EM Resident
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The Opioid Epidemic
pg 8

Bridging the Gap: Gender & Leadership
pg 6

Sepsis 3
pg 12

Gun Violence in the Crosshairs
pg 30

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LETTER FROM THE EDITOR

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Abby Cosgrove, MD
Editor-in-Chief, *EM Resident*
Washington University in St. Louis
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I cried the first time I read general surgery resident Dr. Joshua Corso's Facebook post about his blood-stained shoes in the aftermath of the Orlando shooting. It went something like this: "On these shoes, soaked between its fibers, is the blood of 54 innocent human beings. I don't know which were straight, which were gay, which were black, or which were Hispanic. What I do know is that they came to us in wave upon wave of suffering. And somehow, in that chaos, doctors, nurses, technicians, police, paramedics, and others, performed super human feats of compassion and care… For on June 12, after the worst of humanity reared its evil head, I saw the best of humanity come fighting right back."

Less than a month later, I became tearful listening to Dr. Brian Williams, a trauma surgeon at Parkland Memorial Hospital in Dallas, Texas, speak with a quivering voice about the emotional impact of the shooting that killed five police officers on July 8. He talked about his regret in not being able to save them. He spoke eloquently about the complexity of his emotional response as an African American man who identifies with those who have felt targeted by law enforcement yet abhorred by the senseless acts of killing of those who are sworn to defend us.

As a human being, I am saddened, disheartened, and disillusioned. I mourn the lives lost, I grieve for their families, and I pray for a country that continues to be battered and broken by hateful acts of violence. I think about my fellow residents who have been on the front lines- who have been asked to rise above the grief when the tragedies of our time arrive at their doorsteps — and who continue to execute their jobs as physicians, providing the best care, even in the face of disaster. I cannot imagine the emotional toll of caring for these victims.

We are privileged to be tasked with such great responsibility, and to work within an environment that does not discriminate nor condemn on the basis of race, religion, gender, sexual orientation, or financial means; a safety net for our communities' most wounded and vulnerable citizens. It is also the place where our health disparities and public health crises are most intensely magnified. Where the hospital executive has his first heart attack in a room next to the Bosnian refugee with uncontrolled diabetes. Where the wealthy lawyer from out-of-town writhes in pain from a kidney stone next to the homeless man washing his clothes in the sink.

It is a place where people die from preventable diseases and situations- by guns and opioid overdoses, by uncontrolled hypertension and suicide attempts. As physicians, we are nowhere near perfect. We all have implicit biases that subconsciously impact the way we care for our patients. However, we must continue to try and be role models for the citizens of our country — to transcend boundaries of religion, ethnicity, race, gender, socioeconomic status, and political beliefs — to care for our fellow humans with compassion and empathy, and to remain just and kind. This is the America we must hope to represent. We have seen, in the care of the victims in both Orlando and Dallas, what is possible when we recognize that we are one American family. Let's continue to be the best that humanity has to offer, and to always "come fighting right back." ✶

I hope you find this issue as inspiring and motivating as I have,
as it addresses some of the most pressing matters of our time. I leave you with this…

"With all its sham, drudgery, and broken dreams, it is still a beautiful world."

— Max Erhman, *Desidarata*.

TABLE OF CONTENTS

EM Resident (ISSN 2377-438X) is the bi-monthly magazine of the Emergency Medicine Residents' Association (EMRA). The opinions herein are those of the authors and not of EMRA or any institutions, organizations, or federal agencies. EMRA encourages readers to inform themselves fully about all issues presented. *EM Resident* reserves the right to edit all material and does not guarantee publication.

Categories

COVER STORY

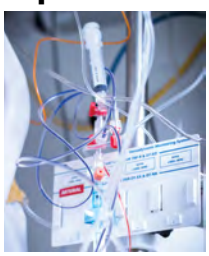
8 CLINICAL
Introducing the ALTO℠ Alternatives to Opioids Program
In his open letter to physicians in May 2016, Steven Stack, MD, FACEP, immediate past-president of the AMA, called upon the medical profession to "play a lead role in reversing the opioid epidemic that, far too often, has started from a prescription pad."

4 PRESIDENT'S MESSAGE
It's Time to Take a Stand

5 DIVERSITY
Diversity and Inclusion in Emergency Medicine
As our country grows more diverse, tackling health disparities is imperative to improving patient outcomes.

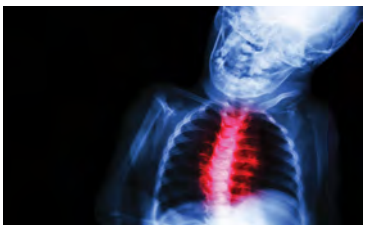
6 HEALTH LEADERSHIP
Gender and Leadership in Emergency Medicine
Bridging the Gap

12 CRITICAL CARE
SEPSIS-3: Redefining Sepsis



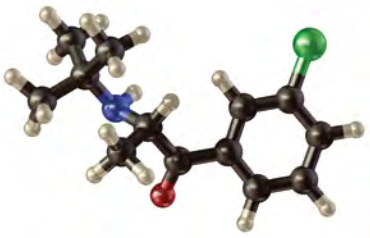
What EM Residents Need to Know

16 PEDIATRICS
Not Just Small Adults



Diagnosis and Management of Pediatric Infective Endocarditis

18 TOXICOLOGY
"Skinny Happy Drug" or Toxicologic Menace?
Bupropion



20 CRITICAL CARE
Ahead of the Curve
Assessment of Fluid Responsiveness in the ED

24 ABEM

In-Service Exams, E-Orals, and a New Emergency Medicine Dual Specialty

Updates from the American Board of Emergency Medicine

26 HEALTH POLICY

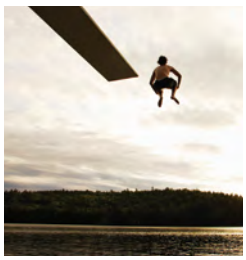
Life as a Physician in the Legislature

Updates from the American Board of Emergency Medicine

28 RESEARCH

Taking the Plunge

Lessons from ACEP's EMBRS Workshop



30 MEDICAL STUDENT COUNCIL

#EndStep2CS, Gun Violence Research, GME Funding, and More

EM Updates from the 2016 AMA Annual Meeting

31 EMPOWER

32 RESIDENT EDITORIAL

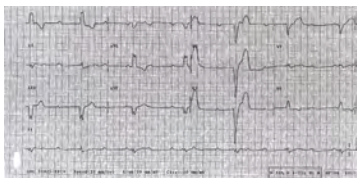
How Becoming a Patient's Family Member Changed Me as a Doctor

34 EM NEWS & NOTES

Current EM News of Note

Award Winner Reports, EM Day of Service, Resources, LAC Wrap-up, Upcoming Events and more

37 ECG CHALLENGE



40 BOARD REVIEW

Questions

41 VISUAL DIAGNOSIS

Diagnose this Condition

A 13-year-old boy presents with 3 days of worsening right ring finger pain...

42 RESEARCH

Rapid Research Review

An Initiative of the EMRA Research Committee

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IT'S TIME TO Take a Stand

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On June 12, 2016, the United States was again shaken to its core and reminded of the devastation that guns can cause. In a span of 3 hours, more than 50 young people were killed and at least 53 others were severely wounded in a mass shooting at a nightclub in Orlando, Florida. While reeling from the events, emergency medicine residents, attendings, hospital trauma teams, and staff in Orlando worked tirelessly to care for victims. They did this with compassion while coping with the carnage they were witnessing. As we have learned from the spate of recent mass shootings in our country and around the world, the emotional aftermath of the shooting will continue for years.

In a nation where the right to bear arms is cherished by much of the population, gun homicides are a significant public health concern. In a study published in March 2016 in *The American Journal of Medicine*, investigators found that despite containing only half the population of the other 22 high-income nations combined, the U.S. accounted for 82% of all firearm deaths. In addition, the U.S. accounted for 90% of all women, 91% of children aged 0-14 years, and 92% of youth aged 15-24 years who were killed by firearms.[1] Homicides by firearm totaled 8,124 in 2014, according to the FBI.[2] In 2016 there have already been 6,715 gun-related deaths.[3] These numbers do not even account for the numerous Americans who suffer lifelong injuries from gun violence.

The statistics are shocking, but even more shocking is the lack of response by our legislators. In fact, laws have been enacted to prevent organizations like the CDC from researching the public health implications of gun-related deaths. It is time for us as a physician community to fight for the protection of our patients, our families, and ourselves from gun violence. Though controversial, more stringent gun laws are clearly necessary. The Second Amendment was initially intended to protect the right to bear arms in the setting of militias. The exact wording states, "A well regulated militia being necessary to the security of a free State, the right of the People to keep and bear arms shall not be infringed." I don't know the happy medium that will protect broad rights while also preventing deaths due to gun violence, but I believe the first steps are tighter background checks and a ban on certain types of weapons.

This topic is, of course, controversial — many physicians are themselves gun owners — and it has morphed into a right-leaning vs. left-leaning battle. But when young people are dying at faster rates from gun violence than disease, something must be done. We are at a crossroads, and it is time for each of us to let our legislature know the carnage we see in the ED and hospitals as a result of gun violence is not what was intended by our forefathers. The American Medical Association (AMA) has taken the first step by passing a resolution asking for the reversal of legislation that bans the CDC from doing research on the effect of gun violence as it relates to public health in the United States. More must be done, and we as the new generation of physicians must carry the burden. We must work as a physician community to change how our public perceives guns and their effect on society.

I will leave you with one sobering fact. Last year's Paris attacks killed 130 people, which is nearly as many as die from gun homicides in all of France in a typical year. But even if France had a mass shooting as deadly as the Paris attacks every month, its annual rate of gun homicide death would be lower than that in the U.S.

Something must change, and emergency medicine physicians, who see the daily effects of gun violence, should be helping lead the charge for stricter gun laws. We must do this for the countless Americans who are injured or lose their lives daily as a result of gun violence. We must do this for our patients, and our families, and the betterment of our country. ✶

References available online.

Diversity and Inclusion

in Emergency Medicine

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As our country grows more diverse, tackling health disparities is imperative to improving patient outcomes. After all, human experiences and cultural perspectives intimately shape the interactions our patients have with physicians and the health care system.

Unfortunately, in the U.S., minority groups carry a disparate burden of health mortality and morbidity. For example, African-Americans suffer from early onset and greater severity of hypertension that has led to an 80% higher stroke mortality rate, a 50% higher heart disease mortality rate, and a 320% greater risk of hypertension-related end-stage renal disease when compared to the general population.[1,12] Other studies have discovered a significant difference in the likelihood of African-Americans, Hispanics, and Asians receiving coronary artery bypass graft or angioplasty for acute coronary syndromes when compared to Caucasians — even after controlling for primary diagnosis, age, gender, income, insurance, and co-morbidities.[2,12]

Half of uninsured Americans — many of whom will present to the ED — are from minority groups and are therefore more likely to have no usual source of care.[3,12] It is imperative that we recognize how important diversity and inclusion is to our specialty.

What Are the Benefits of Diversity and Inclusion?

Diversity and inclusion can improve learning and work environments, expand access to care, allow for heightened recognition of health inequities, and spur creative solutions to complex issues.

Increasing diversity within medicine could potentially increase access to care, as underrepresented minority physicians are more likely to serve in underserved areas.[4,5,12] Furthermore, studies have shown patients like physicians similar to themselves, and that when patients have demographic concordance, they are more satisfied, have more trust in the physician, and greater compliance to treatment.[6,12] This was found to be true not only as it pertains to race and ethnicity, but also rural/urban backgrounds and language, and likely translates to other areas of common ground.

Diversity and inclusion boost cultural competence and enhance learning and work environments. People who practice with others from different backgrounds feel more comfortable asking questions and learning about differences.[7,8,12] In *Blind Spot: Hidden Biases of Good People*, psychologists Mahzarin R. Banaji and Anthony G. Greenwald explain how our brains work differently when we feel connection with someone.[9,12]

EM: Where Do We Come In?

Even within our own specialty, ethnic, racial, and gender diversity is lacking.[10] Women represent 25% of emergency physicians and roughly 37% of EM residents and fellows;[11] 9% of emergency physicians and 14% of residents self-identify as underrepresented minority (URM).[10]

Diversity will only augment our breadth of knowledge as a group. We can utilize our colleagues' experiences when treating patients from different backgrounds.[12] Since a team-based approach is essential to emergency care, and as we interact daily with a variety of specialists and allied healthcare professionals, cultural competence can only strengthen our care.

On the Front Line

Emergency medicine has stood up among other specialties to champion diversity and inclusion within the house of medicine. Inclusion has been defined as "the active, intentional, and ongoing engagement with diversity; to extract the benefits of diversity."[12] EMRA and ACEP are promulgating inclusion initiatives.

In April 2016, ACEP hosted the first Diversity and Inclusion Summit to promote and facilitate diversity and inclusion and cultural sensitivity. Led by ACEP President-Elect Rebecca Parker, MD, FACEP, emergency physicians from around the country gathered in Dallas, Texas, for a day of facilitated sessions, brainstorming, and sharing of personal experiences. As a trainee, it was heartening to see that so many have done so much to promote diversity both within their institutions and within the specialty as a whole, but the summit also highlighted that much work is yet to be done. For every opportunity and reason to improve diversity in EM, barriers (both real and perceived) were also discussed, and together we considered ways to move past them. Moving forward, ACEP has created a Diversity and Inclusion Expert Panel to serve as subject matter experts, as well as a Diversity and Inclusion Task Force to work on strategies and tactics.

What We Can Do

I challenge all of you to consider how you personally can advocate for diversity and inclusion. Start by taking the Implicit Associations Test to gain insight into your own biases, visit https://implicit.harvard.edu/implicit. Get to know a colleague with a different background. Encourage your program to make diversity a priority. Get involved in EMRA and ACEP initiatives addressing diversity. It is time to move beyond diversity awareness to a conscientious integration of inclusion practices into emergency medicine. No action is too small. ✶

References available online.

— BRIDGING THE GAP —

Gender and Leadership in Emergency Medicine

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Emergency medicine (EM) residents face many time constraints: long work hours, endless emails, reading lists, research requirements, and lectures. Free time is an even more precious commodity for those with children or family obligations. Accommodating extracurricular commitments in an already packed schedule may seem impossible, and residents, particularly women, may shy away from leadership opportunities.

What Is the Leadership Gap?

During the past several decades, women have come a long way with respect to equality in the workplace, but there are still strides to be made. In a wide array of fields, women are not proportionately represented in executive leadership.[1] Only 25% of executive officers and 4% of chief executive officers (CEOs) of Fortune 500 companies are women. Women occupy just 19% of Fortune 500 board seats, despite comprising 45% of the labor force.[2]

Since 1980, women have outnumbered men on college campuses and have earned 60% of both undergraduate and master's degrees, and about half of all law and medical degrees (47% and 48% respectively).[1,3,4] However, women have not moved up into leadership positions at a corresponding rate.[4]

The Leadership Gap in Medicine

When it comes to leadership positions in medicine, women hold only 25.5% of leadership positions in medical schools and hospitals, including CEOs, executives, and board members.[4] In academia, after accounting for age, experience, specialty, and research productivity, women are substantially less likely than men to attain the rank of full professor.[5,6] In EM, women make up 36% of residents, 25% of the active EM physician workforce, and 32% of academic EM faculty - but, for example, only 12.5% of the ACEP Board of Directors.

References available online.

Why Does the Leadership Gap Exist?

Across professions, many have tried to explain the gap in leadership by citing higher rates of maternity leave and more time spent child-rearing, resulting in more part-time women workers. On the contrary, research has demonstrated that motherhood is not a factor in gender disparity.[7] No difference has been found in position, title, and/or earnings among female physicians with or without children.[7] Some point to overt discrimination, but there appears to be no single or simple answer to explain the leadership gap. **When considering women's obstacles to attaining leadership positions, there exist a set of complex challenges, both external and internal.**

Given fewer women executives, women may find fewer models for work-life balance and fewer mentors among women leaders. Additionally, many women will experience gender bias as they attain senior roles and leadership positions. **Women, far greater than men, find themselves struggling between being liked or being respected as leaders in the workplace.**[8] Women also face disproportionate professional penalties for starting and raising families.[9,10] Women negotiate less for pay and promotions or choose to opt out of certain opportunities in anticipation of starting a family.[1]

Why Should We Care About the Leadership Gap?

There is a need to implement processes that support life balance for both men and women. All parties benefit from diversity of gender, ethnicity, belief systems, background, and religion by creating diversity of thought. Since women and men may approach problems differently, increasing the number of women leaders will improve our collective efficacy. Additionally, women leadership has been shown to increase revenues and productivity of organizations, including hospitals.[4] Studies of Fortune 500 companies have found that the percentage of women among executives and on boards of directors is positively associated with an organization's financial performance and adoption of a transformational style of leadership.[11]

Why Should Women Residents Aspire to Leadership?

Given the gender-specific barriers to career satisfaction and advancement, personal enrichment, work-life integration, and recruitment and retention of women in EM, women physicians should take an active role in creating and influencing the policies that affect us. **Learning to lead early on *expands* the opportunities to achieve such a lifestyle and has the added benefit of serving patients and colleagues**. Additionally, exploring leadership roles may enhance the enjoyment of residency and allows us to find areas of fulfillment within a specific niche in emergency medicine.

How Can Women Get Involved in Leadership?

Resident leadership exists in many forms, such as teaching, presenting publicly, serving as chief resident, joining a national committee, or serving as a program liason to a national organization. Within EMRA, residents may consider joining the Representative Council or various committees and divisions. **It is actually very encouraging that the EMRA Board comprises 42.9% women, and that women lead 32.4% of EMRA's Committees and Divisions.** Some may argue that the gap is not necessarily in recruiting leaders early on, but in retaining these leaders.

FIGURE 1. Gender and Leadership in Emergency Medicine

ACEP Leadership Position	#	%
Board of Directors		
Female	2	**12.50%**
Male	14	87.50%
Chairs		
Female	11	**26.19%**
Male	31	73.81%
Committee Members		
Female	270	**28.10%**
Male	682	70.97%
Unknown	9	0.94%
Council Members		
Female	169	**26.83%**
Male	454	72.06%
Unknown	7	1.11%
Chapter Presidents		
Female	9	**19.15%**
Male	38	80.85%
Grand Total	**1696**	**100.00%**

Source: Publication of AAWEP

Fortunately, ACEP offers the American Association for Women Emergency Physicians (AAWEP), which was created to provide a network of support and education for women. **AAWEP aims to advance the leadership skills of women emergency physicians and promote mentorship opportunities to women at all career stages**. Likewise, the Association for Women in Academic Emergency Medicine (AWAEM) aims to promote the recruitment, retention, and advancement of women in academic EM. For residents, organizations such as AAWEP and AWAEM provide opportunities to network with women leaders and discuss the challenges of leadership including negotiation, time management, self-promotion, and problem-solving. To this end, **AAWEP has developed the Leadership Pipeline Project (LeaP) to identify and mentor future women leaders**.

What is a Leadership Pipeline?

A leadership pipeline is a model developed to help organizations grow leaders internally. It establishes a framework to identify future leaders, assess their competence, and plan their development. According to the model, senior leaders mentor more junior members through each leadership transition, promoting leaders from within the organization.[12] At each step, one develops skills unique to that level, which will be useful later in advancing roles.

Take the Leap!

We encourage women residents to assume leadership positions during residency because we know the satisfaction that comes with continued professional growth. Being a leader during residency requires discipline with one's time and obligations, but rewarding new opportunities make the investment worth the effort. Get involved in education and leadership within your residency, and seek out opportunities in national organizations or special interest groups. Take a leap so that we may start to bridge the leadership gap in medicine!

For more information about AAWEP and the Leadership Pipeline Project, visit acep.org/aawep/welcome. ✶

ON THE FRONTLINE

Introducing the ALTO℠ Alternatives to Opioids Program

In his open letter to physicians in May 2016, Steven Stack, MD, FACEP, immediate past-president of the AMA, called upon the medical profession to "play a lead role in reversing the opioid epidemic that, far too often, has started from a prescription pad."

Over the past several years, drug overdose has become the leading cause of accidental death in the United States. Most estimates report that approximately 2 million Americans abuse or are dependent on prescription opioids, and at least 500,000 individuals use heroin. In 2014 alone, there were almost 50,000 lethal drug overdoses, with nearly 19,000 of these deaths related to prescription pain relievers and an additional 11,000 deaths related to heroin abuse.[1] **Opioid painkillers are notorious for being the *driving force* in the rise of substance abuse and lethal overdoses.** In fact, 4 out of 5 new heroin users started out misusing prescription painkillers, often prescribed by a physician for acute pain or injury.[2] Furthermore, recent celebrity deaths due to opioids have caused a fury of media attention calling for reform.

Emergency medicine physicians are on the forefront of this reform. In his open letter to physicians in May 2016, Steven Stack, MD, FACEP, immediate past-president of the AMA, called upon the medical profession to "play a lead role in reversing the opioid epidemic that, far too often, has started from a prescription pad."[3] Some of these proposed changes include avoiding initiating opioids for new patients with chronic non-cancer pain, using state prescription drug monitoring programs to monitor opioid use, and reducing opioid exposure in patients who are already on opioid therapy. **As emergency physicians, we are uniquely positioned to play an important role in confronting the opioid crisis.**

In January 2016, the emergency department at St. Joseph's Healthcare System in New Jersey launched an innovative program known as ALTO℠ – Alternative to Opioids. The first program of its kind in the United States, ALTO℠ was led by Mark Rosenberg, DO, MBA, FACEP, chairman of Emergency Medicine and Medical Director for Population Health at St. Joseph's Healthcare System, as well as by Alexis LaPietra, DO, Medical Director of Pain Management in the ED. **The aim of the program is to limit the use of opioids when possible and to provide alternative protocols for pain management** such as non-opioids pain medications, trigger point injections, nitrous oxide, and ultrasound guided nerve blocks.

The idea of an "opioid-free ED" was first described by Sergey Motov, MD, FAAEM, of Maimonides Medical Center in Brooklyn, New York, and much of the basis for the ALTO℠ program stems from his teachings. In order to achieve this goal,

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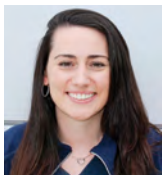

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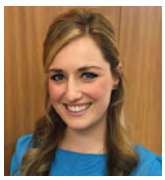

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References available online.

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Steven Stack, MD, FACEP, an emergency medicine physician and immediate past-president of AMA, confronted the crisis in an open letter to America's physicians on May 11, 2016.

CONFRONTING A CRISIS: AN OPEN LETTER TO AMERICA'S PHYSICIANS ON THE OPIOID EPIDEMIC

The medical profession must play a lead role in reversing the opioid epidemic that, far too often, has started from a prescription pad.

