COMMON SENSE

VOICE OF THE AMERICAN ACADEMY OF EMERGENCY MEDICINE
VOLUME 31, ISSUE 5
SEPTEMBER/OCTOBER 2024

AAEM™
AMERICAN ACADEMY OF EMERGENCY MEDICINE
CHAMPION OF THE EMERGENCY PHYSICIAN

President's Message: One Another–ing AAEM
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The American Academy of Emergency Medicine (AAEM) is the specialty society of emergency medicine. AAEM is a democratic organization committed to the following principles:

1. Every individual, regardless of race, ethnicity, sexual identity or orientation, religion, age, socioeconomic or immigration status, physical or mental disability must have unencumbered access to quality emergency care.
2. The practice of emergency medicine is best conducted by a physician who is board certified or eligible by either the American Board of Emergency Medicine (ABEM) or the American Osteopathic Board of Emergency Medicine (AOBEM).
3. The Academy is committed to the personal and professional well-being of every emergency physician which must include fair and equitable practice environments and due process.
4. The Academy supports residency programs and graduate medical education free of harassment or discrimination, which are essential to the continued enrichment of emergency medicine, and to ensure a high quality of care for the patient.
5. The Academy is committed to providing affordable high quality continuing medical education in emergency medicine for its members.
6. The Academy supports the establishment and recognition of emergency medicine internationally as an independent specialty and is committed to its role in the advancement of emergency medicine worldwide.

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Fellow and Full Voting Member (FAAEM): $525* (Must be ABEM or AOBEM certified, or have recertified for 25 years or more in EM or Pediatric EM)
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AAEM-0924-271

COMMONSENSE

Featured Articles

AAEM PRESIDENT'S MESSAGE

One Another–ing AAEM

Robert Frolichstein, MD FAAEM

Before I dive into my President's Message for this issue, I want to first express that as a Christian who draws inspiration from the Bible and references it below, I hold a profound respect for all religions and belief systems. My hope is that as you read on, you will understand and relate to the overall message.

About a year ago our preacher at church gave a series of sermons about how Christians should relate to each other. It was a great series and as I listened I remember thinking how this applies to any group of people with similar beliefs. A summary of the key points and strategies would, I think, serve the Academy and our specialty well. Don't quit reading. I am not going to get all preachy. I will only rarely refer to the bible and religion.

As members of the Academy we profess to believe in the mission and vision of the AAEM. Together we form a body that is most functional when everyone does their part and relies on others to do their part. For example members of AAEM depend upon members of the Clinical Practice Committee to do extensive literature reviews and put forth recommendations on various clinical topics. We all benefit from their expertise. Likewise they and others benefit from the expertise of the JEDI Section or the EMS Section. We necessarily depend upon each other for the Academy to function at its best. That can be particularly hard for emergency physicians that value their independence. It turns out that dependence is crucial for a group to function optimally.

If you understand that we depend upon each other then you will understand that no one person is more important than anyone else. Every member of the Academy is equally important to the functioning of the entire organization. We all play different roles with varying amounts of work devoted to the organization but as individuals we are all equally important. Not only is each person important but their ability to function well within the organization is important. It is the responsibility of the members of the organization to ensure that each member has the opportunity to excel in their role within the Academy. It turns out equity is crucial for a group to function optimally.

What naturally follows, if we are dependent upon each other and equity exists, is that we should be unified as a body of believers in the mission of the AAEM. Unity is tough as it requires us to look beyond personal differences and opinions between members of the body. We set those aside for the sake of the body and the mission. We are human so this is very hard. Disunity will erode the organization. It turns out that unity is crucial for a group to function optimally.

So how does an organization that understands that dependency, equity, and unity are crucial for optimal functioning develop and maintain those attributes? It is my belief that interpersonal relationships are the key. It is how we treat *one another.*

I am going to briefly invoke the Bible for some help here. In the New Testament, in the original Greek, the word allelon was used over 40 times by Paul and numerous other times by other writers. It is translated into English as "one another." Allelon is used to describe how we achieve each of those attributes and create a successful body. For AAEM to be successful and stronger which, I believe, will make each of us as individuals more content and fulfilled we should:

Encourage One Another

What does it mean to encourage someone? I like this definition: Any expression or action that makes someone become a better member of the Academy. It can be little or it can be big. It must be genuine and not superficial. What does encouragement look like within AAEM? With the above definition in mind think about how it could be encouraging when you:

- Notice your colleague doing something well and tell them.
- Thank your colleague for their part in the success of a project or effort.
- Think of a new idea that makes the Academy more efficient or effective.
- Wear some AAEM swag.
- Attend the Scientific Assembly.
- Spend some time and effort to get to know someone you don't know.
- Join a committee or section.
- Travel to our nation's capital for our Advocacy Day.

Bear One Another's Burdens

What does this even mean? At the most basic level it is to acknowledge that what we do is hard. We all struggle with some aspects of our clinical job and our work within AAEM at times and different things are hard for

>>

different people at different times. We need to recognize those times when our colleagues are struggling and do something. Do what? Often it is enough to simply recognize it: "You look overwhelmed. I have been there. Anything I can do to help?" This can be hard and it has to be done without judgement or self-aggrandizement. Maybe grab a cup of coffee when you and your colleague are not working and talk about how you approach whatever difficult situation you noticed your colleague in. Or just listen. Lastly, ask for help. It is safe to ask for help from our fellow members. It is not noble to struggle silently. It is not weak to ask for help.

Accept One Another

We should all be working toward making the Academy and our profession better. If we all have this common belief, it is okay to disagree on things. Unity is not uniformity. However, if the issue is not important in advancing our common goal than ask yourself what is to be gained by voicing dissent? If there is gain, then we owe it to our colleagues with whom we disagree to approach the disagreement respectfully. Remember we all have a common goal. We cannot let peripheral issues drive a wedge in the unity of AAEM or we will develop factions that can tear us apart. If it is a big issue, then carefully, and respectfully, discuss the issue and elevate to leadership. Do not let it get personal or about winning your point. It is about what is best for AAEM.

Greet One Another ~~with a Holy Kiss~~

Okay I scratched out the holy kiss part. That could lead to all kinds of problems. But what did they mean by that? There is some debate and some believe it was some sort of secret greeting. I think for us it means simply, warmly and affectionately. It also means universally. Even those that we don't like as much. We are all on the same team and it is not that hard to set aside differences and at least greet someone genuinely. We will never get beyond our differences if we cannot greet each other warmly.

Forgive One Another

We are people and to think that we will work in this stressful environment and not offend someone or say something hurtful is naive. It has happened and will happen again. Why should we forgive those that hurt us? One good reason is that you will likely need to be forgiven one day. Deeper, not forgiving breeds resentment. It is much easier to forgive than to dig out of a pit of resentment. Start by thinking of those that you have made angry or wronged. Ask forgiveness. List those that have hurt you. Release the desire for revenge. Put the hurt behind you and maybe they will seek your forgiveness.

Love One Another

Love is an inadequate word in the English language. It often has connotations that interfere with the intended meaning. In the context of AAEM it should mean an intense feeling of deep affection for the mission and vision of the Academy. We should all love AAEM. What naturally follows from that is that we should all love members of AAEM. How do we show that love? We "… one another." All the above one another-ing discussions above are expressions of love. They really explain what it means to love one another.

Why don't we "one another"? Sometimes it is because we are insecure and we don't want to put ourselves out there or we don't think we are important. Every member of AAEM is part of the body and the body does not work well without the entire body. Sometimes it is because we are passive. Reach out get involved. Mostly it is because we are preoccupied. Life is busy. I suggest to you that if you love AAEM and love our members, then attending a committee meeting, or going to the Scientific Assembly, or writing that article for *Common Sense* won't feel like an infringement on your free time. It will become something you cherish because you are doing your part to make AAEM better.

These are difficult times for our profession which means difficult times for our colleagues and for our patients. When we "one another," we stand a far better chance of resisting the forces aligned against us. Corporatization, with its greed, its money, and its power, is a force to be reckoned with. With the kind of charity I'm asking you to show, and the unity that can bring to our organization and our specialty we will be better equipped to resist that force. ●

"If you understand that we depend upon each other then you will understand that no one person is more important than anyone else. Every member of the Academy is equally important to the functioning of the entire organization."

Penn State Health Emergency Medicine

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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.

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Drinking 200 Proof Pain

Edwin Leap II, MD FAAEM

"Gunshot wound to chest, pulseless, 20-minute ETA."

When that's the EMS report, it gets your attention. Despite the wonderful theatrics of modern medical shows, and the best efforts of real-world, sweat-drenched paramedics, those of us who have done this long enough can translate that report. For the layperson it means: "Dead."

I saw that last week. And the week before I saw another tragic, unexpected death in a man not much older than me. Twice I walked into a small room, looked into someone's face and said, "I'm sorry, but he died." Twice there was weeping and moaning, and a woman sliding to the side of the chair as someone else tried to hold her up. A woman suddenly contemplating life without a person of inestimable value to her happiness.

I have this theory about what happens to those who see such things and give such news. Let's say you send a young man or woman in the armed forces to Afghanistan. He or she is there for a year and sees combat. Or doesn't, but witnesses the consequences; victims of IEDs, for instance. The young soldier treats those wounds, or prepares those bodies. They live with the constant threat of their own grave injury or death. When they return, if they come to our emergency department and say, "I have PTSD," we say, "I understand." We believe them. And why not? Who are we, who am I, to say what event or set of events is sufficient to cause nightmares, anxiety, horrible memories, paralyzing fear?

On the other hand, what if we send a physician or nurse to a civilian emergency department for 10 years, 20 years? A physician myself, I can say that while we admit that it's difficult to care for the dying, the broken, the shattered; while we admit that it's horrible to give "the news," we just press on. After all, we get paid well, right? And to admit the emotional consequences seems a little soft, doesn't it? I mean, we can power through, can't we? It was only a dead child, it's only a hallway full of grief, it's only self-reflection and self-doubt. There are patients to see. It's only 2:00am, or 2:00pm. There are five or eight or 12 more hours to go!

Later, after work, sometimes for weeks or months (or years), it's the repeating loop in the middle of the night, as we ask "what else could I have done?" It's only the question, as we kiss our families, "what if that were my child? What if that were my spouse?" We hold them closer for a while.

So, to avoid weakness, or the general disregard of our professional organizations, we call it "burn out." "I can't do this anymore," we say, "it's the administrators! It's the electronic medical records! It's the falling revenue! It's the drug seekers or the shift work or the patient satisfaction..." or any number of very real reasons to be frustrated and reconsider our careers. But not the real reason.

Maybe, just maybe, it's drinking 200 proof pain and suffering for a very long time. What's the toxic threshold? What's the number of shattered humans, the number of death notifications before half of us want to quit? How much blood must we bathe in to be excused?

> "[P]erhaps what we call burnout is our own PTSD. Our own brain (our own soul even) saying, "enough." And it applies to more than physicians. It applies to nurses and to PAs and nurse practitioners. **It goes for police officers...first responders, paramedics, and firefighters...They burn** out too. And it's OK."

My theory is just this; perhaps what we call burnout is our own PTSD. Our own brain (our own soul even) saying, "enough." And it applies to more than physicians. It applies to nurses and to PAs and nurse practitioners. It goes for police officers, who are often the first to see the lifeless or gasping form in the savaged car, or the bloody floor of a hotel or bar. It goes for the first responders, paramedics, and firefighters who jump into the fray fearlessly trying to snatch life from death. They burn out too.

And it's OK. Because what we do, what we see, isn't normal. Not in the way most people have normal days. It's normal for us. We simply embrace the screams and blood and final breaths. It's good that we can do it. It's valuable and it saves lives and eases pain. But on a very real level, it's terrible and life changing for us all.

So to everyone who sees and intervenes in life and death situations, I say this: You've done more good than you can ever imagine. If you tell me it hurts too much to go back, then there's no shame. Go in peace.

Because that 200-proof pain is bitter stuff. And as accustomed as we are to the taste, none of us have keep drinking it forever. ●

AAEM Foundation Contributors – Thank You!

AAEM established its Foundation for the purposes of (1) studying and providing education relating to the access and availability of emergency medical care and (2) defending the rights of patients to receive such care and emergency physicians to provide such care. The latter purpose may include providing financial support for litigation to further these objectives. The Foundation will limit financial support to cases involving physician practice rights and cases involving a broad public interest. Contributions to the Foundation are tax deductible.

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The AAEM Institute for Leadership, Education & Advancement in the Development of Emergency Medicine, Inc. (LEAD-EM) was established after the tragic and unexpected death of AAEM president, Dr. Kevin G. Rodgers.

The Kevin G. Rodgers Fund and the Institute will LEAD-EM just like Dr. Rodgers did. The funds will support important projects such as development of leadership qualities, and clinical and operational knowledge of emergency physicians with a view toward improving and advancing the quality of medical care in emergency medicine, and public health, safety and well-being overall. LEAD-EM would like to thank the individuals below who contributed from **1/1/2024 to 9/1/24.**

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Upcoming Events: AAEM Directly, Jointly Provided, & Recommended

AAEM is featuring the following upcoming conferences and activities for your consideration. For a complete listing of upcoming conferences and other meetings, please visit: aaem.org/education/events

AAEM Events

2024 Oral Board Review Courses
Course Set Three: November 12, November 13, November 21
aaem.org/education/oral-boards/

AAEMLa Annual Conference
October 23, 2024 – 7:30am-12:30pm CT

TNAAEM Fall Education Symposium
November 1, 2024 – 9:00am-5:00pm CT

31st Annual Scientific Assembly
April 6-10, 2025 (Miami, Florida)
https://www.aaem.org/aaem25/

Jointly Provided

Re-Occurring Monthly
Spanish Education Series*
Jointly provided by the AAEM International Committee
https://www.aaem.org/committees/international/spanish-education-series/ (CME not provided)

October 21-25, 2024
19th Annual Emergency Medicine Update: Hot Topics 2024
Jointly provided by UC Davis Health

February 24-28, 2025
44th Annual Emergency Medicine Winter Conference
Jointly provided by UC Davis Health

Recommended

The Difficult Airway Course: EmergencyTM
November 8-10, 2024 (Orlando, FL)
theairwaysite.com/a-course/the-difficult-airway-course-emergency/

Xth World Academic Congress of Emergency Medicine (WACEM 2024)
November 6-9, 2024 (Rome, Italy)
https://www.wacem2024.org/

Online CME
Recognizing Life-Threatening Emergencies in People with VEDS
thesullivangroup.com/TSG_UG/VEDSAAEM/

AAEM CME Online

Explore AAEM CME Online, where we understand the fast-paced nature of emergency medicine (EM) and the need for concise, accessible education. This platform is designed to provide members of the American Academy of Emergency Medicine (AAEM) and AAEM Resident and Student Association (AAEM/RSA) with top-tier continuing medical education (CME) resources right at their fingertips. Access today!

Finding Our Way in Medicine: Navigating Burnout through Polynesian Wayfinding Principles

Amanda Dinsmore, MD, Kendra Morrison, DO, and Laura Cazier, MD



Have you ever looked around your crazy busy emergency department and asked yourself, in the immortal words of the Talking Heads, "How did I get here?"

When you decided to go to med school, is this what you imagined? Are you where you thought you would be? Are you as happy as you thought you would be? If you are like more than 60 percent of physicians, you aren't. In fact, you might be feeling pretty burned out right now.

In the fast-paced world of emergency medicine, burnout is an ever-present challenge. With the constant demands of patient care, life-and-death decisions, and an unrelenting pace, it's easy for us as physicians to lose our sense of direction. How do we regain our bearings? Let's look to the example of the ancient Polynesian wayfinders, who navigated all over the Pacific without modern instruments. To stay on course, we must know where we are, where we're going, and continuously make course corrections to reach our destination safely.

Navigating the Waters: Knowing Where We Are

Polynesian wayfinding wasn't about following a direct path but about understanding one's position relative to the stars, wind, waves, and other natural elements. Similarly, in our medical careers, it's vital to stop and take stock of where we are. Are we aligned with our core values? Do we know what truly brings us fulfillment? Are we drifting without clear direction?

Burnout often arises when we lose this sense of self-awareness. A study published in the *Journal of the American Medical Association* (JAMA) found that physicians who are disconnected from their sense of purpose report higher levels of burnout and dissatisfaction with their careers.[1] Taking time to reflect on our personal and professional goals can ground us, allowing us to reconnect with what truly matters. Where are you going? If I were sailing a ship from the US in the Pacific, I would chart my course directly to the Big Island of Hawaii. That's my happy place. However, if I don't make course corrections as I go and pay attention to what's going on around me, I might wind up in North Korea. I don't want to go to North Korea.

Discovering Our Core Values: The Foundation of Purpose

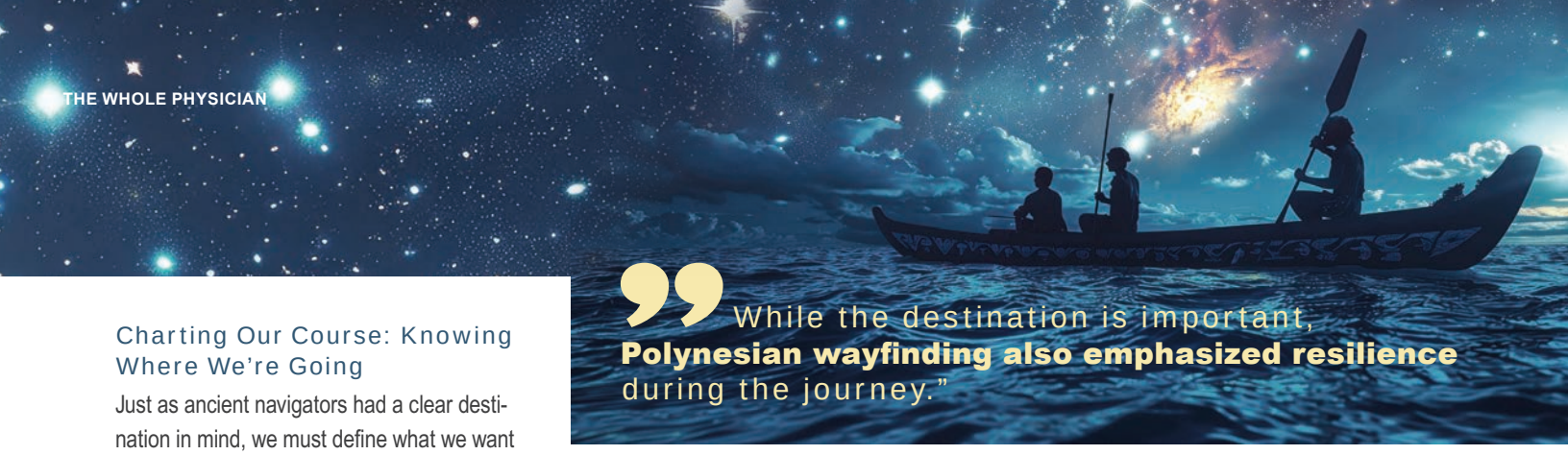
Before we can navigate effectively, we need to understand what guides us. Our core values are the foundational beliefs that shape our decisions and give our lives meaning. Identifying these values can be challenging, especially in the whirlwind of a medical career, but it's essential for long-term fulfillment.

