EM Resident

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LETTER FROM THE EDITOR

Spring has sprung, summer is almost here, moods and pool covers have been lifted. Residency is flying by, and like seasons, the more I know and the more experiences I have, the more my goals and priorities as an emergency physician seem to change. Intern year was spent navigating the system and soaking up as much knowledge as possible, second year's focus was improving efficiency and work flow, and this upcoming year will undoubtedly present an entirely new set of challenges with increased responsibility and higher stakes.

I recently spent a day in my own emergency department with a close friend who was in town visiting for the weekend. She had had a "seizure" on the plane, and while she was completely back to her baseline after what sounded more like a syncopal episode, she was terrified. We discussed the pros and cons of going to the emergency room, and she ultimately opted for peace of mind. The view of my own emergency department through her eyes that day was astonishing.

As she was taken back to her room, a man in the hallway was marching back and forth while repeatedly counting to four, the woman next door was actively vomiting, a man in severe respiratory distress rolled by on biPAP. "Welcome to my workplace," I thought. While I was able to sit in the room with her and talk her through an entire workup, I realized nobody else around us had that luxury. And while I knew the residents outside were running at top speed, the clock inside the room ticked slowly. The registration person came in, her nurse placed an IV, a man arrived to empty the sharps container, a tech performed an ECG. She was seen by a medical student, a resident, and an attending physician, and despite being the most dedicated *Grey's Anatomy* fan I know, she was still overwhelmed by the entire process. Meanwhile, I found myself asking the same question dozens of patients had asked me in the past – which I could never answer: "Is parking validated?"

While she went on to have a completely normal workup, and while the team taking care of her that day was phenomenal, it really made me think about the importance of patient experience. I did not want to be the physician who sacrificed good communication for the sake of "productivity." After a year of working on efficiency, other aspects of patient care suffered. I realized that for some patients, being in the emergency department is absolutely terrifying. And while the environment is incredibly familiar to me, it seems like an entirely different planet to others. Furthermore, I realized that managing time expectations, setting goals for the visit, and providing the opportunity for questions are absolutely priceless when it comes to patient experience and satisfaction.

As the years go by and as we all advance through our training programs, we must constantly re-evaluate our priorities as residents and as emergency medicine providers. Each year of our 3- or 4-year programs will be transformative in ways we could have never imagined.

In the same way, it is my goal that *EM Resident* magazine will continue to address *your* needs as you advance through training, as EM pushes boundaries within the house of medicine, and as our health care infrastructure becomes increasingly complex. Within this issue, I am proud to showcase a few ways in which our residents and specialty continue to grow and change: an introduction to EMRA's first-ever MedWAR (p.14), an announcement regarding ABEM's launch of a combined EM/Anesthesia residency program (p.36), and a new way for medical students to interact virtually with PDs and leaders in real time.

It is my hope that the magazine will continue to be a great resource for both the intern starting his/her first month in the emergency department, and the senior resident about to graduate. Have a great summer, and happy reading! ✶

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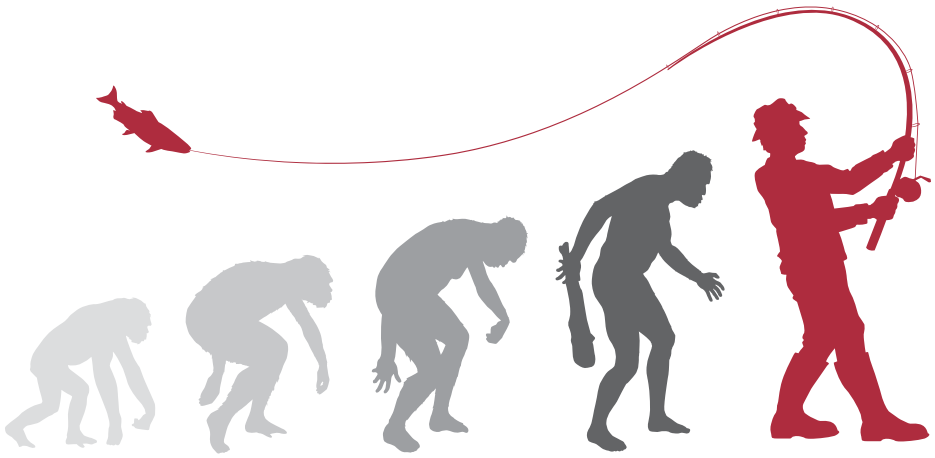

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Driving the Evolution of EM

Recently I had the pleasure of attending the EMRA Medical Student Symposium, a collaboration between EMRA and Ohio ACEP. At this student-centric event in Columbus, Ohio, I met the EM residents of tomorrow, all of them eager and anxious. I couldn't help but remember my own feelings when I was at that stage. I remember the excitement and nervousness that came with the end of third year — those same emotions were palpable among the crowd in Columbus. But these future applicants seem smarter, cooler, and much more prepared than I was. I wonder if I'd even get in if I was applying now?

As I complete my final year of residency, one thing is clear: Over the past 5 years much has changed in the world of health care, residency, and emergency medicine — starting with applicant numbers. According to National Resident Matching Program data, 2,476 applicants vied for a spot in emergency medicine programs in 2016, of which 1,894 matched, representing a 23% increase in the number of applicants since I matched in 2011.[1,2] In contrast, during this same time period there has been an increase of only 16% in the number of EM slots available. So as the competitiveness has increased, so too has the number of applicants, which has created an even more competitive match within our specialty.

Outside of the Match, our residency experience has also changed. Duty hour restrictions were implemented in 2011 to help improve patient safety and resident wellness, creating an 80-hour maximum work week with stricter rules for interns. This had downstream effects, which the ACGME is trying to fix this year. Further, education within residency has changed, in many programs going from the traditional PowerPoint presentations to the flipped classroom and more TED-type presentations. Wellness is also finally being addressed by residencies as more and more data shows that burnout has become an ever-increasing problem within emergency medicine.[3]

From my first year to now, clinical practice and the way we learn also has changed considerably. When I began, the EM blogosphere and podcast worlds were dominated by EM:RAP and EMCrit. Although these are still very popular, hundreds of new podcasts, blogs, and sites dedicated to education have popped up, providing amazing resources. Our ability to individualize our education outside the hospital continues to improve, with our options increasing exponentially every year. Of course, this requires navigating that breadth of information — a job in and of itself.

Every year our practice changes as new studies disprove previous wisdom. For example, tPA was not the standard of care for acute ischemic strokes when I started. Now, tPA administration is standard, with endovascular treatment gaining steam as new data emerges.[4] Even our definition of sepsis and its treatment has been turned on its head. Studies such as the ProCESS trial are changing the way we manage these patients, and even the methods we have used for years to identify these patients is now being reevaluated.[5]

One thing that hasn't changed is my continued love of emergency medicine; another is EMRA's dedication to addressing all of the challenges students and residents face. EMRA Match has been revamped, online hangouts with program directors have launched, and there are ample opportunities to get involved while helping make students even more competitive for the application process.

EMRA is committed to providing important educational content, including *PressorDex*, the *EMRA Antibiotic Guide* (which will be updated this year), the *Fundamentals of Airway Management*, and our 2 newest resources, *EM Fundamentals* and *EMS Essentials: A Resident's Guide to Prehospital Care*. EMRA continues to expand its clinical content offerings for members, while advocating for better wellness resources, improvements to duty hour rules, and more. And in this season of change, EMRA has been working with ACOEP's Resident Chapter as AOA and ACGME EM programs merge into a single path for accreditation.

Emergency medicine continues to grow by leaps and bounds because of the passion each EM physician has for our specialty and patient care. Our specialty will continue to drive change to improve health care through research, education, and legislative initiatives. As I graduate from residency, I am excited about the future, and I know EMRA will continue to be a leader in providing much-needed resources to medical students, residents, and fellows as they navigate their early careers. ✶

References available online.

Passing the Baton

New EMRA Committee and Division Leaders Up and Running

EMRA's committees and divisions welcomed new leaders during the SAEM conference in May, as vice-chairs stepped into the role of chairs while up-and-coming leaders began their yearlong vice-chair term. With projects still underway for most groups, the transition in leadership signals a new leg in a never-ending race. EMRA is pleased to welcome the **2016-17 Committee and Division leaders**.

Awards Committee
Chair: Kristen Cadden Swann, MD, University of Virginia Health System
Vice-Chair: Aditi Mitra, MD, Beaumont Hospital

Education Committee
Chair: Patrick Olivieri, MD, St. Luke's Roosevelt Hospital
Vice-Chair: Michael Yip, MD, Yale University

Health Policy Committee
Chair: Joshua Enyart, DO, Lehigh Valley Health Network
Vice-Chair: Nathan Vafaie, MD, Baylor College of Medicine

Informatics Committee
Chair: Michael Mollo, MD, Carolinas Medical Center
Vice-Chair: Michael Hoaglin, MD, Duke University

Research Committee
Co-Chairs: Cara Bergamo, MD, Denver Health and Rebecca Karb, MD, Brown University
Vice-Chair: Olga Kovalerchik, MD, Yale University

Wellness Committee
Chair: Lara Vanyo, MD, Icahn SOM at Mount Sinai
Vice-Chair: Randy Sorge, MD, Icahn SOM at Mount Sinai

Medical Student Council
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Vice-Chair: Quinton Campbell, Florida State University

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Vice-Chair: Michael Spigner, MD, University of Cincinnati

Critical Care Division
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Vice-Chairs: Abdullah Bakhsh, MD, Emory University and Joshua Glick, MD, University of Pennsylvania Medical Center

International Division
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Vice-Chair: Eric Lee, MD, Icahn SOM at Mount Sinai

Pediatric Emergency Medicine Division
Chair: Megan Cobb, MD, University of Maryland Medical Center
Vice-Chair: Alexander Chang, DO, University of Illinois at Peoria

Simulation Division
Chair: Scott Pasichow, MD, MPH, Brown University
Vice-Chair: (Tony) Xiao Chi Zhang, MD, Brown University

Sports Medicine Division
Chair: R. Ian RossFrye, MD, Thomas Jefferson University
Vice-Chair: Albert Leung, MD, University of Chicago

Toxicology Division
Chair: Natalia Rumas, MD, Boston Medical Center
Vice-Chair: Alexandra Amaducci, DO, Lehigh Valley Health Network

Ultrasound Division
Chair: Michael Prucha, MD, Brown University
Vice-Chair: Franklin A. Poff III, DO, University of South Florida

Wilderness Division
Chair: Carrie Jurkiewicz, MD, University of Chicago
Vice-Chair: Geoffrey Comp, DO, Ohio Health Doctors Hospital

5 YEARS LATER
Are We There Yet?

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Just 5 years ago, millions of Americans entered a new era of health care. The Affordable Care Act (ACA) was born and sold as the solution for improving health quality, controlling the rise of costs, and expanding access to care by making health insurance more affordable to most Americans. Let's pause for a moment and ask ourselves: Has it worked?