For the past 20 years, public policies—well-intended but now known to be flawed—compelled doctors to treat pain more aggressively for the comfort of our patients. But today's crisis plainly tells us we must be much more cautious with how we prescribe opioids.

At present, nearly 2 million Americans—people across the economic spectrum, in small towns and big cities—suffer from an opioid use disorder. As a result, tens of thousands of Americans are dying every year and more still will die because of a tragic resurgence in the use of heroin.

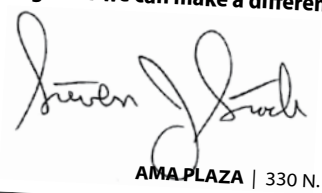
As a profession that places patient well-being as our highest priority, we must accept responsibility to re-examine prescribing practices. We must begin by preventing our patients from becoming addicted to opioids in the first place. We must work with federal and private health insurers to enable access to multi-disciplinary treatment programs for patients with pain and expand access for medication-assisted treatment for those with opioid use disorders. We must do these things with compassion and attention to the needs of our patients despite conflicting public policies that continue to assert unreasonable expectations for pain control.

As a practicing emergency physician and AMA President, I call on all physicians to take the following steps—immediately—to reverse the nation's opioid overdose and death epidemic:

- **Avoid initiating opioids** for new patients with chronic non-cancer pain unless the expected benefits are anticipated to outweigh the risks. Non-pharmacologic therapy and non-opioid pharmacologic therapy are preferred.
- **Limit the amount of opioids** prescribed for post-operative care and acutely-injured patients. Physicians should prescribe the lowest effective dose for the shortest possible duration for pain severe enough to require opioids, being careful not to prescribe merely for the possible convenience of prescriber or patient. Physician professional judgment and discretion is important in this determination.
- **Register for and use your state Prescription Drug Monitoring Program (PDMP)** to assist in the care of patients when considering the use of any controlled substances.
- **Reduce stigma** to enable effective and compassionate care.
- **Work compassionately** to reduce opioid exposure in patients who are already on chronic opioid therapy when risks exceed benefits.
- **Identify and assist patients** with opioid use disorder in obtaining evidence-based treatment.
- **Co-prescribe naloxone** to patients who are at risk for overdose.

As physicians, we are on the front lines of an opioid epidemic that is crippling communities across the country. We must accept and embrace our professional responsibility to treat our patients' pain without worsening the current crisis. These are actions we must take as physicians individually and collectively to do our part to end this epidemic.

Together we can make a difference.



AMA PLAZA | 330 N. WABASH AVE. | SUITE 39300 | CHICAGO, IL 60611-5885

TABLE 1. Non-Opioid Suggestions for Pain Management in Select Conditions

Condition	Analgesia
Acute Headache	Ibuprofen/Ketorolac, Acetaminophen, Reglan, Trigger point injection, Magnesium, Valproic Acid, Dexamethasone, Haldol
Renal Colic	Ketorolac, Acetaminophen, Cardiac lidocaine
Musculoskeletal Pain (sprains, strains or opiate naive low back pain)	Ibuprofen/Ketorolac, Acetaminophen, Cyclobenzaprine, Lidocaine patch, Gabapentin, Trigger point injection
Acute on Chronic Radicular Low Back Pain (opiate tolerant)	Ibuprofen/Ketorolac, Acetaminophen, Cyclobenzaprine, Lidocaine patch, Gabapentin, Trigger point injection, Dexamethasone, Ketamine
Extremity Fracture or Joint Dislocation	Acetaminophen, Ketamine Intranasal, Nitrous Oxide, Ultrasound guided regional anesthesia

All treatment regimens must be tailored to the individual patient with consideration of comorbidities, allergies, and recent medication use.

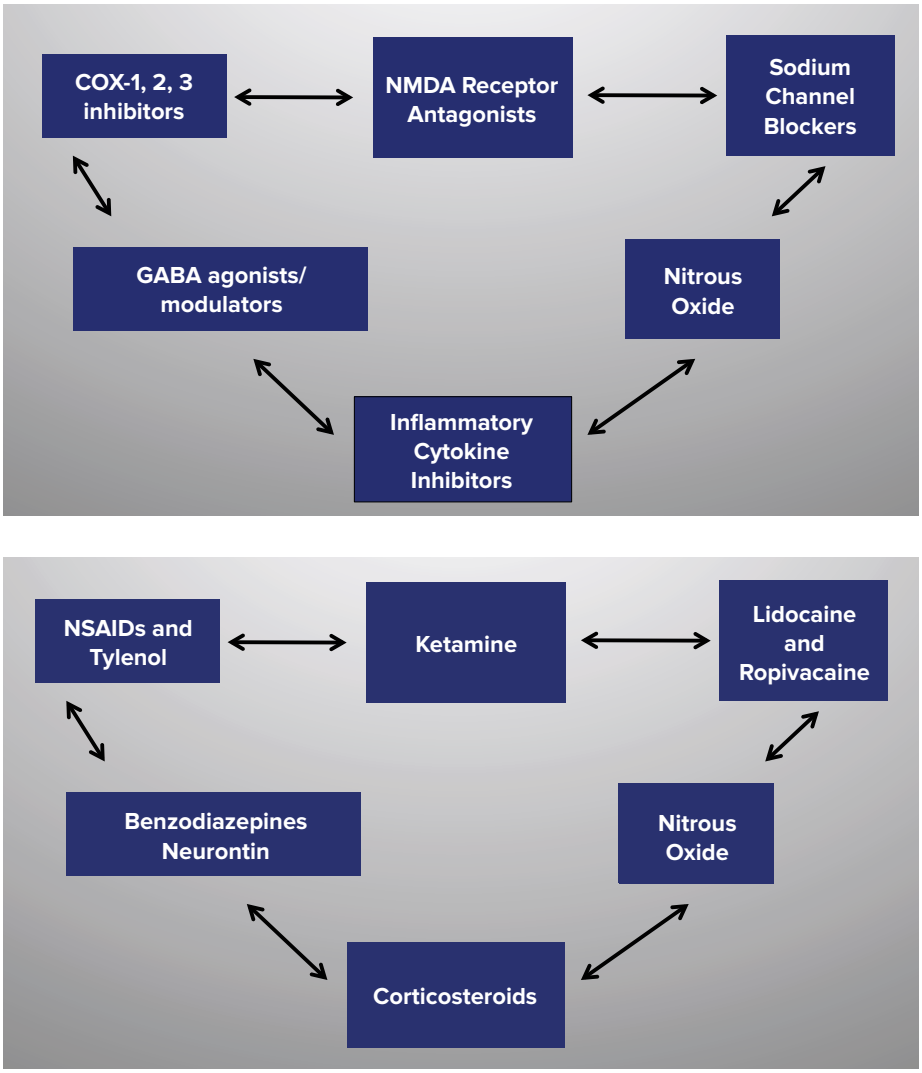
Dr. Motov describes a CERTA (Channels, Enzymes, Receptors, Targeted, Analgesia) concept. By integrating different *channel blocking agents* such as lidocaine, *enzyme inhibitors* such as NSAIDs, and *receptor blockers* like ketamine, one is able to achieve superior analgesia without the undesirable side effects of opioids (Figure 1). Common conditions that the program targets are acute headache, renal colic, acute on chronic radicular low back pain, musculoskeletal pain, and extremity fractures or dislocations (Table 1). Of course, all treatment regimens must be tailored to the individual patient with consideration of comorbidities, allergies, and recent medication use.

Over the first 2 months of the program, **it is estimated that approximately 50% of the 500 patients treated according to the ALTO℠ protocol, who otherwise may have received opioids for their acute pain, were treated with an alternative opioid-free regimen**. Data is currently being validated in a formal analysis, and the results are optimistic. As we explore additional clinical applications for these alternative treatments, we hope to continue managing our patients' pain effectively while minimizing excessive and unnecessary use of opioids in the emergency department.

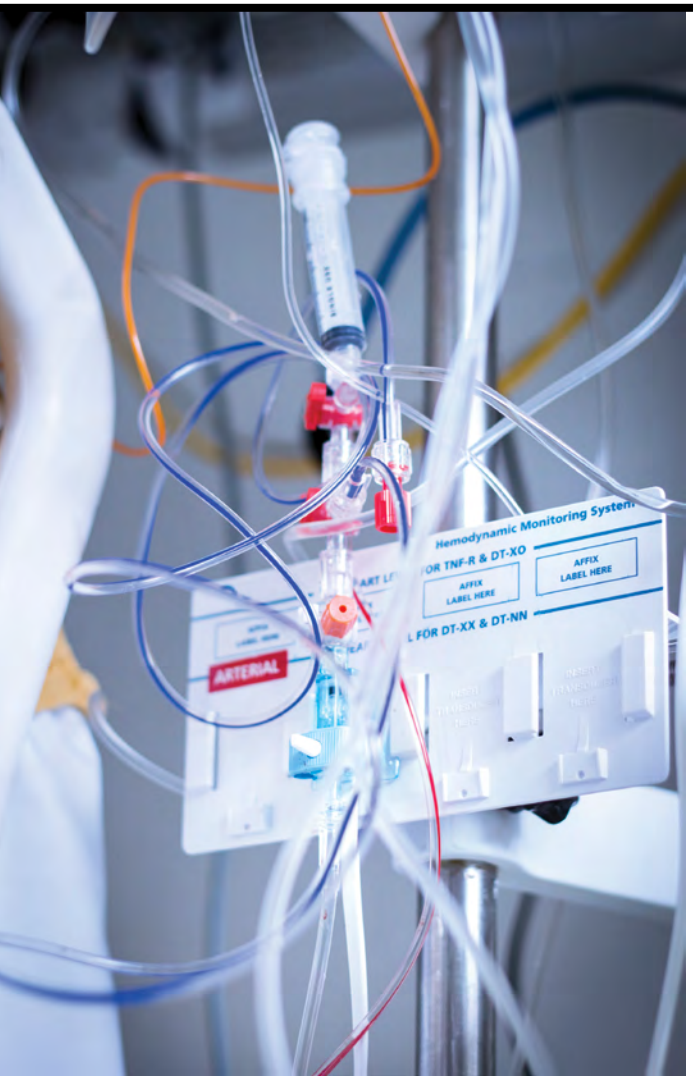
Gaining Momentum

The ALTO protocol is garnering widespread attention, with *The New York Times* focusing on the concept in a June 2016 piece, found here: http://www.nytimes.com/2016/06/14/health/pain-treatment-er-alternative-opioids.html. ✶

FIGURE 1. CERTA (Channels, Enzymes, Receptors, Targeted, Analgesia) Concept



Source: Sergey Motov, MD, FAAEM, of Maimonides Medical Center. Lectures found at http://www.painfree-ed.com/lectures.



SEPSIS-3
Redefining Sepsis

What EM Residents Need to Know

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Sepsis definitions were last revised in 2001. Since then, discoveries have been made regarding the pathobiology, management, and epidemiology of sepsis. In 2014, the Society of Critical Care Medicine and the European Society of Intensive Care convened a task force to produce the Third International Consensus Definitions for Sepsis and Septic Shock.[1] Existing sepsis definitions were felt to place excessive focus on inflammation, and systemic inflammatory response syndrome (SIRS) criteria were found to have inadequate sensitivity and specificity for sepsis. Furthermore, unclear definitions of organ dysfunction and septic shock were felt to contribute to large differences in sepsis incidence and mortality across epidemiological studies.

Methods

To inform their decisions, the task force first conducted a systematic review and meta-analysis of previously published epidemiological studies and cohort studies using the Surviving Sepsis Campaign registry and electronic health record (EHR) data sets.[2,3] Using this data, the task force used a Delphi process to reach a consensus.[2] A Delphi process is a systematic and interactive forecasting method in which a series of surveys are conducted by a panel with the goal of reaching a convergent opinion. New criteria were defined and validated in separate EHR data sets.[3]

Multivariable logistic regression was used to identify a new clinical model, termed quick SOFA (qSOFA), in which any 2 of 3 clinical variables—Glasgow Coma Scale score less than 15, systolic blood pressure of 100 mm Hg or less, and respiratory rate 22/min or greater—offered similar predictive validity to that of the full Sequential Organ Failure Assessment (SOFA) score outside of the ICU (Table 1).[1]

New Recommendations

Updated definitions, clinical criteria, and associated mortality are provided in Table 2. The task force utilized the previously described SOFA score as part of the clinical criteria for sepsis (Table 3).[4] The SOFA score is an existing scoring system for organ dysfunction well known within the critical care community. High SOFA scores are associated with an increased probability of mortality, with a mortality rate of 9% for ICU patients with no organ failure on admission, and increasing to 82.6% for ICU patients with

Future consensus statements regarding the early identification and treatment of sepsis will need to include representation from EM physicians, who are among the clinicians most often diagnosing and initiating management of sepsis.

TABLE 1. qSOFA (Quick Sofa) Criteria[1]

Altered mentation (GCS <15)
Systolic blood pressure <100 mm Hg
Respiratory rate >22/min

four or more failing organs.[5] **The idea behind the novel qSOFA score is to provide quick bedside criteria to help identify adult patients with suspected infection in out-of-hospital, emergency department, and ward settings who are likely to have poor outcomes.**

Clinical Impact

The authors concluded that the updated definitions will provide greater consistency for future research and facilitate timely detection and treatment of patients with sepsis or those at risk of developing sepsis.

qSOFA has the potential to be used as the new sepsis screening tool in pre-hospital, emergency department, and inpatient settings. **In patients with known or suspected infection, it could replace SIRS as a new tool used to trigger sepsis alerts which have been targeted in hospitals' efforts to meet federal quality standards.**

How to Use qSOFA and SOFA

It is important to remember that qSOFA was developed as a risk stratifier, not as a screening tool. However, given that the new definition of sepsis implies increased mortality, after suspecting or identifying infection, qSOFA can then be used as a screening tool for sepsis. Clinicians must still use their clinical gestalt first to decide if an undifferentiated patient could have an infection. Only then is it appropriate to apply qSOFA.

Even if a patient with a presumed infection does not meet qSOFA criteria, if sepsis is still suspected, clinicians should proceed to assess for evidence of organ dysfunction utilizing the SOFA score (Figure 1). A patient with a SOFA score ≥2 can then be diagnosed with sepsis.

Finally, if a septic patient is requiring vasopressors to maintain a MAP ≥65 mm Hg and has a persistent lactate >2 mmol/L (18 mg/dL) despite adequate fluid resuscitation, this patient is in septic shock.

FAQs

Q. How do I score SOFA in my patients with chronic organ dysfunction, such as those with end-stage renal and end-stage liver disease who have baseline lab abnormalities?

A: These patients have worsening organ dysfunction if their SOFA score is ≥2 points higher than their baseline labs.

Q. What is adequate fluid resuscitation?

A: No consensus exists. Previous sepsis guidelines have recommended fluid resuscitation with a minimum of 30 ml/kg crystalloid bolus within the first three hours of management.[8] Within Sepsis-3, criteria for adequate fluid resuscitation were not defined because this variable is highly user dependent. However, the authors described that if a patient's hypotension is fluid responsive (presumably with any amount of fluids), thus not requiring the use vasopressors, this patient does not meet criteria for septic shock.

TABLE 2. New Sepsis and Septic Shock Definitions, Criteria and Associated Mortality

	Previous definition	Sepsis-3 definition	Clinical criteria	Associated mortality
Sepsis	2 or more SIRS criteria in the setting of infection[6,7]	Life-threatening organ dysfunction caused by a dysregulated host response to infection[1]*	Suspected or documented infection and an acute increase of ≥2 SOFA points (a proxy for organ dysfunction)[1]	A SOFA score ≥2 reflects an overall mortality risk of approximately 10% in a general hospital population with suspected infection[1]
Septic Shock	Sepsis with arterial hypotension despite adequate fluid resuscitation (30 ml/kg fluid bolus)[6,7]	A subset of sepsis in which underlying circulatory and cellular/metabolic abnormalities are profound enough to substantially increase mortality[1]	Sepsis and vasopressor therapy needed to elevate MAP ≥65 mm Hg and actate >2 mmol/L (18 mg/dL) despite adequate fluid resuscitation[1]	Hospital mortality is in excess of 40%[1]

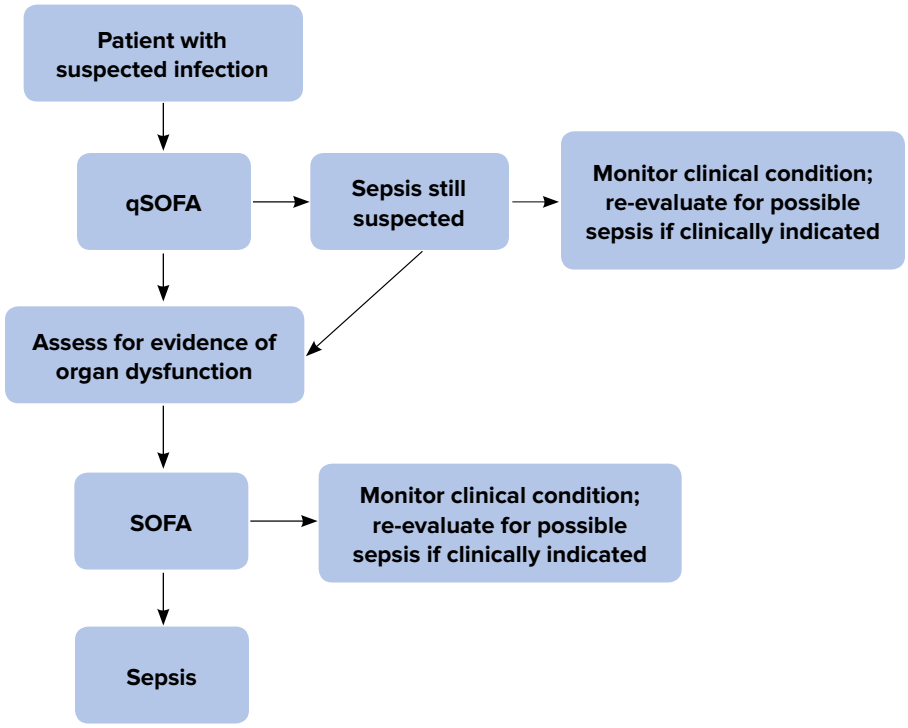
**Replaces severe sepsis, previously defined as "sepsis complicated by organ dysfunction."[7]*

Limitations

Prospective studies are needed to gauge the impact of SOFA and qSOFA on morbidity and mortality and whether they lead to a change in management in practice.

Emergency medicine (EM) experts were not a part of the task force, and no EM organizations have endorsed the new definitions. Future consensus statements regarding the early identification and treatment of sepsis will need to include representation from EM physicians, who are among the clinicians most often diagnosing and initiating management of sepsis.

FIGURE 1. Model for Utilizing qSOFA and SOFA to Diagnose Sepsis[1]



Take-Home Points

- Sepsis is now defined as life-threatening organ dysfunction (an acute increase of ≥2 SOFA points) caused by a dysregulated host response to infection.
- Septic shock is a subset of sepsis in which underlying circulatory and cellular/metabolic abnormalities are profound enough to substantially increase mortality. These patients require vasopressor therapy to elevate MAP ≥65 mm Hg and have a lactate >2 mmol/L (18 mg/dL) despite adequate fluid resuscitation.
- SOFA can be used to score organ dysfunction and predict hospital mortality in septic patients.
- qSOFA can be rapidly scored at the bedside and can facilitate prompt recognition of life-threatening infection and thus assist the EM physician in prioritizing resuscitative efforts and making triage decisions. See qsofa.org for more information and a qSOFA calculator. ✶

The SOFA score is an existing scoring system for organ dysfunction well known within the critical care community.

TABLE 3. Sequential Organ Failure Assessment (SOFA) Score[a]

System	Score 0	1	2	3	4
Respiration PaO_2/FiO_2, mm Hg	≥400	400	300	200	100
Coagulation Platelets, $x10^3/\mu L$	≥50	150	100	50	20
Liver Bilirubin, mg/dL	1.2	1.2–1.9	2.0–5.9	6.0–11.9	12
Cardiovascular mm Hg, µg/kg/min for at least 1 hour	MAP ≥70	MAP 70	Dopamine 5 or any dose of dobutamine[b]	Dopamine 5.1-15 or epinephrine ≤ 0.1 or norepinephrine ≤0.1[b]	Dopamine 15 or epinephrine 0.1 or norepinephrine 0.1[b]
CNS Glasgow Coma Scale	15	13–14	10–12	6–9	6
Renal Creatinine mg/dL or urine output mg/day	1.2	1.2–1.9	2.0–3.4	3.5–4.9 or <500	5.0 or <200

Abbreviations: FiO_2, fraction of inspired oxygen; MAP, mean arterial pressure; PaO_2, partial pressure of oxygen. [a] Adapted from Vincent et al. [4] [b] Catecholamine doses are given as µG/kg/min for at least 1 hour.

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Not Just Small Adults

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Diagnosis and Management of Pediatric Infective Endocarditis

Pediatric infective endocarditis (IE) is a diagnostically challenging infection in children, as it often presents with vague or subtle signs and symptoms. When suspected, significant hospital resources and subspecialty support are needed. While the incidence is rare, if missed, the disease is associated with significant morbidity and mortality. It is therefore imperative that emergency physicians understand the unique features of IE in the pediatric population, as well as the appropriate diagnostic tools and most current treatment recommendations.

Epidemiology

In general, IE occurs less often in children than it does in adults. Surprisingly, the incidence of pediatric IE has actually increased in recent years, largely due to improved survival among children with congenital heart disease (CHD) in developed countries, despite the significant decrease in rheumatic heart disease.[1] Studies have estimated that anywhere between 50% and 90% of pediatric patients with endocarditis had a prior history of CHD and/or cardiac repair.[2,3,4]

In addition, the more complex management of patients in neonatal and pediatric intensive care units have increased the amount of pediatric patients who develop catheter-related IE, with or without underlying CHD.[1]

Immunocompromised states with co-existing oncologic, immunologic, or infectious disease processes place older children at risk, while lifestyle factors such as intravenous drug abuse play an increasing role in adolescent populations.[5]

Pathophysiology

Infectious endocarditis occurs when damaged endothelium or valvular tissue produces an environment where platelets and fibrin deposit, thus providing a nidus in which organisms can adhere and form an infected vegetation.[1]

As with adults, gram-positive bacteria represent the majority of organisms responsible for pediatric IE. This includes viridans group streptococci, staphylococci (most dangerously methicillin-resistant *S. aureus*), and enteroccoci.