To determine our core values, we can start by reflecting on moments in our lives when we felt truly fulfilled or proud. What was happening during those moments? Were we helping others? Learning something new? Building meaningful relationships? These experiences provide clues about the values that resonate most deeply with us.

Another approach is to consider times when we felt conflicted or unsatisfied. What was missing in those situations? Often, discomfort arises when we are not living in alignment with our values. For example, if autonomy is important to us, feeling micromanaged at work might lead to frustration and burnout. Recognizing these patterns helps us identify what truly matters.

There are also practical exercises, such as value clarification worksheets or guided journaling, that can help us pinpoint our top priorities. These values serve as our personal "north star," providing direction in both our careers and personal lives. Once we know our core values, we can make decisions with greater clarity and purpose, ensuring our course remains steady. (As an example, my top three core values are love, learning, and empowering others).

"Just as ancient navigators had a clear destination in mind, we must **define what we want out of life and** our medical careers."



> While the destination is important, **Polynesian wayfinding also emphasized resilience** during the journey."

Charting Our Course: Knowing Where We're Going

Just as ancient navigators had a clear destination in mind, we must define what we want out of life and our medical careers. Do we want to improve our connection with patients? Make an impact with our research? Build strong relationships with our families? Find a better work-life balance? Defining these goals is critical because they serve as the guiding stars we follow.

Setting clear, attainable goals has been shown to reduce burnout and improve career satisfaction.[2] Physicians who actively work toward meaningful personal and professional outcomes experience a greater sense of control over their lives, leading to lower rates of emotional exhaustion. By understanding where we're going, we bring purpose to each day, regardless of the challenges we face in the ER.

Course Correction: The Importance of Small Adjustments

Polynesian wayfinders understood the importance of constant course correction. Even being one percent off course could lead them far from their intended destination after days or weeks of travel. The same is true in our careers. Small deviations from our values and goals might not seem significant at first, but over time, they can lead us into burnout and dissatisfaction.

One key to combating burnout is recognizing the need for course correction early. It might be as simple as adjusting our work hours, improving self-care, or setting boundaries. Research from *The Lancet* supports the idea that physicians who proactively manage their workload and take small, consistent actions to align their work with their values report lower rates of burnout.3 Likewise, intentionally creating and savoring moments of connection with patients can help us remain aligned with the value of being a healer. Like a navigator adjusting the sails, these small shifts can make a profound difference in the long-term direction of our careers. Likewise, intentionally creating and savoring moments of connection with patients can help us remain aligned with the value of being a healer.

Embracing the Journey: Resilience and Adaptation

While the destination is important, Polynesian wayfinding also emphasized resilience during the journey. The ocean is unpredictable, much like the emergency department. There will be storms, strong currents, and unforeseen challenges. But resilience—the ability to adapt and keep moving forward—is what ensures safe passage. Thankfully, physicians are innately highly resilient and adaptive. However, with the incredible emotional and physical demands of being emergency physician, even we need some help bolstering our resilience at times.

A 2020 study in The *BMJ* found that physicians who cultivate resilience through mindfulness, self-compassion, and peer support are more likely to avoid burnout and sustain long, fulfilling careers.4 So maybe my after-shift habit of vegging on the couch eating my feelings and watching HGTV until 4:00am wasn't what I needed to prevent burnout? Go figure. The job of emergency physicians is arguably one of the most difficult out there-maybe we need to be more intentional about how we care for ourselves so we don't wind up in North Korea.

Finding Meaning in Medicine

Burnout is not just a result of long hours and high stress. It often stems from a disconnect between what we do and why we do it. By rediscovering our core values, defining our goals, and making course corrections along the way, we can navigate the tumultuous waters of emergency medicine with purpose and clarity.

Just as Polynesian navigators were guided by their stars, let our values and goals be our guiding lights. Let's know where we are, know where we're going, and make the necessary adjustments to stay on course. In doing so, we'll not only avoid burnout but find deeper meaning and fulfillment in our careers as healers. (And if you haven't watched the movie Moana, I invite you to do so. I think you'll love it.)

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Reinvestment Risk

Chris McNeil, MD

I want to describe an important and timely topic this month called reinvestment risk. This is a fairly straight forward concept, yet I find most people have difficulty quantifying it. It is a particularly important concept today as the Federal Reserve is on the cusp of beginning an interest rate cutting cycle.

I don't want to bore you with all of the macroeconomic nuance to the Federal Reserve and rate cuts. You can watch endless gloom and doom podcasts about the Federal Reserve and interest rates if you are so inclined. However, at a very high level, the Federal Reserve central banking members control our country's monetary policy. They are interested in price stability and full employment, otherwise known as their "dual mandate." When economic growth is good and inflation is high they prefer higher interest rates. If economic activity is falling or unemployment is rising, they prefer lowering rates. This allows businesses and individuals to refinance debt and allows money to flow more easily through the US economy thereby stimulating growth.

Over the last few months, the US economy has shown signs of slowing and unemployment has slowly increased along with falling inflation data. Yes, we can argue about the validity of the numbers versus our actual experience living in the real world; however, the Federal Reserve has made it very clear that the time to start lowering rates is upon us. Certainly, there are many implications to falling interest rates. This is why I wanted to discuss **reinvestment risk**.

Reinvestment risk is **the risk that an investor will have to reinvest cash flow or proceeds from an investment at a lower interest rate than the original investment**. What does this mean in the real world to us as individual savers and investors? Many people have "money" parked in high yield savings accounts and money market funds paying around five percent annualized interest. When the Federal Reserve cuts interest rates, these investments will yield less interest. If they cut interest rates by two percent over the next year, these types of accounts will only pay out three percent or less to park money in them.

This is not about whether the Federal Reserve should cut rates, how fast they will cut them, whether inflation will reaccelerate, or whether there will be other second order effects. The bottom line is the Federal Reserve has indicated that a rate cutting cycle is starting. One important thing we need to decide is what to do with our cash. As you can probably deduce from this blog, five percent interest was nice to have on cash deposits. However, two to three percent is less nice.

The question for those with large balances of cash in money-market or high-interest savings accounts is, "What is your goal for that money?" If your goal is to pay your quarterly taxes, function as your emergency fund, or as your savings for a down payment on a house, keeping this money safe for your short-term goals is still reasonable even at a lower interest rate. The two most common scenarios I see are 1) conservative investors where bonds were not attractive investments over the last several years and 2) younger investors that have accumulated too much cash through very responsible savings discipline. It has been easy to sit comfortably in five percent yielding savings accounts for the last couple of years. However, as the Federal Reserve drops interest rates, these accounts will not pay what we have grown accustomed to.

As interest rates fall over the next 6-12 months, the interest rates on new bond issuance will fall too. If one does not start to consider reinvesting this "safe cash," they run the risk that rates fall too much and they will be forced to accept lower rates on their next investment. The crowd and the "smart money" know this is coming and have already started pushing bond rates lower in anticipation of the Federal Reserve cutting cycle.

I want to be very clear. If you have "cash on the sideline," that doesn't mean you are wrong. I just implore you to consider what your goal is for that cash. Whether you are a more conservative investor or hoarding excess cash, it is time to consider your reinvestment risk.

Dr. Chris McNeil, the author of this explanation, is an emergency physician and former emergency medicine residency program director who transitioned his career to finance. He owns a registered investment advisory firm, VitalStone Financial, LLC, and specializes in financial planning for physicians. ●

"The question for those with large balances of cash in money-market or high-interest savings accounts is, 'What is your goal for that money?'"

Chevron Deference Decision (Loper Bright Enterprises et al. v. Raimondo)

Sue Emmer, JD

The Supreme Court's 6-3 decision overturning Chevron (Loper Bright Enterprises et al. v. Raimondo) will change the way agencies issue regulations and Congress considers legislation, including with respect to health policy, because courts no longer will defer to agencies' statutory interpretation of ambiguous statutes. In the near term, this new legal reality may impact how the Department of Health and Human Services (HHS) implements some key health policy issues such as the No Surprises Act. Several general trends likely will emerge in federal policymaking. Finally, policymakers have convened hearings and introduced legislation to address the change in legal doctrine.

Specificity versus Generality. Instead of reaching a compromise between competing viewpoints by enacting general language and delegating regulatory authority to agencies in order to provide specifics, Congress may seek to enact more specific legislative provisions for agencies to implement. In health policy, this could mean fewer Congressional bills addressing needed reforms. For instance, S. 4278[1]/H.R. 8325,[2] the Physician and Patient Safety Act,[3] currently would require the Secretary of Health and Human Services to issue final regulations within 18 months providing medical-staff-privileged physicians a fair hearing and appellate review through appropriate medical staff mechanisms before any termination, restriction, or reduction of the professional activity occurs. Post *Loper*, Congress may opt to provide greater statutory guidance to HHS regarding how to implement that standard.

Legislative Micromanagement. As a result of *Loper*, Congress might intervene in areas historically left to agencies. In the health policy context, this could mean enactment of technical, narrow directives to HHS in areas that typically require substantive expertise. The dissent in *Loper* even mentions FDA and HHS regulations as examples of areas where agencies should (but no longer will) exercise expert judgment. Congress may seek to play that role.

Legislative History. Although conservative jurists rely exclusively on statutory text, rather than committee reports or other legislative history, Congress could try to influence future judicial interpretation of statutes by providing extra-statutory evidence of congressional intent, such as committee reports and floor statements.

Greater Agency Participation in the Legislative Process. Federal agencies provide technical assistance to Members of Congress and staff, such as legislative drafting suggestions and other non-partisan input to improve bill text. Post Loper, agencies might use that process to provide more prescriptive, detailed legislative text aimed not only at more detailed legislation but sustainability in the courts.

Changes in the Rulemaking Process. Agencies may develop longer and more detailed rules, with particular focus on the statutory basis for rulemaking, and could include more detailed preambles documenting statutory intent. Rulemaking may take agencies longer than in the past and require multiple new internal reviews. Likewise, agencies may publish more requests for information and seek greater stakeholder consensus in an effort to address legal challenges. Agencies may routinely issue RFIs before rules in the future.

Recent post *Loper* activity illustrates some of these dynamics within Congress:

Bill Introduction. On June 23, the ranking Republican on the Senate Health Education Labor and Pensions Committee Senator Bill Cassidy (R-LA) introduced the Upholding Standards of Accountability (USA) Act, which would give Congress more oversight over federal agencies. The bill would require the head of an agency to testify before a congressional committee within 30 days of

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Embracing and Managing Anxiety: Lessons from "Inside Out 2" for Emergency Physicians

Gabriel Sudario, MD MSEd FAAEM

After a grueling month of difficult clinical shifts and preparing for the graduation of our senior residents, I finally found the respite of a "golden weekend." Going to the movie theater for the first time since before the COVID pandemic, I decided to take my kids to see "Inside Out 2." For those unfamiliar with the Inside Out universe, it's a brilliant animated exploration of human emotions personified within the mind of a young girl named Riley. Emotions like Joy, Sadness, Anger, and others navigate her through life's complexities. In this sequel, a new character, Anxiety, makes a poignant debut, which hit me with an unexpected gut punch.

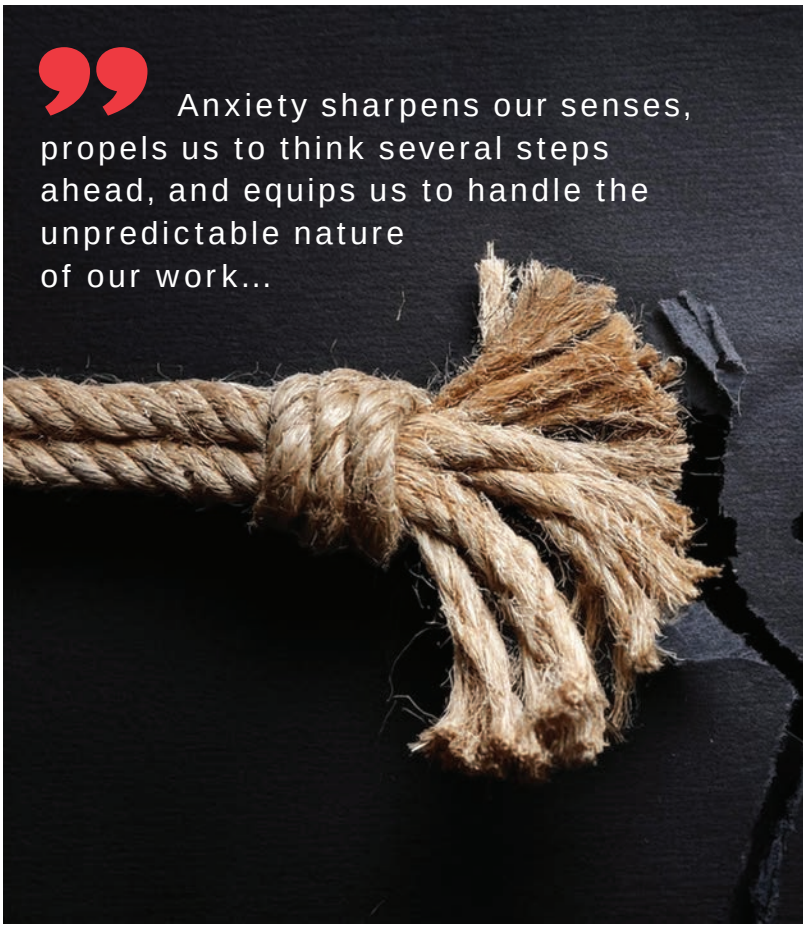
Our introduction to the character Anxiety starts in an endearing way, as we see her successfully help Riley navigate difficult social situations by constantly anticipating and imagining the "what-ifs." As Anxiety becomes a more dominant character in Riley's mind, the cracks in this character's proactive nature begin to show. In a memorable scene, Anxiety directs a room full of "animators" to project every possible danger and failure Riley might face in her upcoming hockey match, keeping her up through the night in a state of frightened insomnia. The remainder of the film becomes a profound exploration of core identity beliefs and the challenges of managing anxiety when it is at its most overwhelming state.

For the next two days, my mind kept coming back to the character of Anxiety, in which her depiction resonated deeply with me. I came to the realization that this emotion that is so vital to my work as an emergency physician could also have been affecting my non-clinical life in negative ways.

Recent evidence highlights a concerning trend in the mental health of emergency physicians. Studies show that rates of burnout, depression, and PTSD are significantly higher in our profession compared to others. For instance, a recent study by Shanafelt et al revealed that nearly 65% of emergency physicians experience burnout during their careers.[1] A 2016 abstract from Delucia reported that 15% of emergency physicians meet DSM-V criteria for PTSD.[2] Anxiety seems to be a common manifestation of mental health difficulties seen in emergency health care workers, with Alharthy et al reporting 52% of emergency healthcare workers in their survey experienced various levels of anxiety.[3] While these figures may come as no surprise to us who work in this field, they underscore the urgent need to address mental health within our specialty.

The Double-Edged Sword of Anxiety

Anxiety's character in "Inside Out 2" perfectly embodies its dual role in many of our lives, especially with our work in the emergency department (ED). In the ED, we often thrive on this heightened state of alertness. Anxiety sharpens our senses, propels us to think several steps ahead, and equips us to handle the unpredictable nature of our work. However, left unchecked, it can have detrimental effects on our emotional health both inside and outside the ED.



Anxiety Makes the ED Function

In the chaos of the ED, anxiety can be our ally. It enables us to:

- **Anticipate Potential Threats:** We think multiple steps ahead to identify and mitigate potential life-threatening situations for our patients. This constant vigilance allows us to quickly assess and respond to critically ill patients and is a defining trait of our specialty.
- **Increase Efficiency:** By predicting barriers to patient dispositions, we streamline processes, ensuring timely care. This foresight helps us navigate complex systems and reduce delays, enhancing the overall efficiency of our operations.
- **Pushing Through Challenges:** Anxiety fuels the energy required to navigate administrative and bureaucratic hurdles inherent in our job. This drive enables us to tackle charts, coordinate with consultants, and manage the myriad tasks that endlessly come our way.

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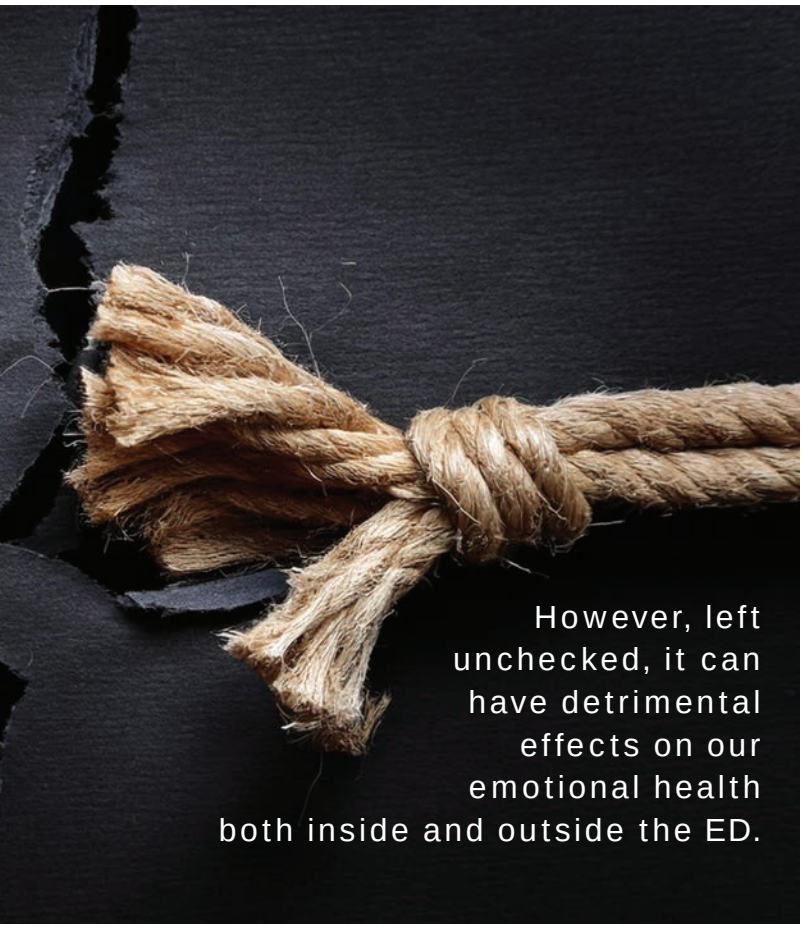
The Darker Side of Anxiety

However, the very anxiety that drives our efficiency and throughput can spill over into our personal lives with harmful consequences:

- **Strained Relationships:** Have you ever overshadowed a loved one's autonomy because you felt that you knew best? Our tendency to anticipate and control situations in the ED can lead to similar behavior at home. In the ED, this foresight is essential, but at home, it can lead to micromanagement and a lack of trust in others' abilities. This can create tension and frustration, as loved ones may feel undermined or controlled, ultimately straining our relationships and reducing the quality of our connections.
- **Need for Constant Productivity:** Has your quest for efficiency ever caused you to miss the moment? The ED's relentless pace can lead to discomfort with stillness. Accustomed to the barrage of task-switching and competing needs, we may struggle with stillness and feel a constant need to be productive, even during downtime. This constant drive for productivity can contribute to burnout, as we fail to be present in moments of connection and discount the need for rejuvenation or rest.
- **Emotional Overload:** When anxiety dominates, it leaves little room for other emotions. The traumatic events we witness daily, coupled with the burdens of a strained healthcare system, often go unprocessed, compounding our emotional toll. In the high-pressure environment of the ED, we may suppress feelings of sadness, frustration, or even joy, focusing solely on the immediate demands of our work. Without a release or processing of these emotions, we can start to depersonalize our patients, feeding the cycle of burnout.