As emergency medicine residents, the answer is critical to our practice. We are the next generation of doctors, responsible for sustaining a highly utilized entry point into the health care system and advocating for patients in their most vulnerable moments, regardless of ability to pay. **Our specialty is therefore measured by three key domains: (1) granting affordable access, (2) containing health costs, and (3) improving quality/health system performance.** While the ACA was designed to address these areas, has it done so successfully?

"How easily can I see a doctor?" (Access to Care)

First, let's consider access to health care. The law expanded health coverage to millions of Americans thanks to more federal subsidies to the newly insured, the expansion of Medicaid plus COBRA coverage (for young Americans under 26 years of age) and new federal regulations prohibiting insurers from discriminating against people with pre-existing conditions. By February 2015, 11.7 million Americans had selected a *new* health plan via health insurance marketplaces.[1] Surveys have shown greater satisfaction regarding coverage among these newly insured.

However, supply-side issues have made access to care a big challenge. Many health insurance plans restrict the ability for patients to see any doctor they want. Recent evidence also indicates challenging conditions for patients to meet with a primary care physician (PCP) as the number of scheduled acute care visits increases.[2] **If emergency department (ED) visits, utilization rates, and acuity all increase, prolonged waiting times for primary care appointments will only worsen patient access to care.**

Paradoxically, current evidence indicates *rising* ED use among insured patients. In Massachusetts, one study found that ED visits rose between 0.2 – 2.2% every year after expanding coverage in 2006.[3] Another study found 40% more visits to the ED during the first 18 months of coverage in the state of Oregon among Medicaid patients.[4] Why? Patients perhaps feel more comfortable being evaluated by doctors, knowing their insurance will cover the cost.

"How well are we paying for medical care?" (Cost Containment)

Second, the ACA was designed to control costs. Pre-reform, U.S. per capita and GDP health costs far exceeded that of any other developed nation, reaching $8,745 per person annually and accounting for almost 18% of our GDP in 2012.[5] Provider reimbursement was partly blamed for rising costs as evidence showed that traditional fee-for-service (FFS) lead to more tests and procedures but not necessarily improved outcomes

TABLE 1. ACA Resources

Podcasts	**http://smhs.gwu.edu/urgentmatters/podcasts** — Excellent series of podcasts hosted by policy expert Dr. Jesse Pines (G.W.)
	http://www.thehealthcarepolicypodcast.com — Technical analyses on timely topics
Websites	**http://kff.org/health-reform** — Excellent guide with useful graphs and illustrations **http://www.hhs.gov/healthcare/about-the-law** — Overview of the ACA by key topics
	https://www.whitehouse.gov/health-care-meeting/proposal/whatsnew/overview — Simple overview directly from the White House
Blogs	**http://healthaffairs.org/blog** — Good vehicle for commentary and analysis on health care
	https://www.healthinsurance.org/blog — Quick articles on the latest health reform issues
	http://healthblog.ncpa.org — Updated, short blurbs on current issues
	http://theincidentaleconomist.com — Clever series of posts on research and reform
Books	Obamacare Survival Guide: The Affordable Care Act and What It Means for You and Your Healthcare (By Nick J. Tate)
	Reinventing American Health Care: How the Affordable Care Act Will Improve Our Terribly Complex, Blatantly Unjust, Outrageously Expensive, Grossly Inefficient, Error Prone System (By Ezekiel Emmanuel)

References available online.

or higher quality.[6,7] Reimbursement is now being geared towards rewarding quality outcomes instead of quantity of services provided. **As future attendings, we will be encouraged to work more closely with our medical colleagues and will likely be held accountable for the full hospital course of our patient rather than their ED visit alone.**

Across our health care system, we are seeing some improvements with regard to cost containment. Fewer people now report bankruptcy due to medical expenses and our government provides subsidies to individuals/families earning 133-400% of the federal poverty level. Per capita health care expenditures have increased at historically low rates, as low as 3.2% annually from 2010-13 compared to 5.6% annually over the previous 10 years.[8] However, many experts are bewildered to see overall health costs rising in some states despite lower spending for Medicare patients, suggesting that private market price agreements between insurers and hospitals may influence costs more than anything else.[9]

"Are we providing high-quality care?" (Quality)

The overall quality of health services was another target of the ACA through encouragement of innovation and new ideas. **The Bill encourages us, as providers, to form new arrangements for Medicare patients that integrate and coordinate ambulatory, inpatient and outpatient services across specialties known as accountable care organizations (ACOs).** Funding boosts for venerable programs (eg, $1.5 billion allotted to the National Health Service Corps) and the creation of new initiatives may improve healthcare quality. The Centers for Medicare & Medicaid Services (CMS), however, has had serious problems with implementing these new payment models. Both hospitals and physician organizations (including the American Medical Association and American Heart Association) have mounted criticism for the lack of flexibility and risk adjustment in the way providers are paid for quality of care, and thus continue to voice their concerns.[10]

The Future

As health reform implementation progresses, our system will continue to face significant challenges. A recent study found that some hospitals are finding ways to improve their Medicare reimbursement payments by underestimating their own rate of readmissions, placing patients into their observation areas instead of admitting them.[11] Furthermore, executives are taking advantage of market conditions to gouge patients by drastically raising the prices of critical lifesaving drugs to improve profit margins (search "Martin Shkreli"). Even policymakers, and especially presidential candidates, have threatened the ability for states to provide health insurance to millions by placing controversial measures into federal legislation (eg, preventing the government from assisting insurance companies with financial losses).[12] These problems may be here to stay.

Ultimately, success in the areas of access, cost containment, and quality of health care will depend on the balance of power between health system leaders, insurance companies, and patients. **Health policy shapes our world by establishing policies, regulations and laws that define and incentivize how physicians deliver care.** Even prior to the ACA, health policies drove the way we deliver care. Every president since Richard Nixon attempted to enact policies with similar goals (albeit in different ways). While the long-term impact of the ACA has yet to be realized, undoubtedly, it will affect all of us more than we can imagine. ✶

POLST

Guiding Providers in End of Life Care

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It is 9 a.m. in the emergency department when triage announces overhead, "Cardiac arrest. 5 minutes." A few minutes later, the EMS crew arrives actively doing CPR. "This is Mrs. Smith, a 92-year-old found down by family." Mrs. Smith is small, and her frail chest crumples under the weight of the compressions. Her two distraught daughters arrive shortly thereafter. After updating them on the situation, one daughter cries out, "I want you to do everything. Don't stop. I can't lose my mom!" The other sister softly responds, "I don't think she would want any of this. She knew her health was bad and had talked to her doctor and me about it." From her purse she pulls out a bright pink form.

This situation is not uncommon. We, as emergency physicians, are frequently charged with caring for patients without knowing whether the treatment being provided is in line with their wishes and beliefs. **Many patients at the end of life choose to forego burdensome treatments that do not add to their comfort.**[1] Unfortunately, in the past, there was not a standard way to document these wishes, so families were left guessing what their loved one would want. Thankfully there is now a way for patients to communicate their end of life wishes even when they are unable to speak for themselves: the Physician Orders for Life Sustaining Treatment (POLST).

What is POLST?

The POLST is a set of medical orders that communicate a patient's

References available online.

It is often helpful to start the conversation with, "What is important to you?"

wishes for his/her care and helps to guide physicians in their medical management.[1] This form helps to avoid treatments that are against a person's goals of care. Most states have or are working on a version of the POLST, which is called by many names, including MOLST, MOST, or POST forms.

The POLST is preferred over advance care directives and offers many improvements, such as:[2]

- Eliminates complicated legal wording found in advance care directives.
- Recognizes that the status of a medically complex patient is rarely simply "brain dead."
- Is classified as physician orders, so they can be legally followed by EMTs and are applicable in all health care settings, including the patient's home.

The hope is that these benefits and increased provider discussions, encouraged by Medicare now reimbursing for these discussions, will increase participation with the POLST.[3]

It is important for emergency physicians to become familiar with their own state's form. In general the form is divided into 4 areas:

1. **CPR**. The patient must indicate whether they want cardiopulmonary resuscitation.
2. **Medical interventions**. If the patient has a pulse and is breathing, would s/he want comfort measures only, limited treatment, or full treatment?
   - — Comfort measures are any medications, wound care, antibiotics, or other treatments that focus on the patient's comfort.
   - — Limited treatment includes comfort measures as well as bilevel positive pressure ventilation, but it avoids intubation or admission to the intensive care unit.
   - — Full treatment includes intubation, mechanical ventilation, and defibrillation.
3. **Artificial nutrition**. The patient indicates a preference for no artificial nutrition, a limited time with nutrition provided by a tube, or long-term artificial nutrition.
4. **Signatures**. The form requires the patient's or the patient's health care representative's signature, as well as that of a physician.

The direction of providing care in the emergency department is changing from action first to determination of patients' wishes at the onset of care.[3] One of the first questions we as emergency physicians should ask when a critically ill patient presents to the ED is, "Do they have a POLST?"

Completing a POLST form with a patient is also within the realm of care for emergency providers. It is often helpful to start the conversation with, "What is important to you?" or "What do you understand about your disease?" Emergency providers must not overlook comfort care as an option and should also inform the family that comfort care with aggressive symptom management is a treatment option.

Case Resolution

Mrs. Smith had a signed POLST form that clearly stated her wishes. She wanted comfort measures only, so CPR was ceased, and Mrs. Smith died with her daughters at bedside. Both were comforted by the fact that Mrs. Smith had made her own decision and directed her own care.

For more information about programs in your state, visit The National POLST website: http://www.polst.org/programs-in-your-state. ✶

POLST. Doing it Better

Susan Tolle, MD, chair of the Oregon POLST Task Force, oversaw the creation of a video, POLST: Doing it Better, as an educational tool for health care professionals. Learn more about POLST best practices and common misconceptions to help you hold more effective conversations with patients and their families. Watch the video at https://youtu.be/zlqQgCBChn0.

For more videos, sample POLST forms, research tools, and more, visit the POLST website at polst.org.