Less frequently, gram-negative species such as the HACEK group (*Hemophilus, Aggregatibacter, Cardiobacterium, Eikenella, and Kingella* species) are implicated in the pathogenesis of IE. Fungal endocarditis is usually caused by *Candida* and less likely *Aspergillus* species.[6-7]

Culture-negative IE can occur in up to 5% to 10% of children. This diagnosis is made when a patient has clinical evidence of IE but persistently negative blood cultures.[1] It occurs more frequently when HACEK and fungal organisms are the causative etiology, as they are difficult to grow on a standard culture medium. It may also occur in the setting of previous antibiotic use, or when the organisms remain walled-off within a vegetation.[7]

Diagnosis

The presentation of endocarditis can be categorized into fulminant (acute) and subacute processes. These classifications refer to both rate and severity of disease progression. Fulminant endocarditis, for example, can occur over days to weeks, and is often compounded by distributive and cardiogenic shock. Rapid assessment, stabilization, and intensive therapy are indicated immediately.

Most cases of pediatric endocarditis, however, present subacutely. Signs and symptoms are often vague and nonspecific, and include low-grade fever, malaise, myalgias, arthralgias, and headaches.[6,7] On exam, a new or changing heart murmur may be auscultated. Of course, a history of CHD, prior cardiac surgery, prior indwelling catheter, prosthetic material and/or prior valvular damage should increase suspicion.

Several studies have verified that the Duke criteria remain superior to other criteria for the diagnosis of IE in children. As a reminder, these criteria utilize clinical, microbiologic, and echocardiographic components and require a combination of major and/or minor criteria in order to make the diagnosis. Important differences include the fact that extracardiac manifestations of IE (eg, Janeway lesions, Osler's nodes) are less common in children than adults. Typically, the recommendation is for 3 blood cultures to be drawn at least an hour apart on the first day, followed by 2 more on the second day if there is no growth.[1]

Endocarditis remains a difficult diagnosis to make, particularly in the emergency department. **Limited diagnostic criteria at time of presentation and absence of echocardiographic evidence contribute to the diagnostic dilemma.** In addition, laboratory evaluation in the emergency department is often inconclusive and nonspecific.[1,5,7] As a result, many patients are initially misdiagnosed before being correctly identified on a return visit.[8] There is value in point-of-care ultrasound, which may expedite diagnosis and treatment. The comfort and skill level of the ultrasonographer and the identification of a vegetation or new valvular damage are all factors that contribute to early and accurate diagnosis.[9]

Treatment and Complications

In general, the principles of management of pediatric IE are similar to those for treatment of adult IE. **If and when endocarditis is suspected, a multidisciplinary approach is necessary.** Support from cardiology, infectious disease, and intensive care may be required. Empiric antibiotics should be initiated after cultures are obtained. As cultures speciate, a transition to sensitivity-based targeted therapy will be appropriate. Antibiotics are typically continued for 4-6 weeks.

Factors that predispose to the development of complications include type of organism, location and size of vegetation, and presence of other comorbid medical conditions, particularly cardiac issues. **Intractable heart failure, uncontrolled infection, prosthetic valve or shunt endocarditis, and embolic events may require surgical intervention.**[6] Furthermore, severe neurological manifestations may occur with bacterial dissemination to the brain. Because of these types of complications, endocarditis carries a significant mortality rate of 6-14%.[2,5,7]

Conclusion

Pediatric IE is a rare but dangerous condition whose diagnosis requires a high level of suspicion. Since it often presents subacutely and in a child with undifferentiated fever, one must be sure to inquire about prior history of CHD, cardiac surgery, or history of indwelling catheter in a previously critically ill child. While the diagnosis is not always made in the emergency department, appropriate level of concern is the key to preventing morbidity and mortality. ✶

References available online.

Surprisingly, the incidence of pediatric IE has actually increased in recent years, largely due to improved survival among children with congenital heart disease.

"Skinny Happy Drug" or Toxicologic Menace?

Bupropion

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A 24-year-old woman with a history of bulimia and depression is brought to the emergency department by ambulance. The patient is agitated and unable to give much history. She has an episode of emesis soon after arrival and complains of "bugs crawling" on her skin. An empty bottle of extended-release bupropion was found at her apartment. Initial vital signs are T 37.5 BP 135/85, HR 125, RR 22. Thirty minutes after arrival, the patient's nurse informs you the patient is now seizing.

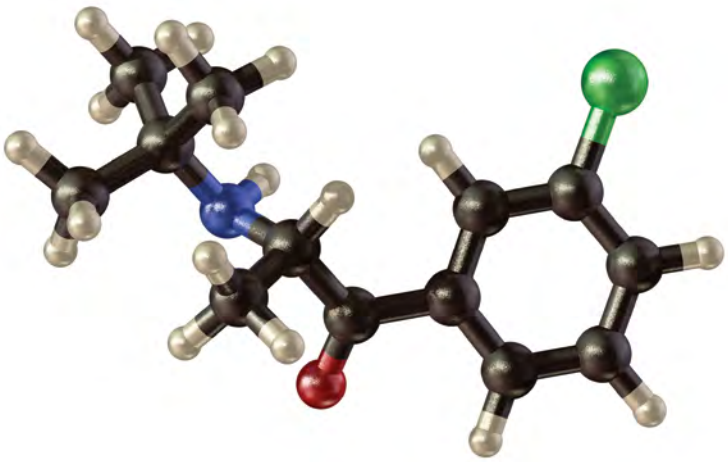
Bupropion is an atypical antidepressant, popular because of its efficacy in treating depression with a lower incidence of the sexual side effects of other antidepressants.[1] Bupropion is also widely used as a smoking cessation agent.[2] Off-label indications include weight loss and attention deficit hyperactivity disorder.[3] Bupropion is also a drug of abuse, purported to offer a cocaine-like high when crushed and insufflated.[4]

Pathophysiology

A monocyclic aminoketone, bupropion shares structural similarity to cathinone, a naturally occurring amphetamine analogue found in the leaves of *Catha edulis*, the plant from which illicit synthetic cathinones

References available online.

Seizures are dose-dependent, occurring most commonly with ingestions greater than 2.5g or in patients with lowered seizure thresholds.



("bath salts") are derived *(Figure 1)*.[5] Bupropion is usually prescribed in extended release formulations and has active metabolites that contribute to a biologic half-life of up to 50 hours.[6] The primary method of action is inhibition of the presynaptic reuptake of dopamine and norepinephrine.

Most bupropion exposures are mild, with symptoms including tachycardia, agitation, nausea, and vomiting. Severe symptoms may include seizures and dysrhythmia. Most minor symptoms resolve within 24 hours, but may take up to several days for large ingestions of extended release preparations.[7]

Seizures are dose-dependent, occurring most commonly with ingestions greater than 2.5g or in patients with lowered seizure thresholds *(Table 1)*.[8] Onset is typically within hours of ingestion but can be delayed up to 24 hours, particularly with sustained release preparations.[7] A common neurologic prodrome may include agitation, tremors, and hallucinations.[8] In rare cases, bupropion overdose has led to status epilepticus.[7]

Cardiotoxicity is rare, but both QTc prolongation and QRS widening have been reported with the potential to progress to ventricular arrhythmias and arrest. It was previously thought that sodium channel blockade was responsible for this effect; however, one animal study suggests that disruption of gap junctions between cardiac myocytes is involved.[9,10]

Treatment

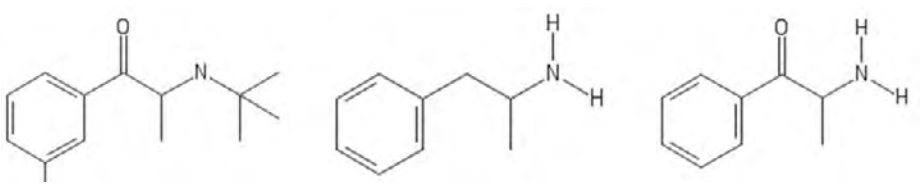
As with most toxic states, monitoring and supportive care are essential. Activated charcoal and gastric lavage may be considered for patients presenting within 60 minutes and with low aspiration risk. Whole bowel irrigation may be considered for large ingestions of long-acting preparations.[11] Successful use of intravenous lipid emulsion therapy has been reported for a toxic ingestion progressing to cardiac arrest refractory to advanced cardiac life support.[12] Charcoal hemoperfusion has also been reported favorably, but lack of availability renders it an impractical option for many.[13] Due to the possibility of delayed toxicity, asymptomatic children who accidentally ingest more than 10mg/kg should be observed for no less than 14 hours.[14]

For seizures, treatment with benzodiazepines is indicated. If necessary, barbiturates and propofol may be considered for refractory seizures.[11] Regarding cardiotoxicity, sodium bicarbonate has been employed to narrow widened QRS complexes, with mixed results.[9,10] ✶

TABLE 1. Risk Factors for Development of Seizures while using Bupropion[7,8]

Risk factors for seizures in patients using bupropion
Dose increase or overdose
Co-ingestion of sympathomimetics or known seizurogenic medications
History of previous seizure
Anorexia nervosa or bulimia
History of head trauma
Alcohol withdrawal

FIGURE 1. Comparison of Bupropion Structure with Amphetamine and Cathinone



Bupropion Amphetamine Cathinone

Case Resolution

Intravenous lorazepam is administered and the patient has no additional seizures. She is admitted for continued observation and her toxidrome resolves within 24 hours without sequelae. ✶

Ahead of the Curve

Assessment of Fluid Responsiveness in the ED

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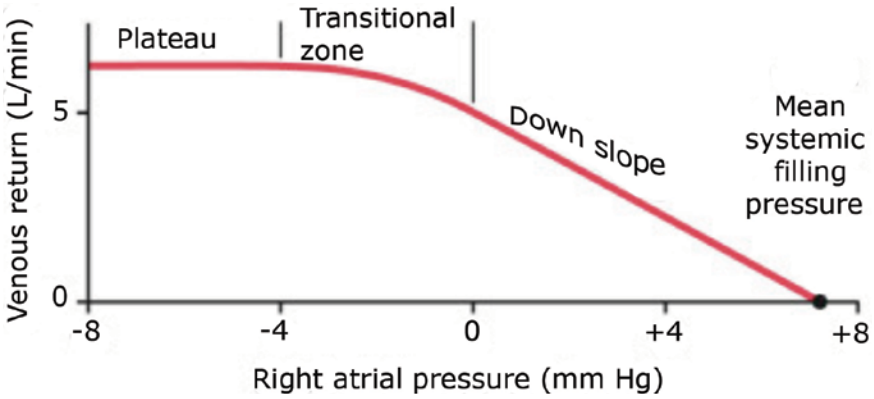
A 70-year-old male with a history of atrial fibrillation and congestive heart failure presents to the emergency department (ED) hypotensive, tachycardic, and hypoxic. Initial resuscitation with 30 cc/kg of crystalloid brings his mean arterial pressure (MAP) from the 40s to the 50s. The concern for septic shock is high, as is the fear of impending respiratory collapse and fluid overload. You ask yourself, "What's my next move? Do I give him more fluid? Where along the Frank-Starling curve does he lie?"

Fluid responsiveness and fluid tolerance remain highly debated topics in emergency and critical care medicine. **Generally, to be "fluid responsive" means that a patient has a 15% increase in cardiac output (CO) following intravenous volume expansion** (the amount of which has not yet been standardized, but is often 500 mL administered over 10 minutes). The challenge lies in identifying these patients, since studies continue to cite that nearly 50% of all ICU patients are not fluid responsive, implying that their hemodynamics are operating on the flat portion of a Frank-Starling curve.[1] Continuing to administer intravenous fluid could risk pulmonary edema and volume overload.

The importance of fluid responsiveness expands beyond the emergency department and is now included in national standards of care. Sepsis continues to be a significant

The current challenge is that there is no standard of care for assessing fluid responsiveness.

FIGURE 1. Venous Return Curve[5]



burden on worldwide healthcare resources, and the importance of understanding heart-lung physiology for the appropriate treatment of these patients cannot be understated. As an example of this, the National Quality Forum Measure #0500 mandates that providers routinely re-assess fluid responsiveness during the care of septic patients.[2] The current challenge is that there *is* no standard of care for assessing fluid responsiveness.

How should emergency physicians assess fluid responsiveness? Commonly cited protocols include inferior vena cava (IVC) respiratory variation, lung ultrasound, mini-fluid challenges, and passive leg raising.[3] While discussion of the vast range of hemodynamic assessments are beyond the scope of this review, the aim is to explain basic physiologic principles through which one can interpret the current state of affairs. The examples cited in this review focus on IVC ultrasound and passive leg raise, as they are relevant to current discussions in emergency medicine.

Physiologic Basis for Fluid Responsiveness

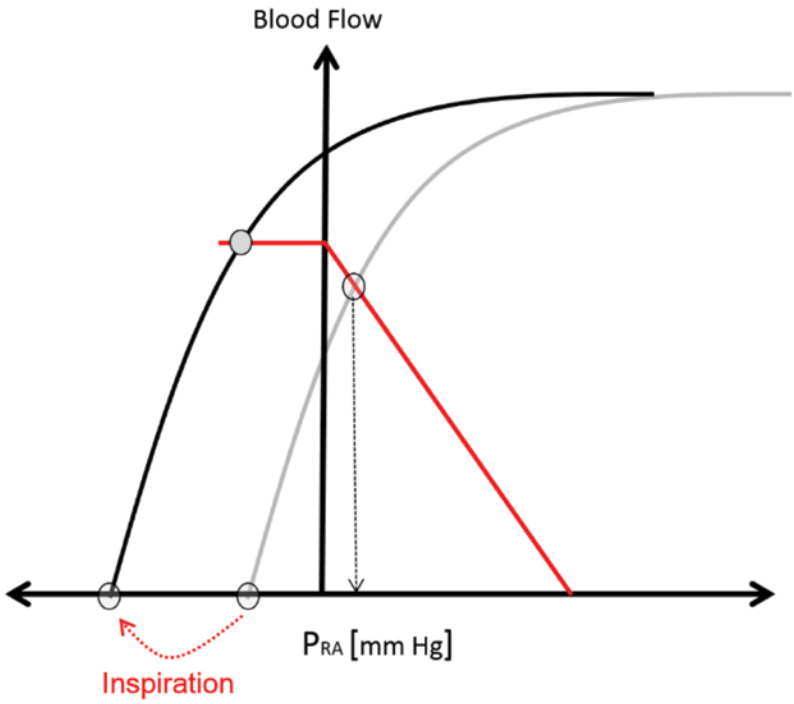
Static measures of preload like central venous pressure (CVP) and pulmonary capillary wedge pressure (PCWP) have fallen out of favor. The interpretation of dynamic heart-lung interactions requires an understanding of both the stressor placed upon the cardiovascular system (e.g., the fluid bolus) and the subsequent change in hemodynamics (specifically, CO). In order to assess and interpret the literature on EM-applicable modalities like IVC variation, passive leg raise, or mini-fluid challenges, one must be familiar with venous return and cardiac output curves, because their interaction dictates changes in hemodynamics.[4]

For now, the easiest way to interpret a venous return curve is to consider it in the context of IVC evaluation**. Simply stated, IVC volume (and collapsibility) is a reflection of the right heart and the major factors affecting venous return**. As labeled in Figure 1, the IVC collapses when the system is operating on the plateau section of the venous return curve.[5] At this point, venous return no longer increases as right atrial pressure falls. Collapse occurs as the intrathoracic vena cava pressures fall below the surrounding pressure. Illustration of IVC collapse is further illustrated in Figure 1a when the cardiac output curve is incorporated.[4] The inspiratory shift leftward shows how the system operates on the plateau of the venous return curve; exceeding this point of maximal venous return is when one sees inspiratory collapse.

Despite the popularity of using the IVC to clinically assess fluid responsiveness, it is easy to see how situations like high intra-abdominal pressure or poor cardiac function (ie, atrial fibrillation, valvular disease) make it difficult to interpret IVC respiratory variation.[6,7] The undifferentiated nature of ED patients increases the challenge in isolating the multiple variables that affect the IVC. This is why relying on a single diagnostic tool to assess volume responsiveness can be problematic.[8]

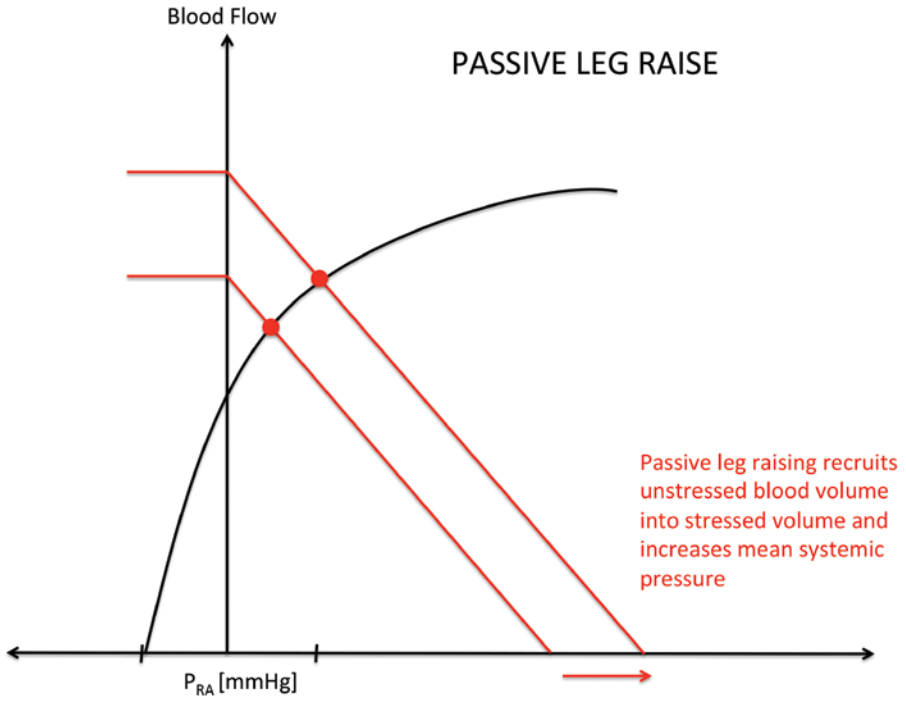
While IVC variation is often confounded by the many forces affecting the right heart, the cardiac output

FIGURE 1a. Venous Return and Cardiac Output Curves in IVC Collapse.[4]



curve shows the status of the Frank-Starling curve in a more straightforward manner. Stated another way by Scott Weingart, MD, FACEP, in his EMCrit podcast, **"Fluid responsiveness is an evaluation of not only '*Can the RV take it?*' but also '*Can the LV use it?*"**[9] While IVC respiratory variation lacks accuracy in the undifferentiated ED patient, passive leg raise (PLR) has proven to be more reliable. Seen in Figure 2, the PLR shifts the venous return curve to the right, providing the stressed volume upon which we see increased CO on the cardiac function curve Y-axis. The "auto-bolus" provided by moving the unstressed volume of the lower extremities to stressed volume effectively tests the ability of the LV to use the increased venous return. As evidenced in a meta-analysis by Cavallaro et al in 2010, passive leg raise is an example of "*Can the LV use it*"?[9,10] **Multiple meta-analyses have shown the accuracy of passive leg raise as a measure of fluid responsiveness.**[3,4] The shift of the venous return curve to a higher point on the cardiac output curve in Figure 2 reflects the physiologic reasons behind these conclusions.[4]

FIGURE 2. Venous Return and Cardiac Output Curves in PLR[4]



"Fluid responsive" means that a patient has a 15% increase in cardiac output (CO) following intravenous volume expansion.

Detecting Change in Cardiac Output

With an understanding of the physiology described, the bulk of research on fluid responsiveness focuses on the hemodynamic index, or the method for detecting any changes in cardiac output. **When distilled to its basic components, fluid responsiveness is made of 2 parts**: the approximation of a fluid bolus (ie, the stressor or augmentation of venous return/preload placed upon the system) and the measurement of hemodynamic change (ie, CO, SV, or pulse pressure variation). The current research on fluid responsiveness is rapidly changing as there are many different combinations of these parts. Transthoracic echocardiography (TTE), bioimpedance, and arterial line blood pressure variation are a few of the different hemodynamic indices that have been combined with PLR. For example, a handful of recent systematic reviews have examined the concept of fluid responsiveness using bedside echocardiography to detect stroke volume both before and after a PLR.[10-12]

Challenges to Implementation

Though mostly studied in ICU populations, the plausibility of using TTE assessments of cardiac output in conjunction with passive leg raise to assess patients' fluid responsiveness is promising.[10,11] However, the actual implementation of PLR is challenging. Obtaining the sonographic window for either IVC or cardiac output measurements can be challenging in the emergency department and is often dependent on ultrasound operator skill and patient body habitus.

Despite the shortcomings of clinical implementation, the PLR literature shows how other fluid responsiveness algorithms are mechanistically valid in light of heart-lung physiology. **Intensivists and emergency physicians have yet to come to agreement on how best to assess fluid responsiveness, but an understanding of physiology can help drive clinical decision-making.** By using the gestalt gleaned from the clinical situation and point of care ultrasound findings like global cardiac function and IVC variation, the general shape of both venous return and cardiac function curves can be determined. Given the physiologic mechanism, the evaluation of fluid responsiveness in the ED is evolving to meet the needs of resuscitating the critically ill patient. ✶

Special thanks to Dr. Jon-Emile Kenny and his informative website, heart-lung.org, for the figures and explanations.

References available online.

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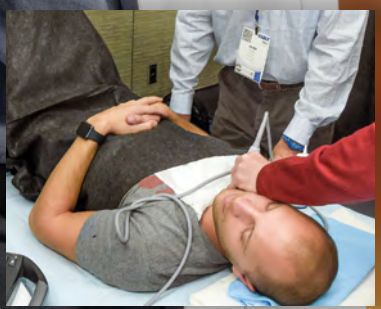

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In-Service Exams, E-Orals, and a New Emergency Medicine Dual Specialty

Updates from the American Board of Emergency Medicine

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Today's emergency medicine residents are more tech-savvy than ever, and the **American Board of Emergency Medicine (ABEM)** is taking note. ABEM is one of 24 medical specialty certification boards recognized by the American Board of Medical Specialties. ABEM certifies emergency physicians who meet its educational, professional standing, and examination standards. The organization is not a membership association like ACEP; rather, its certification is sought and earned by emergency physicians on a voluntary basis.

ABEM's mission and activities directly affect residents. Among other responsibilities, the organization administers the annual in-training (in-service) exam to help residents prepare for the qualifying (written) board exam after graduation, manages and administers the oral and qualifying board exams, manages maintenance of certification, and can approve new dual training opportunities.

The EMRA and ABEM boards meet at least biannually, keeping up a stellar working relationship. During this year's SAEM conference, ABEM solicited feedback from the EMRA Board to get the resident perspective on the transition to a computerized in-training exam, eOrals, and the resident page of their website. They also provided updates affecting residents.