How to Create Balance

Anxiety undoubtedly propels us forward in the ED, but we must remain vigilant about its potential to bleed into every facet of our lives. By acknowledging its impact and striving for balance, we can safeguard our emotional well-being while continuing to excel in the vital work we do.

- **Create a Space for Reflection:** Try to carve out time in your schedule for regular, simple reflection. This could include mindfulness practices, journaling, or simply taking a few moments each day to pause and breathe. Many of us have spent years (or even decades) ignoring the emotions that come with an average ED shift. By dedicating time to process our thoughts and emotions, we can make a better balanced space for those characters in our minds.
- **Talk:** Communicate with your colleagues and loved ones about the challenges and stresses you face. Sharing your experiences can provide emotional relief, foster a supportive environment, and build connections. Additionally, actively listen to others and offer your support in return. If you worry this can be burdensome, also consider therapy or a mental health professional who can guarantee open ears and a judgment-free environment.
- **Set Boundaries and Embrace Stillness:** Learn to set clear boundaries between work and personal life. Allocate specific times for work-related tasks and equally important times for relaxation and recuperation. In an antithesis to the fast-paced ED, embrace moments of stillness and silence. Practice being present with your family and friends without the constant urge to be productive.

Just like Riley, it is messy and difficult to grapple with the role of Anxiety in our lives. While these strategies are not perfect, simply acknowledging its existence may allow anxiety to serve as a tool for success rather than a source of distress. ●

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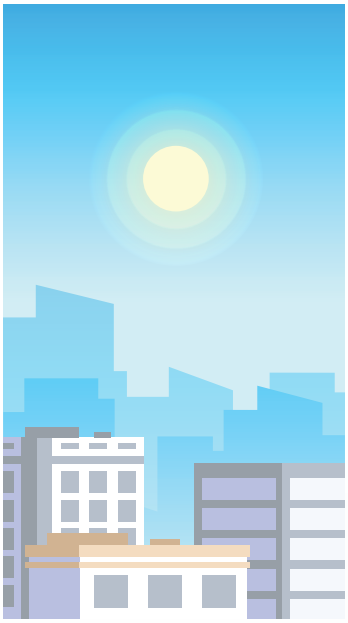
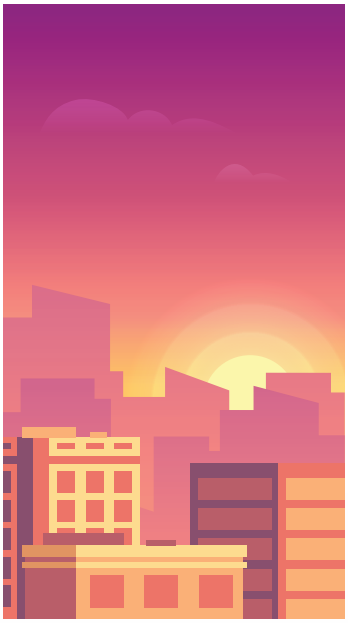
Mitigating the Risks and Burdens of Night and Rotating Shiftwork in Emergency Medicine: Part II

Vik Wall, MD FAAEM

In Part I of this two-part series, adverse effects of circadian disruption were described and partially explained. This second installment regarding circadian disruption explores strategies to minimize impacts of circadian disruption.





While no pill, as yet, exists to mitigate the risks of night shift work, a "stay tuned" strategy seems wise, because research into small molecules that reset the *zeitgebers* in the body is being actively pursued. Results of this research may help shift workers. Meanwhile, social adjustments and lifestyle adjustments will be likely to mitigate some of the risks. While currently there are no double blinded controlled studies available, I will present some educated guesses regarding helpful factors.

> "[M]imicking east to west travel by working day shifts, then evening shifts, then overnight shifts, in a succession, followed by some time off to become ready for the next set of day shifts, will be easier for most people."

First, to maintain sleep hygiene is paramount. If it is possible to obtain even two hours of "anchor sleep" (a time when you are asleep every day) as you navigate the circadian disruptions that night shifts cause, that should be done. A sleeping environment that is light tight and soundproof, possibly complimented by a white noise generator or a fan set on low speed (which can also provide white noise), with a regulated cool temperature and no or a minimum of disturbances is mandatory. If you can construct such a place in your home, do it. If not, one can at least wear comfortable eye shields and ear plugs.

Is there an ideal shift rotation pattern? A pattern that works for everyone has not yet been proven. Even different members of a group may benefit from different rotation patterns. However, it appears that the old "seven days on, seven days off", followed by seven days working the opposite shift, is a pattern to be avoided, as it takes much longer than seven days for the body to adjust and performance to return to peak, even though one may feel rested after a few days. Nurses and doctors on "straight nights" nonetheless continue to have persistent hormonal rhythm disruptions more than a decade into this lifestyle. My guess is that the limit on successive night shifts for those who rotate should be two.

Further, many people who travel internationally across various time zones find it easier to travel from east to west, than to travel from west to east. This might be because humans isolated by daylight cues, such as by living in a cave or living in a shelter without daylight while riding out a storm for several days, will naturally gravitate to an approximately 25-to-25.5-hour circadian rhythm. Other research shows that most humans' natural circadian rhythms center on 25 to 25.5 hours, with a range of 23 to 26+ hours. It seems reasonable to assume that mimicking east to west travel by working day shifts, then evening shifts, then overnight shifts, in a succession, followed by some time off to become ready for the next set of day shifts, will be easier for most people. To work night shifts, then evening shifts, then day shifts seems unwise, because such a schedule works directly against the body's circadian tendencies. Try to figure out your natural rhythm to help you choose your best rotation.

I believe groups should compensate the night shift worker for the health risks they undertake by paying at least 10% and probably 20% more for

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the hours between 11:00pm and 7:00am, or whichever hours the group can agree upon. This allocation of a group's money should not be viewed as a negative expenditure, but rather, as an investment for increased financial security of the night shift worker. The night shift worker should not spend all of this extra compensation. They should invest some of it as a bulwark against the health risks undertaken by nocturnists.

What about light therapy? In the early part of the twenty-first century, a previously unknown photoreceptor in the retina, receptive to in the 480 plus or minus 20nm range, was discovered. This receptor does not connect to the optic cortex, but instead connects to the timekeeping areas of the brain. This helps explain the origin of the "blue blocker" idea regarding ambient light. It is my opinion that blocking this blue light, at least at during the ending hours of the night shift and especially during the drive home, is imperative. Get glasses or sunglasses to do this. Further, there are applications that do this for your computer screen, by eliminating these blue wavelengths when they are not needed for accurate color images. The jury is still out on this, so I cannot make any definitive recommendations. Yellow light and the magnitude of the light also seems to affect sleep cycles, so pay attention to research in this area. Therefore, bright light should be avoided on the drive home. Conversely there are a few articles that the 480nm blue may increase alertness, and so could be used in the other direction. The book "The Light Doctor" by Martin Moore-Ede, MD PhD, opens with a vignette of an ER doctor who gets breast cancer, so the book is almost directed at our specialty among others. I recommend it as it delineates the appropriate products for "blue blocking" and proper circadian lighting products, as many product claims fall short of what is needed.

What about the lighting in the ER itself on the night shift? It is common for the night shift workers to elect to keep the lights low throughout the shift. This may help staff rotating on night shift. In contrast it appears that the nocturnist should have full light for the first portion of the shift and then dim it later in the shift.

What about food consumption on the night shift? We all know that the stale doughnut that we would not eat at 10:00pm often looks attractive at 3:00am. The leptin and orexin cycle disruptions do contribute to the adverse health effects of rotating and night shifts, especially to obesity. The best answer, though vague, is to eat the most nutritious food you can but as little as you can outside of normal waking hours for humans.

What about exercise? Though the magnitude of improvement in well being provided by exercise on circadian rhythm disruption is not as great as diet and perhaps light, regular exercise is mandatory as well. This includes aerobic training to keep your $VO2_{Max}$ as high as possible, resistance training to improve strength and bone density, and flexibility training to keep balance and movement at peak. Overall, fitness can be thought of as a stool with at least three legs. Those legs are aerobic fitness, muscular strength, and flexibility. The person who ignores any leg of the stool does so at their peril. What goal should be set for the exercise program? It is probably best to target being in the top 20% for your age in all these categories up to age fifty. At age 50 and above, target being in the top 5% for your age in all categories, as best you are able.

What about emotional resiliency and avoiding burnout, which could be aggravated by rotating and night shift work? Standard answers from clinical psychology would be to maintain healthy social connections, and in addition have a few friends close enough to be confidants. Clinical psychology also advises finding meaning and purpose, such as through enhancing spirituality and/or employing meditation. It is my opinion that some form of meditation will build resilience. It could be as simple as watching the breath without a formal style of meditation if practiced consistently with focus. For those atheistically or agnostically inclined, a Buddhist system such as Zen or Vipassana have centuries of success and are recommended. For those theistically and/or religiously committed, there are often mystical meditative traditions associated with a specific religion. Many forms of Kriya Yoga have centuries of proven of success and are free from religious dogma so can be practiced by theists of many religions.

Are there any general lifestyle recommendations? If you are able cease working night shifts and rotating shifts by age 50 to 55 at the

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"What about food consumption on the night shift? We all know that the stale doughnut that we would not eat at 10:00pm often looks attractive at 3:00am."

Three Crucial Reasons to Support the Dr. Lorna Breen Health Care Provider Protection Act

Robert Lam, MD FAAEM and Neha Bhatnagar, MD FAAEM

My first job out of residency was working at a regional hospital where part of my role was to help with the education of physicians training in emergency medicine. One of our trainee physicians was a smart, funny, talented, young doctor. I really enjoyed working with her, but the longer I worked with her I noticed that she was struggling. She started to have problems with work performance and there were whispers about trouble with her social life. Things came to a head and eventually she ended up taking a leave of absence and I moved on to a different position. A few years later I learned that she died by suicide. I did not feel like I was properly trained in how to talk to someone who was suicidal and our conversations seemed to gloss over some of the red flags, preferring to defer difficult conversations to someone I thought was more qualified. To this day, I still wonder if I could have done more to help my friend and colleague.

I used to think the crisis of physician suicide was multifactoral and not able to be influenced by those not working in the mental health system. There exists the silent epidemic of physician suicide. Physicians have the highest risk of suicide of any profession.[1,2] In fact, every year over 400 physicians die by suicide, in effect, an entire graduating medical school class is lost every year in our country.[3] Suicide is a preventable causes of death.[4]

Tragically, when fellow emergency physician Dr. Lorna Breen died by suicide in 2020 during the height of the pandemic, it hit home that we are all at risk for suicide. AAEM is a supporting organization for the Dr. Lorna Breen Health Care Provider Protection Act which is in need of reauthorization. The Lorna Breen Act has funded $103 million across 45 organizations to implement evidence-informed strategies that reduce and prevent suicide, burnout, mental health conditions, and substance use disorders.

Here are three reasons you should join our advocacy efforts **to reauthorize the Lorna Breen** Act.

- We need to #stopthestigmaem[5] around seeking mental healthcare.[6] This act will help bring resources to more organizations to implement evidence based strategies to reduce and prevent suicide, burnout, mental health conditions, and substance use.
- The Impact Wellbeing Campaign was established with funding from this act.[7] This CDC campaign gives hospital leaders evidence-informed solutions to reduce health worker burnout, sustain well-being, and build a system where health workers thrive.
- Increase the Impact. Less than 1% of the 6,120 hospitals in our country received program funding from the Lorna Breen Act. There are more than 200,000 other types of healthcare settings that can be reached through reauthorization.

Take Action

- Write a letter to your legislator asking them to reauthorize the Dr. Lorna Breen Health Care Provider Protection Act through this link: https://drlornabreen.org/reauthorizelba/
- Share your stories about the impact of working in health care on your mental health and the health of your colleagues with your state and national legislators.
- Participate in AAEM's activities for the Stop the Stigma EM in October. We have some exciting plans to join with all emergency medicine organizations for this year's event.

Editor's Note: If you or someone you know is in need emotional support, help is available. Call or text 988 to reach the national mental health hotline. ●

> **AAEM is a supporting organization for the Dr. Lorna** Breen Health Care Provider Protection Act which is **in need of reauthorization."**

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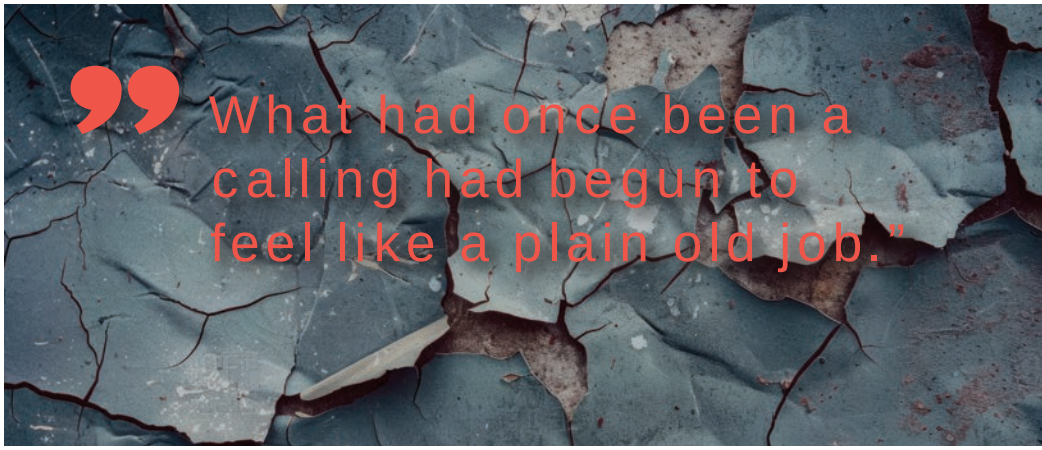
Freestanding Emergency Departments

Shane Cole

American healthcare has increasingly become an exercise in managing corporate medicine, but I found a way out—and a way back. Below is a little bit of the story.

The earliest memories I have as a child go back to around 1980. I was a wide-eyed five-year-old son of a preacher and an artist living in a poor neighborhood in middle Georgia. I knew I wanted to be a doctor even at that young age. My first exposure to medicine was through my uncle, a family physician in a nearby small town in rural Alabama. He had begun practicing in 1953, the same year Watson and Crick published their discovery of the structure of DNA using X-ray crystallography. He was a pilot, owned a plane, and lived on a large estate with horses and a wide, gurgling creek. In his small community, Uncle Bubba (this was Alabama) was highly respected, providing care in internal medicine, pediatrics, OB/GYN, and even general surgery. He made rounds on his hospitalized patients and regularly delivered babies. In 1988, the salt and pepper-haired doctor even performed my appendectomy—leaving behind a big scar. He was like a deity to me back then. He passed away a few years ago at the age of 88 in a car accident, of all things, and was still practicing part-time up until his death. Nowadays, it's rare to find a doctor who handles all those roles, but an emergency medicine physician comes the closest. It allows one to be a doctor's doctor, and I'm so grateful that this tribe saw fit to admit me to its ranks. Despite our many challenges, our work is inherently and immensely gratifying.

Fast forward to 2006, I graduated from med school. I aced the boards, and during my residency, I read every page of Tintinalli and countless journal articles. I learned to base my practice utilizing evidence-based medicine. Just three short years later, I found myself working as an attending EM physician at a busy community hospital in the fourth largest metroplex in the U.S. I became a partner, earned a great income, and had colleagues



I enjoyed working with. Within a couple of years, I was debt-free. It was exciting, and some days, it really felt like I was in an episode from the old TV show "ER." However, I soon began to see the progression of some concerning realities. As a kid, I had imagined myself one day running a practice like my uncle did. I thought I would be the boss and a master of my craft. EM is an excellent mix of exciting, hardcore medicine, but it doesn't lend itself to allowing its docs to be the boss. The nature of big institutions is that there have to be a lot of worker bees, and I increasingly came to grips with that as my reality.

Once in the real world, the tasks ceased to be about evidence-based medicine and more about door-to-doc times, time-to-disposition, patient satisfaction, overseeing APPs, sepsis protocol adherence, working around ER holds, and hiding away the drinks and the space heaters from JCAHO. I spent 50 percent of my shifts buried in a computer creating perfect, data-rich, but information-poor EMR charts. Time after time, the bar was raised, and we would feel we had failed if we did not dutifully stretch to meet the new standards. I began to see that years spent training to push limits and excelling at every challenge can leave physicians vulnerable to their own integrity and work ethic.

It was the death of a thousand cuts. Each time these challenges buffeted against me, it etched away a bit of my soul. What had once been a calling had begun to feel like a plain old job. I started to doubt that I had chosen the right specialty but then I also knew I couldn't see myself in any other field. So much of what I loved about EM were things that I still loved.

Seeing the hospital as the enemy is tempting, but modern medicine is expensive, and resources are limited. Many issues center around government payers attempting to stretch precious healthcare dollars with well-meaning but ham-handed policies. The net result is blunt micromanagement of doctors at the bedside. The interplay between CMS regulation and thin hospital margins had placed this young attending in checkmate. I dreaded going to work, and I felt trapped.

In 2013, while at ACEP Seattle, I talked with a fellow EM physician, and he took me down the rabbit hole and introduced me to a new opportunity. In 2009, Texas had passed legislation that allowed for the creation of legitimate, profitable, physician-owned EDs. He and his wife had played a significant role in initiating the Texas movement. He had been operating an FSED and had some excellent contacts in the field. Following that conference, I would travel to Houston to meet with him and an attorney he partnered with. They were incredibly generous with their time, and over a few hours, they showed me their facilities and outlined the basic steps required to set up a private practice of emergency medicine—the free-standing emergency department (FSED).

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I had a path forward. I recruited a couple of guys in my group. We spent the next year poring over maps, expanding our network, conducting research, creating financial projections, and working out legal matters. Once there was a clear plan, we presented it to our EM group. Approximately half of them decided to join us on this journey, and we opened our first free-standing ED in 2015. It was lucky timing. A year later, we would all lose our 30-year-old ED contract to a corporate-managed group that ungraciously then flipped it to a larger corporate-managed group. Our little FSED side project became an escape pod and our primary focus.

I've worked in our FSEDs (free-standing emergency departments) ever since. While it may not have the same level of excitement as larger ERs, I still dip my toes in the occasional emotional intrigue inherent to EM. I stitch up gnarly lacs, treat occasional STEMIs and CVAs, set bones, and do sedations. I've run codes, treated a gunshot wound (two if you count both legs the bullet penetrated), and even delivered a baby recently. The main difference now is that I get fed this chaos in a friendly work environment where physicians are at the top of the food chain and patient care is at the heart of everything. This paradigm shift creates happy doctors and staff who aren't subjected to a lack of breaks, counterproductive regulations, or chronic understaffing. We chose an EMR explicitly designed for emergency departments. We still run a tight ship and adhere to numerous stringent state regulations, but we don't contract with JCAHO or any similar entity. CMS doesn't recognize us, which is unfortunate, but we also don't have the hassles of government insurance. Big hospitals and consultants don't fight our transfers or follow-ups because the patients are predominantly insured. As I have watched compensation stay flat or creep down for my hospital-based colleagues, I have enjoyed financial freedom through passive income as an investor. Most importantly, I no longer leave work feeling emotionally and physically defeated.

