell won’t protect you. The main reason some physicians form an LLC or, more rarely, a corporation is to make an “S election” and designate some of their earnings as “distributions” rather than salary to save some money on Medicare taxes. The additional hassle and expense must be weighed against the tax savings. For the most part, your business expense deductions are the same with any type of structure.

Perhaps the biggest change for a physician “going 1099” is the need to withhold and pay your own taxes. Employers are required to withhold a certain amount in federal, payroll, and sometimes state taxes from your

paycheck and send that money to the government on your behalf. Without an employer, you are now responsible for doing this. The way it is done by sole proprietorships is to send in a check with IRS Form 1040-ES (or pay online at <https://www.eftps.gov/>) with “quarterly estimated payments” on April 15, June 15, September 15, and January 15 for the previous quarter. Note that there are only two months between April 15 and June 15. The biggest financial error a new independent contractor can make is to not set money aside to pay this tax bill each quarter. A typical emergency physician will likely find this amount to be between 20 and 30 percent of their income, although it may be higher or lower. Calculating this amount is challenging and often involves a little guess work. If you underpay by a little, there will be a penalty when you file your taxes on April 15, but it isn’t too bad. It is essentially equal to the interest the money you should have paid to the government earned in the meantime in a money market fund.

A more significant tax change is that you now must pay both halves of the payroll taxes, Social Security and Medicare. Typically, an employer and an employee split this cost equally; however, as an independent contractor, you are the employer AND the employee

and are now responsible for both.

Independent contractors are also responsible for all of their own benefits, with the frequent exception of malpractice insurance. Thus, you will now be choosing and funding your own retirement accounts, paying for your own health insurance, and taking care of your own licensing, credentialing, and continuing medical education (CME) costs. With the additional cost of benefits and payroll taxes, an independent contractor should be paid significantly more than an employee doing the same job. For a typical emergency physician, about 10 percent more is a good rule of thumb, but it is best to calculate the exact difference when comparing jobs of different types.

The best retirement plan for a typical independent contractor emergency physician is an individual (solo) 401(k). In 2024, a full-time emergency physician under 50 should earn enough to max out the solo 401(k) with a \$69,000 contribution. High savers may add a cash balance defined benefit plan to the solo 401(k). Solo 401(k)s can be opened for free at Fidelity or Schwab, but for a relatively low fee, a better, customized plan with more features and better service is available from smaller, boutique vendors.

Business owners, like an independent contractor emergency physician, can deduct

their legitimate business expenses. “Writing off” these expenses does not mean you get them for free; it just means you are allowed to buy them with pre-tax dollars. This reduces the cost of things like CME, scrubs, and other business expenses by 25 to 45 percent. Items used partially for personal use are deductible only to the extent they are used in the business. If 10 percent of the use of your phone is for business, you can deduct 10 percent of its cost. While business mileage is deductible, your commute to the hospital from home is not generally business mileage.

It is important to keep your business affairs separate from your personal affairs. Thus, all business income and expenses should be run through a separate business bank account. A business credit card is probably a good idea too, although it is just as dumb to carry a balance on a high interest rate business card as a high interest rate personal card.

Many physicians prefer the control and often higher income available as an independent contractor. Truthfully, it is not all that different from being an employee, even if the initial transition can be intimidating. I will discuss this and other important subjects relevant to your business and personal finances at the ACEP24 in Las Vegas. +

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## 2023 Impact Report

[acep.org/ImpactReport](https://acep.org/ImpactReport)



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

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

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

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

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

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

### MINIMUM REQUIREMENTS

Education: M.D. or D.O. degree

Experience: Research Fellowship not required for application

Licensure: Must be currently boarded in Emergency Medicine and eligible for licensure in state of Texas.





# Penn State Health Emergency Medicine

**About Us:** Penn State Health is a multi-hospital health system serving patients and communities across central Pennsylvania. We are the only medical facility in Pennsylvania to be accredited as a Level I pediatric trauma center and Level I adult trauma center. The system includes Penn State Health Milton S. Hershey Medical Center, Penn State Health Children's Hospital and Penn State Cancer Institute based in Hershey, Pa.; Penn State Health Hampden Medical Center in Enola, Pa.; Penn State Health Holy Spirit Medical Center in Camp Hill, Pa.; Penn State Health Lancaster Medical Center in Lancaster, Pa.; Penn State Health St. Joseph Medical Center in Reading, Pa.; Pennsylvania Psychiatric Institute, a specialty provider of inpatient and outpatient behavioral health services, in Harrisburg, Pa.; and 2,450+ physicians and direct care providers at 225 outpatient practices. Additionally, the system jointly operates various healthcare providers, including Penn State Health Rehabilitation Hospital, Hershey Outpatient Surgery Center and Hershey Endoscopy Center.

We foster a collaborative environment rich with diversity, share a passion for patient care, and have a space for those who share our spark of innovative research interests. Our health system is expanding and we have opportunities in both academic hospital as well community hospital settings.

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**FOR MORE INFORMATION PLEASE CONTACT:**

Heather Peffley, PHR CPRP - Penn State Health Lead Physician Recruiter  
[hpeffley@pennstatehealth.psu.edu](mailto:hpeffley@pennstatehealth.psu.edu)



**PennState Health**

Penn State Health is fundamentally committed to the diversity of our faculty and staff. We believe diversity is unapologetically expressing itself through every person's perspectives and lived experiences. We are an equal opportunity and affirmative action employer. All qualified applicants will receive consideration for employment without regard to age, color, disability, gender identity or expression, marital status, national or ethnic origin, political affiliation, race, religion, sex (including pregnancy), sexual orientation, veteran status, and family medical or genetic information.



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HENRY J.N. TAUB DEPARTMENT OF EMERGENCY MEDICINE

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## Academic Faculty Openings including Ultrasound and Nocturnist

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

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

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

**MINIMUM REQUIREMENTS**

Education: M.D. or D.O. degree

Experience: Previous experience in an academic area of expertise preferred but not required

Licensure: Must be currently boarded or board eligible in Emergency Medicine and eligible for licensure in state of Texas.

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



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- Full relocation reimbursement
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- Professional opportunities for mentorship, growth, and advancement
- Robust emergency medical services program: nine state-of-the-art helicopters stationed at six bases across the system and two Critical Care Ground Transports
- New ACGME accredited emergency medicine residency program in the northeast to complement our long-standing emergency medicine residency program in the central region
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- Embedded, multi-disciplinary team of care managers and clinical pharmacists in emergency departments to create a holistic, streamlined process from triage to discharge

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Interested candidates, please contact [Miranda Grace](#), Senior Provider Recruiter, at [mlgrace@geisinger.edu](mailto:mlgrace@geisinger.edu). Visit [jobs.geisinger.org/physicians](https://jobs.geisinger.org/physicians).

EOE/AA: Disability/vet.

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NATIONWIDE CAREERS



Jessica Baxley, MD  
EM Residency: Carolinas Medical Center, 2015  
Emergency Physician

Brendan Paul, DO  
EM Residency: Mercy St. Elizabeth Boardman, 2023  
Emergency Physician

Lonnie Seo, MD  
EM Residency: Yale, 2022  
Emergency Physician

Babak Missaghi, MD  
EM Residency: UCLA-Harbor, 2017  
Emergency Physician

Cindy Downes, MD  
EM Residency: East Carolina University, 2012  
Emergency Physician