In-training Exam Goes Futuristic

The 2016 in-training (in-service) exam was held Feb. 24 across the U.S., Canada, and Singapore. For the first time in history, ABEM piloted an online version of the exam among 56 EM residency programs, with few technical glitches. *Notably, ABEM reports no significant differences in scores between those who took the online and paper versions of the exam.* Also of note, ABEM was able to release results of the 2016 in-service exam in just 37 days, faster than ever. According to ABEM, the in-training exam may go entirely online by 2018, as this change would be more eco-friendly and more closely simulate the real qualifying (written) board exam.

Appropriate Use of In-training Exam Results

Recently, ABEM has noted that in-training exam results have been used in unintended ways. For example, some fellowship programs have used resident in-training exam scores to gauge competitiveness of applicants. ABEM emphasized that the in-training exam is a tool to gauge progress toward passing the qualifying certification exam at the end of residency. The exam has not been validated to be used by a residency or fellowship program, or by potential employers, as a measure to gauge the success of a resident or to make decisions about whether to pass, hold back, or hire a resident. A resident's performance on the exam should be confidential, primarily known only to the program director and the resident, and the resident must give written consent if his/her results are to be shared outside of the program's Clinical Competency Committee (CCC).

eOral Exam Gets High-Tech

Historically, oral board exams have been administered without electronic or auditory stimuli, using old-fashioned X-rays and light boxes, and paper and pencils. The advent of eOral cases came about in 2015. These are single-patient cases where some information is presented electronically. As part of a case, you may receive, for example, audio of an EMS call, a transfer sheet, or a video of the patient; stimuli can include video and audio presentations.

From the start, eOral cases were positively received by test takers, and the technology is improving rapidly. In the inaugural administration of its implementation, 1 in 40 eOral cases were unable to be scored due to technical glitches. In spring 2016, 3 out of 7 oral board cases were in the eOral format, and only 1 in 990 could not be scored. ABEM is busy developing additional eOral cases and expects to move to all single cases being in the eOral format in the next few years, with the ultimate goal being 100% integrated electronic cases for the oral board exams.

ABEM strives to improve the quality of emergency medical care, establish and maintain high standards of excellence in EM, enhance medical education, and evaluate and certify physicians who have demonstrated special knowledge and skills in EM. By continuing to update their testing methods and paying attention to what residents need and how we learn best, ABEM will contribute to the advancement of emergency medicine for decades to come.

Check out the ABEM resident page at abem.org/residents for more information or to provide feedback on any of these issues.

Emergency Medicine and Anesthesiology — Now You Can Do Both

Did you have a difficult time choosing between anesthesiology and EM as a specialty? If so, you may be interested in ABEM's newest approved dual certification program. Until now, it has been possible for emergency physicians to complete a combined training program to obtain dual certification in pediatrics, family medicine, and internal medicine. In collaboration with the American Board of Anesthesiology, ABEM is now accepting applications from residency programs who wish to start a dual EM-Anesthesiology combined training program. Candidates must meet all primary requirements of both specialties, which will require a 5-year residency (6 years if the EM program is a 4-year program). A link to the list of combined programs will be available on the ABEM website as they become approved.

Osteopathic Residents to Become ACGME Board Certified

In a nutshell, the Accreditation Council for Graduate Medical Education (ACGME) has given American Osteopathic Association (AOA)–approved EM residency programs 5 years to become ACGME-accredited and create a single EM accreditation system in the U.S. Historically, osteopathic residency programs have fallen under the umbrella of the AOA for approval. Today, 56 EM osteopathic programs exist, and 6 of these were already dually accredited by both the ACGME and AOA, versus 182 ACGME-accredited (allopathic) EM residency programs. This spring, the Review Committee for Emergency Medicine (RC-EM) accredited another 7 osteopathic programs; currently, 12 osteopathic programs have applied to be accredited and are awaiting approval.

Another recent change is that AOA-certified physicians who complete an ACGME-accredited fellowship can now apply for certification in certain ABEM co-sponsored subspecialties.

It is expected that as many as 1,600 residents in osteopathic EM residency programs will eventually be absorbed into the ACGME system as their residency programs become ACGME accredited. This will allow osteopathic residents to become board certified by the American Board of Emergency Medicine, which will increase the number of residents that ABEM will assess for certification each year, and ultimately, the number of ABEM diplomates. Graduates of EM osteopathic programs retain the choice of being certified by the American Osteopathic Board of Emergency Medicine and/or ABEM.

The ABEM, ACGME, and the AOA regularly update information related to this change on their websites. Check regularly for the most up-to-date information.

Stop by the ABEM Booth at ACEP2016

If you will be attending the 2016 ACEP *Scientific Assembly*, stop by the Exhibit Hall and visit booth 654, where ABEM directors and staff will be available to answer your questions. ✶

IN THIS STATE HOUSE

Life as a Physician in the Legislature

We highlighted the symbolism as the only bill ever introduced exclusively by physicians in the Maryland General Assembly.

Kyle Fischer, MD, MPH
Clinical Instructor of Emergency Medicine
Health Policy and Leadership Fellow
University of Maryland
Baltimore, MD

There I was, sitting in Starbucks with a recently elected state representative. As a new healthy policy fellow and emergency physician, I was anxious. I had applied for fellowship in search of real-world opportunities that would impact policies affecting my patients and colleagues. And there was no time like the present. After chatting for nearly 2 hours with Clarence Lam, MD, he asked if I would be interested in joining their team. **Over a cup of coffee, I had managed to land a job in the Maryland General Assembly, and I was thrilled.**

During our initial meeting, Dr. Lam described his legislative agenda and asked for my ideas. At the time, Maryland's HIV screening laws were decades out of date, making it logistically impossible to order an HIV test in the emergency department without a dedicated program. Existing law required written informed consent and extensive counseling that could take as long as 30 minutes. Not surprisingly, the test was infrequently ordered. I feared that patients who underwent screenings for sexually transmitted infections either were not informed or did not understand that HIV was not one of the diseases included in the panel.

As a preventive medicine physician, Dr. Lam agreed this should change. My first task was to reach out to legislative counsel to draft the bill. "Leg counsel" is essentially a governmental lawyer who translates everyday English into statutory legalese. We exchanged a few phone calls and emails to ensure he understood the bill's intent. Then I sent a copy of CDC guidelines on routine HIV screening with a simple instruction, **"Just turn the guidelines into law."***

Our legislation aimed to modernize existing law to match current recommendations. It would guarantee that patients were notified when tests were ordered, but eliminated the time-consuming legal mandates. To avoid mistakes or unintended consequences, we spoke with every stakeholder we could imagine, including public health officials, hospitals, physicians, and HIV advocates. While we received mostly strong support, we did discover a few interesting quirks. For example, as originally drafted, we included CDC recommendations that patients receive a written handout explaining HIV screening. Johns Hopkins, however, already operated a dedicated screening program that provided this information via video. They requested we add video education as an alternative, and we were happy to include it.

Having said that, not every conversation was so easy. I vividly recall spending a Saturday speaking with a prominent HIV activist. Having lived through the 1980s, he was disillusioned. He did not believe that simplified screening would spur doctors to begin widespread testing. For him, the only solution was mandatory testing, and he was ready to fight the bill if it contained anything less. Personally, it was disheartening. Most stakeholders would oppose that approach, and the bill would

LEARN MORE

Interested in health policy fellowships? Join the EMRA Health Policy Committee at emra.org/committees-divisions/Health-Policy-Committee and follow @EMadvocacy on Twitter.

For a copy of the CDC guidelines, visit cdc.gov/mmwr/preview/mmwrhtml/rr5514a1.htm

die. In the end, after discussions with advocates he had trusted for decades, he agreed to remain neutral.

At this point, the bill had not been publically introduced and we only had a single afternoon before the "co-sponsor deadline." Logistically, we didn't have time to gain widespread support before introduction, so we got creative. There happened to be 3 other physicians in the legislature, and I pleaded for emergency meetings with each. After agreeing to support as co-sponsors, we publically announced the bill and highlighted the symbolism as the only bill ever introduced exclusively by physicians in the Maryland General Assembly.

After the announcement, we turned to the hearing. In Maryland, every bill requires a public hearing before a vote. Our strategy was simple: Pack the room with as much support as possible. For those who couldn't make it in person, we requested letters of support. The hearing went flawlessly. Democrats saw it as a public health win. Republicans agreed and liked the idea of deregulating health care.

From there on, the bill cruised on autopilot. It had a unanimous committee vote and thus was seen as non-partisan and non-controversial. It passed the House on a vote of 99-1 before easily passing the Senate. Finally, it received the governor's signature and became law. **As a result, physicians in Maryland will now be more liberal with testing and be able to provide patients with earlier detection.**

Although physicians are often skeptical of a political process that appears convoluted and painstakingly slow at times, I found this experience to be incredibly affirming. While Maryland's legislative session is only 3 months long, and most bills will take several sessions to get passed, good legislation still becomes law.

As an emergency physician, the opportunity to sit in the driver's seat during the policy process was exhilarating, and **the lessons I learned during my fellowship have proven invaluable.** When you learn the language of policymakers, you become more comfortable navigating the process. You become a trusted voice of medicine, capable of proposing realistic solutions. These real-world experiences cultivate an invaluable skillset and a superior ability to craft policy that improves the lives of your patients and your colleagues. On top of that, you gain a few good stories along the way.

Special thanks to Dr. Joneigh Khaldun, for her guidance and assistance in preparing this article. ✶

Cara Bergamo, MD
EMRA Research Division Co-Chair
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Taking the Plunge

When you contribute to the advancement of science and play a role in improving the lives of the patients you care for every day, then you will realize the true potential and exhilaration of a career in research.

Lessons from ACEP's EMBRS Workshop

Interested in pursuing a fellowship that will require research? Better yet, interested in a career in emergency medicine research? ACEP's Emergency Medicine Basic Research Skills (EMBRS) workshop may be the right fit for you. **The 10-day, 2-part event is held at ACEP headquarters and starts with a week of lectures in November, followed by a recap with research presentations in April.** While the program is not for the faint of heart, it is a fantastic way to get your feet wet with an eye on achieving your goals.

After completing the EMBRS sessions myself, I identified several key takeaways.

1. Mentors are the lifesavers of the research world.

If you do not have a good mentor, you will not get far. Choose carefully and look for specific qualities that will complement your own. Determine the person's ability to commit time to a new researcher, and what resources they have readily available. Furthermore, review what they have done so far in their career. Have they been successful in the way you would like to be? Do they hold a certain position within an institution or have an admirable reputation among the community within which you wish to work?

2. Take the time to really think through your research project.

Start broad. Most institutions stress using the PICO format (Population, Intervention, Control, and Outcome) for the bones of your project. From there, try to visualize how the study will look. How will you recruit your population? Will it be prospective or retrospective? What limitations can you address up front and which ones are you just going to have to accept? Developing your project appropriately up front will save you a ton of time down the road.

3. Statistics, statistics, statistics.

Understanding the basics of statistics is fundamental for anyone considering research in any field. While we can and may hire a statistician to help with our analyses of projects, understanding the basic way to evaluate data and the concepts behind selecting certain tests is fundamental to appropriately conveying research outcomes.

4. There's always money available for research.

The funding does not begin and end with the National Institutes for Health (NIH). You should be aware of your own institutional resources, as well as those put forth by organizations that focus on your specific research topic (think EMF, ACEP, EMRA, SAEM). A focused list of available funding will be posted on the EMRA Research Committee's homepage in the coming months (emra.org/committees-divisions/research-committee). With regard to grants, funding is possible but not easy. Grants should be methodical. Read what the funding agency requires, and use their words verbatim to describe what you will do with their money. This strategy will make your application seem extremely relevant while at the same time making scoring easier for the evaluator, which may win points along the way.

5. A career in research is hard.

It is time-consuming, both from a conceptual standpoint and also with regard to the obstacles one has to navigate to ensure compliance with local and governmental institutions' requirements. It is not always gratifying. Projects do not always work. Obtaining informed consent is close to impossible at times. HOWEVER, when a project does work, when you find a significant (not necessarily *statistically* significant) outcome, when you contribute to the advancement of science and play a role in improving the lives of the patients you care for every day, then you will realize the true potential and exhilaration of a career in research. This sensation is something you will never forget.

My time spent at EMBRS was educational and, more important, inspirational. For those interested in academics, it is an excellent investment in your future research-oriented self and career as an emergency medicine provider. I am so glad I took the plunge. ✶

How to Get Involved

The next EMBRS 2-part program is scheduled Nov. 7-13, 2016, and April 2-4, 2017. Registration is limited, and class slots are filled from a waiting list. To add your name to the waiting list, complete the online form, contact academicaffairs@acep.org, or call 800.798.1822, ext. 3291.

Fees are $1,615 for ACEP/EMRA members, and $1,796 for nonmembers. This includes the cost of the 10-day, 2-session program but does not include meals, lodging, or travel.

For more details, visit the EMBRS page at acep.org/embrs.

#EndStep2CS, Gun Violence Research, GME Funding, and More

EM Updates from the 2016 AMA Annual Meeting

The American Medical Association (AMA) met in Chicago June 11-15 to discuss key issues pertaining to the practice of medicine — and to honor AMA Immediate Past-President Steve Stack, MD, FACEP, as his presidential tenure ended.

Along with 600+ physicians, the AMA Medical Student Section tackled the topics most pertinent to students in the AMA House of Delegates (HOD). EMRA Medical Student Council AMA-MSS liaisons Sean Ochsenbein and Arnab Sarker offer highlights of the group's work.

End Step 2 CS Campaign

The AMA Medical Student Section fast-tracked a resolution to allow for the AMA to lobby the National Board of Medical Examiners to #EndStep2CS — an exam widely regarded by the medical student community as wasteful and inefficient given existing clinical examinations at all medical schools. The resolution passed, with support from the ACEP Section Council at the AMA on behalf of emergency medicine. Unfortunately, Step 2CS remains a requirement for medical licensure, but this passage represents a major step forward in the fight to #EndStep2CS.

Ending the Congressional Ban on Gun Violence Research

Tragically, the Orlando shootings occurred at the outset of this year's annual meeting, marking more than 370 mass shootings in the U.S. (where 4+ people were injured or killed) since 2015. ACEP has consistently advocated for reducing gun violence-related injuries and deaths, noting it as a major public health concern. However, progress has been difficult given a congressional ban on gun violence research funding. In light of the tragedy in Orlando and the growing rate of gun violence deaths, the AMA moved to actively lobby Congress to lift the ban on gun violence research and label gun violence as a major public health crisis. Several emergency medicine physicians, including the ACEP section councils, authored this proposal.

If you are interested in a complete listing of AMA policies addressed this meeting, please visit ama-assn.org/sub/meeting/reportsresolutions.html.

If you are interested in learning more about the AMA, or how you can get involved in health policy, please contact Arnab Sarker (as8ee@virginia.edu) or Sean Oschenbein (sean.emra@gmail.com).

Graduate Medical Education Funding

With strong support from the ACEP Section Council, the AMA continued its fight to increase graduate medical education (GME) funding and reduce the number of unmatched medical students. The funding for GME, which determines the number of available residency positions, is primarily determined by the federal government and the Centers for Medicare & Medicaid Services (CMS). Funding has been capped since 1996, despite the growing number of medical students each year. The AMA filed several reports in June, reaffirming existing support and calling for increased funding transparency. The HOD also advocated for all payers (including private insurance and state plans) to be able to contribute to GME funding. Apart from strict increases in funding, the AMA moved to explore alternative funding models for resident education, and explored benefit increases for residents/fellows including child care, transportation, and housing. As the demand for physicians increases across the country, these policies will be crucial in determining how the medical community will increase the supply of physicians.

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A Renewed Focus on Entrepreneurship in Medicine

In the past year, the AMA has undertaken a number of initiatives to increase the entrepreneurial spirit and tech competency of its physician members. The theme of this year's Resident and Fellow Section meeting was "Entrepreneurship in Medicine," featuring a number of presentations by physician entrepreneurs and physician venture capitalists, along with devices ranging from the redesign of urine output measurement to wooden sunglasses designed to prevent pterygium. Participants were also able to learn about MATTER, the new AMA-sponsored health-tech incubator based in Chicago, and IDEA Lab, a national student-run biotechnology incubator founded at Washington University in St. Louis. There were also opportunities to learn about the stepsFORWARD campaign piloted by the AMA, which provides a series of online modules (available for continuing medical education credit) that teach practicing physicians about technology enabled practice improvement strategies.

Emergency medicine contributed heavily and spoke loudly for these important issues, and the most senior attendings to most junior medical students stood in unison to advocate for medical students. There's plenty of work to be done, but we are proud to call this AMA Annual Meeting a (successful) wrap! ✶

Mel Herbert, MD, MBBS, BMedSci, FACEP, FAAEM

@MelHerbert

The incomparable Mel Herbert will serve as a judge for EMRA's 20 in 6 Resident Lecture Competition in Las Vegas. As one of the highly acclaimed hosts of EM:RAP, Dr. Herbert knows a thing or two about public speaking and medical education.

Medical school? Monash University, Melbourne, Australia

Residency? UCLA Westwood, Class of '95

Current position? Professor of EM USC Keck School of Medicine, CEO EM:RAP and Foolyboo inc

What's the best career advice you ever got?

Don't be afraid to get off the career train and do something different.

What experience(s) shaped you most as a physician?

The death of some young patients, illness within my own family, all act to make one more compassionate and thoughtful about the meaning of one's life and work.

Best time management tip?

Multitasking is NOT time efficient.

Most valuable communication tip?

Practice what you want to say – especially to consults – beforehand.

Last non-textbook you read?

"Seveneves: A Novel" (SciFci…the moon explodes…bit of a problem, it turns out)

Favorite city you've visited:

London

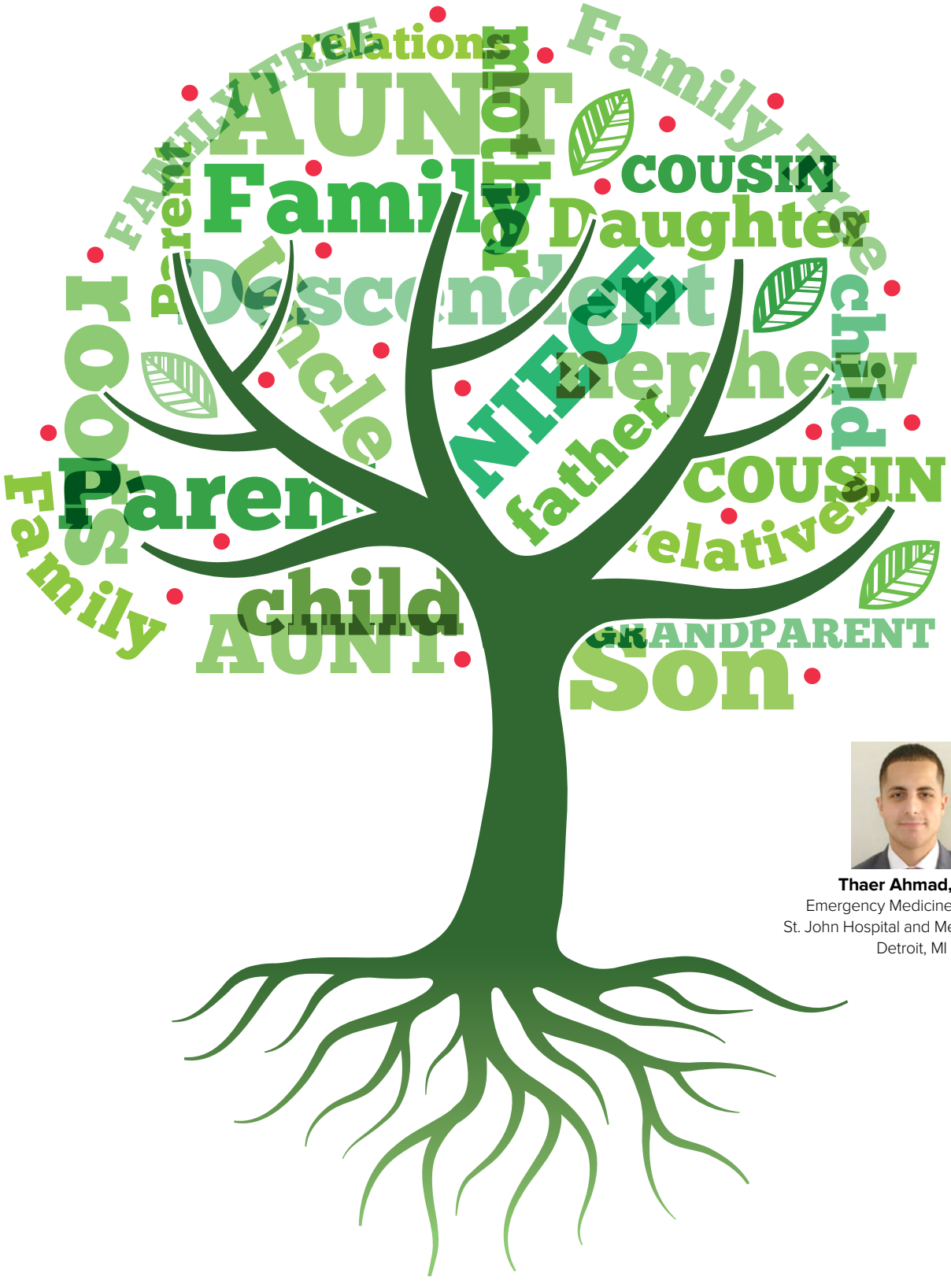
How you get your exercise?

Walk 1-2 hours a day and free-weights every other day…and golf

Most-used app on your phone?

Voxer — walkie-talkie app to keep in touch with the EM:RAP/ Foolyboo crew

How Becoming a Patient's Family Member
CHANGED ME AS A DOCTOR



Thaer Ahmad, MD
Emergency Medicine Resident
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As a 9-year-old boy growing up in Palestine, my father was diagnosed with rheumatic heart disease. His aortic valve was replaced with a mechanical valve, and he began taking warfarin. Along the way, an ascending thoracic aortic aneurysm developed, and surgeons monitored it for nearly 5 years. When my father was 53 years old, periodic CT scans showed the aneurysm had continued to grow.

Operative management was the standard of care. I knew that, and the thought of a rupture or dissection made me incredibly uncomfortable.

We scheduled the surgery, and I reassured my increasingly anxious father this was the right decision. After all, I was his eldest son and an emergency medicine resident at a busy trauma center in Detroit — he could trust my word. I exuded a confidence about medicine that comforted him and the rest of my family.

My confidence proved to be naïve.

The surgery stretched to nearly 16 hours and entailed complications, including coagulopathy, an extended period of intubation, and five days of unconsciousness in the ICU. At each turn, as my family looked to me for clarification, direction, and reassurance, it hit me: They were all depending on me to safeguard my father's life. They took their cues from me; if I was worried, they were frantic. If something happened, they looked to me for the reason why – and for the way to fix it.