Under Pressure

ABDOMINAL COMPARTMENT SYNDROME

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A 24-year-old male arrives to the emergency department (ED) after a motor vehicle collision. Initial workup reveals pelvic fractures with a small amount of retroperitoneal bleeding that is managed conservatively. A few hours later, the patient begins to feel very weak, develops oliguria, and complains of worsening abdominal pain. Physical exam reveals diffuse abdominal tenderness and distension. Lab work reveals worsening lactic acidosis and acute blood loss anemia. Intravesical pressures are found to be > 30 mmHg. The patient is diagnosed with abdominal compartment syndrome and is rushed to the operating room for abdominal decompression.

Pathophysiology

Intraabdominal pressure (IAP) refers to the pressure within the abdominal cavity. The normal range is 5-7 mmHg, but obese and pregnant patients can have a normal IAP of up to 10-15 mmHg. Intraabdominal hypertension (IAH) is defined as a sustained IAP greater than or equal to 12 mmHg. **Abdominal compartment syndrome (ACS) refers to a sustained IAP greater than 20 mmHg in the presence of end organ damage** (Table 1).[1] As IAP increases, abdominal perfusion pressure (APP) decreases, resulting in reduced blood flow and ischemia to visceral organs.

IAH can cause dysfunction of nearly every organ system:

Abdominal Perfusion Pressure (APP) = Mean Arterial Pressure (MAP) — Intraabdominal Pressure (IAP)

References available online.

Cardiovascular: IAH elevates the abdominal diaphragm, leading to a decrease in ventricular contractility and compliance. Obstruction of the inferior vena cava and associated increase in central venous pressure leads to a decrease in venous return to the heart. This results in decreased cardiac output (CO). It is not uncommon for patients to have persistent and significant sinus tachycardia in a last ditch effort to maintain CO.[3]

Pulmonary: Elevation of the abdominal diaphragm leads to atelectasis, decreased oxygen diffusion, increased intrapulmonary shunt fraction, increased alveolar dead space, and edema. In addition, patients with IAH that are also ventilated experience alveolar barotrauma due to increased peak inspiratory and mean airway pressure. This leads to further complications such as arterial hypoxemia, and hypercarbia.[3]

Renal: Decreased renal perfusion and acute renal failure is caused by renal vein compression and renal artery vasoconstriction, the latter induced by the sympathetic nervous and renin angiotensin systems in response to an overall decrease in blood flow to the kidney.[3]

Gastrointestinal: The effect of IAH on splanchnic organs leads to decreased gut perfusion, which can occur at pressures of just 20 mmHg. This causes intestinal ischemia and edema, further worsening IAP. This vicious cycle culminates in sepsis (due to loss of mucosal barrier and resultant bacterial translocation) and persistent multi-organ failure.[4]

Hepatic: IAH leads to a decline in the liver's ability to remove lactate. Increased lactic acid contributes to the metabolic acidosis often seen with ACS.[4]

CNS: IAH also has a direct effect on intracranial pressure (ICP). Sustained IAH can result in decreased cerebral perfusion and ischemia.[5]

Etiology

Risk factors for developing ACS can be divided into primary and secondary causes. Primary ACS is due to direct abdominal trauma, while secondary ACS is due to disease processes that do not necessarily originate in the abdomen (Table 2).[1]

Diagnosis

Because ACS often occurs in patients who are critically ill and unable to communicate, it becomes extremely important to understand and identify early warning signs of IAH.[6]

The three cardinal signs of ACS are worsening abdominal distension, difficulty breathing or elevated peak pressures on the ventilator, and decreased urine output. Other clinical signs include mental confusion, worsening hypoxia, hypotension, tachycardia, and jugular venous distention.

Measurement of the IAP is needed for definitive diagnosis, and **the gold standard is measurement of bladder pressure using a Foley catheter and a transducer or manometer.** Remember, ACS is not a diagnosis made on computed tomography (CT) scan! Several commercialized kits are available for the measurement of intravesical pressure, however an easy method that can be used in the emergency department involves instilling 50 ml saline into the bladder via the catheter, clamping the tubing of the collecting bag, inserting a needle through the specimen-collecting port and then attaching to a manometer.[7]

Treatment

The initial treatment for IAH includes addressing any underlying causes and initiating supportive treatment, which includes evacuation of intraluminal contents (rectal tube, nasogastric tube), evacuation of space-occupying fluid (eg, paracentesis for ascites), and measures to improve abdominal wall compliance, such as placing the patient in a reverse Trendelenberg position and ensuring adequate pain control and sedation.

Fluid resuscitation is extremely important for ACS patients as they often third space fluid and quickly drop their intravascular volume. This leads to hypotension which aggravates bowel ischemia and results in further third spacing and intravascular depletion.

For patients who do not improve with initial treatment, are unstable, or who have evidence of end organ damage, surgical decompression is the definitive treatment. Abdominal decompression is often performed in the operating room (OR) but also can be performed at the bedside if needed. Following decompression, patients are typically left open with a negative pressure wound therapy dressing. The patient usually returns to the OR in 1-3 days for a second look and possible fascial closure.[8]

Conclusion

As emergency medicine physicians, it is important to understand the signs and symptoms of life-threatening diagnoses such as ACS, which may be present or develop at any point along a high risk patient's ED course. Knowing the cardinal signs of ACS, using appropriate diagnostic tools to acquire IAP, and consulting surgery when ACS is suspected can save a patient's life. ✶

TABLE 1. Key Differences between IAH and ACS.[2]

Intraabdominal Hypertension (IAH)	Abdominal Compartment Syndrome (ACS)
IAP > 12 mmHg	IAP greater than 20 mmHg
No evidence of end organ damage	Evidence of end organ damage
Subclassified into grade 1-4	Subclassified into primary and secondary causes

TABLE 2. Primary and Secondary Causes of ACS

Primary Risk Factors for ACS	Secondary Risk Factor for ACS
Pancreatitis	Trauma
Pelvic fractures	Burn patients
Liver transplant	Sepsis
Massive ascites	Septic shock
Bowel Distension	Hemorrhagic shock
Abdominal Surgery	Post-surgical patients requiring large volume resuscitation
Intraperitoneal bleeding	Ruptured abdominal aortic aneurysm, or pelvic fractures leading to retroperitoneal bleed

How LOW Can You Go?

Sulfonylurea-Induced Hypoglycemia

A 66-year-old female with a past medical history of diabetes mellitus type two and dementia presents to your emergency department with hypoglycemia. Her caretaker informs you that the patient's primary care physician changed her linagliptin to glipizide several days ago. Yesterday she gave the patient her morning dose of glipizide despite a fasting glucose of 41 mg/dL. This morning her fasting glucose was 31 mg/dL, so she withheld the glipizide and called EMS. On presentation to the emergency department, the patient's blood glucose is 51 mg/dL, at which point she is given a sandwich, juice, and a fruit cup to eat. A postprandial glucose is checked, and it is only 32 mg/dL.

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Introduction

Sulfonylurea agents are antihyperglycemic medications commonly used in patients with diabetes mellitus Type II. They inhibit potassium channels on the cell membranes of pancreatic beta cells, causing insulin granule exocytosis.[1] This elevated secretion of insulin occurs independently of the patient's blood glucose levels. Thus, insulin may continue to be secreted despite low serum glucose, making hypoglycemia a major common adverse effect of sulfonylureas. A 2014 meta-analysis found that 10.1% of patients taking sulfonylureas will experience hypoglycemia at some point.[2] Despite the growing popularity of newer classes of oral diabetic medications, including DDP-4 and SGLT2 inhibitors, sulfonylureas remain a mainstay of diabetic therapy. The emergency clinician must be knowledgeable and experienced in the management of sulfonylurea-induced hypoglycemia.

Management

In general, the treatment for any patient presenting with hypoglycemia includes high-calorie foods and intravenous (IV) dextrose. Intramuscular glucagon is sometimes given as a temporizing measure, particularly in the prehospital setting in non-alert patients without IV access. Patients presenting with hypoglycemia due to a sulfonylurea deserve special consideration, as additional interventions may be warranted. After evaluation of airway, breathing, and circulation, **the first step in management is determining whether the hypoglycemia is associated with an intentional overdose or therapeutic use.**

In an acute overdose, when the drug has been ingested within the previous 2 hours, the use of activated charcoal must be considered to prevent further absorption, as long as the patient is awake and protecting his/her airway. In addition to IV dextrose, octreotide should be initiated as an essential adjunct. Octreotide inhibits the release of insulin through a proposed G-protein-mediated reduction of calcium influx into the beta cells. The usual dosing is 50-150 mcg IV or SQ every 6 hours.[1] A 2008 randomized controlled trial compared single dose octreotide plus standard therapy (IV dextrose and oral carbohydrates) to standard

therapy alone in 40 ED patients experiencing hypoglycemia from sulfonylurea ingestion. Patients in the octreotide plus standard therapy group had consistently higher blood glucose levels in the first 8 hours.[4] In the setting of acute overdose, continuous dextrose infusion may only be necessary in those patients refractory to octreotide. In that case, a continuous octreotide infusion may also be considered *(Figure 1)*.

In patients presenting with hypoglycemia due to therapeutic use of a sulfonylurea, calorie-rich food and IV dextrose remain the mainstay of therapy *(Figure 2)*. The benefit of octreotide is less clear than in acute overdose, but it should certainly be considered if further hypoglycemic episodes occur.

Lastly, oral diazoxide, 3-8 mg/kg/day divided in 2 or 3 doses, is a second line agent that works similarly to octreotide by hyperpolarizing the beta cell membrane, thereby inhibiting calcium influx and insulin secretion. It is important to note that octreotide has essentially replaced diazoxide as a treatment for sulfonylurea-induced hypoglycemia since it has been found to be superior in reducing serum insulin concentrations and IV dextrose requirements.[5,6]

Disposition

Any patient who presents with hypoglycemia due to either intentional overdose or therapeutic use of a sulfonylurea requires hospital admission for at least 24 hours, or longer if started on octreotide. Patients who present with euglycemia in the setting of reported overdose should be observed for at least 6 hours, provided no IV dextrose has been administered, as it may postpone the onset of hypoglycemia.

Case Conclusion

The patient remained asymptomatic and was treated with 1 mg of IM glucagon, an ampule of D50 IV, and a subsequent infusion of D5 ½ NS at 100 ml/hour. The patient was admitted for observation. No further episodes of hypoglycemia occurred, and she was discharged the following day on linagliptin, a DPP-4 inhibitor. ✶

References available online.

FIGURE 1. Management algorithm for sulfonylurea-induced hypoglycemia in the setting of symptomatic intentional overdose.