I will be the first to admit that I have painted a rosy picture and that this path isn't for everyone. Starting any new business involves risk, and an FSED medical practice presents unique challenges. For instance, there is bad press, confusion with urgent cares, fights with insurance companies, and the loss of the security of hospital and all of its resources. Some argue that FSEDs only serve affluent areas. While that is an honest criticism, it really does take CMS recognition to permit venturing into the poor and rural communities where this model has a calling. We have been working with Congress to make just those sorts of changes. Some complain that FSEDs charge ED prices for urgent care services. Most reputable EDs either include an on-site urgent care or they only bill professional fees for non-emergent visits.

Insurance companies have been reluctant to embrace us. They have been slow to acknowledge the reduced admission rates, and the 20% lower cost per equivalent patient encounter. They see our convenient retail locations as simply encouraging new patient visits.

Another challenge is that doctors are notoriously bad businesspeople. Our transition to operators was full of hard knocks and some of our success was due to dumb luck. We now have a pretty good formula for success and we strive to continuously improve. If I had to distill what we do down to four principles it would be this:

1. Find the right team members and place them in roles that complement their innate gifts.
2. Foster and nurture a healthy company culture.
3. Do not be cheap or greedy, but do be fiscally responsible.
4. Finally, and most importantly, treat each patient as if they were a member of your own family every time.

Do I miss the larger EDs? Sometimes, but I have cherished these past ten years of freedom. Physician-owned FSEDs are indeed the private practice of emergency medicine. They permit us to have a venue where we can practice our craft as it should be for ourselves, our staff, and our patients. Like my uncle, I now have the financial freedom to own a small plane and a home on a wide, gurgling creek. Still, more importantly, I have rekindled the love of emergency medicine that I felt I had lost navigating the traditional options afforded by our specialty. ●

I will be the first to admit that I have painted a rosy picture and that this path isn't for everyone. Starting any new business involves risk, and an FSED medical practice presents unique challenges."

Empower Learning: Building Psychological Safety during Pre–Briefing in Simulation Education

Afrah A Ali, MBBS FAAEM

Simulation-Based Medical Education (SBME) is a frequent modality utilized in undergraduate and graduate medical education. In emergency medicine, we have utilized SBME in different aspects of education varying from procedural skills on task trainers, to low and high-fidelity simulation for high acuity and low occurrence patient scenarios. Learning in simulation can be enhanced when performed in a psychologically safe environment.

> **Pre-briefing during** simulation serves as the introduction phase that gives the facilitator a platform to set the tone for the session."

Psychological safety is a shared belief in a team that it is acceptable to speak up, make errors, and discuss them without being shamed, belittled, or humiliated. It is required to ensure effective team communication and debriefing. Pre-briefing during simulation serves as the introduction phase that gives the facilitator a platform to set the tone for the session. A thoughtfully constructed and implemented pre-brief can create a psychologically safe learning environment.

Developing and Implementing the Pre-Brief

Clarity in Objectives and Expectations

The session should have clear and concise objectives, which include the expectations and roles of the learners. Having clear and well-defined objectives not only enhances learner engagement but also improves the likelihood of achieving those goals. These should be communicated explicitly during the pre-brief. It should elaborate on whether the scenario is time-limited or action-related and the duration allocated for the session.

Performance Outcomes

Confidentiality and transparency surrounding learners' performance are key components in establishing trust. Clarity and transparency regarding performance outcomes need to be communicated. Formative and summative assessments and the difference between those should be listed to learners.

Orientation to the Environment

Orienting learners to the simulation environment such as the mannequin, its capabilities, and available resources helps them familiarize themselves. Logistics details of breaks, available restrooms, and other accommodations can put the learners at ease. Ensure learners understand simulation safety.

Agreement to Fiction Contract

Collaborative agreement with the learner to participate in an immersive simulation environment must be established. A fiction contract seeks the learner to play an active role in a simulated setting which is not real, but all efforts have been made by facilitators to ensure realism within the scenario.

Basic Assumption

The Center for Medical Simulation established the Basic Assumption Statement which has been essential in building the role of positive regard. Basic Assumption states, "We believe that everyone participating in simulation activities is intelligent, capable, cares about doing their best and wants to improve." It aids in conveying a commitment to respecting learners and understanding their perspectives.

Pre-briefing Script Example for a Code Resuscitation Simulation Scenario

Hello, I am "XYZ," the course director for the simulation resuscitation course. I am going to be spending the next 10 minutes going over the details of our simulation session for today. Our course objective is for you to communicate effectively as a team while resuscitating a patient in cardiac arrest. You will be working with the high-fidelity mannequin, which can be placed on cardiac monitors, and has established IV access. The case scenario will last 15

> Psychological safety is a shared belief in a team that it is acceptable to speak up, make errors, and discuss them without being shamed, belittled, or humiliated."

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minutes. "ABC" will be in the role of the nurse in the room, while you will be expected to perform in the role of resident physician as part of the Rapid Response Team. Please be cautious when using the AED, as it does deliver live electricity, and all precautions should be taken as you would in a real-life scenario. We will intervene and stop the scenario if we believe any of you are in physical danger. The scenario can be overwhelming and emotionally taxing, so if you do not feel safe or are overwhelmed during the session please feel free to leave the scenario. Your performance will not be shared with anyone. Everything that happens here today will stay within this team. Please do not share the case scenario or other learners' performance outside of this group. We will have 40 minutes to debrief at the end of the scenario. We have done our best to ensure the case runs as realistically as possible, however, there may be components that do not represent realism. We ask you to participate with a perception of realism in the scenario and perform as you would in the clinical scenario. We believe that everyone participating in simulation activities is intelligent, capable, cares about doing their best, and wants to improve. We want to ensure you all have a safe and effective learning environment, so please feel free to ask any questions you may have. Let's review the room and mannequins in our simulation center before starting the scenario. ●

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publishing a major rule, those nominated to Senate-confirmed positions to testify before an appropriate committee prior to Senate confirmation, and that federal agencies are permitted to communicate with Congress at all times regarding proposed rules.

Congressional Oversight Letter. On June 30th, Cassidy sent a letter to the HHS Secretary questioning how the Supreme Court's decision impacts HHS' implementation of the No Surprises Act, and specifically, the Department's reliance and calculation of the qualified payment amount (QPA). "The dereliction of duty by the Department to implement this provision in a timely manner comes at patients' expense," Cassidy wrote. "The Court's *Loper Bright* decision reiterates that Congress (not agencies) writes statutes and should prompt the Department to comprehensively implement the No Surprises Act as Congress intended."

In the letter, Cassidy urged the agency to respond to several questions on the QPA, which has been the subject of multiple lawsuits, two of which are currently under appeal. He also called for the agency to finally implement the Advanced Explanation of Benefits provision in the No Surprises Act, which requires impacted entities to give patients an estimated cost of scheduled services and expected out-of-pocket expenses before receiving care. Cassidy gave Becerra 30 days to respond to his questions.

Congressional Hearing. On July 23, the House Committee on Administration convened a hearing entitled, "Congress in a Post-Chevron World" where lawmakers solicited advice regarding Congressional actions post-Chevron. Witnesses discussed establishing a Congressional regulatory office. On both sides of the aisle, policymakers did not consider this action a short-term solution and asked for other more realistic legislative oversight solutions for Congress.

I Street Advocates will continue to monitor how the *Loper* decision impacts policy this Congress. ●

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I Was the Attending, but My Residents Were More Experienced

Masood Mohammed, DO MS FAAEM

Emergency medicine residency teaches us to be a jack of all trades. From treating critically ill patients to leading traumas and running codes, we enter residency prepared for nothing and leave ready to manage almost anything.

Or so I thought.

Although I felt prepared to become an attending and supervise residents, one thing I never learned in my three-year EM residency was how to manage fourth- and fifth-year residents. Yet this was the situation I found myself in at my new program which included an EM categorical residency as well as EM/IM and EM/FM combined residencies. Mere weeks after being the confident, well-versed third-year resident in my previous department, I again felt like a very small fish in a large, unfamiliar pond.

There was plenty of discomfort, awkwardness, and uncertainty at the outset. Although it took practice and some inevitable mistakes, over time I learned, I grew, and things improved.

Along the way I garnered many pieces of wisdom that made these circumstances not only better, but enjoyable. For the new attending in the new department who finds themselves in a comparable situation, here are some of the tips that helped me.

Trust your training. You may not have learned how to be this attending in residency, but you did learn how to be the attending. You have already spent thousands of hours learning how to navigate difficult and strenuous situations, so the tools are already in your kit. One of the glories of emergency medicine is that sometimes even if the destination is unknown, the path is always discoverable. Lean on all the hard work you have already put in—that diligence is what enabled you to matriculate into this position in the first place.

Be team oriented. No one succeeds in the emergency department alone. Residents, regardless of their years of experience, will still look to their attending in tenuous moments, and we should be able to look to them as well. The location of certain equipment or the steps of a protocol may be foreign to you, but the resident who has worked in the department for four or even five years is a treasure trove of information. In addition to this, relying on your residents conveys a willingness to trust them and can deepen the all-important attending-resident relationship. You can be successful together, not despite one another.

Connect through your confusion. Expertise within a busy and ever-changing ED does not come overnight. This is a notion that should be highlighted, not feared. Use these gray areas as an opportunity to introduce yourself to nurses, techs, clerks, and other staff and inform them that you are new to your position! The number of times someone stopped what they were doing to assist and orient me was refreshing and appreciated. More importantly, it allowed me to learn names and form connections with the people I would be working with and relying on day in and day out.

Befriend your residents. The best attending-resident relationship is one built on trust. While a lot of trust can be built within the department, this should not be the only place it is fostered. Attending resident conferences, journal club, and other social outings can break down many of the unnecessary hierarchical ideals that residents may sometimes experience. These events can create interconnectedness between two people, not just two doctors. The best interactions I have had with residents came after investing time getting to know them so that they felt more comfortable coming to me for help managing a patient or for general life advice.

There is always a teachable moment. Even residents who have more years of experience than you have not experienced everything that emergency medicine has to offer. Perhaps during residency you did a unique rotation at a critical access center, or you have used different equipment than what is offered at this institution, or you have simply employed alternative treatments for a condition than what the resident is proposing. All of these are teachable moments that help the resident grow and expand their knowledge while giving you reassurance in your teaching skills.

Being a new attending in a department with senior residents who have practiced the same amount of time or even longer than yourself is a unique experience. Growing into this role is not without its challenges, and there will undoubtedly be bumps along the way. Nonetheless, opening oneself up to this new experience and being eager to grow alongside these learners can make for happiness, healthiness, and the utmost job satisfaction. ●

IMGs are still MDs

Alison Spice, MD

What is an IMG you ask? IMG stands for International Medical Graduate. This includes anyone who attended and obtained their medical degree from outside the United States. Even though they may be a U.S. citizen and went to school outside the United States, they are still categorized as an IMG. However, you will have U.S. preceding the IMG, thus resulting in the title of US IMG versus non-US IMG (IMG that is not a U.S. citizen). But, in all seriousness, labelling an MD as an IMG not still an MD? Based on 2024 National Resident Matching Program (NRMP) results, IMGs made up over 14% of matched candidates. Meaning that over 14% of PGY-1 positions in emergency medicine were filled by US-IMGs or non-US IMGs.

As physicians we learn to see the patient as a person. To treat the person and not the disease. To deter from labelling the patient as the disease itself. Just like the patient with schizophrenia, instead of seeing the person we see the disease and the patient becomes the disease itself referring to them as the schizophrenic patient and not the patient's name. A concept that physicians attempt to deter from and to instill optimal individualized patient care.

It is time to adopt and practice this concept with MDs, regardless of where a degree has been earned. Is there a difference between where an MD degree is obtained, or is it universal?

Two years of rigorous textbook studies followed with two years of long intense hours in clinical rotations make up a majority of medical curriculum. Upon the completion Doctor of Medicine degree or the acronym MD is granted to the graduate. So why is there a divide between where you went to school? I understand that if you want to practice in the United States that it is best to have experience with the U.S. healthcare system, but several of the international schools, particularly the Caribbean medical schools, require their students to complete clinical rotations in the United States. Is it the lack of knowledge or the lack of awareness?

Regardless, the culture needs to change. Individuals go to medical school in the Caribbean and other parts of the world for several reasons, not simply because they were rejected from a traditional U.S. school. That is not the case in several situations. I never applied to a U.S. or even Canadian medical school. So, why did I go to a Caribbean school for my education? The school I ended up applying to did not require me to complete the MCAT or complete pre-med requirements. This meant I would be at least a year or more ahead of others that would have to fulfil these requirements. Instead, I wanted a school that valued my life experience. A school that appreciated and acknowledged my pursuit in healthcare and how that experience would transcend into a Doctor of Medicine degree.

Deciding which and ultimately being accepted into a Caribbean medical school is no easy task. It is by far the more difficult path. For an IMG to succeed they must be persistent, dedicated, resilient, and persevere. There will always be pros and cons to whatever medical degree journey you choose. So, doesn't that mean a degree is a degree? It should be, it should mean that a MD is still a MD regardless of where you graduated. A sense of failure and sense of less worthiness is attached to the term IMG. This needs to stop. IMGs need to be proud of who they are, proud of their accomplishments, and proud of their journey as it is the journey that will mold them into the doctors they are meant to be.

Alison Spice is a recent graduate from Saint James School of Medicine. She first entered healthcare as a nurse in Canada. She looks forward to gaining residency into emergency medicine this upcoming 2025 Match cycle. Alison has continued to be involved in the different emergency medicine organizations as well as a mentor to her peers. She has even inspired some of her past nursing students whom she taught during Covid to pursue their Doctor of Medicine degree. In her spare time outside of medicine she is spending time with her husband, three daughters, and three dogs. ●

> "IMGs need to be proud of who they are, proud of their accomplishments, and proud of their journey as it is the journey that will mold them into the doctors they are meant to be."

Border Crossing

Robyn Hitchcock, MD FAAEM

It was a busy Mother's Day weekend in the emergency department. I had seven boarders in my 10 bed ED in Northeast Washington State just 20 miles from Canada. When I have more than a few boarders, my head just starts to spin because I know that it's really beyond my scope caring for all these people that are stuck with me. But we had a nice trauma come in, so I felt like I was more in my zone for a while.

A young man came in after a motorized dirt bike accident. He lost control on a stump and ended up snapping the throttle too hard as he was thrown onto the front of his bike and then laid the bike down on the trail. He complained of wrist pain and had an obviously deformed arm that was cleverly splinted with some of his protective gear that was wrapped around his forearm.

He also had a small abrasion on his chest but normal lung sounds, normal oxygen level, and no rib pain. I did my point of care ultrasound which I do all the time and did not get great lung sliding on the right, and x-ray confirmed a small pneumothorax. I gave him a hematoma block to reduce his wrist (I did not want to sedate someone with a collapsed lung) and then repeated his chest x-ray about three hours later and found that his pneumothorax was expanding.

As I was getting ready to put in a chest tube and talk to the trauma center he and his friend asked if instead of sending him an hour and a half south to the larger hospital with trauma capability, could I send him north back across the border to Canada where he lives? He was stable and the CT showed no injury other than a simple pneumothorax. There was no lung injury or bruising, there was no bleeding into the lung or vascular damage. There was no other organ damage, just the wrist fracture and the pneumothorax.

I'm not sure where EMTALA comes in trying to transfer someone across the border. If I put in a chest tube and he needed drainage, my ambulance crew can't cross the border nor can the Canadians. I called the hospital which is about an hour and 15 minutes north of my facility.

The ED doctor was pretty rude. I am very succinct at telling stories to consultants but when I said I want to talk with him about a stable trauma patient to transfer he started grilling me… "Well what are the vitals? What is this? What are CT findings?" …and never allowed me to give him a coherent presentation of what was actually going on and I found that really irritating. He was not willing to work with me at all. I'm talking about how to arrange transport and he kept telling me I needed to figure out how to get him there and I said, "I can get him to the border, but I can't call the Canadian ambulance." His staff suggested that we have the ambulance company call the Canadian ambulance and see if they could figure out how to do a border crossing. It didn't look like it was going anywhere.

It was strangely fortunate that his pneumothorax was expanding, because then I had to put in a chest tube, and I wouldn't be sending somebody across the border with a pneumothorax had no definitive management. I attached a Heimlich valve which I haven't done in decades, and it seemed to work pretty well. It was a lot more convenient than having water seal hooked up to wall suction, and it made him much more mobile. We ended up watching him overnight in the ED because of course there were no beds anywhere. I talked to the trauma team down south and they actually said if he was at their facility, they would just put a small chest tube in, put a Heimlich valve on it, and watch him for a few hours then send him home. I figured I could do that without sending him to a different facility. So I did.

Although EMTALA stops at the border, it still felt really awkward sending him home knowing he was going to drive to Canada and go to the nearest ER for care because that's the only way we can make sure he gets established with an orthopedic surgeon and a general, or cardiothoracic surgeon in any kind of reasonable time frame. If he was here I would have sent him home to follow up with surgery in the office the next day. So, it was reasonable to discharge him. I don't think it was an EMTALA violation, but I'm not sure how the Canadian ED is going to feel having this trauma patient drop on their door.

So I didn't quite transfer someone to a Canadian emergency department, but I almost did, and the discharge plan definitely involved some border crossing. It was a first for me and made for an interesting day. ●

"Although EMTALA stops at the border, it still felt really awkward sending him home knowing he was going to drive to Canada and go to the nearest ER for care."

Armed with Awareness: #StopTheStigmaEM Month's Role in Mental Health Advocacy

Amanda J. Deutsch, MD* and Al'ai Alvarez, MD FAAEM†

As summer winds down and transitions in the emergency department become routine, it's crucial to proactively address mental health in our profession. Two significant fall events highlight this need: National Physician Suicide Awareness Day (NPSA Day) on September 17 and the third annual #StopTheStigmaEM month beginning October 1.[1,2]

The mental health strain in emergency medicine (EM) poses a serious threat to clinicians, teams, and patient care. Alarming statistics underscore this crisis: approximately 400 physicians die by suicide annually, and suicide is the second leading cause of death for residents.[3,4] In the first three months of residency, interns experience a four-fold increase in suicidal ideation.[5] These numbers demand our attention and action.

While the World Health Organization estimates that 5% of adults live with depression and 4% with anxiety globally, healthcare workers face significantly higher rates.[6,7] A review of over 65 studies across 21 countries found prevalence rates of 21.7% for depression and 22.1% for anxiety among healthcare professionals. This stark contrast emphasizes the unique challenges faced by those in our field.[8]

Author created AI generated image with DALL-E.

Identifying mental health stress and distress early is critical for individuals to receive the support needed to sustain health and careers. However, significant stigma still exists across EM in acknowledging the toll of our work on mental health and accessing mental health support. This stigma creates barriers that prevent many from seeking help when they need it most.