As emergency physicians, we carry this responsibility always. But it struck home in a way it never had before, chiefly because this patient was not just another patient, and I was not in control of his treatment.

I hated being on this side of the patient room. I was powerless and could not contribute to the care of one of the most important people in my life. There were times when I completely disagreed with some of the decisions made (purely based on emotion, not science). I wanted my dad's ventilator settings weaned faster, the sedation turned off, and for him to be extubated earlier than the team thought was appropriate. I was able to see my father's morning labs and other diagnostic tests, but never had the opportunity to absorb and fully interpret them like I would when I'm on shift. As involved as I was, I wanted even more power over the plan of care.

Eventually, my father regained consciousness, followed commands, and was extubated. Each day he grew stronger and progressed a little further. Ultimately, his lines and tubes were removed, and he was able to eat and ambulate. Other than some atelectasis, the remainder of his hospital course was unremarkable, and he walked out of the hospital 11 days after surgery. The only thing he remembered from his hospital stay was how uncomfortable the endotracheal tube was.

During one of the nights of my father's hospitalization, as I tried to rest on the couch that doubled as my bed in my dad's ICU room, a thought crossed my mind: I was anxious, frazzled, and worried about my father's condition, even though I was well aware of all of the medical facts. I was up to date on the plan, and I was actively participating in his management. How on earth did patients and loved ones who have no formal training in health care or medicine manage to keep their composure when battling serious or critical illnesses?

We cannot possibly expect the vast majority of our patients to understand, from the less-than-5-minute conversations we hold with them, to the pathophysiology and natural history of various diseases and procedures that we perform. We round on our patients, and we extensively discuss with one another the fluid status, lab results, and the next step in management. Yet when we walk into a room or turn to speak to the patient and his/her family, our answers become vague, generic, and confusing. I understood everything my father's medical team told me; I anticipated the next phase of care, and still I felt like I was in the dark and alone, because the majority of the day it was just my family and the nurse on duty watching over my father.

Immediately upon returning to my emergency department, I noticed a dramatic shift in the way I dealt with my patients. I spent more time in their rooms. If I was explaining our next step in management or work-up, I often stopped and asked if they were familiar with what I was talking about. I started mentioning how long I expected them to be in the ED. Finally, I found myself sharing logistical details much more, like how a transporter would come and take the patient to the radiology for an X-ray, and that I would review the image but wait for a radiologist to interpret it officially. Many interactions with patients were more positive, and I cared more, too. I saw my own family in every family who came through the door into our resuscitation bay.

Despite my new outlook, the standard of care doesn't change. The treatment for sepsis and early goal directed therapy is not impacted by my empathy. But, in a world where patient satisfaction is increasingly tied to hospital compensation and employment, a sincere way to connect with our patients and comfort them during their time of need is through recognizing the difficult circumstances they face.

As my dad was recovering, the numbers and tests weren't what ultimately comforted me; rather, it was the reassurance of my father's team. It was the sense of support I felt from them, even when that support wasn't related to new information from tests. Patients and their families can sense sincerity, and they can feel when their providers are advocating for them. The entire experience helped me realize this, and now it's time for me to help others come to this realization as well. ✶

How on earth did patients and loved ones who have no formal training in health care or medicine manage to keep their composure when battling serious or critical illnesses?

EMRA Award Winner Reports: Opening Eyes, Hearts Through the Global Health Initiative

When **Nirma Bustamante**, MD, received EMRA's 2015 Global Health Initiative Award, she set out to make a difference in the health of a marginalized people. What she experienced during her work with the internally displaced population of Medellin, Colombia, changed her life as well as theirs.

"Through this incredible opportunity I witnessed the raw complexities this forgotten population faces on a consistent basis," Dr. Bustamante writes. "Despite inconceivable horrors, they continue to fight for their rights and for the prospect of a better life."

Please visit **emresident.org** for an in-depth article from Dr. Bustamante, along with **P. Gregg Greenough**, MD, MPH, and **Christian Arbelaez**, MD, MPH, FACEP. ✶

em day of service

#EMDayOfService

What are you doing for **EM Day of Service** this year? Pick a day — any day — in September to volunteer in a meaningful way in your local community. Like-minded EM colleagues from around the country also will be giving back, and we can't wait to hear the ways you help your fellow citizens.

Share your photos and success stories on Twitter, using #EMDayOfService. ✶

Serve on the EMRA Board of Directors

Elections will be held this fall to fill 5 positions on the EMRA Board of Directors, and nominations are due Sept. 2.

If you are interested in serving, get details about each board member's responsibilities, application details, and more at https://www.emra.org/leadership/board-of-directors/Election-Information.

The 5 positions that will be elected in October are:

- President-Elect
- Legislative Advisor
- Membership Development Coordinator
- ACEP Representative
- Vice-Speaker of the Council ✶

PAMI
Pain Assessment and Management Initiative

Free Resources Help Tackle Pain

September is Pain Awareness Month, and the Pain Assessment and Management Initiative (PAMI) at the University of Florida College of Medicine — Jacksonville is offering a wealth of free resources. PAMI has developed learning modules, fact sheets, downloadable guides, and other tools to help health care providers recognize, assess, and manage acute and chronic pain.

The materials are designed to be adapted by any health care facility for their unique needs. From the basics of pain management to specific treatments in a range of populations/settings, PAMI helps providers stay up-to-date on pain management techniques and treatments.

For more details and to access the free resources and learning modules, visit PAMI online at http://pami.emergency.med.jax.ufl.edu. ✶

EMRA and ACEP hosted booths at the Social Media and Critical Care (SMACC) Conference in Dublin, Ireland, in June. Along with EMRA Executive Director Cathey B. Wise and President Ricky Dhaliwal, MD, JD, (not pictured), the EMRA booth featured Rich Levitan, MD, FACEP, author of the EMRA and AIRWAY-CAM Fundamentals of Airway Management pocket guide. The SMACC event brought EMRA into an international arena and facilitated valuable connections for the association and the specialty. ✶

Wrap-Up: LAC 2016

More than 600 emergency physicians, residents, and medical students from around the country joined together May 15-18 in Washington, D.C., at the ACEP Leadership & Advocacy Conference, the premier event for learning about and advocating for the key issues that impact emergency physicians and our patients.

The ACEP Young Physicians Section and EMRA hosted the first-timers track, a primer on key health policy issues. This was followed by a deeper dive into the issues by some of the premier names in emergency medicine policy and advocacy. The event culminated in Leadership Day, filled with talks aimed to educate and inspire us to take the lead and become the driving force for future policy change.

Perhaps the key event, however, was Lobby Day on the Hill, which allowed participants to speak with congressional leaders and key aides. The four main areas of focus included protecting the use of standing orders for EMS providers, medical liability reform for EMTALA services, mental health reform, and the opioid epidemic. Please visit **emresident.org** for an in-depth article from EMRA Medical Student Council Legislative Coordinator **Patricia Yang**, JD, MSIV, and EMRA Health Policy Committee Chair **Joshua Enyart**, DO. ✶

UPCOMING EVENTS

September	**EM Day of Service** (monthlong initiative)
Sept. 2	**EMRA Call for Resolutions Deadline**
Oct. 8-11	**Fall ABEM Oral Certification Exam**
Oct. 13–19	**EMRA Events at ACEP16** Las Vegas, NV
Oct. 17	**EMRA 20 in 6 Competition** Las Vegas, NV
Oct. 19	**EMRA MedWAR** Las Vegas, NV
Nov. 12-14	**AMA-RFS Interim Meeting** Atlanta
1st Thursday of every month	**EMRA Hangout**
10th of month even-numbered months	***EM Resident* articles deadline**

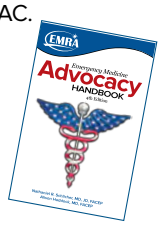
Listen at your convenience
EMRA•Cast

Take Action

Want to learn more about current health policy issues and what you can do to effect change?

Register for the ACEP 911 Network to get weekly email updates from Capitol Hill. Go to acepadvocacy.org to learn about important federal and state issues, and join us next year at LAC.

Don't forget your copy of the *EM Advocacy Handbook,* which can be downloaded as a free PDF at emra.org/committees-divisions/Health-Policy-Committee. ✶



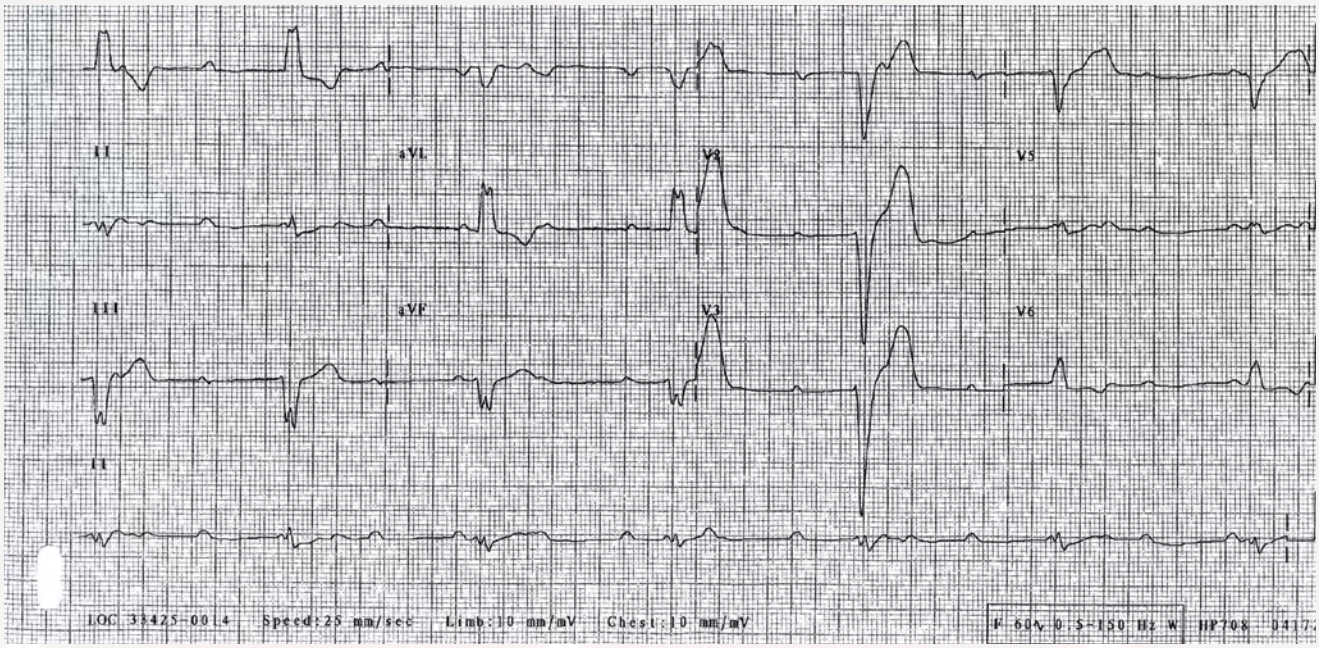
Help Direct EMRA's Future

Resolutions for the fall meeting of the EMRA Representative Council are due Sept. 2. If you have ideas for policy, projects, guidance, or positions on issues of the day, submit a resolution!

Submission instructions, sample resolutions, and more details can be found at emra.org/leadership/Representative-Council. ✶

ECG Challenge

CASE. A 75-year-old male with a history of systolic congestive heart failure, hypertension, diabetes, hyperlipidemia, and chronic obstructive pulmonary disease presents with shortness of breath.



ANSWER. A quick look at this ECG demonstrates bradycardia with 3rd degree heart block, left bundle branch block, and concern for ST elevation.

Zachary S. Wilson, MD
ECG Section Editor
Icahn SOM at Mt Sinai
New York, NY

Lhe first thing to notice is that there is no communication between the p-waves and the QRS complexes. Since the p waves march out in a regular pattern independently of the QRS complexes, this qualifies as 3rd degree heart block. Looking more closely, you can see that the QRS complexes demonstrate left bundle branch block morphology. The QRS beats are wide complex (greater than 120 ms), there is a large dominant S wave in lead V1, there are broad notched R waves in the lateral leads, and left axis deviation is present. Importantly, you also see that QRS beats and T waves are NOT concordant. This is normal in LBBB morphology and is called appropriate discordance. In the anterior leads, you may notice approximately 5 mm of ST elevation. However, in LBBB morphology, up to 5 mm of elevation is acceptable as long as the T wave and QRS complexes are (appropriately) discordant. In leads with QRS complex and T wave concordance, ST elevation greater than 1 mm may suggest ischemia. Because this patient is quite bradycardic, it is also tempting to suspect MI, particularly given the concern for ST elevation. However, it is also important to note that bradycardia usually occurs in the setting of an inferior wall MI as opposed to an anterior wall MI. There is no ST elevation in the inferior leads of this ECG to suggest inferior wall MI and, as stated previously, the ST elevation in the anterior leads is probably acceptable in the setting of appropriate discordance. A repeat ECG for dynamic changes would be advisable to look for progression to greater elevation. Beware that in this particular ECG the positive QRS complex followed by the positive T wave at the beginning of V2 are from different leads and do not indicate concordance.

LEARNING POINTS

1. Complete or 3rd degree heart block is characterized by p waves and QRS complex that appear completely independently of each other.
2. In LBBB morphology, you will usually see wide complex beats, left axis deviation, large dominant S wave in lead V1, and broad and or notched R waves in I, V5, V6, and aVL.
3. LBBB morphology often demonstrates appropriate discordance in which QRS complexes and T waves are opposite each other. ST elevation up to 5 mm is normal in this scenario.
4. Bradycardia from MI is usually caused by inferior wall MI and additional etiologies should be suspected if no ischemic changes are seen in leads II, II and aVF. ✶

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Scientific Assembly
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2016

We Bet You'll Have a Blast!

EMRA EVENTS

Scientific Assembly
LAS VEGAS 2016

When the curtains rise on ACEP's *Scientific Assembly* 2016 in Las Vegas Oct. 13-19, you'll see a revamped schedule of EMRA events, all designed to fit into the Entertainment Capital of the World. Highlights include a reimagined **Resident Lunch Lecture Series** (lunch and a pertinent presentation, 3 days in a row!) and the all-new **EMRA MedWAR** competition. Mark your calendars now. All events take place at the Mandalay Bay unless otherwise noted.

Friday, Oct. 14
5:30 – 7:30 pm: EMRA Medical Student Meet Up @ Minus 5, Mandalay Bay

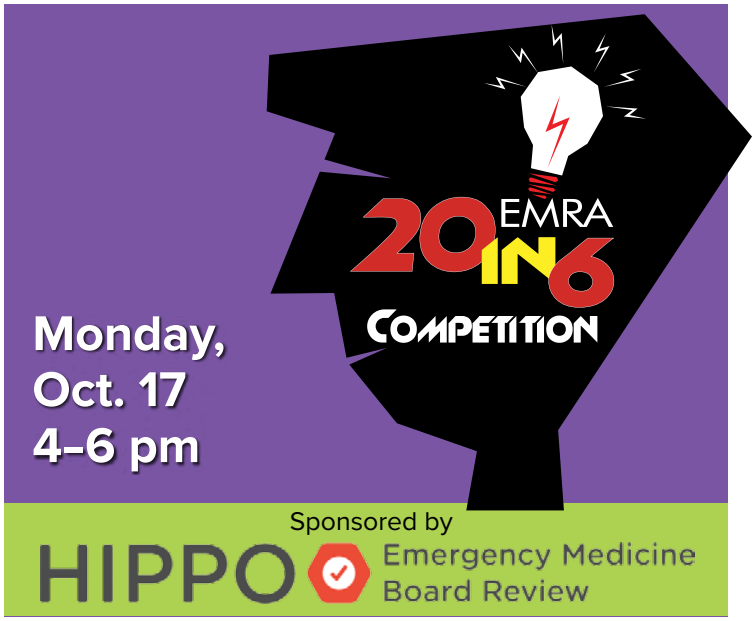
Saturday, Oct. 15
8:45 am – 2 pm: EMRA Medical Student Forum & Lunch
3 – 5 pm: EMRA Residency Program Fair
6 – 7:30 pm: EMRA Committee & Division Leader Meet Up @ Minus 5, Mandalay Bay

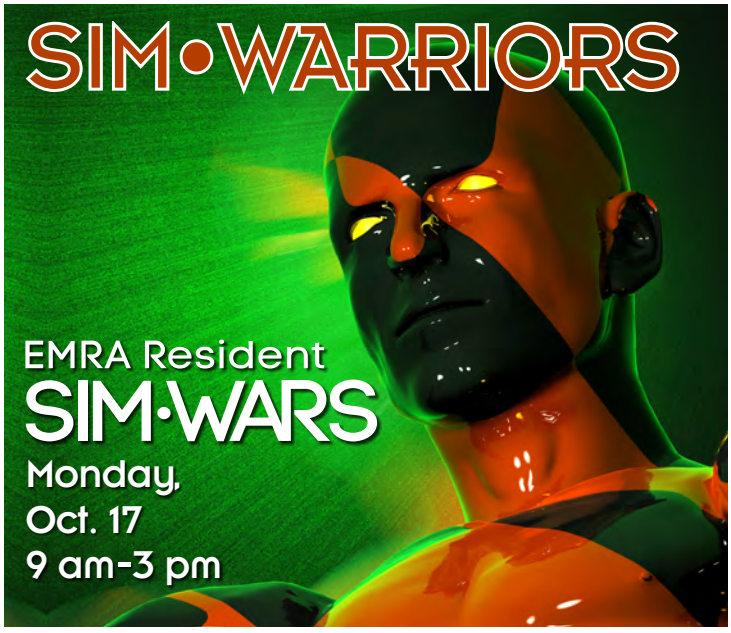
Sunday, Oct. 16
10 – 11 am: EMRA Reference Committee Public Hearing
12 – 1:30 pm: EMRA Resident Lunch Lecture Series: "Strategies for Board Prep" with experts from board prep products. Sponsored by CEP America.
5 – 7 pm: EMRA Job & Fellowship Fair, co-sponsored by Florida Emergency Physicians and TeamHealth

Monday, Oct. 17
7:30 – 8 am: EMRA Rep Council Registration, Welcome Breakfast, and Candidate's Forum
8 – 11:30 am: EMRA Rep Council and Town Hall Meeting
9 am – 3 pm: EMRA Resident SIMWars
12 – 1:30 pm: EMRA Resident Lunch Lecture Series: "Secrets of Success… from *The Princess Bride*," by Amal Mattu, MD, FACEP, sponsored by CEP America
4 – 6 pm: EMRA 20 in 6 Resident Lecture Competition, sponsored by Hippo Education
6:30 – 7:30 pm: Rep Council Meet Up @ 1923 Bourbon Bar
10 pm – 2 am: EMRA Party @ Light Nightclub, Mandalay Bay. Sponsored by EMCare

Tuesday, Oct. 18
12 – 1:30 pm: EMRA Resident Lunch Lecture Series: "EMRA Financial Bootcamp," sponsored by CEP America
3:30 – 5 pm: EMRA Fall Awards Reception

Wednesday, Oct. 19
8 am – 4 pm: EMRA MedWAR @ Red Rock Canyon





GET MORE DETAILS

For a full listing of EMRA Events at ACEP16, visit emra.org/events/ACEP16.

To secure lodging at EMRA rates for ACEP16, visit acep.org/bookyour2016hotel and use sub block "Resident" with password "Resident16."

To register for ACEP16, visit acep.org/sa.

Board Review

QUESTIONS

Provided by *PEER VIII. PEER (Physician's Evaluation and Educational Review in Emergency Medicine)* is ACEP's gold standard in self-assessment and educational review. These questions are from the latest edition of *PEER VIII*. For complete answers and explanations, visit emrresident.org (*Features* section).
To learn more about *PEER VIII*, or to order it, go to www.acep.org/bookstore.