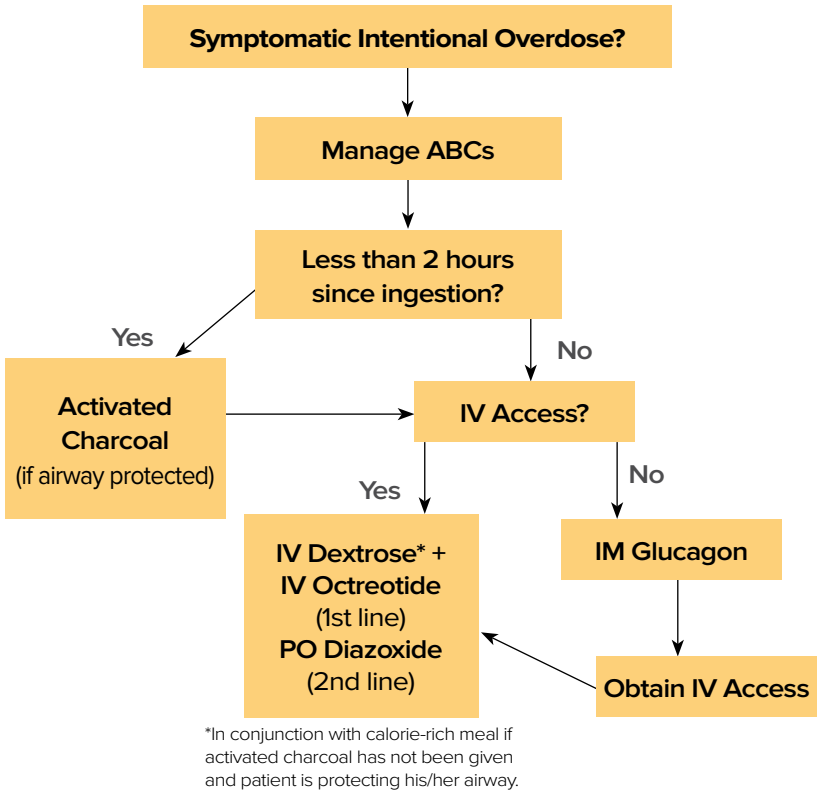
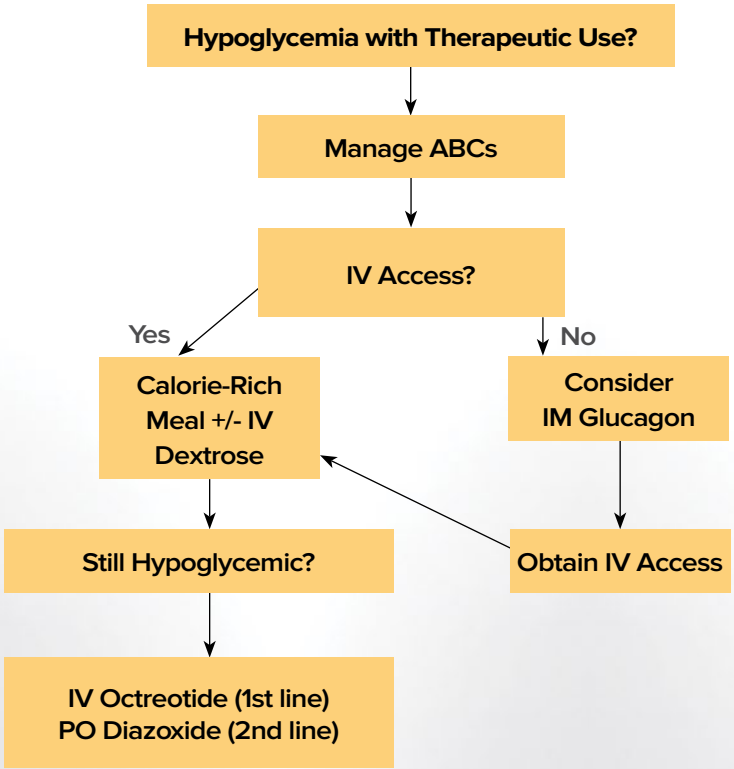


FIGURE 2. Management algorithm for sulfonylurea-induced hypoglycemia in the setting of therapeutic use.



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MedWAR

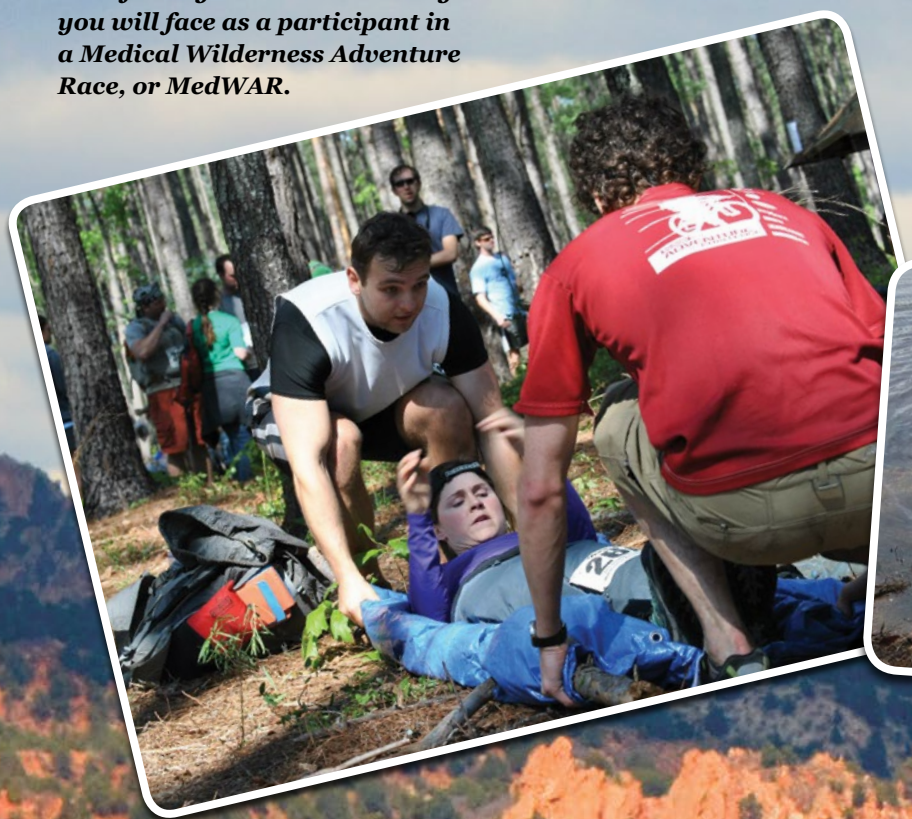
Are You Up for the Challenge?

You are in a canoe with two friends crossing a lake when suddenly one of them loses consciousness and falls overboard, tipping the canoe and all of its contents into the water. You swim to evaluate and rescue your unconscious friend while your other companion swims to retrieve your gear from the water. The two of you pull your canoe, your supplies, and your friend to shore and then go through the steps of evaluating, stabilizing, and resuscitating her. Fortunately, her "loss of consciousness" was merely acting so that your skills as a wilderness medical provider could be challenged and evaluated. ***This is just one of many simulated challenges you will face as a participant in a Medical Wilderness Adventure Race, or MedWAR.***

Practicing medicine in the wilderness poses unique challenges: a lack of material resources and trained providers, difficult communication, terrain and geography that require dexterity and planning to navigate, uncertain weather, and even hazardous conditions. Keeping a patient's insulin from freezing, managing a severe allergic reaction, or constructing a splint for a femur fracture can test even the most experienced of providers. Caring for sick and injured patients for an extended period of time in the wilderness demands creativity and ingenuity.

History of MedWAR

The concept behind MedWAR was born in 1999 when Mike Caudell, MD, FACEP, an emergency physician at Medical College of Georgia, was speaking with his colleague, David Ledrick, MD, about the possibility of incorporating medical scenarios into adventure races. Initially conceived as a new way to educate medical students and residents, the concept was eventually presented at SAEM as an Innovation in Education. One of the most convincing arguments was that the educational value of a MedWAR event was essentially limitless. Whether you were a medical student just getting your feet wet, a resident overseeing a scenario, or an attending physician who did not get regular exposure to wilderness medicine, there seemed to be no shortage of potential learning opportunities. The inaugural race was held in 2001 in Augusta, Georgia.



EMRA MedWAR at ACEP16

This year, EMRA's Wilderness Medicine Division is teaming up with ACEP's Wilderness Medicine Section to host its own adventure competition in conjunction with ACEP's *Scientific Assembly* in Las Vegas.

The EMRA MedWAR will take place Oct. 19, in the desert terrain of Nevada. The goal is to offer an opportunity for hands-on wilderness medicine experience outside the confines of a lecture hall.

The footrace is open to all EMRA members. A lottery system will be used to select 10 teams of 3 people each. Online registration will open this summer at emra.org/events/medwar. Entrance fees are $75 per racer.

We hope to see you in Las Vegas! ✶

MedWAR Basics

The MedWAR mission is to "provide medical students, residents, health care professionals, and wilderness enthusiasts with a practical, interactive, and enjoyable curriculum for learning, applying, and evaluating emergency medical knowledge, skills, and techniques in a wilderness setting."

While MedWAR competitions allow participants to practice their medical skills in demanding and uncertain environments, they also challenge teams to work together with accuracy and efficiency. Teams of various sizes (usually 3-4 people) accumulate points based on patient assessment skills, treatments, and time to completion. At each checkpoint, teams compete on tasks – for example, manage and evacuate a patient who has hyperthermia, or find and treat a victim of an avalanche burial. The MedWAR can last up to 10 hours, testing a team's endurance, communication skills, preparedness, and ration of food and water supplies.

The events can be tailored for particular skill sets and environments. For example, Dr. Caudell said, "We can be in the middle of the desert and change things up to say, 'Well how would you handle this if you were at 18,000 feet?'"

Top 5 EMR Charting Pitfalls

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In general, residents receive very little education in billing and coding. But there's value in being able to quickly and efficiently churn out patient notes while achieving the appropriate level of coding for each chart, or electronic medical record (EMR). Believe it or not, your chart matters.

There are 5 levels of ED chart coding based on your documentation; these are called CPT codes. Level 1 is the most basic, while Level 5 is the most complex. Billing follows closely: 1 pays the least, 5 pays the most. Reimbursement is based on the number of "Relative Value Units" – or RVUs – you generate. RVUs are calculated by your documentation, so missing key elements can easily drop a chart from a Level 5 to a Level 3 – losing over 3 RVUs!