Normalizing conversations about mental health in EM is an essential first step. What if we actively worked to normalize discussions about the hardships, challenging cases, and emotions that haunt us after a shift? By facing these issues head-on, we could reach colleagues who feel alone in their guilt or imposter phenomenon. The NPSA Day and #StopTheStigmaEM campaign encourage our specialty to foster a culture of wellness simply by acknowledging our humanity.

Progress is being made. With the help of the Dr. Lorna Breen Heroes Foundation, 27 states have completed an audit or removal of stigmatizing questions from medical licensing applications, with 11 more states actively in the process as of April 2024.[9] Additionally, innovative approaches to mental health support are showing promise. One study demonstrated a significant increase in therapy use among residents when it was offered as an opt-out rather than an opt-in service.[10-11]

Lowering the barriers to mental health care and supporting the practice of self-compassion and self-care will improve and strengthen our teams, ourselves, and ultimately, patient care. By making mental health services more accessible and reducing the stigma associated with seeking help, we can create a more resilient and compassionate EM community.

"By making mental health services more accessible and reducing the stigma associated with seeking help, we can create a more resilient and compassionate EM community."

As we observe National Physician Suicide Awareness Day this September 17, let it serve as a poignant reminder of the urgent need to address physician suicide. This day, which began as a grassroots movement in EM, has evolved into a global effort to raise awareness, reduce stigma, and promote open discussions about physician mental health. In 2021, it gained congressional support, further emphasizing its importance in the medical community.[12]

As we approach this year's NPSA Day and #StopTheStigmaEM month, let's commit to fostering an environment where seeking help is seen as a sign of strength, not weakness. By supporting each other and prioritizing mental health hygiene, we can build stronger, more resilient EM communities. This will enable us to provide the best possible care for our patients without compromising our own health. As members of this highly valuable specialty, let us each commit to these collective efforts: do it for your best friends and loved ones in healthcare, do it for your patients, and do it for yourself.

Editor's Note: If you or someone you know is in need emotional support, help is available. Call or text 988 to reach the national mental health hotline. ●

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Demystify Volume Management in the ED with this Simple AI Echo Tool: You Don't Have to be an Echo Nerd to Do It!

Robert Whitford, MD FAAEM*

EMS brings you an elderly patent with known heart failure with an EF <30%, COPD on home O2, and ESRD on iHD. They are lethargic, hypoxic on a non-rebreather, and hypotensive. This patient will likely need some fluid, but given their multiple risk factors for volume overload, you feel hesitation in ordering that CMS mandated "30cc/kg sepsis bolus." Your echo savvy resident images the IVC which is small and collapsible and suggests opening the crystalloid, but what can we conclude from this information?

Before the groans begin regarding another IVC discussion allow me to set the record straight: IVC size/collapsibility is not a marker of volume status nor volume responsiveness. The simple truth is that IVC size/collapsibility is merely a rough estimate of CVP (Diagram 1), and we already know that CVP does not predict volume responsiveness. End of story. So why then are we talking about this again?

In a patient not on positive pressure ventilation, an IVC <2cm and collapsing >50% with tidal respirations predicts an estimated CVP of 3mmHg. At the opposite end of the spectrum, and IVC >2cm and collapsing <50% with tidal respirations predicts and estimated CVP of 15mmHg. Anything in-between those two extremes predicts 8mmHg. That is all. Your options are three, eight, or 15, i.e., a low, normal, or elevated CVP.

Before the early 2000s pulmonary artery catheter (i.e. Swan-Ganz catheter) usage in critical care was ubiquitous. PA catheters provide information about right and left ventricular filling pressures (CVPs and wedge pressures respectively) as well as cardiac output (CO). Using this information patients can be classified into a shock phenotype: hypovolemic, distributive, cardiogenic, and obstructive. In general, hypovolemic/distributive patients tend to have low filling pressures, and cardiogenic/obstructive patients tend to have high filling pressures. There are many exceptions, but a more nuanced discussion is beyond the scope of this editorial. Additionally, hypovolemic/cardiogenic/obstructive tend to be in low CO states, whereas distributive patients are in high CO states (Diagram 2).

Notice hypovolemic, cardiogenic, and obstructive shock are all low CO states, whereas distributive is a high CO state. Note that septic shock is not listed. Septic shock is usually a mix of hypovolemic and distributive shock. Initially in a low CO hypovolemic state, but once adequately volume resuscitated, in a high cardiac output distributive state.

SWAN	CVP/RAP	Wedge/PAOP	CO
Hypovolemic	Low	Low	Low
Distributive	Low	Normal	High
Cardiogenic	High*	High	Low
Obstructive	High	Low	Low

Diagram 1: IVC and CVP relationship

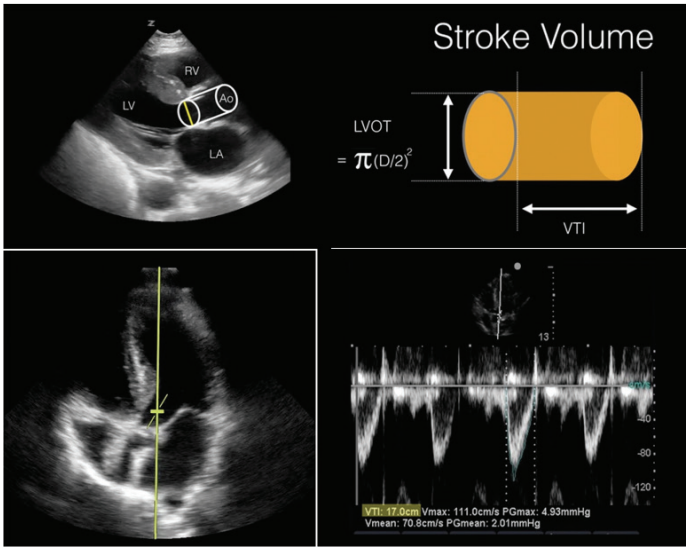

Diagram 2: Shock phenotype table

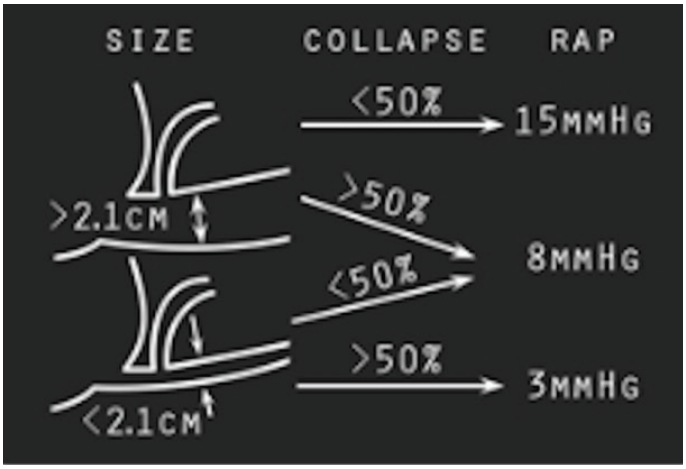

Diagram 3: LVOT VTI cylinder and doppler envelope diagrams

So yes, I too incorporate an image of the IVC into my assessment of most of my ED patients in shock. The question though is not "does my patient need fluid," the question is "what category of shock does my patient most likely fall into?" Whether a patient in hypovolemic or distributive shock needs fluid will require a deeper dive.

It turns out that patients can be volume responsive despite high filling pressures (large IVCs), and volume non-responsive despite low filing pressures (small collapsible IVCs). What is "volume responsive?" A meaningful increase in cardiac output following a fluid bolus. With a PA catheter in place this is easy to figure out with a "passive leg raise cardiac output challenge."

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First with the patient sitting up you measure the cardiac output. Second you lay them head down in Trendelenburg and measure the cardiac output again. If it increased, then the patient is volume responsive. Easy enough right? Okay now let's add one additional layer: what is a sufficient cardiac output? I.e., what target cardiac output am I attempting to achieve?

A normal cardiac output if 4-5 LPM. When we divide that by the body surface area (typically ~2m^2) we get the cardiac index (CI). Thus, a normal CI is 2-2.5 LPM/m^2 (we use CI targets not CO since larger people generally need a higher CO). So, in general if your patient has a CI greater than 2.5 (assuming they aren't on a massive dose of vasopressors), they should have sufficient cardiac output to be perfusing and won't benefit from additional volume, even if the CVP is low.

But we can't seem to break ourselves of this compulsion that low CVP equates to a need for volume. Remember the physiologic goal of a fluid bolus is to increase a patient's cardiac output. But if your patient has a CI >3 it doesn't matter what their CVP is, it could be zero, and their IVC would be fully collapsed. The temptation to bolus this IVC would be profound, but if the patient's CI is really >3 then we must ask ourselves what the goal of additional fluid is, to make the CI >4!?

Adequate perfusion is what we need, not supra-physiologic perfusion. Additionally, even if we can push that CI to a supra-physiologic level, this may only be transient, as the fluid subsequently extravasates in the interstitium. Yet the patient may remain "volume responsive," leading to a futile cycle of repeated boluses for transient supra-physiologic increases in CI. The result of which is volume loading of the interstitium. This is very undesirable, leads to venous congestion, and decreased perfusion pressures to nearly every organ system in the body. Not good.

Unfortunately, since PA catheters fell out of fashion (though this is changing in the cardiogenic shock world) we are no longer accustomed to considering the CI as an endpoint of resuscitation. We instead use indirect measures of adequate perfusion like capillary refill, warm extremities, mentation, lactate clearance, and urine output. I'm not trying to suggest that we should abandon these simple techniques, but we must realize their limitations and pitfalls. The ability of the physical exam to predict which patients have a CI >2.2 has been shown to be 49 percent, worse than a coin flip! And that's even in the hands of heart failure fellowship trained cardiologists.

Now let's bring this back to our patient. They have a small and collapsible IVC, suggesting a CVP of 3mmHg. So, you can conclude that they are most likely to be in a hypovolemic or distributive shock state. Obviously, a hypovolemic shock patient would benefit from fluid, but maybe they are in pure distributive shock and their CI is already greater than three. Can we tell the difference in the ED without a PA catheter? Yes, we can, it's called left ventricular outflow tract velocity time integral (LVOT VTI), and you don't have to be an echo nerd to pull it off. In fact, echo AI technology is making it easy and more readily accessible than ever before.

Imagine that with each beat the heart ejects a little cylinder of blood across the aortic valve. If we know the height of this cylinder and area of the base, then we know its volume (Diagram 3). This cylinder is the stroke volume. Multiply that by the heart rate and you have the cardiac output.

The height of the cylinder is the LVOT VTI. This is measured using pulsed wave doppler across the LVOT in the apical five chamber view. To get the area of the base you measure the diameter of the left ventricular outflow tract (best seen in the parasternal long axis view), and then use the equation πR^2, where R is the radius of the LVOT.

At this point you're probably thinking this is too esoteric and cumbersome to be of use to me in the ED, but bear with me, I'm going to make it even simpler.

It turns out that for most people the LVOT diameter is ~2cm, which means the LVOT radius is ~1cm, so πR^2 becomes π1^2 or just π which is ~3. Therefore, for most patients if you multiply their VTI by three you get the stroke volume. But let's make it even simpler, why even worry about formally measuring the SV and CO? Why not just use VTI? Well for the most part that's not a bad approach. A normal VTI is ~20cm ± a 2.5cm standard deviation. Assuming your patient's HR is in a normal range, say 60 to 110, then if your patient has a VTI <15cm you can generally assume they are in a low cardiac output state. If their VTI is >25cm they are likely in an elevated cardiac output state. So, with one ultrasound measurement now you can now make that determination. If there is much beat to beat variability, e.g. your patient is in atrial fibrillation, then you'll need to average a few beats which is cumbersome.

Fortunately, AI is making this all much easier. Many machines now have an "auto-VTI" package. My department has a Mindray TE-X and this feature is a huge time saver. All you must do is obtain a reasonable apical five chamber view, and the AI does the rest. It will identify the LVOT, place the doppler gate there, measure several VTI envelopes, and calculate an average. And if you add in that LVOT diameter, then it will automatically compute the CO as well. Easy! I use this auto VTI feature on nearly every echo I do in the ED.

So, coming back to our patient with CHF, COPD, and ESRD again, am I always doing an echo and measuring their VTI before giving fluid? Of course not! We are all seeing far too many patients per hour for that approach to be practical. Am I giving the full 30cc/kg CMS mandate? Definitely not, but 500mL and a reassessment are unlikely to cause irreparable harm. When I do echo them though, if they have a VTI >25cm, then they likely have an adequate CI, and will not benefit from additional fluid. And even CMS agrees with us on that one. If you document an adequate cardiac output based on echo this will satisfy your CMS sepsis fluids and perfusion reassessment.

What's more interesting however is the patient with a low EF who despite a bit of fluid still has a VTI <15cm, now we are talking about cardiogenic shock and initiating inotropes in the ED. But that's a conversation for another day… ●

References

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ERAS is Submitted...Now What?!: How to Navigate Interview Season and the Rest of the Application Cycle

Katy Wyszynski, DO

Congratulations! Your ERAS application is done and dusted, and has been shared far and wide to emergency medicine residency programs. In a few short months, you will submit your rank list and eagerly open an email or envelope to discover where you will train for the next three to four years. But before you get to that point, you will navigate interview season. As a current PGY-1, I had a lot of questions, experienced a wide range of emotions, and a few difficult situations last year. I want to share some commonly asked questions and how to navigate all things interviews.

Note: I will be sharing my personal experience, and the Council of Residency Directors (CORD) in Emergency Medicine. Please visit their website cordem.org for more information and medical student advising on interview season.

How many interviews do I need to match into emergency medicine?

- The mean number of programs to rank to match last year was 15 based on the 2024 AAMC data.
- Note, this does not apply to couples matching, military match, or other unique circumstances.
- From my personal experience, there will be applicants that have fewer and others that have more interview offers than this number. I would recommend anywhere from 12 to 15 interviews and programs to rank gives yourself the best chance to match into emergency medicine.

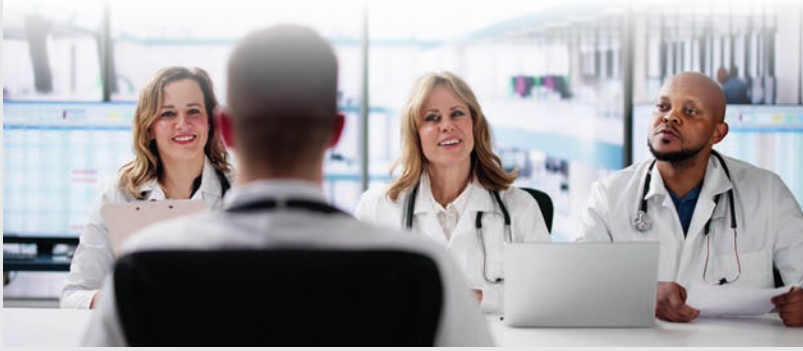
When are interviews released?

1. This varies greatly on the program. Very few programs send out interviews the week ERAS opens. Most will offer interviews from October until December on a rolling basis.
2. The Universal Release Date is October 16, 2024, and interview offers will be sent out at 7:00pm EST. Interview sign ups should begin the next day October 17. Please visit AAEM/RSA website for an up to date list of programs that will be participating in the Universal Release Date.
3. Also, this does not mean that 100% of interviews will be released October 16—interviews will continue to roll out through December.

How best can I prepare for interviews? What questions will be asked?

- My biggest piece of advice is to be yourself! This includes showing your personality on your Zoom background. Whether this is having plants in the background of your virtual screen, or books and Legos like I did.
- Be prepared to answer a variety of questions, from the basic "tell me about yourself" to "why emergency medicine" or "why this program."
- **Always** have a list of questions to ask your interviewers. Sometimes, the interviewer will leave it up to your discretion and ask questions for the entire duration of the interview.

> "Always have a list of questions to ask your interviewers."



Am I able to cancel an interview?

- I would advise candidates to not accept an interview they genuinely don't want to attend. But I understand, things happen during the interview season. If you need to cancel or re-schedule an interview, please email the program leadership and coordinators as soon as possible. This should happen at least two weeks in advance of the interview to allow the program time to offer the interview slot to another candidate.
- It is highly disrespectful to cancel an interview the night before an interview. It is also unacceptable to not show up to an interview.

What happens if I mess up the time zone and I miss the start of the interview? (and other *accidental* blunders)

- I can speak from experience as I did make a mistake in putting the incorrect time in my calendar for an interview. What usually happens when a candidate does not show up to an interview on time is the program coordinator or another program leader will call you on your cell phone to check in. The ability to complete the interview is up to the discretion of the program at that point.
- If that happens, be apologetic and genuinely own up to your mistake. One of the worst things you can do is just ignore the mistake like it never happened. This behavior reflects your future performance as a resident and a physician, and is a red flag to program directors. Own up to your mistake, email the appropriate program leadership and coordinators, and move on with interview season.
- Long story short, one mistake during interview season will not completely ruin your opportunity to match into emergency medicine if you handle it gracefully and own up to your mistake.

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Hazardous Materials Chemistry for Disaster Preparedness: Physical Properties

Mel Ebeling, BS

In 2023 alone, the U.S. Department of Transportation Bureau of Transportation Statistics reported a total of 24,265 incidents involving the transport of hazardous materials via highway, rail, air, and water, resulting in 81 injured persons and 11 fatalities.[1] Beyond commerce, the threat to human life posed by hazardous materials extends to acts of terrorism, introducing a distinct class of agents commonly referred to as weapons of mass destruction to the mix.

Irrespective of the origin of a hazardous materials incident, emergency physicians are tasked with the recognition and initial stabilization of those exposed or contaminated, and in large-scale incidents, may also be involved in the coordination of resources for decontaminating and treating casualties presenting to their department. In planning for such incidents, understanding fundamental hazardous materials chemistry is crucial, as knowledge of chemical and physical properties offers valuable insights into a material's behavior when uncontained, which informs its biological effects, exposure risks, and potential for mass casualties. Here we will review five basic physical properties of hazardous materials significant for disaster preparedness.

Vapor Pressure

Vapor pressure refers to the pressure exerted by a vapor above the surface of a liquid and is used to describe the volatility of a hazardous material (i.e., its tendency to vaporize). Higher vapor pressures indicate higher volatility. Standard atmospheric pressure is 760mmHg, and for reference, the vapor pressure of water is 23. mmHg.[2] Putting this concept into practice, consider two commonly known organophosphate nerve agents used in chemical warfare: sarin (also known as GB) and VX. Sarin has a vapor pressure of 2.9mmHg, meaning it is much less volatile than water.[3] However, in comparison to VX, which has a vapor pressure of 0.0007mmHg, sarin is incredibly more volatile.[4] When we consider exposure risk in the context of disaster preparedness, hazardous materials with higher vapor pressures pose a higher inhalation hazard risk compared to those with lower vapor pressure that are less volatile and tend to remain in the liquid or solid state. Thus, knowing the vapor pressure can be helpful when evaluating one's response capabilities when planning for a release of a specific material (i.e., Is this a material that is likely to become an inhalation hazard requiring a specific level of respiratory and vapor protection based on its specific toxic effects on the human body?).