1. A 77-year-old man presents with abdominal pain. Compared with a younger patient, he is more likely to:
   A. Complain of well-localized pain
   B. Develop a fever
   C. Present with peritoneal signs
   D. Require a surgical procedure

2. A patient who is taking linezolid presents with symptoms of an upper respiratory tract infection. Which of the following agents should the patient avoid?
   A. Benzonatate
   B. Diphenhydramine
   C. Oxymetazoline
   D. Pseudoephedrine

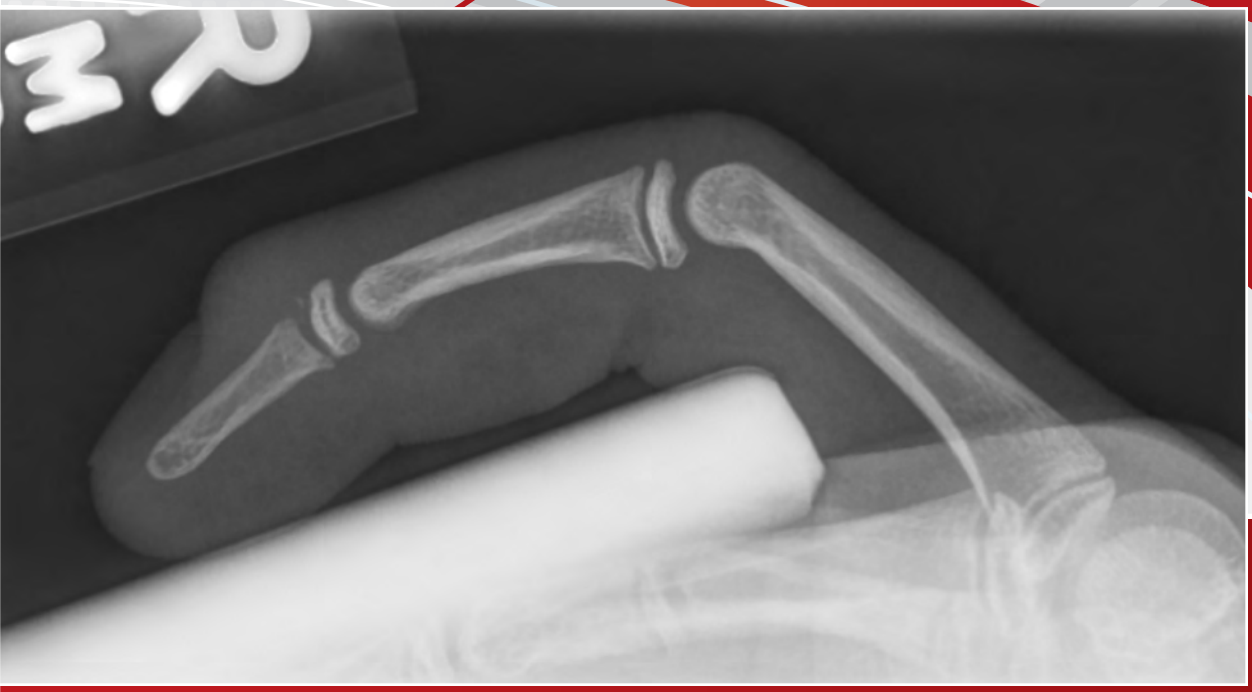
3. A 5-month-old girl presents by ambulance after a seizure. The mother says her daughter has never had a seizure before, and that she had been well until that morning when she developed a small cough and a runny nose. She describes the seizure as a shaking and tensing of her entire body, with her eyes rolling up into her head, that lasted about 10 minutes. On examination, the patient is healthy appearing and progressively improving to baseline without a focus of illness. Vital signs are blood pressure 75/40, pulse 120, respirations 40, and temperature 40°C (104°F). Which of the following elements of her history supports the diagnosis of complex febrile seizure as opposed to simple febrile seizure?
   A. Age
   B. Length of seizure
   C. Number of previous seizures
   D. Temperature

4. Which of the following statements regarding the evaluation for compartment syndrome is correct?
   A. Compartment pressure measurement is generally painless and does not require anesthesia
   B. Compartment pressure readings indicate the need for fasciotomy even in the absence of significant clinical findings
   C. Local infection is rare as a result of compartment pressure measurement, and sterile technique is not required
   D. Pain out of proportion to clinical findings is commonly the earliest finding of compartment syndrome

5. A 65-year-old man with lung cancer presents with pain in his low thoracic spine of 2 weeks' duration, as well as tingling in his legs. Examination reveals a thin man with grade 2/5 motor strength in his bilateral lower extremities and decreased sensation starting at the T10 level. Which of the following statements characterizes this patient's condition?
   A. Only 25% of patients have motor weakness at the time of diagnosis
   B. Reflexes below the affected level are usually preserved as the disease progresses
   C. Symptoms are often made worse by coughing or sneezing
   D. The lumbar spine is the most commonly affected site

ANSWERS
1. D; 2. D; 3. A; 4. D; 5. B

Diagnose this Condition

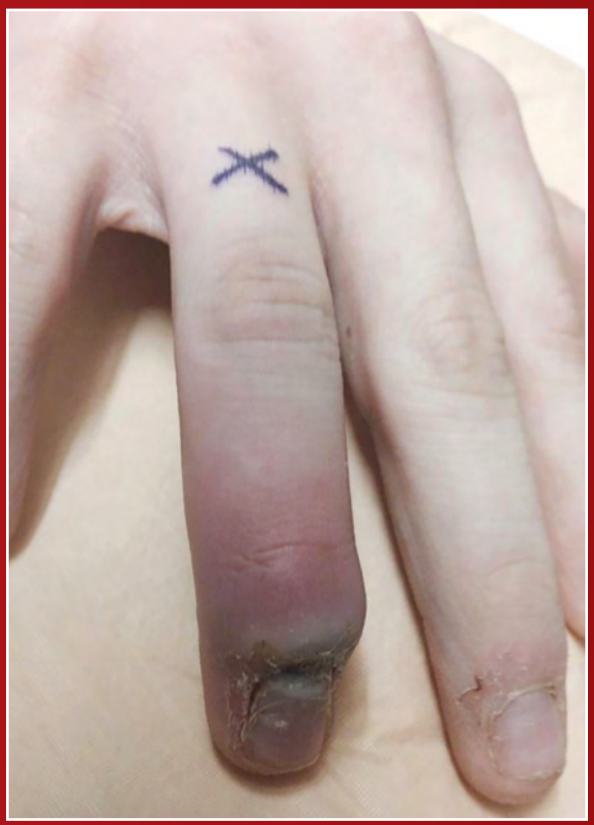


Lucia Derks, MD
Emergency Medicine Resident
University of Cincinnati
Cincinnati, OH

The Patient

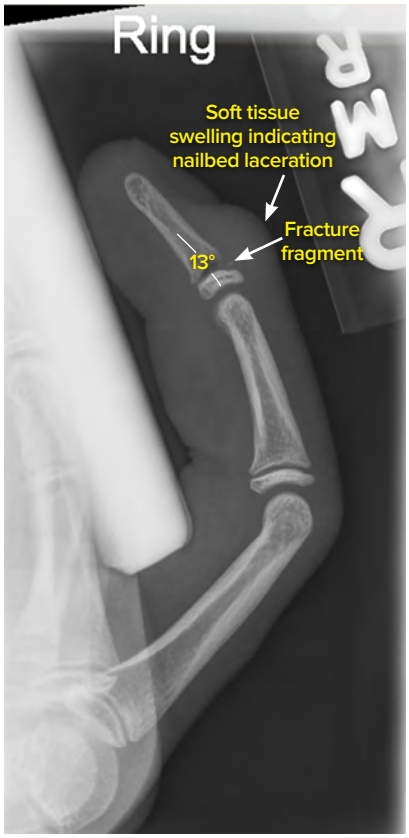
A 13-year-old boy with no pertinent past medical history presents with 3 days of worsening right ring finger pain and swelling. He jammed his finger while playing football 10 days ago. He has been buddy taping his fingers and taking Tylenol; however, he is now having worsening pain and swelling. More recently, he noticed that his finger would not flex or extend at the distal joint. On exam, he has normal vital signs and is otherwise well-appearing. Examination of his right fourth digit reveals erythema just proximal to and surrounding the eponychial fold with underlying hypopigmentation concerning for purulence. He is unable to actively or passively extend at the DIP joint, and it has the appearance of a mallet finger.

What is the diagnosis?



See the DIAGNOSIS on page 42

The Diagnosis



Seymour fracture with paronychia

X-ray reveals a transverse fracture of the metaphysis of the distal phalanx with extension into the physis, with 1-2 mm of distraction of the fracture fragments and 13 degrees of apex dorsal angulation and soft tissue swelling at the level of the nailbed. Thus, the patient has a Salter-Harris II fracture of the right ring finger with concern for overlying nailbed laceration. This is also known as a Seymour fracture.

A Seymour fracture is a displaced fracture of the distal phalanx that involves the physis with an underlying nailbed laceration.[1] **It is typically thought of as an open fracture** and occurs in children and adolescents because of the incomplete closure of the distal phalanx.[2] The mallet finger appearance is secondary to the fact that the extensor tendon inserts into the epiphysis of the distal phalanx, and the flexor digitorum profundus tendon inserts into the metaphysis, causing flexion at the distal phalanx.[3]

Why does this matter? Because of the location of the fracture and overlying nailbed laceration, there is interposed soft tissue present in the actual fracture site. Therefore, operative management is typically required to remove this tissue.[2] Once treated in the operating room, these patients often require 5-7 days of antibiotics. Without proper recognition and treatment, this injury can result in nail plate deformity, physeal arrest, and/or chronic osteomyelitis.[3]

What if this injury occurs in an adult? These injuries are labeled Seymour-type fractures and present with what appears to be mallet finger. They can be managed conservatively or operatively, depending on type of nailbed injury, reduction of fracture site and instability of the fracture.[3]

AN INITIATIVE OF THE EMRA RESEARCH COMMITTEE

By Joshua Davis, MSIV

Rapid Research Review

Types of Error

Let's say we wish to compare 2 groups (eg, treated and untreated) in terms of an outcome of interest. We start with a simple "null" and "alternative" hypothesis:

H_0: The difference in population means between 2 groups is 0.

H_A: The difference in population means between 2 groups is not 0.

Remember that the mean in a sample is simply a ***point estimate*** of the true population mean, because the sample is only one of many possible samples of the same size that can be drawn from the population (the "sampling distribution"). The ***p-value*** associated with our mean is the probability of seeing a point estimate at least that far from the null, *assuming that the null is true*.

Type I Error. We falsely reject H_0 based on our sample even though H_0 is true in the population. By convention, we generally say that an "acceptable" chance of Type I error is 5% (α=0.05).

Type II Error: We do not reject H_0 based on our sample, even though there is a true difference in the population.

DIFFERENCE REALLY EXISTS

Study Result	Yes	No
Reject H_0	Truth	Type I error (α)
Do Not Reject H_0	Type II error (β)	Truth

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Pearls From the August Issue

For every 4 POC US exams in peds SSTIs, one changed therapy (ID v no ID). US was superior to clinical exam.

The ILCOR ALS Task Force recommends a constant temp. between 32-36C for at least 24 hours in comatose CPR patients.

Venous pH / HCO3 compared favorably to arterial in COPD as do pulse ox and arterial O2 sats. Arterial gases hurt.

A standardized computer-aided EMS helicopter dispatch program decreased trauma transports by 56% in Maryland.

Oral b-blockers in ACS were associated with a decrease in mort. and better LV funct. when CHF & shock were excluded.

Of 177 peds. with new-onset status, 36% had abn. findings on imaging - 8.5% urgent or emerg. MRI was better than CT.

In an urban ED, 10% of 719 screened adol. had urine + for GC &/or chlamydia. The OR was 5.9 x greater in nonwhites.

In trauma patients 75 or older, CT diagnosed a pelvic fracture in 23% while plain x-rays were positive in only 2.6%.

In a study of 170 children 3mo – 5yr, oral ondansetron decreased the oral rehydration failure rate from 62% to 31%.

Of 542 stroke pts, the 5-point SEDAN score predicted the risk of ICH (9.2%) and mortality in TPA-treated patients.

Concerning a non-displaced wrist fracture, of 489 orthopedists, 37% advised surgery!! Casting advice - 2-12 weeks!!

Of 1943 ED visits for susp. peds shunt problems, 60% were discharged. Returns for surg. = 4.5% (1.7% within 48 hrs).

...And This List Covers Less Than Half of the 30 Papers in the August Issue of EMA.

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ARIZONA

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CALIFORNIA

Madera: Pediatric EM: Excellent compensation package ($300K/yr) at Valley Children's Hospital. Join an outstanding team of fellowship trained/board certified pediatric emergency medicine physicians. 119,000 pediatric emergency patients are treated annually, you can count on excellent back up, PICU, and in-house intensivist coverage. The ED physicians also staff the hospital-wide sedation service. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share an ironclad commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our incredible benefits package includes excellent compensation, the best medical malpractice, an industry leading company-funded 401(k), exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Bernhard Beltran directly at 800-359-9117 or email bbeltran@usacs.com.

Northern California: Placerville, Marshall Medical Center: Equity partnership position with stable, democratic group at modern community hospital seeing 31,000 emergency pts./yr. New 24 bed ED opened in 2013. Desirable area proximate to the amenities of the Bay Area, Sacramento, Napa Valley, Lake Tahoe and Yosemite. US Acute Care Solutions (USACS) was founded like-minded physician groups that share an ironclad commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled

access to personal and professional growth resources. Our incredible benefits package includes excellent compensation, the best medical malpractice, an industry leading company-funded 401(k), exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Bernhard Beltran directly at 800-359-9117 or email bbeltran@usacs.com.

San Francisco, Chinese Hospital: Located in the heart of San Francisco's Chinatown, Chinese Hospital has served the diverse healthcare needs of this community since 1924. Although the volume of emergency patient visits is low (6,500 per year), the acuity is high with a wide spectrum of interesting and complex medical cases. A brand new state of the art ED opened in 2016. The supportive medical staff of approximately 250 represents most major specialties. ED shifts are 12 hours in length and provide for a high quality of life through a manageable work schedule. US Acute Care Solutions (USACS) was like-minded physician groups that share an ironclad commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner and unparalleled access to personal and professional growth resources. Our incredible benefits package includes excellent compensation, the best medical malpractice, an industry leading company-funded 401(k), exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Bernhard Beltran directly at 800-359-9117 or email bbeltran@usacs.com.

South Bay: Adult & Pediatric EM Physician BC/BP to join private group in busy, 200 bed community hospital in South Bay, 5 minutes from the beach. Catchment area from Palos Verdes peninsula to El Segundo/Manhattan Beach. As a team member you'll have: 8-10 hour shifts, designed to allow for physician longevity; Competitive hourly rate, with well-defined increases once you are full time; All docs are independent contractor status for tax benefits; 11 overlapping physician shifts/day, 95 physician hours of coverage, MLP in triage & fast track 3 shifts/day; 70,000+ visits with 21% admit rate; EPIC EMR with Dragon Dictation; Ideal call panel (ENT, urology, cardiothoracic, pediatric surgery, podiatry, ophthalmology, interventional and non-interventional cardiology, etc.); Stroke and STEMI receiving center, Paramedic Base station. 24/7 ultrasound, CT, XR, MRI with Beach community with world-class surf, food, schools, in an expanding US Top 100 Hospital. Contact Luis Abrishamian, abrishamian@gmail.com for details.

CONNECTICUT

Meriden, New London and Stamford: MidState Medical Center is a modern community hospital situated between Hartford and New Haven, seeing 53,000 EM pts./yr. Lawrence & Memorial is a Level II Trauma Center on the coast near Mystic seeing 52,000 pts./yr. The Stamford Hospital will be a brand new facility in 2016 with Level II Trauma Center designation seeing 49,000 ED pts./yr., located 35 miles from New York City near excellent residential areas. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

Yale University School of Medicine

Department of Emergency Medicine Fellowship Programs

For specific information including deadlines and requirements, visit: http://medicine.yale.edu/emergencymed

The **Research** fellowship is a 2-3 year program focused on training clinician scholars as independent researchers in Emergency Medicine. Scholars will earn a Master of Health Sciences degree from Yale combining clinical experience with extensive training in research methods, statistics and research design. With the guidance of research content experts and professional coach mentors, the scholar will develop a research program, complete a publishable project and submit a grant application prior to completion of the program. The program is credentialed by the Society for Academic Emergency Medicine. For further information, contact **Steven L. Bernstein, MD, steven.bernstein@yale.edu**.

The fellowship in **Emergency Ultrasound** is a 1 or 2 year program that will prepare graduates to lead an academic/community emergency ultrasound program. The 2-year option includes a Master of Health Sciences with a focus on emergency ultrasound research. This fellowship satisfies recommendations of all major societies for the interpretation of emergency ultrasound, and will include exposure to aspects of program development, quality assurance, properties of coding and billing, and research. The program consists of structured time in the ED performing bedside examinations, examination QA and review, research into new applications, and education in the academic/ community arenas. We have a particular focus on emergency echo and utilize state of the art equipment, as well as wireless image review. Information about our Section can be found at **http://medicine.yale.edu/emergencymed/ultrasound.** For further information, contact **Chris Moore, MD, RDMS, RDCS, chris.moore@yale.edu, or apply online at www.eusfellowships.com**.

The fellowship in **EMS** is a 1-year program that provides training in all aspects of EMS, including academics, administration, medical oversight, research, teaching, and clinical components. The ACGME-accredited program focuses on operational EMS, with the fellow actively participating in the system's physician response team, and all fellows offered training to the Firefighter I or II level. A 1-year MPH program is available for fellows choosing additional research training. The fellowship graduate will be prepared for a career in academic EMS and/or medical direction of a local or regional EMS system, and for the new ABEM subspecialty examination.

For further information, contact **David Cone, MD**, **david.cone@yale.edu**.

The **Administration** fellowship is a new 2-year program that will prepare graduates to assume administrative leadership positions in private or academic practice. By having an active clinical practice in our department, the fellow will acquire experience in all facets of emergency department clinical operations. Fellows will complete the Executive MBA program at the Yale School of Management and a clinical Emergency Medicine Administrative Fellowship. In addition, the candidate will play a leadership role on one or more projects from the offices of the Chair and Vice Chair for Clinical Operations. For further information, contact **Andrew Ulrich, MD**, **andrew.ulrich@yale.edu**.

The **Global Health and International Emergency Medicine** fellowship is a 2-year program offered by Yale in partnership with the London School of Hygiene & Tropical Medicine (LSHTM). Fellows will develop a strong foundation in global public health, tropical medicine, humanitarian assistance and research. They will receive an MSc from LSHTM, a diploma in Tropical Medicine (DTM&H) and complete the Health Emergencies in Large Populations (HELP) course offered by the ICRC in Geneva. In addition, fellows spend 6 months in the field working with on-going Yale global health projects or on an independent project they develop. For further information, contact the fellowship director, **Hani Mowafi, MD, MPH, hani.mowafi@yale.edu**.

NIDA K12: Partnering with Yale's Clinical and Translational Sciences (CTSA), Robert Wood Johnson Foundation Clinical Scholars Program, the Center for Interdisciplinary Research on AIDS (CIRA) and the VA Connecticut Healthcare we are offering the Yale Drug Abuse, HIV and Addiction Scholars K12 Research Career Development Program. The DAHRS K12 Scholars Program provides an outstanding 2-3 year research training experience that offers a Master of Health Science, a mentored research program as well as career and leadership development activities. For further information, contact **Dr. Gail D'Onofrio** at **gail.donofrio@yale.edu**.

The **Wilderness Medicine** fellowship is a 1-year program that provides the core content of medical knowledge and skills in being able to plan for and to provide care in an environment that is limited by resources and geographically separated from definitive medical care in all types of weather and evacuation situations. The fellow will be supported to obtain the Diploma in Mountain Medicine and other Wilderness Medical education. The fellow will become a leader and national educator in the growing specialty of wilderness medicine. For further information, contact **David Della-Giustina, MD, FAWM** at **david.della-giustina@yale.edu**.

The **Medical Simulation** fellowship is a 1-year program that provides training in all aspects of simulation education, including high fidelity mannequin simulation with computer program training, acquisition of debriefing skills and procedural simulation. The fellow will participate in all educational programs for medical students, residents and faculty at the new Yale Center for Medical Simulation (opening in the winter of 2014-15). The fellow will receive training in research methodology through the Research Division of the Department of Emergency Medicine and participate in the medical education fellowship through Yale Medical School. The fellow will attend a one week Comprehensive Instructor Workshop at the Institute for Medical Simulation in Boston. The fellow will also have the opportunity to participate in an international exchange through the Yale-China Association Xiangya School of Medicine. For further information, contact **Leigh Evans, MD** at **leigh.evans@yale.edu**.

All require the applicant to be BP/BC emergency physicians and offer an appointment as a Instructor to the faculty of the Department of Emergency Medicine at Yale University School of Medicine. Applications are available at the Yale Emergency Medicine web page http://medicine.yale.edu/emergencymed and are due by November 15, 2016 with the exception of the Wilderness Fellowship, which are due by October 15, 2016.

Yale University and Yale-New Haven Hospital are affirmative action, equal opportunity employers and women, persons with disabilities, protected veterans, and members of minority groups are encouraged to apply.

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Bristol: Bristol Hospital features a full-service ED and a four-bed Express Care Unit and is ranked as one of the best hospitals in Connecticut for patient satisfaction. Situated in on of Hartford's most desirable suburbs, the facility provides care for more than 41,000 emergency patients annually. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Sandra Lee, Senior Recruiter: careers@usacs.com, (301) 944-0049.

FLORIDA

Jacksonville: St. Luke's Emergency Care Group, LLC — Independent physician run group at St Vincent's Medical Center Southside in beautiful Northeast FL. Great area/community with river and ocean access, good schools, sports, and entertainment. Emergency Medicine residency trained BC/BP physicians with PA's providing MLP coverage. FT/PT available. Low physician turnover. Flexible scheduling with 10 hr. shifts. Holiday pay, shift differential, competitive base salary, and a quarterly RVU bonus pool. Cerner EMR. Supportive medical staff with hospitalists in house and intensive care coverage, L&D/Neonatal ICU. Overlapping shifts for optimal coverage of 39,500 ED visits/year and sign-on/relocation bonus. **Please contact us directly and send CV to: Kathering Considine, MD, President and Medical Director Katherine.considine@jaxhealth.com (904) 296-3885.**

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Emergent Medical Associates (EMA) has partnered with the University of Southern California (USC) to create a cutting edge emergency medicine fellowship.

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Exciting Academic Emergency Medicine Opportunities

The Baylor College of Medicine, a top medical school, is looking for academic leaders to join us in the world's largest medical center, located in Houston, Texas. We offer a highly competitive academic salary and benefits. The program is based out of Ben Taub General Hospital, the largest Level 1 trauma center in southeast Texas with certified stroke and STEMI programs that has more than 100,000 emergency visits per year. BCM is affiliated with eight world-class hospitals and clinics in the Texas Medical Center. These affiliations, along with the medical school's preeminence in education and research, help to create one of the strongest emergency medicine experiences in the country. We are currently seeking applicants who have demonstrated a strong interest and background in medical education, simulation, ultrasound, or research. Clinical opportunities are also available at our affiliated hospitals. Our very competitive PGY 1-3 residency program currently has 14 residents per year.

Those interested in a position or further information may contact Dr. Dick Kuo via email dckuo@bcm.edu or by phone at 713-873-2626. Pleases send a CV and cover letter with your past experience and interests.

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Orlando: Emergency Physician Jobs in Orlando, FL — Florida Emergency Physicians is looking for outstanding Emergency Medicine Physicians to join our team. We currently provide emergency medical care for 13 Emergency Departments in five Central Florida counties. Work for one of the larger, truly independent EM groups in the nation. FEP provides a work environment for individual practitioners with a flexible work schedule. Quality of life is truly considered in setting clinical schedules. Generous sign-on bonus; 138 hours/month; Comprehensive benefits package; Leadership opportunities; Relocation Assistance. Please send your cover letter and resume to: syarcheck@floridaep.com.

Sarasota: Fantastic EM opportunity exists in beautiful Sarasota County for ABEM/AOBEM Physicians to practice in one of America's most desirable places to live, work and raise a family. Doctors Hospital of Sarasota is a beautifully designed 155-bed, acute care facility. The newly expanded 19-bed EDtreats over 27,000 patient visits annually with staffing model allowing for a comfortable 2.0 pph. Offering premium remuneration, employee benefits, occurrence based malpractice and sign-on/relocation bonus. For additional information contact Frances Miller, Physician Recruiter at 727.507.2507 or frances_miller@emcare.com.

GEORGIA

Atlanta: EmergiNet, a progressive, well-established physician owned emergency group has positions available for BC/BP, EM residency trained physicians at multiple facilities in the Atlanta area. We work as a team emphasizing quality emergency care, dedicated customer service, professional and personal growth. Fee-for service based compensation, plus benefits, in the $350K range. Malpractice and tail coverage are provided. Flexible scheduling, no non-compete, and much more. E-mail CV to Neil Trabel, ntrabel@emerginet.com ; fax 770-994 -4747; or call 770-994-9326, ext. 319.

EMERGENCY MEDICINE OPPORTUNITIES IN THE BEAUTIFUL BERKSHIRES

Berkshire Medical Center, a 302 bed teaching hospital and Level III trauma center is currently seeking full-time BC/BE Emergency Physicians to join its Emergency Services Team. Annual volume for both Main and Express Care is 60,000; Also, a newly opened Urgent Care Center which I s part of the Emergency Department. Competitive salary and benefits package offered, including relocation and Loan Assistance.