The following 5 EMR charting pitfalls can cause CPT code downgrades – and may also set you up for a medicolegal disaster.

❶ Problem: Macros

Macros are quick ways to auto-populate often-used text. In some EMRs, they are referred to as "dot phrases" or "auto-text." Macros are both a literary and medicolegal nightmare. So many of the charts reviewed in QI/QA are initially flagged because of contradicting information traced to a macro. Commonly seen errors include a documented heart rate of 120, yet "Regular Rate and Rhythm" checked in the CV portion of the physical exam, or "Negative for Chest Pain" in a ROS macro in a patient presenting with chest pain.

Solution: Consider a free-text version of your "default" ROS and physical exam so you can quickly change the appropriate portions easily. It's also more reader-friendly than text transcribed from click-boxes.

❷ Problem: Saying too little

Medical decision-making, or MDM, is a concise but well-rounded summation of the pertinent problems, differential diagnoses, and diagnostic/treatment plans for your patient. It is important not only from a billing and medicolegal standpoint, but also for future providers who may care for this patient.

Solution: Increased complexity of your MDM increases the billing level of your chart. To achieve a level 5 chart, you must include the following (if applicable): interpretation of labs, x-rays, EKGs, reviewing old records and consultation/recommendations by specialists.

❸ Problem: Insufficient history

"Negative," "noncontributory," "not significant," "no significant past medical history," "unknown," "reviewed in chart," and "denies" are **not** sufficient from a billing perspective.

Solution: For a Level 5 chart, you need to document **2 of 3 elements** (past med/surg history, family history, social history). In some EMRs, selecting "Include Medical History" pre-populates "No active or resolved past medical history items have been selected or recorded." This does **not** count as a billable element. If you have this, deselect it to make the chart easier to read.

From a billing perspective, you must specify what is "negative" or "denies." For example, "Family history negative for asthma" or "Denies past medical history" are adequate documentation.

❹ Problem: Auto-populated text makes your chart unreadable

An initial convenience of the EMR was the ability to import patient data automatically into a note. Unfortunately, all this information becomes a problem, because it's not always audited. A default feature of many EMRs is to pull all data into a patient's encounter – causing a simple note for a wound re-check to become a 5-page document with a laundry list of medications, outdated social history, and medical problems of unclear resolution.

Solution: Dictate or free-text the relevant medical/social/family history for each specific encounter, along with the medications the patient currently takes. Not only does it make your chart more readable, but it also accurately summarizes the patient's current active problems and medications.

❺ Problem: Voice recognition software

Voice transcription software is a great way to spew out a quick HPI or MDM, but beware of spelling/grammar errors while dictating.

Solution: If you have the brainpower to dictate and check your grammar in real time, kudos. Otherwise, review text after dictating it. Another tip: Dictate in the native software and transfer it into your EMR. For example, Dragon Dictation software uses a "Dictation Box" in which you can transcribe your speech. After you dictate text, you can quickly transplant it into your EMR note. It will often stay in the clipboard also, which saves you if your EMR crashes. Remember to do voice training with your dictation software about once per month to ensure accurate transcriptions. ✶

Barking Up the Wrong Tree

Not all Stridor is Croup

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Although a common presenting symptom, stridor can be the first sign of a serious and potentially life-threatening condition within the pediatric population. Stridor is a variably high-pitched sound resulting from turbulent airflow due to partial airway obstruction. Inspiratory stridor generally results from obstruction above the glottis, expiratory stridor is caused by obstruction in the lower trachea or peripheral airways, and biphasic stridor is indicative of partial obstruction at or immediately below the glottis. Children with stridor signifying acute airway obstruction may appear surprisingly well despite being on the verge of cardiopulmonary collapse. This risk of clinical deterioration means a thorough history and physical examination is crucial in the assessment of any child presenting to the emergency department with stridor.

ASSESSMENT

History and Physical Exam

The patient's age, symptom onset, and duration of stridor provide important clues for narrowing the differential.[1] From the newborn period up to 6 months of age, vocal cord paralysis and congenital anomalies are more likely. Causes of stridor that occur in patients aged 1 to 4 years old include laryngotracheobronchitis (croup), epiglottitis, and foreign body aspiration.[2] Children presenting with acute onset of stridor are more likely to have an infectious or inflammatory process or foreign body aspiration. Chronic stridor is usually traced to an underlying structural anomaly.[3] Additional history including history of prior endotracheal intubation or previous surgeries is also important in determining the underlying cause of the patient's symptoms. Significant airway obstruction can lead to poor feeding due to work of breathing and subsequent failure to thrive. Precipitating or alleviating factors (eg, crying, positional changes, feeding, or time of day) further help narrow the differential.[1]

Imaging

Plain radiographs provide a quick, safe, and inexpensive way to further evaluate the airway. Anteroposterior and lateral views of the chest and dedicated films of the neck are the preferred imaging studies.[2,3] Plain films may help to identify foreign bodies; however, it is important to keep in mind that many foreign bodies aspirated by young children are radiolucent and will not be easily visualized on radiographs.[4] If the clinical suspicion for foreign body aspiration is high, inspiratory and expiratory films can be obtained, looking for air trapping beyond the site of obstruction. This would result in a hyperlucent lung field on the ipsilateral side of the foreign body obstruction and a shift of the mediastinum to the contralateral side. Obtaining these images is of course dependent on the child's age and ability to cooperate. Other classic signs seen on radiograph include the classic steeple sign (croup), a thick, rounded epiglottis known as the thumbprint sign (epiglottitis), or thickening of prevertebral soft tissue (retropharyngeal abscess).[2]

Additional workup

Complex imaging modalities like computed tomography (CT) or magnetic resonance imaging (MRI) can help visualize the underlying pathology in more detail and may be necessary if surgical intervention is indicated. Sometimes, direct visualization of the airway with laryngoscopy is necessary to confirm the diagnosis. Complex or refractory causes of stridor often require a multidisciplinary approach including consultation of the otolaryngologist, pulmonologist, and/or gastroenterologist.

DIFFERENTIAL DIAGNOSIS

Nasopharynx

Infants may be obligate nasal breathers from approximately 3 months to 6 months of age. **Stertor** is often confused with stridor in this age group. Stertor refers to nasopharyngeal obstruction causing a snoring or snorting sound. This is common in neonates and young infants with bronchiolitis or upper respiratory infection.

Choanal atresia, while relatively

rare, is the most common congenital nasal anomaly and is associated with CHARGE syndrome.[5] Bilateral choanal atresia is associated with increased neonatal mortality. Clinically, these newborns will have respiratory distress, cyanosis, difficulty with feeding, and aspiration.[1] Unilateral choanal atresia may go undiagnosed for years and typically does not cause any symptoms unless the other nare is also obstructed (eg, with a foreign body or significant nasal congestion).[2]

Macroglossia is often associated with Beckwith-Wiedemann syndrome, trisomy 21, glycogen storage disease, or congenital hypothyroidism.[1] Particularly in children with trisomy 21 who have decreased muscle tone affecting the pharyngeal muscles, there is an increased risk of upper airway obstruction as the tonsillar and adenoid tissues enlarge in early childhood.[5]

Micrognathia is a classic feature of Pierre-Robin sequence, Treacher Collins syndrome, and Hallermann-Streiff syndrome.[2] It is defined by a small lower jaw causing posterior displacement of the tongue and subsequent pharyngeal obstruction. This obstruction is positional and stridor will occur in the supine position.

Lingual thyroid results from failure of descent of the thyroid gland from the base of the tongue. It presents later in childhood as an intermittent sensation of foreign body in the throat.[7] A thyroglossal duct cyst arises from the remnants of the thyroglossal duct. Both often require advanced imaging and definitive treatment is surgery.[1]

Retropharyngeal and peritonsillar abscesses may present with fever, drooling, dysphonia and dysphagia. Stridor develops due to edema of the hypopharynx.[2] Age and physical exam findings can help differentiate the two. Retropharyngeal abscess is commonly seen in infants and children younger than 5 years old. These patients often appear toxic, speak in a muffled voice, and prefer to keep their neck hyperextended. Peritonsillar abscess is seen in the adolescent population, and trismus, prominent tonsillar fluctuance, and uvular displacement are classic physical exam findings.[1,2]

Children with stridor signifying acute airway obstruction may appear surprisingly well despite being on the verge of cardiopulmonary collapse.

Larynx

Croup is the most common cause of acute stridor in childhood and is commonly caused by parainfluenza virus, influenza virus, respiratory syncytial virus, or rhinoviruses.[9] It is most common in children between 6 months and 6 years, with peak incidence between 1-2 years of age.[2] In most cases, croup is preceded by an upper respiratory illness, followed by the typical symptoms of low-grade fever, the classic "seal-like" barking cough, and inspiratory stridor. Symptoms are typically worse at night. A radiographic steeple sign confirms the diagnosis, though the diagnosis is most often made clinically. Recurrent croup can be a sign of an underlying anatomic airway problem and should be thoroughly evaluated.[3]

Spasmodic croup may mimic viral croup, but it is not usually preceded by an upper respiratory infection and occurs in older children. It is characterized by sudden onset and resolution of symptoms at nighttime. Triggers may include gastric reflux, allergies, or psychological factors.[2,9]

Epiglottitis has become a rare disease in developed countries thanks to the widespread use of the Haemophilus influenzae type B vaccine (Hib). It usually occurs in children between 2 and 7 years old. The classic presentation is high fever, irritability, and the "4 Ds" – drooling, dysphagia, dysphonia, and dyspnea.[1] Cough is usually absent. Stridor is a late finding and a sign of impending complete airway obstruction. On exam, the child will appear anxious, still, and may prefer to sit in a "tripod" position with the neck extended. It is important to perform the physical exam with care to not provoke additional anxiety. In cases

of severe obstruction, establishment of an airway may be necessary in a controlled environment, such as the operating room.[9]

Laryngomalacia is the most common cause of stridor in the neonatal period. Stridor typically develops in the first 2 weeks of life, becomes most pronounced between 2 and 4 months, and resolves by 1-2 years of age.[9] The stridor is often high-pitched, inspiratory, and worse with feeding, crying, or lying supine. Children with mild symptoms should still be followed closely to monitor for appropriate weight gain. In addition, many children have associated gastric reflux that further contributes to feeding difficulties. In severe cases, surgical intervention may be necessary to relieve the obstruction. Diagnosis is made by laryngoscopy, which reveals a small epiglottis and prominent or redundant arytenoid tissue.[9]