Boiling Point

The boiling point of a hazardous material is the temperature at which a liquid transforms into a vapor or gas; it is the point at which the vapor pressure of a liquid becomes equal to the pressure of the surrounding gas (air). Boiling point has an inverse relationship with vapor pressure, meaning a material with a lower boiling point has a higher vapor

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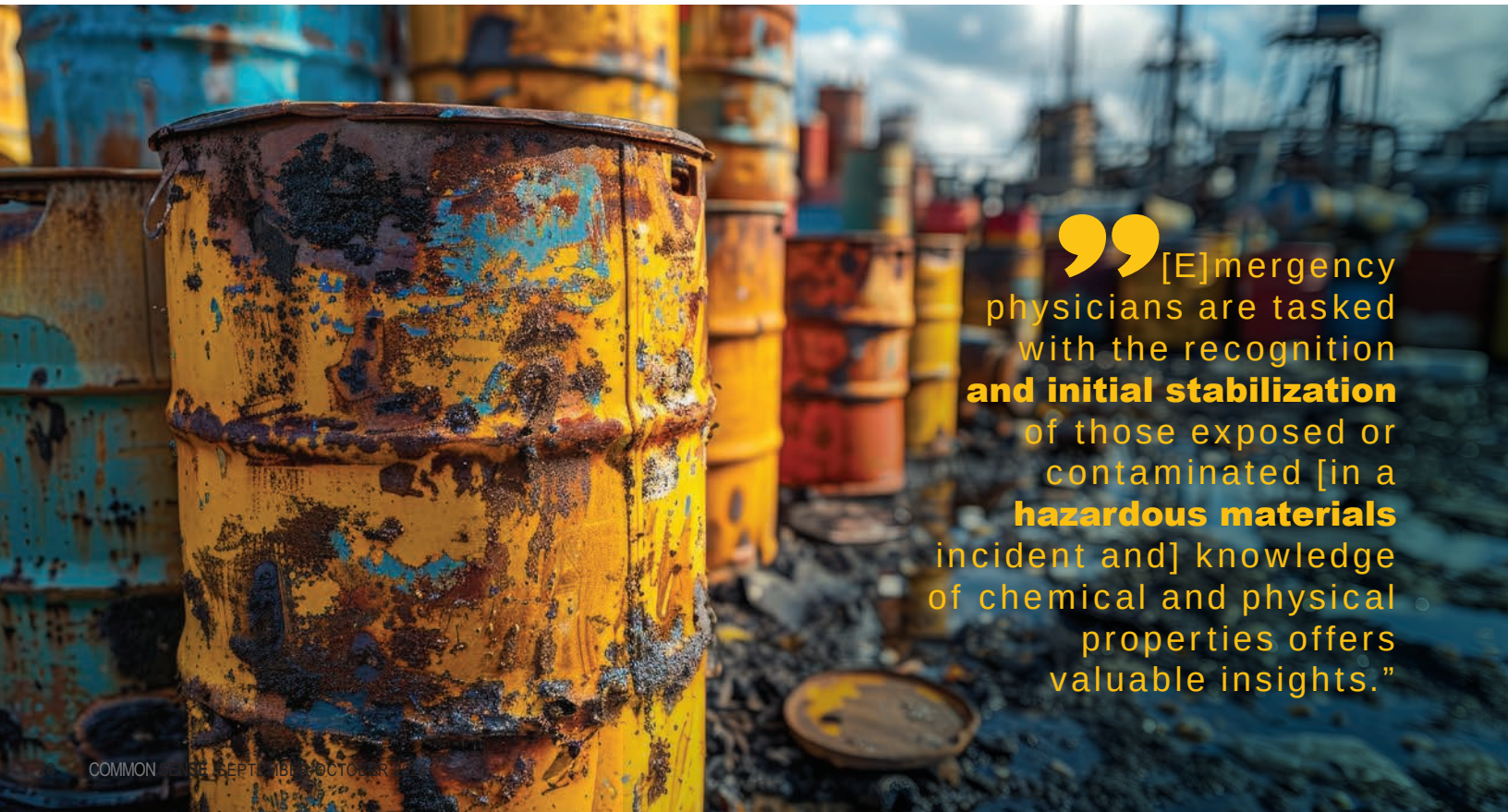

pressure (and is more volatile). Hazardous materials incidents do not occur in a vacuum—temperature of the surrounding environment plays an important role in the impact of a hazardous material release. Higher temperatures lower vapor pressure and increase diffusion of molecules (dispersal of the hazardous material) via weakening of intermolecular forces through increased kinetic energy of individual molecules. When the temperature of the environment approaches a material's boiling point, we now have a much less easily contained gas and a new inhalation hazard to mitigate. For example, 1,3-butadiene, a substance used in the production of rubbers and plastics, has a boiling point of 24.1°F and is transported as liquified gas as a result. As one can imagine, an incident involving the release of this hazardous material following an interstate collision on a spring day in Alabama would look very different than if it occurred on a cold winter morning in Michigan. Boiling point is thus another tool to be utilized when performing risk assessments in the realm of disaster preparedness, especially when common hazardous materials present in one's community can be identified.

Vapor Density

Vapor density is a dimensionless quantity referring to the density of a vapor relative to that of hydrogen gas at the same temperature and pressure. It is typically used to judge the density of a hazardous material relative to that of the surrounding air. This is reflected in how vapor density is measured. Air has a standard vapor density of 1.0. Substances less dense than air (and thus, tend to rise) have a vapor density of less than 1.0, and substances denser than air (and thus, tend to sink) have a vapor density of greater than 1.0. Let us consider carbon monoxide, a byproduct of fuel-burning appliances with the potential to build up and cause toxicity when these devices are badly maintained. Carbon monoxide has tendency to rise given its vapor density of 0.97, making it more of an inhalation hazard relative to materials with vapor densities greater than 1.0.[5] For this reason, the U.S. Environmental Protection Agency recommends placing home carbon monoxide detectors at a height of five feet above the floor to ensure proper detection.[6] While carbon monoxide is not a typical example of a hazardous material in the commercial or counterterrorism space, the discussion of its physical properties (vapor density, in this case) provides us with a critical understanding of how characteristics of hazardous materials affect dictate route of entry (e.g., inhalation versus contact) and risk for exposure.

Evaporation Rate

The speed at which a hazardous material in the liquid phase vaporizes is known as the evaporation rate. Materials with faster evaporation rates at a set temperature and pressure are likely to be more difficult to contain; mitigating a liquid release is an easier feat than attempting to re-contain a vapor or gas. This may naturally lead to individuals becoming exposed to an inhalation hazard faster before offensive tactics against the hazardous material can begin and before proper evacuation or sheltering-in-place can occur, increasing the potential for a mass casualty incident.

Expansion Ratio

For liquified hazardous materials, the expansion ratio serves as a measure of the volume of gas generated when a unit volume of that material evaporates. This is particularly relevant for when liquified gases escape their container. Propane, for example, has an expansion ratio of 270:1, meaning that for every 1 unit of volume of liquid propane released, 270 units of volume of propane gas are created. This concept is important when considering the exposure risk for the intentional or accidental release of a liquified gas. Due to their rapid expansion once released, liquified gases have the potential to quickly deplete environments of oxygen, creating an asphyxiation hazard. Moreover, because the release itself can occur swiftly since these hazardous materials are under pressure, exposure risk is increased for individuals in the vicinity.

The threat posed by the widespread presence of hazardous materials in our society, in addition those manufactured for acts of terrorism, necessitates diligent efforts to ensure effective preparedness measures are in place for mitigating a potential mass casualty incident should a release occur. Understanding fundamental hazardous materials chemistry is critical to developing these contingency plans, and here we reviewed five basic but significant physical properties that affect the behavior of an uncontained hazardous material. Together with the knowledge of the hazardous materials present in one's own community, the emergency physician is empowered to anticipate potential injuries, toxicities, and consequences in the event of a release, enabling the provision of informed, judicious medical care during a disaster. ●

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Addressing POCUS Workflow in the ED

Joshua Guttman, MD FRCPC FAAEM

Introduction

Consider a patient with a history of congestive heart failure (CHF) presenting with leg swelling and mild shortness of breath on exertion. The patient has been compliant with medication but recently increased salt intake due to a holiday barbecue. Despite the symptoms, the patient is still ambulatory, and the vital signs are unremarkable. While the legs are moderately swollen, the lung exam doesn't reveal significant findings. Triage labs and ECG show a mild increase in BNP over baseline, but CBC, CMP, troponin, and ECG remain at their baseline levels.

As a physician, you understand that if the patient has minimal pulmonary edema, you could increase the furosemide dosage and schedule a follow-up with a cardiologist next week. However, if significant pulmonary edema is present, more aggressive overnight diuresis in the observation unit would be necessary. Point-of-care ultrasound (POCUS) is known to be more effective at detecting pulmonary edema compared to Chest X-Ray (CXR), which often underestimates its severity. Performing a POCUS would provide immediate relevant information, allowing you to make prompt decisions about the patient's care.

However, hesitations arise:

- "I have so many patients to evaluate."
- "The machine is often turned off and takes forever to turn on."
- "If I'm going to act on my findings, I need to save images and write a report."

Consequently, the decision is made: "I'll just get the CXR."

Sound familiar? This scenario illustrates how poor POCUS workflow can hinder excellent patient care.

Defining POCUS Workflow

POCUS workflow can be defined as "a systematic step-by-step process designed to integrate the use of ultrasound imaging at the bedside in clinical settings." This workflow begins when a physician considers performing a POCUS exam and continues through the examination process until submission for reimbursement. Each step must be optimized to create a streamlined workflow.

Improving the Workflow

In the initial scenario, the physician hesitated to perform a POCUS exam for several reasons. Let's break down these concerns and suggest improvements to the workflow.

"I have so many patients to evaluate." This is a machine readiness issue. Increasing the number of machines and ensuring convenient placement, or providing handheld ultrasounds for easy access, will improve efficiency. >>

> **Investing in a robust POCUS workflow is** an investment in the future of POCUS and emergency medicine."

Key Elements of POCUS Workflow in the ED

- Machine Readiness - Technical Aspects
  - Are the machines frequently broken?
  - Are the machines user-friendly for all staff in the ED?
  - Is it cumbersome to change probes or initiate scanning?
- Machine Readiness - Location
  - Are ultrasound machines conveniently located?
  - Are they placed near power outlets?
  - Are tracking devices available to locate machines left in rooms?
- POCUS Order Entry
  - Are POCUS orders automated (known as encounter based order entry) or included in nursing order sets for likely indications?
- IT Readiness
  - Is the machine's WIFI reliable for accessing patient information?
  - Is it easy and quick to add patient information to the scan from the worklist?
- Imaging Archival
  - Does the ultrasound machine seamlessly connect to PACS or archival software?
  - Are images available for immediate review?
  - Can other clinicians access the images via the same EMR?
- POCUS Documentation
  - Can POCUS procedure notes be easily documented within the EMR, similar to other procedures?
  - If a separate archival system is used, is it easily accessible from the EMR?
  - Is the separate archival system intuitive?
  - Is report generation from EMR templates straightforward?
  - Are reports readily available for review, ideally with easy access to images?
- POCUS Billing
  - Is billing integrated within the EMR or does it require additional steps?
  - Are coders accurately billing the POCUS exam?
  - Are payers reimbursing POCUS exams?

"The machine is often turned off." Addressing battery life and charging issues can resolve this. Investing in machines with better battery life, wireless chargers, and a culture of plugging in machines can help. Handheld machines with long-lasting batteries are another solution.

"It takes forever to turn on." Purchasing machines with shorter startup times and testing various models for boot-up speed can mitigate this issue.

"I need to save my images." This can be an IT readiness or image archival issue. Ensuring robust WIFI connectivity, seamless POCUS order integration, and reliable image archival will incentivize physicians to use the machine. An encounter based order entry, where a POCUS is ordered upon patient registration, or having lung POCUS order as part of the shortness of breath order set would make sure the patient information can be easily pulled from a worklist.

"And write a report." Streamlining documentation by integrating templated procedure notes within the EMR and minimizing the need for separate logins or steps will reduce barriers.

Conclusion

Implementing an efficient POCUS workflow in the ED leads to more frequent POCUS exams, enhanced efficiency, and higher reimbursement for physicians and departments. By critically analyzing each step of the workflow, barriers can be identified and addressed. Investing in a robust POCUS workflow is an investment in the future of POCUS and emergency medicine.

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latest, take advantage of that opportunity. If you are familiar with the "blue zones" concept then look to the "blue zone" in the United States for clues. The only such zone is Loma Linda, CA. Seventh Day Adventists are in the majority there. They do not smoke or drink alcoholic beverages, and they generally follow a vegetarian diet, while maintaining healthy community and social connections that provide for a meaningful life. They also typically engage in regular exercise, often in the outdoor setting. There is now an American College of Lifestyle Medicine, so reviewing their recommendations would help you personalize this process. Finally, let me recommend two books to start your journey to a chance for better health and the chance of a longer life. "Outlive" by Peter Attia, MD, is a popular NY Times best seller that may be helpful. "How Not to Die" by Michael Greger, MD, is also a popular NY Times best seller that will also stimulate your thoughts. He has over 13,000 references so it is very well researched.

In summary, scheduling to enable anchor sleep, good sleep environment, personalizing your shift rotations, avoidance of blue light near sleep time, darkened departments during overnight shifts if you are rotating to the night shift (darken only the last part of the shift if you are a nocturnist), avoidance of bright lights while commuting to home (especially 480nm blue light), avoidance of binge eating, minimizing time-inappropriate eating, maintenance of physical fitness, and avoiding overnight shifts after age 50 or 55 are the mainstays of optimizing one's approach to the unavoidable challenge of overnight duty that emergency physicians must navigate.

Editor's Note: Part I of this article, "Mitigating the Risks and Burdens of Night and Rotating Shiftwork in Emergency Medicine: Part I," can be found in the July/August 2024 Common Sense on page 23. Scan the code below to read. ●

Selected Readings for this series:

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7. Circadian Rhythm Disruption as a Possible Contributor to Racial Disparities in Prostate Cancer Sonali S Dasari et al. Cancers 2022 14, 5116
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10. Circadian Medicine edited by Christopher S. Colwell John Wiley Sons ISBN 978-1-118-46778-7 copyright 2015
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OPINION

Why Most AI is Dog Water for Healthcare

Saba Rizvi, MD FAAEM

Healthcare companies are implementing AI for documentation purposes, requiring AI presence in patient rooms to record interactions in real time. Some go further, mandating that their physician staff wear AI devices to record speech, aiming to improve language learning models for AI consumption.

AI has become an insatiable beast, relentlessly consuming human language and speech to enhance the power of autonomous artificial intelligence. To what end? This is a question that neither government officials nor technology leaders seem willing to answer.

Physicians and their patients are now under the radar as the new AI language learning guinea pigs in the U.S. The implementation of this technology will set a dangerous precedent, curtailing the last bastion of private conversation, that between a patient and their doctor. There will be a fundamental breach in the sanctity and privacy of the doctor-patient relationship with AI in the room because AI is a recording device controlled and implemented by an outside third party.

Whether or not a physician has editorial rights after an interaction is recorded is irrelevant—the breach has already occurred. Safeguards and privacy laws are necessary for patients who do not wish their most intimate data to be accessed. This introduces a new level of security protections and protocols, which would increase healthcare spending with minimal benefit. Similarly, this courtesy will have to be extended to physicians and other non-physician practitioners, as their interactions with patients will inevitably be affected by this breach.

In light of ongoing data breaches that have shaken the U.S. healthcare system and put patient data at risk, this technology necessitates the implementation of an entirely new level of data protections. There will need to be stringent safety protocols against ongoing cybersecurity hacks. The cost of these security measures and maintaining them will inevitably be passed down to patients and employers, who are already struggling to keep up with the unaffordable nature of U.S. healthcare.

I would argue going forward, every dollar and cent spent on the implementation of new technology in U.S. healthcare needs to go through tremendous scrutiny to answer three fundamental questions:

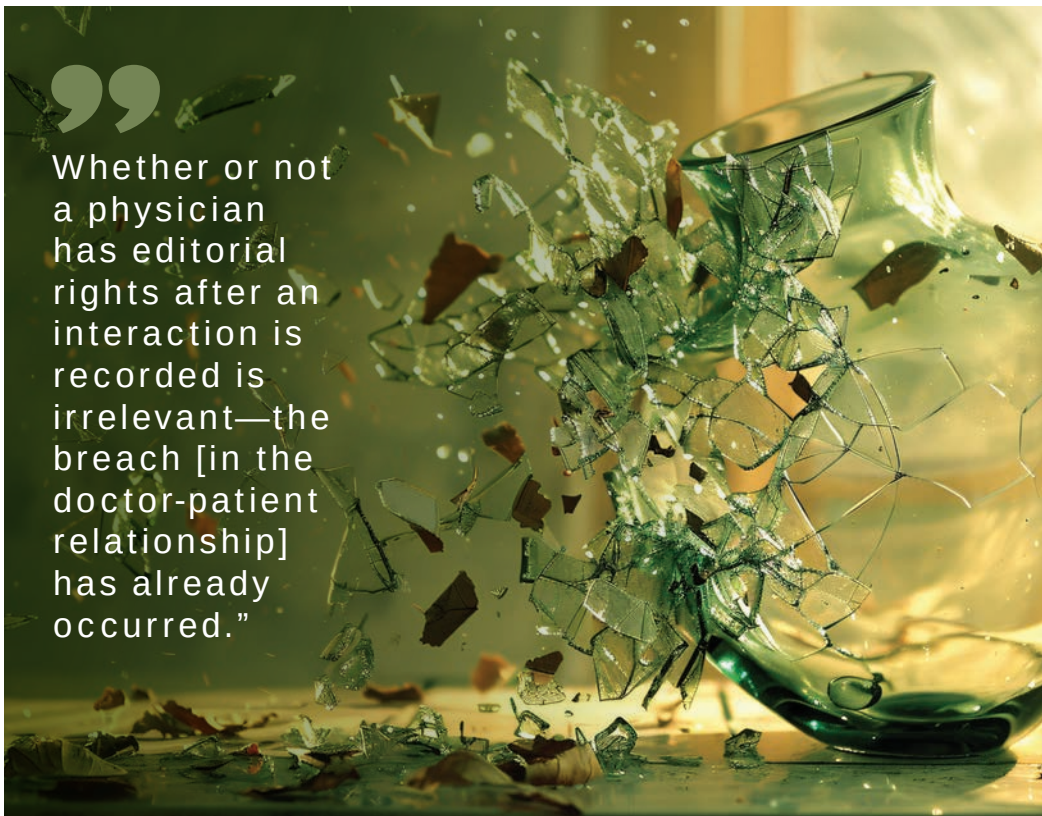
- Will this improve patient care or clinical outcomes?
- Will it improve overall physician practice?
- Is it cost-beneficial for either the above patients and their doctors?

Notice, I did not take into account the benefit to any non-physician healthcare ownership entities in this equation. An analysis based solely on organizational benefit is not granular enough for an honest assessment, because organizational benefits have led to tremendous downstream costs to patients, their doctors, and the entire healthcare system. AI models rooted in capturing patient data for billing purposes without much benefit to patients or their doctors is an example of one such organizational benefit.