Berkshire Medical Center, located in the Berkshires of Western Massachusetts, is the region's leading provider of comprehensive healthcare services. With award-winning programs, nationally recognized physicians, world-class technology and a sincere commitment to the community, ***we are delivering the kind of advanced healthcare most commonly found in large metropolitan centers***. A 302-bed community teaching hospital, BMC is a major teaching affiliate of the University of Massachusetts Medical School, offering residency programs in Internal Medicine, Surgery, Dentistry and Psychiatry.

The Berkshires, one of the most picturesque regions in the nation, offers unique cultural opportunities, including Tanglewood (the summer home of the Boston Symphony Orchestra), Jacob's Pillow, and the Williamstown Theatre Festival, as well as year-round recreational activities from skiing to hiking and kayaking. Outstanding school systems make the Berkshires an ideal family location. ***Enjoy a high quality of life, just 2 ½ hours from Boston & New York City.*** Please apply online at our website www.berkshirehealthsystems.org.

Interested candidates are invited to contact: Antoinette Lentine, Physician Recruitment

725 North St., Pittsfield, MA 01201, (413) 395-7866 mdrecruitment@bhs1.org

Berkshire Health Systems

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HAWAII

Pali Momi Medical Center: US Acute Care Solutions is seeking Emergency Medicine Physicians to join us at Pali Momi Medical Center. Pali Momi Medical Center is a 116 bed facility with an annual volume of 66K patients. If you have ever dreamed of moving to Hawaii, now is your chance. This is your opportunity to practice in a challenging and rewarding setting while enjoying the lifestyle that only this island paradise can offer. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share an ironclad commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our incredible benefits package includes excellent compensation, the best medical malpractice, an industry leading company-funded 401(k), exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Bernhard Beltran directly at 800-359-9117 or email bbeltran@usacs.com.

ILLINOIS

Chicago Heights/Olympia Fields: Franciscan St. James Health (2 campuses seeing 38,000 and 37,000 pts./yr.) is affiliated with Midwestern University's emergency medicine residency program. Situated just 30 miles south of Chicago, the location makes for easy access to a variety of desirable residential areas. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package

includes excellent compensation, the best medical malpractice (occurrence — includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

Chicago-Blue Island: MetroSouth Medical Center is located in the southern end of Chicago 18 miles from downtown. This respected acute care facility treats 50,000 emergency pts./yr. A modern ED and fast track see a broad mix of pathology and admit approximately 14%. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

Chicago-Joliet: Presence Saint Joseph Medical Center (64,000 pts./yr.) is a respected hospital SW of Chicago proximate to the Hinsdale and Naperville suburbs. Comprehensive services include a dedicated pediatric ED. Outstanding opportunity to join a dynamic director and supportive staff. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

Kankakee: Presence St. Mary's Hospital hosts an efficient, recently renovated ED seeing 31,000 emergency patients/yr. This Level II Trauma Center has an admission rate of 19% and broad pathology. Situated 50 minutes south of Chicago, the local area is very affordable and offers great housing/schools. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

INDIANA

South Bend: Memorial Hospital. Very stable, Democratic, single hospital, 22 member group seeks additional Emergency Physicians. 60K visits, Level II Trauma Center, double, triple and quad physician coverage. Equal pay, schedule and vote from day one. Over 375K total package with qualified retirement plan; group health and disability insurance; medical, dental and CME reimbursement, etc. Very favorable Indiana malpractice environment. University town, low cost of living, good schools, 90 minutes to Chicago, 40 minutes to Lake Michigan. Teaching opportunities at four year medical school and with FP residency program. Contact Michael Blakesley MD FAAEM at 574.299.1945 or send CV to Blakesley.1@ND.edu.

MARYLAND

Hagerstown: Meritus Medical Center is a 265-bed regional facility serving patients from western Maryland, southern Pennsylvania and the panhandle of West Virginia. Opened in 2010, the ED treats 78,000 patients annually. Hagerstown offers small-town living within reach of Washington, DC and Baltimore, MD, and is situated between the Blue Ridge and Alleghany Mountains. (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician-led and owned group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Sandra Lee, Senior Recruiter: lees@usacs.com or (301) 944-0049.

Leonardtown: Medstar St. Mary's Hospital is a 114-bed, full-service facility seeing 52,000 emergency patients annually. Situated in a beautiful waterfront community, the area also boasts excellent schools, housing, dining options and more. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice

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Growing employed physician group is seeking to recruit an Emergency Medicine physician to join the team of (14) practice providers in a thriving, acute care hospital located in Lewisburg, PA.

Qualifications:

BC/BE EM Physician. Certified by ABEM or ABOEM, preferred.

- Full time, minimum nights; group will consider full time nights; average 9.0 hour shifts; triple coverage with two physicians and one AP 12.0 hours per day; share schedule equally; cohesive group, non-competitive
- Coverage includes 21 emergency rooms to include Fast Track; nearby Tertiary Center
- Physicians employed in physician practice group which encompasses (80) physicians providing clinical services of Anesthesia, Cardiology, General Surgery, Internal Medicine, Neurology, Palliative Medicine, Pediatrics, Primary Care, OB/GYN, Orthopedics, and Rheumatology

Compensation and Benefits:

- Highly competitive salary
- Full-time Benefits: Medical, Dental, Vision, Flexible Spending, Long Term *Disability, Basic Life and AD&D, Extended Leave, Employee Assistance Program (EAP), 401k plan and an additional elective deferral plan
- $10,000 annual allocation for CME, to include (80) hours for continued education

About the Community: Lewisburg, PA

ECH is located in beautiful Lewisburg, Pennsylvania, which is listed on the National Register of Historic Places, and is home to Bucknell University making it a quaint, amiable and vibrant university town.

- Top ranked public schools (top 4% in PA);
- Low crime community; low cost of living; no traffic!
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Contact Dennis Burns, Manager Physician Recruitment
570-522-2739 Dennis.burns@evanhospital.com

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(occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Sandra Lee, Senior Recruiter: careers@usacs.com or (301) 944-0049.

Maryland/Washington DC area: Shady Grove Medical Center and Germantown Emergency Center offer a main ED, a Fast Track ED, a pediatric ED, and a psychiatric ED. An 18-bed Observation Unit created exclusively for ED patients opened in November 2012. Annual patient census is over 70,000 at SGAH and about 37,000 at GEC. Rockville is just minutes from Washington, DC and a short drive to Baltimore. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Sandra Lee, Senior Recruiter: careers@usacs.com or (301) 944-0049.

MICHIGAN

Grand Blanc: Genesys Regional Medical Center is located 45 minutes north of metro-Detroit and minutes from a number of desirable residential areas. This award-winning facility hosts both allopathic and osteopathic emergency medicine residency programs and sees 62,000 emergency pts./yr. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS

physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

Port Huron: Emergency Medicine Private Practice in Michigan - Physician HealthCare Network's Emergency Medicine Department is offering a career opportunity that provides the option to work in a diverse practice environment, seeing a higher level of acuity and treating a more rural patient population at McLaren Port Huron Emergency Center. McLaren Port Huron Hospital is a 186 bed not-for-profit facility treating nearly 42,000 emergency room patient visits a year. You will have the opportunity of a partnership track position with excellent compensation and bonus potential, a robust profit sharing/401k participation, comprehensive benefits, pleasing work environment with outstanding staff and physician assistant support, a variety of shift options and strong collaboration with your partners. Besides beautiful outdoor scenery, Port Huron has a lot to do when you're off the water. Its historic downtown shopping district, with unique and interesting shopping and dining experiences, offers something for everyone. Sandy beaches, friendly parks, and convenient marinas are just a few of the outdoor attractions. Port Huron provides easy access to major airports and the metro Detroit area: including the arts, fine dining and many major sports teams. Contact Todd Dillon at 1-800-678-7858 x63309, email tdillon@cejkasearch.com, or visit us at www.cejkaserach.com.

MINNESOTA

St Paul: HealthEast is seeking **BC/BE ABEM Emergency Physicians** to join our outstanding team in the Twin Cities Eastern Metro areas of St. Paul, Minnesota. Join a unique team of 30 EM physicians and 6 PA's, which offers an employed model that is managed with input from all members. Practice at our Level III hospitals. St. John's Hospital, Maplewood, MN, with 24 beds and 38,000 annual visits; St. Joseph's Hospital, St. Paul, MN with 20 ED beds and 25,000 annual visits; and Woodwinds Hospital, Woodbury, MN with 15 ED beds and 28,000 annual visits. We offer 8, 9 and 10 hour shifts with flexible scheduling, nocturnist coverage and scribes. There are opportunities to participate in administration and to teach Family Medicine Residents. You'll receive a competitive base salary, call, productivity and quality incentive pay. Excellent benefit package that includes health, dental, short and long term disability, life, matched 403b, two retirement plans, cash benefit plan of 3%, CME, and medical malpractice (includes tail). HealthEast is a community-focused, non-profit organization, and the largest, locally owned health care organization in the Twin Cities' East Metro with over 7,000 employees, 1,400 physicians on staff, and 1,200 volunteers. Formed by the joining of hospitals rich in spiritual tradition, HealthEast knows the healing benefits of treating the body, mind and spirit. We provide compassionate service that respects the dignity of each person and welcomes all faith traditions, cultures and communities. We constantly move forward with new technology, while continuing to be a leader in providing high quality, compassionate care. The Twin Cities area is a vibrant metropolitan area with a population of 3.5 million, home to 20 Fortune 500 companies, strong educational system, major universities, professional sports teams, fine dining and numerous arts and cultural activities. To learn more about HealthEast and our opportunities, Please visit our website at www.healtheast.org, or contact: Julie Juba, Provider Recruitment, 651-326-2403, jwjuba@healtheast.org

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Western Wyoming

Excellent new Emergency Medicine and Urgent Care Medicine Hospital Employment Opportunities are now available in one of the most scenic Mountain communities in Spectacular Northwestern Wyoming!

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Opportunity to join a well established, 5 member Emergency Medicine Department and enjoy a full time ER practice working an average of 12 - twelve hour, single coverage shifts per month.

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Opportunity to enjoy a full time Urgent Care Medicine practice in a newly designed Urgent Care Clinic and work an average of 12 shifts per month.

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The Hospital is offering a:

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- Relocation Assistance

Situated near Yellowstone National Park and along the famous Yellowstone River, this community has a mild, four season's climate and a local airport with daily flights throughout the US. Western Wyoming offers an incredible lifestyle for the outdoor enthusiast with some of the best Fly Fishing, Big Game Hunting, Hiking, Biking and Kayaking areas found in the Rocky Mountain Region! There is No State Income Tax in Wyoming and the real estate and educational options for your family are excellent!

For more information, please contact:
Cathy Sweeney
Director of Physician Recruitment
Phone: 303-708-9954
Email: cathy@msoinc.org

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NEW YORK

THE University of Vermont HEALTH NETWORK

Champlain Valley Physicians Hospital

Lake Champlain Region: Emergency Medicine Opportunities: The University of Vermont Health Network-Champlain Valley Physicians Hospital (www.UVMHealth.org/CVPH) seeks BC/BP EM Physicians to join its Emergency Department (50,000 annual visits). Schedule has 60 hrs/day of physician coverage. Enjoy working in our newly renovated ER which includes a new EMR system. Incoming physicians may either be hospital employed with a comprehensive benefit package or be independent contractors. **Community** (www.NorthCountryGoodLife.com) offers a rich family lifestyle on Lake Champlain at the foothills of the Adirondack Mountains. Enjoy close proximity to the Lake Placid Olympic Region, Montreal and Burlington, VT. Practice in a university affiliated hospital and live where others vacation! For info: Becky Larkin, 518-314-3025, rlarkin@cvph.org.

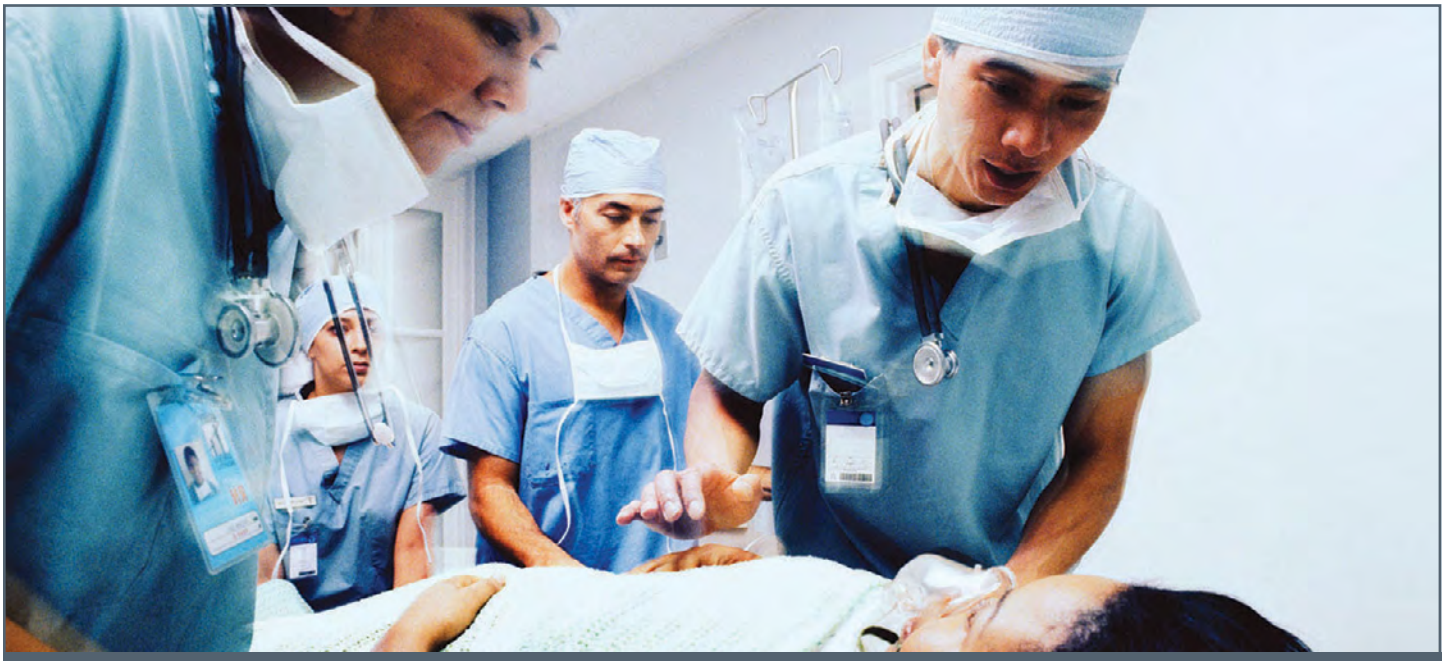
Albany area: Albany Memorial Hospital has a newer ED that sees 43,000 pts/yr. and hosts EM resident rotations. Samaritan Hospital in Troy is a respected community hospital situated minutes from Albany and treats 42,000 ED pts/yr. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

Cortland: Cortland Regional Medical Center is a modern, full-service facility situated in the Finger Lakes Region between Syracuse and Ithaca. A broad mix of pathology makes up 33,000 ED pts/yr., and there is strong support from medical staff and administration. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

Port Jefferson: John T. Mather Memorial Hospital is situated in a quaint coastal town on Long Island's north shore and sees 43,000 emergency patients per year. Pathology is broad with moderate acuity, and most services are represented. Enjoy a variety of residential options, outdoor recreation and shopping and access to NYC. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

NEVADA

Las Vegas: Full time opportunities for Pediatric Emergency Medicine Physicians. Children's Hospital of Nevada at UMC is the main teaching hospital of the University of Nevada School of Medicine and serves as the region's only Pediatric Trauma Center and Burn Center. Our 20-bed department cares for 30,000 pediatric patients annually. There is excellent sub-specialty coverage with 24 hour in-house intensivist coverage and a level 3 NICU. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share an ironclad commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our incredible benefits package includes excellent compensation, the best medical malpractice, an industry leading company-funded 401(k), exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Bernhard Beltran directly at 800-359-9117 or email bbeltran@usacs.com.



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For more information about joining Pennsylvania's emergency medicine leader, contact our recruiter at 412-432-7400 (toll-free 888-647-9077) or send an email to ermicareers@upmc.edu.

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NORTH CAROLINA

Central: 20-Bed ED * Not a trauma center * 40,000 patients/year * Seeking seventh physician * Partnership available * 14-15, 9-hour shifts/month *Competitive compensation & extremely generous benefit package including sign-on bonus, relocation, CME allowance, medical, dental, and malpractice insurance. Asheboro, located in the center of North Carolina offers: Small-town feel, rich in art, outdoor and family activities * Within an hour to Wake Forest, UNC, & Duke * Live in Asheboro or commute! Please contact Cindy Leonard, cleonard@randolphhospital.org, 336-633-7777, www.randolphhospital.org.

Charlotte: US Acute Care Solutions (USACS) is partnered with ten community hospitals and free-standing EDs in Charlotte, Harrisburg, Kannapolis, Lincolnton, Pineville and Statesville. A variety of opportunities are available in urban, suburban and smaller town settings with EDs seeing 12,000 – 83,000 pts./yr. USACS was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

Charlotte/Statesville: Iredell Memorial Hospital is a respected community hospital situated north of Charlotte and seeing 42,000 ED pts./yr. Statesville is easily commutable from desirable north-Charlotte suburbs like Mooresville (highly regarded schools), with access to lakeside, small town and rural residential options as well. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

Morehead City: Modern community hospital on the Atlantic coast minutes from Atlantic Beach and Emerald Isle! This 135-bed facility sees 38,000 emergency pts./yr., is active in EMS, and has a supportive medical staff and administration. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

New Bern: CarolinaEast Medical Center is a respected 313-bed regional medical center located at the intersection of the Trent and Neuse Rivers just off the central coast. 71,000 ED pts./yr. are seen in the ED. Beautiful small city setting offers great quality of life. US Acute Care Solutions

Advocate Health Care
Emergency Medicine Opportunities

Advocate Medical Group is expanding its Emergency Medicine service line throughout the state of Illinois!

Advocate is seeking BE/BC Emergency Medicine physicians to join our progressive organization. Advocate is named among the nation's Top 5 large health systems and is the largest health system in Illinois. Advocate is the largest emergency and Level I Trauma network in Illinois.

Details:

- Collegial practice environment with superior physician leadership
- High physician satisfaction with low attrition rate
- Competitive salary and excellent benefits package
- No financial tail obligation and no restrictive covenant

Why choose Advocate?

- Advocate Medical Group is physician-led and physician-governed
- Advocate has over 1,400 employed physicians and offers more than 300 sites of care, 12 acute-care hospitals
- Advocate's mission to provide the highest level of care available has resulted in a series of national recognitions
- Advocate is a financially stable organization
- Advocate offers a great work/life balance

Locations currently recruiting:

- **Advocate BroMenn**-Bloomington/Normal, Illinois- Level II trauma, 40,000 visits
- **Advocate Trinity**- Chicago, Illinois- 40,000 visits
- **Advocate South Suburban**- Hazel Crest, Illinois- 52,000 visits

If you are interested in providing high quality, compassionate care, please submit a CV and cover letter to:

Sarah Smith, Physician Recruiter at Sarah.Smith5@advocatehealth.com

Advocate Health Care

PINNACLE
Emergency Physicians of Bakersfield, APC

Bakersfield, California

Pinnacle Emergency Physicians (2007-present) with 3 local ED's (10h shifts) seeking FT/PT, BC/BE docs
(all trauma goes to the County Hospital)

Memorial Hospital: 80k/y, STEMI, Stroke & Burn Receiving Center, currently 24/7 Peds, PICU, OB and adult hospitalist services.....Peds ED opening 4/2017

Mercy Downtown: 37k/y, Stroke Receiving Center w/ adult hospitalist services

Mercy Southwest: 52k/y, Stroke Receiving Center w/ adult hospitalist services

Staffed by 40 FT/PT physicians and 40 FT/PT mid-levels.

FT: 120h/mo, full profit sharing after 2 1/2y plus $5k CME, $12k/y health insurance, retirement contribution, paid malpractice with no tail, quarterly bonus, sign on bonus, interest free loan for moving expenses.

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Contact: Les Burson, DO, Medical Director phogku@aol.com
661-332-1064 or
Dr. Kian Azimian, MD, Assistant Medical Director kianazimian@yahoo.com
661-616-8930

(USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

Pinehurst: Sandhills Emergency Physicians (SEP) is seeking new partners to join our team of 27 physicians. We currently staff a 4-hospital system in adjacent counties with varying acuities, volumes, and demographics. We provide 129 hours of physician coverage and 44 hours of PA/NP coverage daily across all facilities. Pinehurst is a world-renowned resort centrally located in the Sandhills of North Carolina. Our physicians and families enjoy a short drive to the ocean, mountains, and several highly acclaimed universities. We are also home to the 1999, 2005, 2014 and future 2024 US Open Golf Championships. The majority of our physicians start and finish their career in this family-oriented community which also boasts equestrian activities, trails, lakes, and other outdoor sports activities. Become a part of FirstHealth Moore Regional Hospital, named one of the nation's 100 top hospitals in a recent industry study conducted by Truven Health Analytics. We are looking for residency trained EM physicians seeking a partnership opportunity. Residency trained ABEM/ABOEM BE/BC physicians may apply. The offer encompasses fair and equitable scheduling from day 1 in a democratic group with a 2-year partnership track. SEP offers funded retirement plus the usual health, malpractice, CME, vision/dental allowance, etc. We annually treat a combined 125K+ patients and utilize

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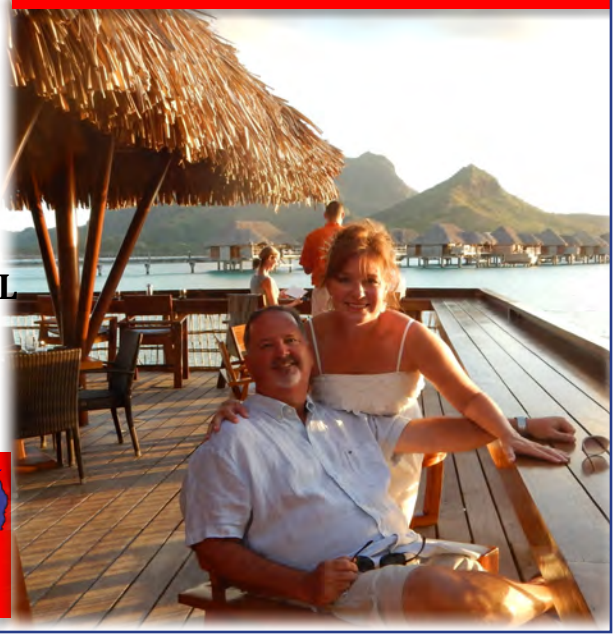

Health System

PHYSICIANS NEEDED
for Emergency Department Coverage

- **115 bed Emergency Department**
- **3 ERs (Community, Trauma and Pediatric)**
- **150,000 patient visits annually**
- **Level I Trauma/ Regional Referral Center**
- **40+ Physicians in current employed group**

The position offers an excellent compensation package including above MGMA average salary with RVU-based incentives, paid vacation, CME allowance, health and life insurance, malpractice insurance, and a 401k plan with employer contribution. The hospital has 24/7 in-house Hospitalist, Radiology, Cardiology, Trauma, Orthopaedic and Neurosurgical Coverage as well as EMR and Mid-Level support. Four different units make up our Emergency Department: Level I Trauma Center downtown with 75 beds and fast track, Medical Observation Unit with 16 beds, Pediatric ER at Children's hospital with 16 beds, and a 21 bed community hospital ER in Madison. Teaching opportunities with 3rd/4th year medical students from UAB and Family Medicine and Internal Medicine Residents at UAB-Huntsville rotate through our ED. Qualified candidates include: Emergency Medicine, Med/Peds, Pediatric Emergency and Family Medicine Physicians.