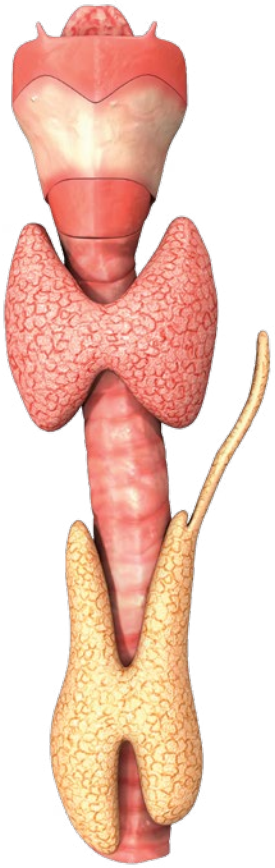
Vocal cord paralysis can be unilateral or bilateral. Unilateral vocal cord paralysis is more common and may result from surgical trauma or compression by a mediastinal mass. Typically, the child will present with a hoarse and weak cry, but not stridor.[2,3] Bilateral vocal cord paralysis is associated with neurological disorders such as perinatal asphyxia, intracranial hemorrhage, hydrocephalus, and Arnold-Chiari malformation. It can also result from direct trauma to the vocal cords during endotracheal intubation or deep airway suctioning.[2,3] Children will present with biphasic stridor and marked respiratory distress.[1]

Laryngotracheal stenosis can be congenital or acquired. The most common cause is endotracheal intubation, particularly in low birth weight infants who remain intubated and ventilated for a prolonged period of time.[10] Congenital causes can present gradually as the level of activity and respiratory demands increases. Biphasic stridor with or without respiratory distress is usually the presenting symptom. Treatment options range from medical management with racemic epinephrine and steroids to surgical repair.[1]

Subglottic hemangiomas are rare vascular tumors of the larynx, with more than 50% of children also having cutaneous hemangiomas. Symptoms typically develop after 4 to 6 weeks of life, with rapid proliferation over 3 to 6 months. Symptoms include biphasic stridor that worsens with crying due to vascular engorgement.[3] These children may also have a similar "barking cough" that is seen with croup and will have a rapid relapse of symptoms after being treated for presumed croup.[11] Diagnosis requires laryngoscopy, which shows a smooth, round, compressible mass usually in the posterior portion of the subglottic region. Treatment is with propranolol, which has replaced surgical resection and need for tracheostomy.[1]

Anaphylaxis can involve the airway, causing hoarseness and stridor because of mucosal edema. In children, the most common triggers are food allergens.[1,2]

Foreign body aspiration is a common cause of acute stridor in the infant or toddler. A history of aspiration or choking is present in a majority of these cases. Laryngotracheal foreign body will result in cough, dyspnea, and stridor. Foreign bodies further down the respiratory tract in the bronchial tree will present as cough, wheezing, and decreased breath sounds.[2] Esophageal foreign bodies can also cause stridor via compression of the trachea.



Trachea

Tracheomalacia is an anomaly of the tracheal cartilage that allows dynamic collapse of that structure during respiration. It may be due to an intrinsic defect in the cartilaginous tracheal rings or from extrinsic compression of the trachea. Children will present with expiratory stridor, wheezing, recurrent barking cough, or frequent respiratory infections.[1,9]

Bacterial tracheitis is a rare but potentially life-threatening infection caused by tracheal mucosa inflammation preceded by a viral upper respiratory infection. Initial symptoms may resemble viral croup; however, this will be followed by marked and rapid progression of symptoms including high fever and respiratory decompensation. It is commonly a polymicrobial infection, with Staphylococcus aureus being most frequent. Other species include Streptococcus pneumoniae, *S. pyogenes*, *H. influenzae*, and Moraxella catarrhalis.[9] It is usually seen in children between the ages of 3 months and 6 years, with younger children having more severe symptoms because of a narrower airway. Most children require intubation for airway protection and lavage of obstructive pseudomembranes and secretions. In the emergency department, broad-spectrum antibiotic therapy should be initiated to cover for MRSA, gram-negative organisms, and mixed flora.[9]

SUMMARY

Pediatric stridor is a symptom of upper airway obstruction whose etiology can range from a benign anatomic abnormality to impending airway collapse and respiratory failure. As such, any child presenting to the emergency department with stridor requires immediate attention and thorough evaluation by the emergency medicine provider. ✶

References available online.

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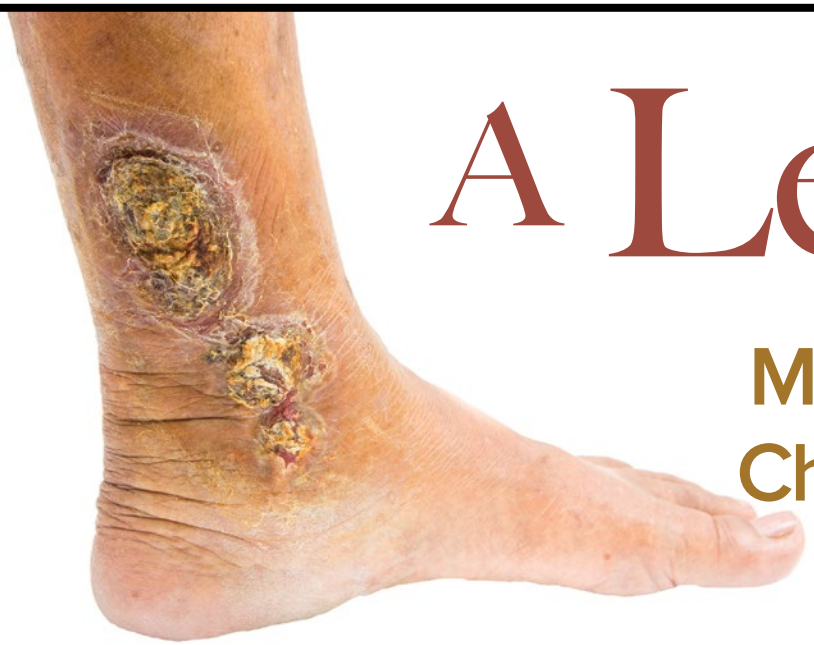

A Leg Up

Management of Chronic Wounds in the ED

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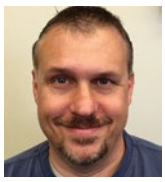

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A 54-year-old male with a history of hypertension and morbid obesity presents to the emergency department (ED) with bilateral foot, ankle, and calf pain for the past 3 months. These symptoms are worse throughout the day and improve when he lies down at night. His exam is remarkable for symmetric swelling to the distal lower extremities with associated erythema and tenderness to palpation. A 4 cm shallow, irregularly shaped wound is noted in the left pretibial area with marked serous drainage. Pulses are palpable and equal in the lower extremities. How would you approach this patient?

Nonhealing wounds are often a physical manifestation of chronic illness and are defined by their unresponsiveness to initial therapy or persistence despite continued care.[1] The majority of nonhealing wounds affect the lower extremities and are associated with vascular disease.[2] Failure to recognize and initiate treatment for nonhealing wounds in the emergency department may increase morbidity and mortality as well as health care expenses for patients.[3]

Pathophysiology

Normal wound healing begins with an acute injury that damages the blood vessels, initiating the clotting cascade and platelet aggregation, which releases growth factors that draw neutrophils and macrophages into the injured area in order to destroy bacteria. The activation of macrophages also results in the release of growth factors and pro-inflammatory cytokines, which start the wound healing process.

In a chronic wound, the neutrophils and macrophages continue to secrete inflammatory cytokines that destroy the wound matrix and impair connective tissue deposition. This chronic inflammatory state may be exacerbated by repetitive trauma, local tissue ischemia, necrotic tissue, and a heavy bacterial burden, which is self-sustaining and prevents wound healing.

Approach to Evaluation

A thorough history and physical exam will help differentiate between venous or arterial insufficiency and diabetic neuropathy. When interviewing a patient, it is important to ask how long the wound has been present, whether the wound is changing in any way, how painful the wound is, and what therapy has been tried already, if any at all.[3,4]

Look

The examination of the lower extremity should begin with the general appearance of the legs.

- Evaluate the location, length, depth, and shape of the wound. Wound characteristics vary by etiology, but nonhealing wounds typically have a rounded edge and calloused appearance.
- Proximity to or involvement of underlying tendons, nerves or arteries should be assessed, as well as the presence of foreign bodies.
- Enlarged palpable veins (varicose veins), as well as dark red or purple discoloration can be characteristic of venous insufficiency.
- Hemosiderin staining (dark red or brown) is a cardinal sign of venous insufficiency in contrast to cellulitis, which is typically bright red.
- Thin, shiny, pale skin with an absence of hair growth, and thickened and/or brittle nails can be a sign of arterial insufficiency or diabetic neuropathy.
- Autonomic dysfunction associated with diabetes leads to decreased secretions and results in dry, cracked, and calloused skin.[3]

References available online.

- A nonhealing wound represents a chronic inflammatory state, and mild surrounding erythema is expected. Cellulitis should be considered only if the inflammation or erythema is noted >1 cm from the edge of the wound. Other clues to infection include drainage, foul odor, worsening pain, and rapid progression.[4]

Feel

- Dead tissue may need debridement for accurate assessment of the wound base.
- Hypothermic skin suggests arterial insufficiency, normothermic skin is common with venous insufficiency, and hyperthermic skin is typical of cellulitis.
- Edema may be pitting or non-pitting and is typically symmetric.
- If pulses are not palpable, they should be identified and marked via Doppler ultrasound.
- Delayed capillary return may indicate arterial insufficiency, whereas rapid return may be seen in cellulitis.
- Neurologic examination should include light and sharp sensation, 2-point discrimination, and proprioception.

Special Examination Techniques

- **Ankle Brachial Index (ABI):** The ABI is the ratio of lower extremity to upper extremity systolic blood pressure. ABIs should be performed on patients with leg ulcers, as clinical examination findings are not independently sufficient to include or exclude arterial disease.[5,6] *(See Table 1)*
- **Probing:** The depth of the wound should be assessed by inserting a sterile (ideally metal) instrument into the wound. If the probe reaches bone, osteomyelitis should be strongly suspected.
- **Elevation:** Simple elevation of the lower extremity can provide valuable information.
  - Pain related to venous insufficiency is worsened in the dependent position and lessened with elevation.
  - Pain related to arterial insufficiency is lessened in the dependent position and worsened with elevation.
  - Erythema from dependent rubor may fade with elevation, as opposed to cellulitis in which the erythema persists despite elevation.