The paradigm must shift to focus on the end users of any new technology in healthcare. Does it tremendously help the patient? Is the current system able to do so with less cost? Will it tremendously benefit the workflow or practices of doctors? Is an alternative in place that is suitable for most physicians? Physicians must be key stakeholders in discussions addressing these fundamental questions. Those not involved in the technology sector, nor in the ownership or development of this technology, should weigh in as the primary end users.

Another big question to be asked is what will the implementation and development of protections cost the system? Who will pay for this cost and who will ultimately benefit from the payouts? Most AI applications in healthcare will likely fall short in this analysis, as they offer minimal improvements in clinical outcomes, yet will unjustifiably increase costs.

As physicians, our standards don't change. Clinical outcomes have always been, and will remain, the gold standard for data-driven, exceptional medical care in the scientific community. We must measure every new breach in our system against these outcomes. ●



Handheld Versus Cart–based Point–of–Care Ultrasound Machines: The Pros and Cons

Rebecca G Theophanous, MD MHSc FAAEM FACEP FPD-FAEMUS and Shawn Sethi, MD FAAEM FPD-FAEMUS

Introduction

Since point-of-care ultrasound's (POCUS) inception 30 years ago, conventional cart-based ultrasound machines have been the standard of care in emergency departments (ED) throughout the United States, Canada, and Europe.[1] However, as technology continues to evolve, the prevalence of handheld portable ultrasound machines is increasing.[1-4] The European Federation of Societies in Ultrasound and Medicine (EFSUMB) performed a strengths, weaknesses, opportunities, and threats (SWOT) analysis on miniaturization of ultrasound in 2019, citing strengths of easy portability, low cost, low power supply, flexibility in use, faster diagnostics, and more widespread reach for teaching learners with use in other healthcare settings.[5] Conversely, disadvantages include problems with insufficient user training, limited documentation options, limited device features, smaller screens, and potential profit interests by performing unnecessary scans.[3,5-6]

To further investigate the differences between POCUS devices, we delve into this new technology and highlight the pros and cons of handheld portable versus conventional cart-based ultrasound machines.

Pros

Portable handheld ultrasounds have increased POCUS spread geographically and have made ultrasound technology much more accessible to both experts and the general population.[1,3,5-6] A physician can walk into a patient's room, pull an ultrasound device out of their pocket, and immediately start scanning a patient while working through their differential diagnosis. With portable handheld ultrasounds that connect to a smartphone or tablet device, scanning a patient and saving images has never been easier.

Even more impressive, the images on the screen can be saved and transferred or directly viewed using telehealth technology.[1,7] This opens up the possibility of asking a patient to scan themselves at home following predetermined instructions, then sending the images to their physician for remote review.[7] Another example is in a rural clinic in Tanzania where local onsite medical personnel scan a patient and electronically transmit the images to a remote ultrasound expert for review.[8-9] From pre-hospital paramedics, to military soldiers serving in battle, to a hiker at the top of Mount Everest, to astronauts on the International Space Station, the potential for portable ultrasound devices in austere and remote environments is endless, revolutionizing and improving patient care.[10-13]

Preliminary studies have shown that image quality in handheld ultrasounds is comparable to cart-based systems in musculoskeletal, soft tissue, lung, and abdominal applications.[1,3-4,6] These portable ultrasound devices are cost-effective ($2000-$10,000) compared to cart-based systems, which normally cost greater than $50,000.[6] The user can choose a single or multiple probe system and decide between a monthly or yearly subscription fee for cloud archiving software accessibility. Many medical schools are providing portable ultrasounds to their medical students from day one, allowing self-education with online POCUS modules and full integration into their anatomy and pre-clinical courses.[2,5] With the expansion of POCUS into novel applications and settings, including academic and community hospitals, medical schools, and low-resource settings, portable handheld ultrasound quality and accessibility will continue to expand. Machine learning tools such as automated labeling, real-time scanning guidance, and image quality grading have potential to revolutionize how we teach POCUS, especially in settings with low teacher to learner ratios.

"From pre-hospital paramedics, to military soldiers serving in battle, to a hiker at the top of Mount Everest, to astronauts on the International Space Station, the potential for portable ultrasound devices in austere and remote environments is endless, **revolutionizing and improving patient care.**"

Cons

Nevertheless, the rapid technological advances that have allowed us to utilize handheld ultrasound machines also come with downsides. Although some preliminary data have shown adequate image quality, handheld systems are generally burdened with reduced image quality. This may be partially due to lower resolution transducers and smaller viewing screens when compared to cart-based machines.[5] Additionally, some devices require purchase of multiple probes, which adds costs. Although there are handheld systems which combine multiple probes into an "all in one" device to circumvent this problem, this may reduce image quality when it comes to specific applications that benefit from frequency-specific imaging, such as cardiac.

Although handheld machines do show significant potential in rural and prehospital environments, battery life is still fairly limited in many devices.[10-13] Additionally, some handheld probes will quickly overheat, which can be exacerbated in hot or humid environmental conditions, limiting device use time.[14] >>

Manufacturer	Model	Price (in USD $)	Weight	Probe Options	Battery Life	Hardness	Display	Wireless	Storage
GE	V-scan	$2,995-$4,995; no subscription	390 g	Sector, dual-head linear/ sector, dual-head linear/ Curvilinear	2 hours	Operating temperature not available. Drop tested to three feet	Extend: Propriatary tablet; Air: personal iOS or Android smart device	No (Vscan extend); yes (Vscan air)	On device or cloud; DICOM capable
GE	LOGIQ e	$28,000	4.5 kg	Multiple (2–13 MHz both convex and linear)	4 hours LiON	10°C–40°C operating; Storage −5°C to 50°C	Laptop	Yes	On device or cloud; DICOM capable
GE	LogiqBook XP	$25,000	4.2 kg	Multiple (2–13 MHz Both Convex and Linear)	1 hour LiON	10–40°C Operating; Storage −5°C to 50°C	Laptop	Yes	On device or cloud; DICOM capable
Sonosite	M-turbo	$23,000	3.9 kg	Multiple (2–13 MHz both convex and linear)	2 hours LiON	10°C–40°C (50°F–104°F), 15%–95% R.H. operating; Storage −20°C to 60°C (−4°F to 140°F); Drop tested to three feet	Laptop	Yes	On device or cloud; DICOM capable
Sonosite	MicroMaxx	$30,000	3.5 kg	Multiple (2–13 MHz both convex and linear)	2 hours LiON	10°C–40°C (50°F–104°F), 15%–95% R.H. operating; Storage −20°C to 60°C (−4°F to 140°F); Drop tested to three feet	Laptop	Yes	On device or cloud; DICOM capable
Siemens	Acuson P10	$8,500	0.7 kg	Multiple (linear, curvi-linear, phased array probe)	1 hour LiON (with quick change spare)	Not available	3.7inch touchscreen LCD display	No	SD card, USB port
Clarius	n/a	$4,900-$6,900; no subscription	307g	Multiple (linear, curvi-linear, microconvex, endocavitaory)	1 hour (90 mins charge)	Ambient temps: between -20°C/-4°F and 50°C/122°F; Relative humidity 0-95%; Recommended max exam time: 20 mins	Personal iOS or Android smart device	Yes	Cloud-based; DICOM capable
EchoNous	Kosmos	$5,000-$8,500; no subscription	879g	Phased array	LiON (90 minutes)	Drop tested from three feet	Proprietary tablet or select Samsung devices	No	On device; DICOM capable
Philips	Lumify	$6,000; no subscription	<136g	Multiple (linear, curvilin-ear, phased array)	2-5 hours	Ambient temps -20°C (-4°F) to 50°C (122°F); Relative humidity 15-95%	Personal Android smart device; iOS device with adapter	No	On device; DICOM capable
Butterfly	IQ+	$1,999 with $420 annual subscription; $2,999 with lifetime subscription	313g	CMUT probe	600 mAh LiON (2 hours, 5 hours to charge)	Ambient temp 5-39°C; Relative humidity <15%	Personal iOS or Android smart device	No	Cloud-based; DICOM capable
SonoQue	n/a	$999-$4,400; no subscription	250g	Multiple (linear, curvilin-ear; dual-head probes)	2-3 hours	Not available	Personal iOS smart device	Yes	On smart device
Sonosite	iViz	>$10,000; no subscription	570g	Multiple (linear, curvilin-ear, phased array)	LiON (1 hour, 2 hours to charge)	7-inch dual touch screen	Proprietary tablet	No	DICOM and cloud capable
Vave	n/a	$99/month (billed annually)	320g	Phased array	LiON (>1hour, <12 hours to charge)	Ambient temp 0-40°C; Relative humidity 15-90%	Personal iOS or Android smart device	Yes	On device or cloud; DICOM capable
Mindray	ME8	>$14,000	6.6lb	Multiple (linear, curvilin-ear, phased array)	8hrs	Ambient temp -40 to 50°C	15.6 in LED monitor, laptop device	No	On device or cloud; DICOM capable
Mindray	TE Air	$5,075		Single probe	>60 minutes	Waterproof, dustproof	Personal iOS or Android smart device	Yes	Cloud or DICOM

Table 1: Handheld and cart-based point-of-care ultrasound machines with technical specifications (Disclaimer: technological specifications and numbers listed are best estimates based on available published data)

A move to handheld machines elicits concerns about patient data safety. Unlike traditional cart-based machines, which are typically connected to a secured cloud network under institutional guidance, handheld machines can potentially be connected to unsecured wireless networks.[10-13] Furthermore, images could inadvertently be saved on unsecured local hard drives, which breaches patient data privacy policies. Handheld systems are also challenged with device ownership controversies. If a physician owns a personal device, then they cannot charge professional and technical fees for using that device in a healthcare setting. Thus, if the handheld device is owned on a hospital level, regulatory committees and ultrasound leadership must decide how to securely capture, archive, review, and bill for these images.[1]

Finally, as with many new technologies, we do not yet have data from high quality studies to evaluate the accuracy of these handheld devices. Before adoption of these handheld systems in our emergency departments, we should collect the same evidence that we demand from similar imaging technologies to avoid patient harm and improve outcomes.

Summary

The POCUS field has been revolutionized by frequent technological advances including handheld ultrasound systems. Cart-based systems are the tried-and-true technology with high image quality, large screens for multi-learner teaching, and more advanced technical applications such as cardiac and obstetric calculations. Handheld devices are newer with continuously improving image quality, portability with adequate battery life, and versatility in most POCUS applications. Future studies are needed such as prospective reviews or a randomized control trial to ascertain image acquisition properties, image interpretation, and other functional systems to fully examine the advantages and disadvantages of each system. ●

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Acute Pancreatitis Fluid Management: Should We Go Chasing WATERFALLs?

Emily Straley, MD* and Skyler Lentz, MD FAAEM†

Acute interstitial edematous pancreatitis, defined by the revised Atlanta criteria as inflammation of the pancreatic parenchyma and surrounding tissues, is the third leading gastrointestinal cause of hospital admissions in the United States.[1,2] In North America, the occurrence of pancreatitis has been increasing, thought to be secondary to the increasing prevalence of risk factors such as high-fat diets and alcohol use.[3] Acute pancreatitis can be further sub-divided into mild, moderately severe, and severe. Moderately severe is defined as transient organ failure (<48 hrs) or systemic complications without persistent organ failure. Severe is defined as persistent organ failure (>48hrs).[1] Up to 35% of patients presenting with acute pancreatitis will develop moderate to severe pancreatitis, which is associated with increased morbidity and mortality.[4] The current American College of Gastroenterology 2013 guidelines recommend management of pancreatitis with early aggressive fluid resuscitation of 250-500mL/hour for the first 12 to 24 hours, the goal of which is to decrease the risk of developing ischemia and organ failure by repleting the patient's intervascular volume.[5] Two important questions this recommendation has raised for researchers is what fluid should be used for resuscitation, and how much.

In regards to the first question, many studies have investigated which crystalloid is better for resuscitation. The preferred crystalloid for the management of acute pancreatitis is a balanced fluid, such as Lactated Ringers (LR), that has a more physiological pH than normal saline. Studies have demonstrated a potential improvement in outcomes (e.g., reduced ICU admission, reduced hospital length of stay) and less inflammation in acute pancreatitis with LR when compared to normal saline.[6] Pertaining to the volume of resuscitative fluids debate, several retrospective studies have suggested that large volume fluid resuscitation is associated with decreased in-hospital mortality, while

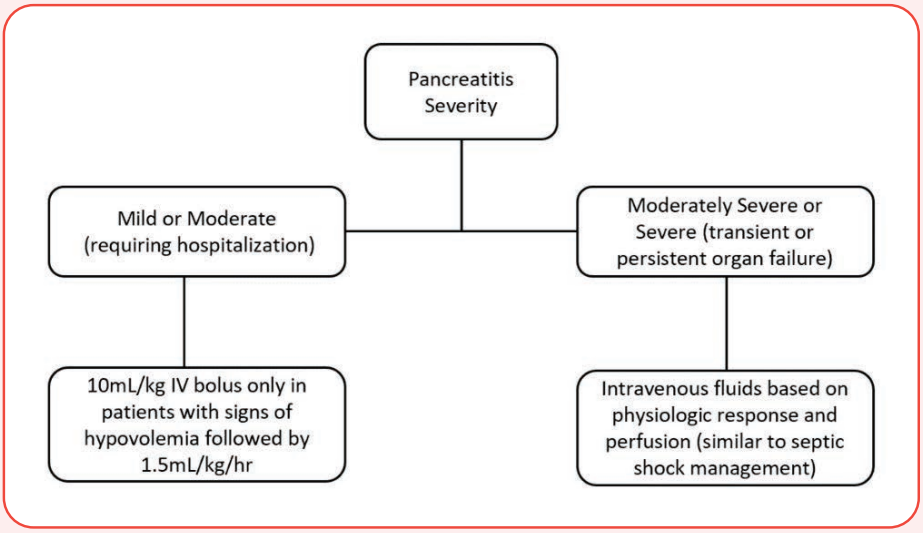

Figure 1. Recommended Fluid Management in Acute Pancreatitis

others have shown that mechanical ventilation and renal replacement therapy were more frequent in patients who underwent aggressive fluid resuscitation with no change in mortality.[6,7] The other risks of over-resuscitation described include abdominal compartment syndrome, pulmonary edema, and volume overload.[5] While several prior studies have speculated on the amount of fluid that should be administered in the early management of acute pancreatitis, there have been few randomized control trials (RCTs) performed on this topic, all of which were single institution studies, until the WATERFALL trial.

The WATERFALL trial is an RCT which aimed to investigate the development of moderately severe or severe pancreatitis during admission in patients who received aggressive or moderate fluid resuscitation.[4] The study enrolled 249 patients from 18 centers spanning four countries. Patients with mild or moderate pancreatitis were randomized to receive aggressive or moderate fluid resuscitation. Aggressive resuscitation was defined as a 20mL/kg of body weight bolus followed by 3mL/kg per hour resuscitation and moderate fluid resuscitation was defined as a 10mL/kg bolus only in patients with signs of hypovolemia followed by 1.5mL/kg/hr. The trial was stopped early due to significant differences in the primary safety outcome, fluid overload, between groups. Fluid overload was seen in 20.5% of the aggressive group, as compared to 6.3% of the moderate resuscitation group. The median time from randomization to fluid overload was 34 hours, with the highest degree of fluid resuscitation and difference between groups seen over the first 12 hours. The median volumes were 1.5L versus 3.4L (moderate versus aggressive group) in the first 12 hours; the additional volume of fluid after the first 12 hours were similar between the two groups. No significant difference was identified between groups for the primary outcome of the development of moderately severe or severe acute pancreatitis during admission, though the trial was stopped early.[4] Importantly, those with heart failure and chronic renal failure were excluded.

Based on this landmark study, one can recommend that mild or moderate acute pancreatitis requiring hospital admission should be treated with moderate, rather than aggressive, fluid resuscitation to avoid complications of fluid overload. Though this study did not include severe pancreatitis, less aggressive volume resuscitation may also be warranted in this population. Guidelines lack clear recommendations

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but suggest "judicious goal-directed" fluid resuscitation based on physiological response and perfusion (e.g., urine output, blood pressure, skin perfusion, renal function, normalizing hematocrit); this is similar to the approach in managing septic shock.[8] ●

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Email: robby@ruralpacmed.com

VIRGINIA

Fredericksburg Emergency Medical Alliance is seeking full-time, board-certified or board-eligible emergency physicians to join our team in Fredericksburg, Virginia, located just an hour outside Washington D.C. and Richmond, VA. FEMA Inc. is an independent democratic physician-owned and led practice. We are 30 equal physician owners and 15 PAs that staff two hospitals and two freestanding emergency departments. Our partnership track is a quick two years and compensation is highly competitive, including an incentive/benefits package, 401K with match, and a profit sharing. Apply online at https://www.femainc.com (PA 2051)
Email: ashelyalker@gmail.com
Website: https://www.femainc.com/careers

CALIFORNIA

EMERGENCY MEDICINE FACULTY URGENT CARE MEDICAL DIRECTOR University of California San Francisco The University of California San Francisco, Department of Emergency Medicine is recruiting for a full-time faculty member to serve as the Medical Director of our new Urgent Care based on the Mission Bay campus, opening in Fall of 2024. We seek individuals who meet the following criteria: emergency medicine faculty with administrative leadership experience and/or advanced administrative training (e.g., administrative fellowship training, MBA, MPP) and outstanding clinical and interpersonal skills. Rank, step and series will be commensurate with qualifications. UCSF Health - The Department of Emergency Medicine provides comprehensive emergency services to a large local and referral population at multiple academic hospitals across the San Francisco Bay Area, including UCSF Medical Center at Parnassus Heights, Zuckerberg San Francisco General Hospital, and the UCSF Benioff Children's Hospitals in San Francisco and Oakland. The Department of Emergency Medicine hosts a fully accredited 4-year Emergency Medicine residency program and multiple fellowship programs. This opportunity will involve clinical work at both the UCSF Parnassus ED campus and the new Urgent Care at the Mission Bay campus, and the Urgent Care Medical Director will work closely with the emergency medicine leadership team at Parnassus. Board certification in Emergency Medicine is required. All applicants should excel in bedside teaching and have a strong ethic of service to their patients and profession. The University of California, San Francisco (UCSF) is one of the nation's top five medical schools and demonstrates excellence in basic science and clinical research, global health sciences, policy, advocacy, and medical education scholarship. The San Francisco Bay Area is well-known for its great food, mild climate, beautiful scenery, vibrant cultural environment, and its outdoor recreational activities. PLEASE APPLY ONLINE AT: https://aprecruit.ucsf.edu/apply/JPF04867 UCSF seeks candidates whose experience, teaching, research, and community service has prepared them to contribute to our commitment to diversity and excellence. UCSF is an Equal Opportunity/Affirmative Action Employer. The University undertakes affirmative action to assure equal employment opportunity for underrepresented minorities and women, for persons with disabilities, and for covered veterans. All qualified applicants are encouraged to apply, including minorities and women. For additional information, please visit our website at http://emergency.ucsf.edu/ (PA 2044)
Email: susan.whigham@ucsf.edu
Website: https://emergency.ucsf.edu/