Huntsville, is situated in the fastest growing major metropolitan area in Alabama, and with the highest per capita income in the southeast, Huntsville is the best place to live, learn and work. We are a community on the move, rich with values and traditions while progressing with new ideas, exciting technologies and creative talents. With a population of 386,661 in the metro area, we are a high-tech, family oriented, multi cultural community with excellent schools, dining and entertainment.

For further information, please contact Kimberly Salvail
at (256) 265-7073 or physicianrecruitment@hhsys.org

huntsvillehospital.org

an integrated EMR. Hospitalists handle most admissions. Competitive sign-on bonus. For more information or inquiries, please contact Peter A. Tucich at madju@nc.rr.com or (910) 692-8224.

OHIO

Springfield: Springfield Regional Medical Center is a new, full-service hospital with supportive administration committed to emergency medicine. Situated 45 miles west of Columbus and 25 miles northeast of Dayton, the ED sees 76,000 patients/yr. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

Urbana: Mercy Memorial Hospital services the SW Ohio region's residents in Champaign County; the facility treats approximately 16,000 emergency pts./yr. Desirable residential areas in Dayton are easily accessible. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

Lancaster: Located 30 minutes SE of Columbus, Fairfield Medical Center sees 55,000 emergency patients per year. Modern facility, excellent back up, easy access to metro amenities, and dedicated partners make this a great place to live and work. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

Cincinnati Region: The Mercy Health System in eastern and western Cincinnati includes nine respected community hospitals seeing 14,000-60,000 emergency pts./yr. Locations are proximate to desirable residential areas. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model.

Department of Emergency Medicine Yale University School of Medicine

Advancing the Science and Practice of Emergency Medicine

The Department of Emergency Medicine at the Yale University School of Medicine has a total of 4 clinical sites: Adult Emergency Services at York Street Campus; Shoreline Medical Center; Saint Raphael's Campus; and the West Haven VA Emergency Department with a combined ED volume of 195,000 visits per year. We are seeking faculty at all levels with interests in clinical care, education or research to enhance our existing strengths. Interest and/or experience in observation medicine is a plus. The successful candidate may be a full time clinician committed to excellence in patient care and emergency medicine education or one that would want to join the academic faculty promoting scholarship to enhance the field of emergency medicine. We offer an extensive faculty development program for junior and more senior faculty. We have a well-established track record of interdisciplinary collaboration with other renowned faculty, obtaining federal and private foundation funding, and a mature research infrastructure supported by a faculty Research Director, a staff of research associates and administrative assistants.

Eligible candidates must be residency-trained and board-certified/-prepared in emergency medicine. Rank, protected time and salary will be commensurate with education, training and experience.

Yale University is a world-class institution providing a wide array of benefits and research opportunities.

To apply, please forward your CV and cover letter to Gail D'Onofrio, MD, MS Chair, via email: **jamie.petrone@yale.edu**, or mail: Yale University School of Medicine, Department of Emergency Medicine, 464 Congress Ave, P.O. Box 208062, New Haven, CT 06519-1315.

Yale University is an affirmative action, equal opportunity employer. Women and members of minority groups are encouraged to apply.

ArnotHealth
Arnot Medical Services

Arnot Ogden Medical Center is seeking an ABEM-Certified Emergency Medicine Physician to join our Emergency Department. A fully equipped ER with 24-hour angioplasty, anesthesia, double physician coverage and dedicated Fast Track will create the environment for you to blend your talents and skills in a progressive and financially sound health system that serves over 47,000 emergency medicine visits annually.

Our multispecialty practice group and DO residency program with a truly collegial staff provide excellent support and contribute to the rewards of a balanced professional and personal lifestyle. The Southern Finger Lakes and Pennsylvania Grand Canyon and the cities and suburbs of Elmira and Corning offer a truly exceptional lifestyle. Excellent schools, convenient shopping, low crime rates, and high air and water quality combine to foster a superior environment with very affordable housing. The region is a mecca for outdoor enthusiasts offering an abundance of activities in all seasons. The region is centrally located within an easy 4-5 hour drive to major cities in the Northeast.

The successful candidates will receive competitive compensation with a newly enhanced initiative and benefit package including loan forgiveness, residency stipend and relocation. Arnot is an osteopathic training facility with an accredited EM residency program. Core faculty positions are available.

EEO Employer
For confidential consideration, please contact:
Francis DiBari, Director Medical Staff Recruitment,
Arnot Health, 600 Ivy Street, Suite 105, Elmira, NY 14905
Phone: (607) 735-4620; Fax: (607) 737-7700;
Email: fdibari@arnothealth.org

or visit our web-site at: https://www.arnothealth.org/careers

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As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

Concord, Madison and Willoughby: Lake Health is situated in the eastern Cleveland Suburbs. TriPoint Medical Center was built in 2009 and treats 27,000 emergency pts./yr. The Madison Medical Campus hosts a freestanding ED seeing 12,000 pts./yr. West Medical Center is a state-of-the-art acute care hospital serving 35,000 ED pts./yr. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@emp.com or (800) 828-0898.

OKLAHOMA

Tulsa: Brand new, state-of-the-art, 85-room ED opened in Fall 2014. Saint Francis Hospital is a modern 971-bed regional tertiary care center seeing 99,000 ED patients per year, with broad pathology, high acuity, modern facilities and supportive environment. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

PENNSYLVANIA

Sharon: Sharon Regional Health System has an extremely supportive director/administration/medical staff, newer ED, and full-service capabilities making this a great place to work with 37,000 patients treated annually. Small city setting offers beautiful housing and abundant recreation less than an hour from Pittsburgh and Cleveland. As an AHNEMM physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry

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leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician-led and owned group. Visit us at www.usacs.com Contact Jim Nicholas (jnicholas@usacs.com) or call (800) 828-0898.

Indiana: Indiana Regional Medical Center is a full-service community hospital in a college town located 50 miles northeast of Pittsburgh. IRMC sees 45,000 ED pts./yr. and has a dynamic, supportive ED director. Excellent local schools, reasonable housing costs, and easy access to metropolitan and outdoor recreation make for a high quality of life. Allegheny Health Network Emergency Medicine Management (AHNEMM) has a strong commitment to a physician owned and led, democratic business model. As an AHNEMM physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician-led and owned group. Visit us at www.usacs.com Contact Jim Nicholas (jnicholas@usacs.com) or call (800) 828-0898.

Pittsburgh: Allegheny General Hospital is a highly regarded quaternary care center with Level I trauma designation and an international reputation for excellence. A full-range of medical and surgical specialties supports residency programs in 22 specialties including EM and EM/IM, plus fellowships in EMS and EM Ultrasound. 55,000 ED patients are treated annually. Allegheny Health Network Emergency Medicine Management (AHNEMM) has a strong commitment to a physician owned and led, democratic business model. As an AHNEMM physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician-led and owned group. Contact Jim Nicholas (jnicholas@usacs.com); (800) 828-0898.

Pittsburgh: West Penn Hospital is located in the desirable Bloomfield/Shadyside area in the city of Pittsburgh and sees 22,000 emergency pts./yr. Beautiful, recently renovated facility hosts a wide range of services including stroke center designation, full cardiac capabilities, busy obstetrics program and NICU. The ED also hosts EM resident rotations. Allegheny Health Network Emergency Medicine Management (AHNEMM) has a strong commitment to a physician owned and led, democratic business model. As an AHNEMM physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. Contact Jim Nicholas (jnicholas@usacs.com); (800) 828-0898.

Pittsburgh – Canonsburg: Canonsburg Hospital is a friendly, community oriented facility situated 21 miles south of Pittsburgh near the region's most attractive suburbs including Peters Township, Upper St. Clair and Mt. Lebanon. A modern ED sees 18,000 pts./yr., and most major services are available on-site. Allegheny Health Network Emergency Medicine Management (AHNEMM) has a strong commitment to a physician owned and led, democratic business model. As an AHNEMM physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician-led and owned group. Contact Jim Nicholas (jnicholas@usacs.com); (800) 828-0898.

Pittsburgh – Natrona Heights: Allegheny Valley Hospital is situated just 18 miles north of Pittsburgh and sees 39,000 ED pts./yr. A newer, state of the art ED and strong medical staff, administration and community support make for a great work environment. Allegheny Health Network Emergency Medicine Management (AHNEMM) has a strong commitment to a physician owned and led, democratic business model. As an AHNEMM physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician-led and owned group. Contact Jim Nicholas (jnicholas@usacs.com); (800) 828-0898.

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- **Fargo, ND**: Avg. 62,000 visits per year
- **Aberdeen, SD**: Avg. 7,800 visits per year
- **Sioux Falls, SD**: Avg. 45,000 visits per year

Pediatric Emergency Medicine

- **Sioux Falls, SD**: Avg. 45,000 visits per year

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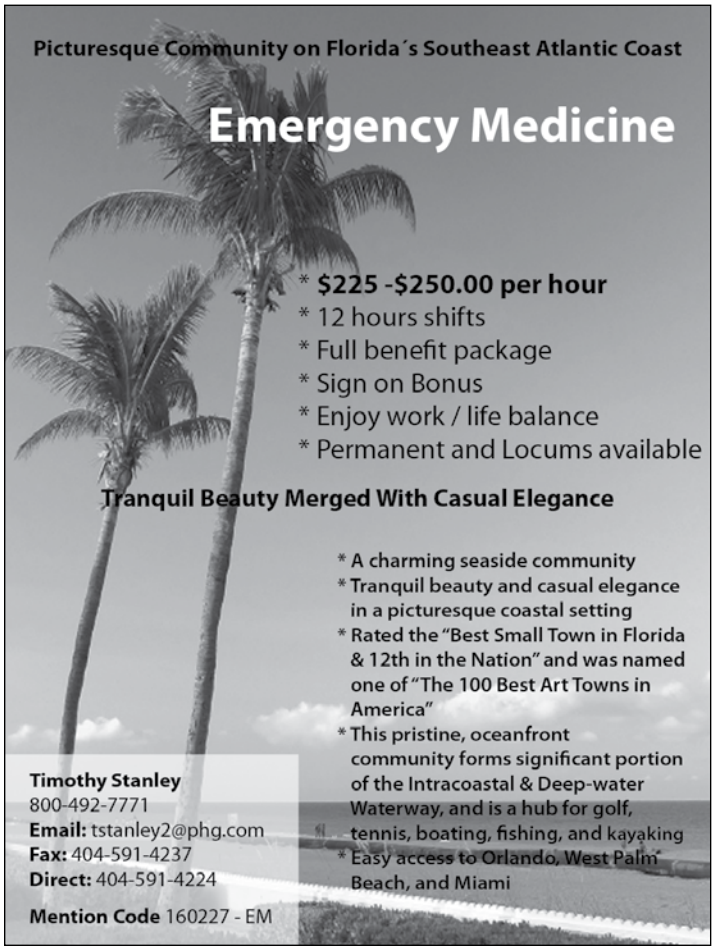

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RHODE ISLAND

Westerly: The Westerly Hospital is a 125-bed community hospital situated in a beautiful beach community in SE RI, 45 minutes from Providence and 1.5 hours from Boston. Modern, well-equipped ED sees 21,000 pts./yr. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence - includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

TEXAS

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Northeast: Leading Edge Medical Associates is a one-of-a-kind, private, independent group of all board-certified EM physicians in northeast Texas, offering the top aspects of EM. LEMA is unique in its ability to offer physicians the best of both worlds, hospital-based and free-standing, academic and community medicine. LEMA doctors can tailor their practice to include hospital-based and/or free-standing clinical opportunities. LEMA is a group of exemplary physicians who work together as a team, value each member's input, and have a level of integrity, honesty and trust that make this innovative group truly one-of-a-kind. For More Info: SUZY MEEK, MD, email: SMEEK@LEMA-EM.COM or call 903.235.9493.

WASHINGTON

Wenatchee: Wenatchee Emergency Physicians is seeking BC/BE Emergency Physicians to join our long-standing, democratic, EP group due to expansion and retirement transition. The primary hospital is a Level 3 trauma center with a patient volume of ~40,000. The group also staffs the ED in Moses Lake, WA and an urgent care clinic in Wenatchee. Income is highly competitive with partnership track in one year. Wenatchee is a family-oriented, outdoor recreation community located 2.5 hours from Seattle. It sits at the base of the sunny/dry side of the Cascade Mountains at the confluence of the Columbia and Wenatchee rivers. There is very close access to skiing, mountain biking, road cycling, water sports, hiking, climbing, fishing, and hunting. Contact: Dr. Eric Hughes, cehughes@nwi.net.

WEST VIRGINIA

Wheeling: Ohio Valley Medical Center is a 250-bed community teaching hospital with an AOA approved Osteopathic EM and EM/IM residency program. Enjoy teaching opportunities, full-specialty back up, active EMS, and two campuses seeing 30,000 and 20,000 pts./yr. US Acute Care Solutions (USACS) was founded by like-minded physician groups that share a strong commitment to a physician owned and led, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and unparalleled access to personal and professional growth resources. Our outstanding benefits package includes excellent compensation, the best medical malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician owned and led group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Contact Darrin Grella, Vice President of Recruiting: careers@usacs.com or (800) 828-0898.

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- Fully computerized/ Meditech EMR
- Voice recognition dictation/ transcription
- Excellent nursing/ ED techs/ IV team
- Superb admitting and consulting staff/ 2 Hospitalist Services
- CT/Ultrasound/MRI available 24/7 plus our own Sonosite
- University community: great schools and all the amenities without crime

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The Emergency Medicine Department at Penn State Milton S. Hershey Medical Center seeks energetic, highly motivated and talented physicians to join our Penn State Hershey family. Opportunities exist in both teaching and community hospital sites. This is an excellent opportunity from both an academic and a clinical perspective.

As one of Pennsylvania's busiest Emergency Departments with 26+ physicians treating over 70,000 patients annually, Penn State Hershey is a Magnet® healthcare organization and the only Level 1 Adult and Level 1 Pediatric Trauma Center in PA with state-of-the-art resuscitation/trauma bays, incorporated Pediatric Emergency Department and Observation Unit, along with our Life Lion Flight Critical Care and Ground EMS Division.

We offer salaries commensurate with qualifications, relocation assistance, physician incentive program and a CME allowance. Our comprehensive benefit package includes health insurance, education assistance, retirement options, on-campus fitness center, day care, credit union and so much more! For your health, Hershey Medical Center is a smoke-free campus.

Applicants must have graduated from an accredited Emergency Medicine Residency Program and be board eligible or board certified by ABEM or AOBEM. We seek candidates with strong interpersonal skills and the ability to work collaboratively within diverse academic and clinical environments.

For additional information, please contact:
Susan B. Promes, Professor and Chair, Department of Emergency Medicine, c/o Heather Peffley, Physician Recruiter, Penn State Hershey Medical Center, Mail Code A590, P.O. Box 850, 90 Hope Drive, Hershey PA 17033-0850,
Email: hpeffley@hmc.psu.edu

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HCA

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With over 160 hospitals, 20.6 million patient encounters and 7.5 million emergency room visits nationwide, HCA - Hospital Corporation of America is the nation's largest healthcare provider.

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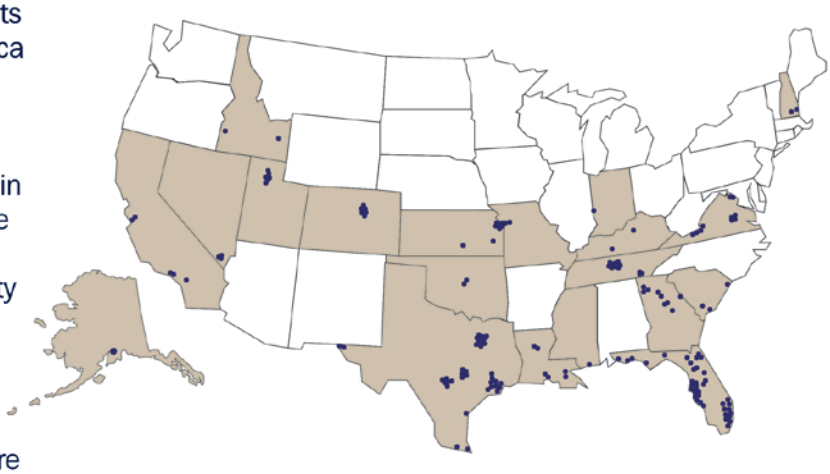
Medical Director, Assistant Medical Director, Program Director, Faculty and Staff physicians are needed for immediate openings!



Stop by to see us at ACEP

Visit us at **Booth 143** in the American College of Emergency Physicians Conference Exhibit Hall.

Bring a hard copy of your CV to receive a complimentary CV review and other job hunting tips from an HCA recruitment expert.

Find Your Ideal Job

We have something for everyone at the Job and Fellowship Fair on October 16th

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in the South Central area

For positions in FL, GA, SC, TN, VA and KY

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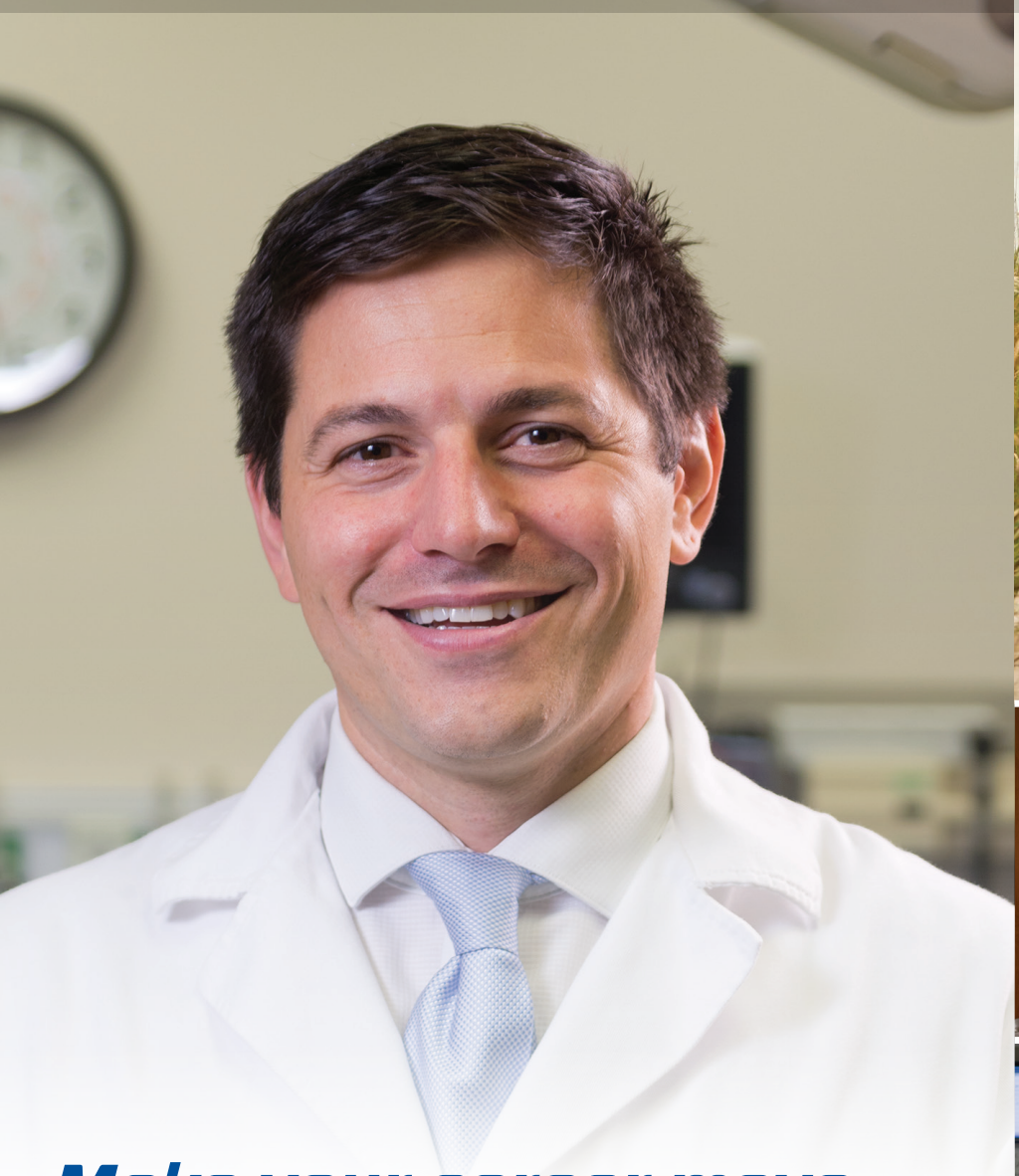
For more information about HCA and our current openings, contact:

Amber Holiman
National Emergency Medicine Recruiter
501.226.9020
Amber.Holiman@HCAHealthcare.com



Make your career move to Myrtle Beach!

TeamHealth is proud to offer you many career opportunities nationwide, and at Grand Strand Medical Center in Myrtle Beach, we are starting an Emergency Medicine Residency Program. And we want you to join our team! Affiliated with the University of South Carolina and VCOM (the Edward Via College of Osteopathic Medicine), Grand Strand is a 300+-bed, full-service teaching hospital. While we are the busiest Trauma Center in the Palmetto State, we also have a strong, progressive interest in environmental envenomations, ultrasound, trauma, and hospital systems research. We feature an engaging staff and can offer you very competitive reimbursement. And while you'll love all that Grand Strand can do for your career, your family will love all that Myrtle Beach has to offer. It's a win-win!

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