Diagnostic Workup

The diagnosis of a nonhealing wound is largely clinical. Diagnostic studies should be tailored to determine the underlying etiology. Once the diagnosis of a nonhealing wound is made, the provider needs to determine if the wound is infected, and to what extent.

For suspected infection, consider:

- Wound biopsy for culture analysis is the reference standard for the diagnosis of infected tissue and should be obtained when able, especially if topical or systemic antibiotics will be initiated. Avoid swab cultures.
- A normal erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) in a low risk patient population provides reassurance; however, osteomyelitis cannot be ruled out with normal results.[7]
- The white blood count is not helpful in the evaluation of osteomyelitis.[7]
- An abnormal plain radiograph in the correct clinical setting increases the likelihood of osteomyelitis but cannot definitively rule-in or rule-out the diagnosis.[8]
- Magnetic Resonance Image (MRI) is the test of choice for evaluation of osteomyelitis.[8-9]

Treatment and Disposition

Most patients with chronic lower extremity wounds can be discharged and managed on an outpatient basis. Long-term management requires lifestyle modification, optimization of comorbidities, weight loss, tobacco cessation, glucose control, improved nutrition, and adherence to multidisciplinary wound care team recommendations.[10-13]

Compression increases wound healing rates and is the mainstay of pain management for venous ulcers.[5] Note that compression should be avoided if an ischemic ulcer is suspected! Topical steroid cream may reduce itching and irritation if there is surrounding eczema or stasis dermatitis. Otherwise, additional pain control can be accomplished with topical analgesics, NSAIDs, gabapentin, and/or opioids.[14] All wounds should be kept warm and protected from injury using padding, thick socks, and hard shoes.

There is some evidence to suggest that topical antibiotics such as cadexomer iodine, mupirocin, and bacitracin promote wound healing, particularly in venous leg ulcers.[15] Empiric antibiotics, on the other hand, have not been shown to improve wound healing and should therefore only be used only in cases of suspected infection.

TABLE 1. Ankle Brachial Index (ABI)

Normal	>0.96
Mild Obstruction	0.71-0.96
Moderate Obstruction	0.31-0.71
Severe Obstruction	<0.31

Most patients with lower extremity wounds can be discharged and managed on an outpatient basis.

Case Discussion

The case described a typical presentation of a venous insufficiency ulcer. This patient's risk factors included hypertension and obesity. Other clues included worsening pain throughout the day and relief with elevation as the patient lies down at night. There were no signs of infection, so management consisted of absorptive dressings, compression, and outpatient follow-up.

Conclusion

Nonhealing wounds are the byproduct of prolonged and complex disease processes. Though chronic in nature, they can pose acute threats to life and limb. Differentiating the signs and symptoms of acute illness from the expected course of a chronic nonhealing wound within the emergency department can be critical to achieving improved outcomes and quality of life. ✶

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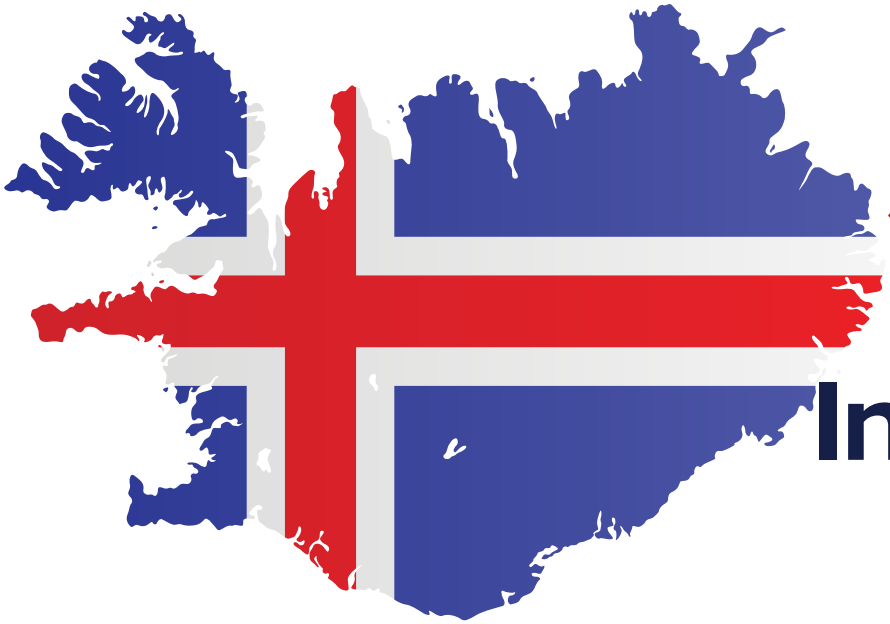

Spotlight on An International EM Doc

Hilmar Kjartansson, MD, FACEM, a native of Grindavik, Iceland (a small fishing town near Reykjavik), works as the clinical director of emergency medicine at the National University Hospital of Iceland, located in Reykjavik. It is the largest emergency department (ED) in Iceland, seeing approximately 80,000 patients a year. Dr. Kjartansson has spent time in New Zealand and Australia as both a trainee and then a consultant before moving back to Iceland to work in his current position.

01 How did you find medicine as a career?

I found medicine as a career almost by chance. My mother stayed at home, having her hands full with 6 children, and my father was a captain on a fishing boat. I starting working early on in the fishing industry, and prior to starting university education I had worked as a fisherman on both trawlers and smaller boats. I initially signed up for chemistry at the University but after [thinking about it during the] summer I decided to change to medicine. Anyone could start the first semester but at the end of the semester only a fifth of the students [were allowed to] continue, depending on performance.

02 How did you decide to pursue emergency medicine?

After graduation I did my internship and decided to have a career in internal medicine and entered the training program at the University Hospital. After finishing that program, I decided that being on call in the front line suited me much better so I changed my plans and decided to train in emergency medicine. I applied for a job in Christchurch, New Zealand, and finished my training to become a Fellow of the Australasian College for Emergency Medicine. In total I spent 7 years in New Zealand before relocating back to Iceland.

03 What prompted your current career path?

It had always been on the itinerary to move back to Iceland. I hold dual qualifications as a consultant in both internal and emergency medicine here in Iceland. I moved back with my family in 2011, and since 2013 I have been the clinical director of the emergency department. I enjoy the challenges of working on the floor, seeing patients, and directing the shift, but the opportunity of having more significant impact on how the department evolves and improves was very appealing to me, and therefore I applied for the position and have now for 18 months been leading the department, assisted by a fantastic group of consultants, in what I believe is a positive change.

04 What does your daily work entail? (ie, teaching, community medicine, a combination?)

My daily work schedule is very variable. Half of the time I work on the floor, running the shift [attending to ED clinical work]. The other half of the time is spent on administration work, quality improvement projects, and teaching (both formal and informal).

05 Can you briefly describe your ED and its structure?

The ED is divided into 2 major areas. The main hub has just over 30,000 presentations annually, [and rates of presentations have been] rising by 5% per year. The hospital has about a 25% admission rate with a good variety of medical, surgical, trauma, etc. There's a small pediatric ED [located at a

different site] so most pediatric medical emergencies will go there, but all pediatric traumas, minor and major come to our ED. With Iceland becoming a [tourist] hotspot we have seen the summer becoming busier [with an increased number of traumas].

On the second floor there's a fast track that deals with a variety of minor trauma, orthopedics, infections etc. [The fast track sees] a little less than 50,000 presentations annually with a very low admission rate but [has the opportunity for] a lot of minor interventions for orthopedic injuries.

06 How is medical and emergency training structured in Iceland?

The full census of the population in Iceland is only 320,000 people. There's one medical school with 48 graduates per year. Most [medical school graduates] will do their house surgeon year and a couple of years of basic training [before going] abroad to finish their advanced training. Most [trainees] come back after completing their training so we have a good mix of consultants who have done their training in a wide variety of places; ie the U.S., UK, Scandinavia, Holland, and New Zealand. Since we do not have advanced trainees, the ED has quite strict supervision of their juniors. I'm sure it doesn't sound appealing to attending physicians [who have to primarily] do the night shifts but it is a necessity in our system as the junior doctors do not have the experience to take on that responsibility [independently].

Additionally, we have a 2-year training program for the junior doctors to prepare them for further training abroad. The program director [for this specific program] did his emergency [medicine] training in the U.S. We have around 20 consultants here working. [Outside consultants also] come from a mixed background, most are now ED trained in U.S., New Zealand, Sweden, and Norway, but the others are primary care consultants, pediatricians, surgeons, and internal medicine consultants. Some of the consultants also work shifts on the HEMS [Helicopter Emergency Medical Service] that is also involved in search and rescue operations on the highlands and on the ocean.

PHOTOS COURTESY OF DR. DAVID GRABER, UC DAVIS

07 Do you have out-of-hospital work that complements your work in EM?

I have been involved in a biotechnical startup company called Kerecis here in Iceland. It focuses initially on wound care products made out of fish skin, in particular [for] use on chronic wounds. It is not quite complementary to emergency medicine, but I enjoy it very much. The product is already on the market and we are also developing other products used for tissue reconstruction and treatment of acute wounds and burns, which will be more complementary to the field of emergency medicine.

08 What advice do you have for residents interested in working internationally?

I think it is of tremendous value to work in different systems and places. There are new challenges to be met and you get taught different ways of doing things. It's not only the medicine that enriches you, it's also soaking in a different culture, a different way of doing things in general, and together those things help you to develop and advance both as a physician and a human being.

09 What has been the most challenging lesson learned on your journey?

I find that initially the whole adrenaline rush of severe traumas or emergencies is very important for us as trainees [but this

need changes as we progress through our careers]; Initially, we need to get exposure to those dramatic events and learn to manage them well. As time goes on, one starts to take more joy from the little things, [like] interactions with patients and co-workers. As a junior doctor I think we all worry a lot about the patients that we've sent home, and everyone dreads hearing, "Do you remember that patient you saw…"

Patients have taught me a lot during my training in emergency medicine. An elderly woman in Dunedin, New Zealand, taught me a very valuable lesson some years back now. She had low risk chest pain but was elderly. She had 2 negative troponins and ECGs, and it was 10 p.m. I was telling her [that her workup so far was negative] but we'd like to keep her overnight. She stated that she wanted to go home, and we had a discussion about the risks. At the end of the discussion, she patted me on the back and said, "You worry too much. I'd still like to go home." Our discipline is very much involved in assessing risks and defining what the acceptable risks are for patients we discharge, but we need to involve the patients in the decision, as their definition of risk may be different from ours. Then she said, "At the end of day I've lived a happy life — we're all going to die at some point."