CALIFORNIA

Loma Linda University Faculty Medical Group, Department of Emergency Medicine is seeking full-time Emergency Medicine physicians to join our dedicated faculty. Candidates must be BE/BC and Emergency Medicine trained. Loma Linda University Medical Center is a Level 1 Trauma Center. Our institution offers a variety of opportunities for professional growth and development, along with an academic appointment with the Loma Linda University School of Medicine. Our benefits include: Generous Retirement Contribution, Comprehensive Medical/Dental Coverage, Competitive Vacation & Sick Days, CME Days and Funds, Relocation Assistance (if applicable), Paid Malpractice Insurance, Paid Life Insurance, as well as Loan Repayment/State & Federal (If eligible). The compensation range listed is for starting base compensation only and is adjusted based upon years of experience and/or faculty rank: $230,000 - $275,000. This amount does not include variable compensation or extra productivity and is subject to the individual department compensation plans. More information on compensation is discussed with the departments during the recruitment process. We are a California Employer - Please note that a California residency is required upon start date. This opportunity is not eligible for a J1 Waiver. (PA 2070)
Email: recruitmd@llu.edu
Website: https://recruiting.myapps.paychex.com/appone/MainInfoReq.asp?R_ID=4418972&B_ID=91&fid=1&Adid=0&ssbgcolor=5B5B5B&SearchScreenID=13903&CountryID=3&LanguageID=2

COLORADO

As a full-time faculty member in our community and academic clinical sites, be a part of a remarkable team dedicated to an inclusive learning and work environment and driven to save lives, educate health professionals and scientists, advance science, serve our communities, improve patient safety, experience, and clinical quality. We seek passionate physicians to join us at the University of Colorado Department of Emergency Medicine academic and community sites, which may include any affiliated free-standing emergency department, virtual healthcare, Broomfield Hospital, Highlands Ranch Hospital, or the University of Colorado Hospital. Your commitment to professional development is essential, and we support your continuous growth by providing the necessary Continuing Medical Education (CME) opportunities, competitive salary, and a robust benefits package. The University of Colorado is deeply committed to recruiting and supporting a diverse student body, faculty, and administrative staff; fostering a culture of inclusiveness, respect, communication, and understanding. We strongly encourage applications from persons of all backgrounds, genders, minorities, and abilities. Apply now for a Clinical Faculty Position in our academic and community sites at the University of Colorado Department of Emergency Medicine. (PA 2079)
Email: felicia.gallegospettis@CUANSCHUTZ.EDU
Website: https://cu.taleo.net/careersection/2/jobdetail.ftl?job=34105&lang=en

COLORADO

The Department of Emergency Medicine at Denver Health, in conjunction with the Denver Health Paramedic Division, is recruiting a full-time academic emergency physician to serve as an Associate EMS Medical Director with focus on EMS education and prehospital medical direction. Our highly functioning and established EMS team consists of the Paramedic Division Medical Director/Associate Department Chair of EMS and three associate directors, all subspecialty certified in EMS, working collaboratively to provide medical direction to over 265 Denver Paramedics and EMT's, Denver Paramedics Dispatch and the Denver Health Paramedic School. This faculty position will directly report to the Associate Chair for EMS and ultimately to the Chair of Emergency Medicine at Denver Health. As a full-time academic faculty position, based at the sponsoring institution for the Denver Health Residency in Emergency Medicine, there will be a heavy emphasis on, and expectation for, scholarship/research, teaching, and education. All faculty are expected to contribute and promote in the Department of Emergency Medicine at the University of Colorado School of Medicine. The Denver Health Paramedic Division (DHPD) provides 911 Advanced Life Support (ALS) Emergency Medical Services (EMS) and ambulance transportation to the City and County of Denver, Denver International Airport, as well as the cities of Glendale, Sheridan, Englewood, and areas of unincorporated Arapahoe County. The Denver Health Paramedic Division consists of 269 front line paramedics and emergency medical technicians (EMT), 41 command staff, and an additional 100 employees in communications, education, vehicle, and administration support. Our system responds to more than 128,000 calls for Emergency Medical Services annually. Interested applicants can apply online or submit CV/Cover Letter to: Aaron Ortiz, Manager of Provider Recruitment Denver Health Medical Center Aaron.ortiz@dhha.org (PA 2091)
Email: aaron.ortiz@dhha.org
Website: https://www.denverhealth.org

COLORADO

The Department of Emergency Medicine at Denver Health is recruiting a full-time academic emergency physician scientist to serve as a core member of our research program with focus on Social Emergency Medicine. Preference will be given to individuals who have advanced training, dedicated interest, and a track record of accomplishment in this area. Faculty are expected to be highly motivated and engaged academicians, robustly contributing to, and aligned with, our departmental mission of 'Serving Our Patients and Leading Our Specialty.' As such, our recruitment will place a strong emphasis on teamwork and collaboration. This faculty position will directly report to the Director of Emergency Medicine Research and ultimately to the Chair of Emergency Medicine at Denver Health. As a full-time academic faculty position, based at the sponsoring institution for the Denver Health Residency in Emergency Medicine, there will be a heavy emphasis on, and expectation for, scholarship/research, teaching, and education, particularly in Social Emergency Medicine. All faculty are expected to contribute and promote in the Department of Emergency Medicine at the University of Colorado School of Medicine. The emergency department (ED) at Denver Health includes a 57-bed adult ED, a 19-bed pediatric ED and urgent care, and a 23-bed CDU providing observation medicine. With a combined annual census of more than 100,000 patient visits from highly diverse cultures and backgrounds, the ED at Denver Health is the second busiest in Colorado. The Ernest E Moore Shock Trauma Center at Denver Health is a Level 1 adult and Level 2 pediatric trauma referral center for the Rocky Mountain Region. Additionally, the acuity managed by the adult ED is high, with a 25% admission rate. Staffing in the adult and pediatric EDs is provided by board-eligible or board-certified emergency physicians, emergency medicine residents and subspecialty fellows, and advanced practice providers. Strong and extremely collaborative relationships exist among physicians, advanced practice providers, nursing, and consultative services. As an institution, Denver Health is a nationally recognized integrated health care system that serves as the primary Anchor Institution to the Denver metropolitan area and its diverse community. Denver Health and the Department of Emergency Medicine are firmly committed to diversity of our workforce. As medical providers, we are passionate about serving our diverse patient population and providing them with the best care. To achieve this, we dedicate significant resources as a team to incorporate cultural responsiveness, equity, and inclusion into every aspect of our work. Interested applicants can apply online or submit CV/Cover Letter to: Aaron Ortiz, Manager of Provider Recruitment Denver Health Medical Center Aaron.ortiz@dhha.org (PA 2092)
Email: aaron.ortiz@dhha.org
Website: https://www.denverhealth.org

CONNECTICUT

Trinity Health Of New England seeks BC/BE EM Physicians to join our emergency medicine teams at Mercy Medical Center in Springfield, Massachusetts, Saint Francis Hospital and Medical Center in Hartford, Connecticut and Saint Mary's Hospital in Waterbury, Connecticut. Our practice model empowers our physicians to work at their highest level, while allowing time for professional development and family life. Whether you are focused on providing outstanding patient-centered care or driven to grow into a leadership role, you will thrive at Trinity Health Of New England. To learn more, visit our provider portal at www.JoinTrinityNE.org (PA 2055)
Email: dhowe@TrinityHealthofNE.org
Website: https://www.jointrinityne.org/Physicians

MISSOURI

Mercy Emergency Medicine is currently seeking multiple board certified or board eligible Emergency Medicine Physicians to join our practices in Cape Girardeau, Dexter, and Perryville, Missouri. These positions offer: • Competitive, shift-based model • Comprehensive, day one benefits including health, dental, vision and CME. • System-wide Epic EMR • As a not-for-profit system, Mercy qualifies for Public Service Loan Forgiveness (PSLF) • These locations are eligible for J1 and H-1B sponsorship. • Select locations can accept Family Medicine trained physicians. Your life is our life's work For more information, contact: Camryn Rivenburgh, Physician Recruiter Phone: 573-902-2676 Camryn.Rivenburgh@Mercy.net (PA 2061)
Email: camryn.rivenburgh@mercy.net
Website: https://careers.mercy.net

MISSOURI

Mercy Emergency Medicine is currently seeking multiple board certified or board eligible Emergency Medicine Physicians to join our practices in Cape Girardeau, Dexter, and Perryville, Missouri. These positions offer: Competitive, shift-based model; Comprehensive, day one benefits including health, dental, vision and CME.; System-wide Epic EMR; As a not-for-profit system, Mercy qualifies for Public Service Loan Forgiveness (PSLF); These locations are eligible for J1 and H-1B sponsorship.; Select locations can accept Family Medicine trained physicians. Your life is our life's work For more information, contact: Camryn Rivenburgh, Physician Recruiter Phone: 573-902-2676 Camryn.Rivenburgh@Mercy.net | Providers - Mercy Careers AA/EEO/Minorities/Females/Disabled/Veterans (PA 2087)
Email: sandra.jones@mercy.net
Website: https://careers.mercy.net/

MONTANA

Emergency Medicine Physician Opportunity Benefis Health System, a large trauma center in Great Falls, MT, has a rare opening for an Emergency Medicine Physician to join our team. Department Information: - 33 bed Emergency Department, recent $12m remodel - 9 bed RME Unit - 11 bed Critical Care Unit - 13 bed Clinical Decision Unit - Well run, high functioning department, 30-35% admission rate - Large air ambulance program - fixed wing jet and helicopter completing 3-4 missions a day, 1100-1200 flights annually – flight team is based in ED (Adult, OB and NICU specific flight teams on call) - Always 2 board certified EM Physicians on shift as a resource – great staffing model to promote dedicated, safe patient care - Innovative technology throughout department including: - IV pumps programed by chars - Bedside ultrasound in all trauma bays - CT, x-ray and ultrasound live in ED footprint - 2 way radio real time communication - Tele-stroke, tele-neuro services - Dedicated ED communication center for all transports/external transfers - Extremely low turnover, our first posted physician opening in over 7 years due to changes in staffing model CONTACT US TODAY! (PA 2065)
Email: sydneewells@benefis.org
Website: https://www.benefis.org/

NEW YORK

The Institute for Critical Care Medicine of the Mount Sinai Health System seeks dynamic fellowship-trained Intensivists to join its faculties in the Medical Intensive Care Unit and Rapid Response Team service at the Mount Sinai Hospital site! The ideal candidate will provide state-of-the-art, evidence-based, critical care at MSHS by investigating, diagnosing, and treating acutely ill patients. Compensation ranges from 300K to 375K (not including bonuses / incentive compensation or benefits). Full job description: https://www.healthecareers.com/job/critical-care-physician-rapid-response-team-nicu-and-icu-manhattan-ny/3268823 Please specify Job Title of interest and send CV with Cover Letter to: Alex Cano Executive Director Physician Recruitment Mount Sinai Health System Alex.cano@mountsinai.org (PA 2053)
Email: Alex.cano@mountsinai.org

NORTH CAROLINA

Atrium Health Seeking Pediatric Emergency Medicine Physician - Charlotte, NC The Department of Emergency Medicine at Atrium Health Carolinas Medical Center and Atrium Health Levine Children's Hospital at the Wake Forest School of Medicine in Charlotte, NC seeks to hire a full-time pediatric emergency physician to join our faculty. Atrium Health is now part of Advocate Health, the third largest non-profit healthcare system in the country. Academic rank at the time of the appointment is commensurate with the candidate's experience and qualifications. Our Children's Emergency Department is a level I, academic, tertiary care pediatric emergency department serving just over 38,000 children per year. Charlotte is a growing, welcoming community in a bustling city just a few hours from the coast and the mountains. At the Department of Emergency Medicine at Carolinas Medical Center, we believe in an inclusive and equitable working and learning environment for all learners, staff, and faculty. Contact: Dr. Stacy Reynolds at stacy.reynolds@atriumhealth.org. (PA 2089)
Email: Laneisha.Faggart@atriumhealth.org
Website: https://careers.atriumhealth.org/jobs/14581950-physician-pediatric-emergency-medicine-charlotte-nc

ONTARIO, CA

Located in beautiful Windsor, Ontario, Canada, our client, Windsor Regional Hospital (WRH), is situated directly across the border from Detroit, Michigan. WRH is the regional provider of advanced care in complex trauma, renal dialysis, cardiac care, stroke and neurosurgery, and intensive care. WRH is seeking full-time or part-time Emergency Medicine Physicians to contribute to the top tier care provided in the Department of Emergency Medicine. Pathway licensure is easily available for US Board Certified Physicians through WRH and the College of Physicians of Ontario without requirement for supervision. Please forward a CV in confidence to: Robb Callaghan, E-mail: rcallaghan@medfall.com (PA 2068)
Email: rcallaghan@medfall.com
Website: https://www.medfall.com/

PENNSYLVANIA

Thomas Jefferson University Hospital (TJUH) at Sidney Kimmel Medical College in Philadelphia, Pennsylvania is looking for a medical director for our 54-bed department. We serve as the main academic training center for SKMC and serve a diverse urban population of over 72,000 patients/yr. Applicants must have a minimum of 5 years of clinical experience, board certification in EM, a minimum of 3 years of clinical leadership/administrative experience, be eligible for licensure in Pennsylvania and have a track record of effective team leadership and strong communication skills. Prior experience at academic or large health center preferred. Deadline to apply is 08/31/2024. (PA 2066)
Email: theodore.christopher@jefferson.edu

PENNSYLVANIA

Jefferson Health Northeast (JHNE) in Philadelphia seeks a highly motivated Emergency Medicine Ultrasound physician to join our dynamic team as Associate Director. The department boasts EM, EM/IM and EM/FM residencies. The position offers an exciting opportunity to contribute to our institution's commitment to excellence in emergency medicine education, patient care, and research. Candidates must be BE/BC in Emergency Medicine and will participate in training residents and students in ultrasound techniques, advancing clinical practice, and fostering academic growth within our department. Core responsibilities include teaching, curriculum development, quality assurance, image archiving and credentialing. Compensation is competitive for the region. (PA 2074)
Email: Amanda.neeson@jefferson.edu
Website: https://www.jeffersonhealth.org/home

PENNSYLVANIA

Department Chair & System Leader for Emergency Medicine, Thomas Jefferson University | Jefferson Health The successful candidate will serve as both Dept Chair for Emergency Medicine at Sidney Kimmel Medical College and System Leader for Jefferson Health's 170 academic and community-based ED physicians, who saw 585,567 patients across the system's 13 EDs last year. The Chair will oversee the academic department's 55 clinical faculty, 55 residents & fellows, and 21 APPs who staff Thomas Jefferson University Hospitals' 3 EDs, which saw 127,000 visits last year. For the full position description, email Jennifer.Rumain@jefferson.edu. (PA 2076)
Email: jennifer.rumain@jefferson.edu

TEXAS

McGovern Medical School at UTHealth Houston invites applicants for its Chair of Emergency Medicine. Our department's mission is to deliver state-of-the-art, compassionate, and equitable emergency and acute in-patient care to the community while implementing cutting-edge research; all while preparing the next generation of physicians. The department has a vibrant working environment characterized by an atmosphere of supportive, interdisciplinary collaboration. Candidates with a proven track record of implementing clinical/educational programs, faculty development and scholarship, and promoting innovative research are encouraged to apply. To confidentially request additional information or nominate a colleague, please email us at ChairEM@uth.tmc.edu. EOE, INCLUDING DISABILITY AND VETERANS (PA 2063)
Email: Gwendolyn.SmithJenkins@uth.tmc.edu
Website: https://careers.uth.tmc.edu/us/en/job/240000ZV/Chair-Emergency-Medicine-McGovern-Medical-School

VIRGINIA

The University of Virginia School of Medicine is pleased to announce a national search for the Vice Chair for Research in the Department of Emergency Medicine. This is an opportunity to lead and advance the department's research portfolio and efforts, work closely and collaboratively with the Emergency Medicine Research Office to execute clinical studies, and serve as the departmental steward in improving patient outcomes and emergency care through driving impactful research and training the next generation of Emergency Medicine researchers. Qualified candidates will have earned an MD or MD/PhD (or equivalent), be board certified in Emergency Medicine, and be eligible for licensure in the state of Virginia. Further, candidates must be eligible for a faculty appointment at the Associate or Full Professor level, have a strong record of research accomplishments, productivity, and peer-reviewed extramural funding, and a track record of program development and faculty and trainee recruitment and development. All application material should be submitted to: Tara Vittese Senior Associate, Healthcare Practice Korn Ferry tara.vittese@kornferry.com (PA 2054)
Email: tara.vittese@kornferry.com
Website: https://med.virginia.edu/

AAEM/RSA *Continued from page 27*

What about second looks—what are those and should I go?

- Second looks are a way for candidates to get to see residency programs in person, which is especially beneficial as the interview season is largely virtual.
- These are usually held in January and February after residency programs have finalized their rank lists, and it should **not** impact your ranking.
- These are entirely optional—you can go to one or two second looks, or none!
- I personally wanted to visit the top three programs on my rank list, as I hadn't rotated at all these programs. It was a great chance to socialize with residents and faculty, and get to see the emergency department in person. Plus, second looks usually included lunch or dinner!

I want to congratulate you again on this milestone, you are on the path to entering the best specialty in the house of medicine! For further questions, please visit aaemrsa.org for more information and advising assistance.

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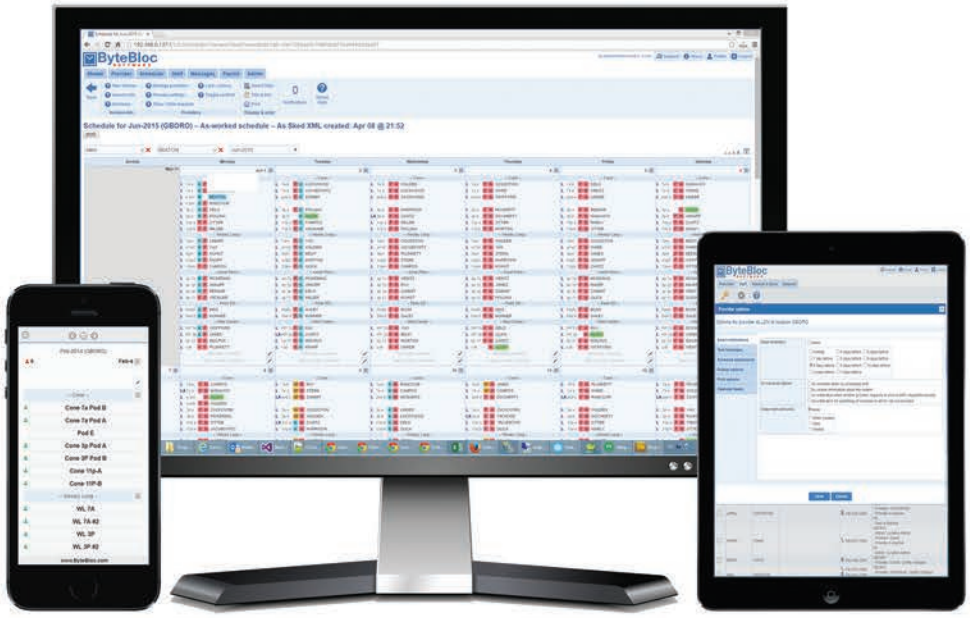

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