10 What accomplishments in your career, brings the greatest sense of pride?

I am very happy that I changed over to emergency medicine. I think it is a great specialty. There are several cases that are very memorable that had a good outcome, but at the end of the day I'm mostly proud when I leave the shift, the team has functioned well together, and we all have the feeling that things went well.

11 Where do you see yourself in 5 or 10 years?

I think I will still be working in emergency medicine. My job as clinical director is ongoing for the next 5 years. After that I will need to have a look at my options; there are possibilities for work in Australasia, possibly doing a part time job and then [taking] on some challenges and assisting with [new] emergency medicine programs around the world.

12 How does your current work differ in daily practice from other countries in which you have worked?

There are several things that are different in the Icelandic system. [For example] airway management is primarily under the management of anesthesiologists in Iceland whilst emergent airway management is managed by emergency medicine both in Australia and New Zealand. We have no private hospitals in Iceland, only a public system. Unfortunately we have developed the bad habit of using brand names of drugs rather than generic names as in New Zealand. Finally, fracture clinic(s) [in Iceland are] run by consultants while in Australasia it is run by the orthopedic services.

13 How do you balance family, work, and travel? Do you have advice on how to do better, or pitfalls to avoid?

This is the sort of question my wife should really answer. I do try to maintain a work/family life balance. It can be trying at times. I know that my children often complain of my long hours, but I do try to leave work behind me when I come home. I think it's very important to really be at home when you're there, as the family will be quick to spot the difference [when you are thinking about work]. Try to set time aside doings things together as a family and definitely take time to look after your health with a good diet and exercise routine, even though it often feels impossible. ✶

UNFORESEEN DANGERS

Keeping an Eye on Endophthalmitis

A 58-year-old female presents to the ED with a chief complaint of right eye pain. She underwent cataract surgery 2 days prior and has experienced worsening pain and redness for the past 24 hours. On exam, she has mild swelling of the right upper eyelid, diffuse conjunctival injection, and an obvious hypopyon (Figure 1). *Her pupils are equal and reactive, and her extraocular muscles are intact with no worsening pain with movement. Fundoscopic exam reveals moderate haziness of the right cornea. You are drawing a blank on a differential, and your attending suggests endophthalmitis.*

Background

Emergency physicians are faced with the task of identifying life-, limb-, and eyesight-threatening diseases on a daily basis. Some of these conditions are more common and obvious than others. Endophthalmitis, although rare, is a vision-threatening disease that cannot be missed. It is an inflammatory condition involving the intraocular cavities of the eye (ie, the aqueous and/or vitreous humors) and is usually caused by infection.

Endophthalmitis is classified as exogenous or endogenous.

Endogenous endophthalmitis, which is less common (occurring in 2-15% of all cases), is caused by blood-borne pathogens that permeate the blood-ocular barrier. It is typically seen in patients who are immunocompromised (such as in patients with diabetes, AIDS, chronic renal failure, leukemia, or lupus), and in patients who are bacteremic.[1]

Exogenous endophthalmitis, on the other hand, is most commonly caused by trauma, contiguous spread from an infected corneal ulcer, or any surgical procedure that disrupts the globe (eg, cataract removal, glaucoma bleb filtering surgery, secondary lens implantation, vitrectomy, corneal transplantation, intravitreal injections).[2] The incidence of exogenous endophthalmitis in patients following cataract surgery or intravitreal injections is approximately 0.03%, or 3 in 10,000 post-operative patients.[3] In patients with open globe ruptures, the incidence has been reported to be as high as 30% depending on the nature of the injury and the hospital setting.

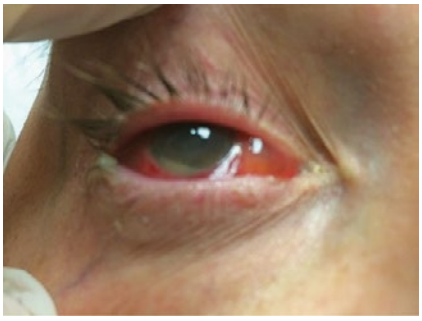

FIGURE 1. Patient with endophthalmitis.
PATIENT CONSENT OBTAINED FOR PICTURE USE.
IMAGE COURTESY OF DR. JAY SLUTSKY

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Clinical Features and Diagnosis

Most patients with post-operative endophthalmitis will present within the first few days to weeks after surgery. One large study found that **the most**

References available online.

common presenting symptoms included blurry vision (94%), eye redness (82%), pain (74%), and eyelid edema (34.5%).[4,5] The most common physical features included the presence of hypopyon (85%), hazy media (79%), and vision loss (26%). From an emergency medicine standpoint, the diagnosis of both endogenous and exogenous endophthalmitis should be made clinically. An ophthalmologist will then be able to confirm the diagnosis by obtaining a vitreous sample that can be sent for gram stain and culture.[6,7]

In patients with postoperative acute exogenous endophthalmitis, gram-positive organisms account for almost 90% of cases. While *S epidermidis* (belonging to the group of coagulase-negative staphylococci) is the single most common cause, *S aureus* and streptococcal species have also been isolated. On the other hand, while nearly any organism can cause endogenous endophthalmitis, fungal infections are an important consideration because they can occur in up to 50% of patients. *Candida albicans* is by far the most frequent cause of fungal cases, occurring 75-80% of the time.[4] The classic fundoscopic finding in these patients is coalesced cotton-ball opacities in the vitreous, known as the "string of pearls" sign.[8]

Endophthalmitis, although rare, is a vision-threatening disease that cannot be missed.

Emergency Department Management

Endophthalmitis is an ophthalmological emergency and treatment is best left in the hands of an ophthalmologist. **The mainstay of treatment for all types of endophthalmitis is intravitreal antibiotics +/- vitrectomy.**[9] For traumatic endophthalmitis, there is some evidence that systemic antibiotics are also indicated.[10] For endogenous endophthalmitis, systemic antibiotic treatment is certainly indicated and should be targeted at treating the underlying source of the bacteremia. Fluconazole must be added if there is suspicion for candidal endophthalmitis. **Regardless, the best and most efficient action in treating these patients is to involve ophthalmology early on in their care.**

Conclusion

Delayed diagnosis of endophthalmitis can be catastrophic, and emergency medicine providers must have a low threshold for consulting ophthalmology as soon as the diagnosis is considered. While the excitement of "eye pain" may pale in comparison to the hustle and bustle that surrounds myocardial infarctions, gunshot wounds, and strokes, the consequences of missing this disease can be just as grave, and the diagnosis just as rewarding. ✶

Medical Student Council

New Leadership, Same Goal

The EMRA Medical Student Council is among the busiest branches of our bustling association, with student membership growing exponentially in recent years. This can make the position of MSC chair seem like equal parts limelight and hot seat. An interview with outgoing chair Sean Ochsenbein and incoming chair Seth Kelly brings you inside the world of the MSC.

Sean Ochsenbein, MSIII
Former Chair, EMRA MSC
ETSU Quillen College of Medicine
Johnson City, TN

Seth Kelly, MBA, FF/EMT
Chair, EMRA MSC
Texas A&M University Health Science Center College of Medicine
Temple, TX

Q Sean, what's the best thing about serving on the Medical Student Council?

A Without a doubt it was working with the MSC student leaders from across the country. I have been blessed this past year to serve with some of the most hardworking and passionate students. It was inspiring to see the dedication so many have to ensure our future specialty is the healthiest for years to come. While serving on the MSC, it also becomes apparent how hard our EMRA/ACEP leadership works to ensure the specialty is one we are proud to join. At the end of the day, each person wants to make a difference in the world around them; the MSC provides the perfect medium to make the difference you want to make today, a reality!

Q Seth, what expectations do you have as your term begins?

A I couldn't be more excited to continue working with our student leaders across the country, not only on the MSC but at all of our EMIGs and partner organizations as well. Each year brings new ideas about how we can best engage our student members, resident members, and faculty across the EM spectrum. As chair, I want to do what I can to strengthen the existing partnerships we've established and seek out opportunities to build new ones. The passion our student leaders have for EM is amazing; I see it as my role to ensure they have the opportunities and resources they need to continue creating value for all of our members.

Q Which MSC initiative was (or will be) your favorite?

A Sean: The most rewarding initiative was our collaboration with CORD/CDEM to establish an enhanced EMRA Match. This will provide students with more data on emergency medicine residency programs in an easy-to-use platform. Students can discover their best "fit" programs and access the information they want regarding residency programs. Working on this project showed me how collaborative and welcoming EM is for students, which speaks to the fabric of the specialty as a whole.

A Seth: I'm a strong advocate for mentorship and have been fortunate to build relationships with a number of mentors in my career. As a student, there is no better way to learn about emergency medicine and ways to get involved than to work with those who have already traveled the same path. Our mentorship program pairs medical students with

residents according to criteria they choose, such as geography, educational background, or career interest. We have remarkable members with diverse interests at all levels of training; this program is a good example of how we can provide a basic framework that allows our members to meet and work together to share experiences and expertise for the benefit of both the mentor and mentee.

Q Why should medical students join EMRA and, more specifically, get involved with the MSC?

A Sean: Because one is joining a family 3,500+ students strong, who are dedicated to their future specialty. One is never too low on the totem pole to make a lasting and measurable difference. It starts with EMRA membership and continues with participation in EMRA committees and the MSC. The MSC is the crucible of innovation and leadership. Anyone who enjoys making a difference and thrives being part of a team would love to serve on the MSC.

A Seth: When I joined EMRA as a first-year medical student, I had no idea what to expect in terms of what I would be getting with my membership. The benefits and opportunities have been endless! Not only did I get some great "white coat" books that I use every day, but EMRA has been my go-to source for information about EM-related activities, research, and planning for away rotations and residency applications. EMRA has allowed me to write for *EM Resident*, get involved in committees, participate in advocacy initiatives with ACEP and the American Medical Association, and collaborate with emergency medicine residents and physicians who are working to improve the specialty every day. While these opportunities are available to all of our members, I encourage students to get involved with the MSC, too! It's a great way to meet students who share a passion for EM and help peers across the country achieve success.

Q Sean, what's your quintessential MSC memory?

A Belonging to a group of people who I can now proudly call my friends. For me, the most precious aspect of life is friendship and camaraderie while working toward a common goal. Even with all the projects and successes we had this year, my greatest memories are the laughs with friends, which makes life as rich as one could hope for. It brings me joy knowing I will have the opportunity to participate in a career with such amazing people. I am so proud to have served with the leaders of our future specialty.

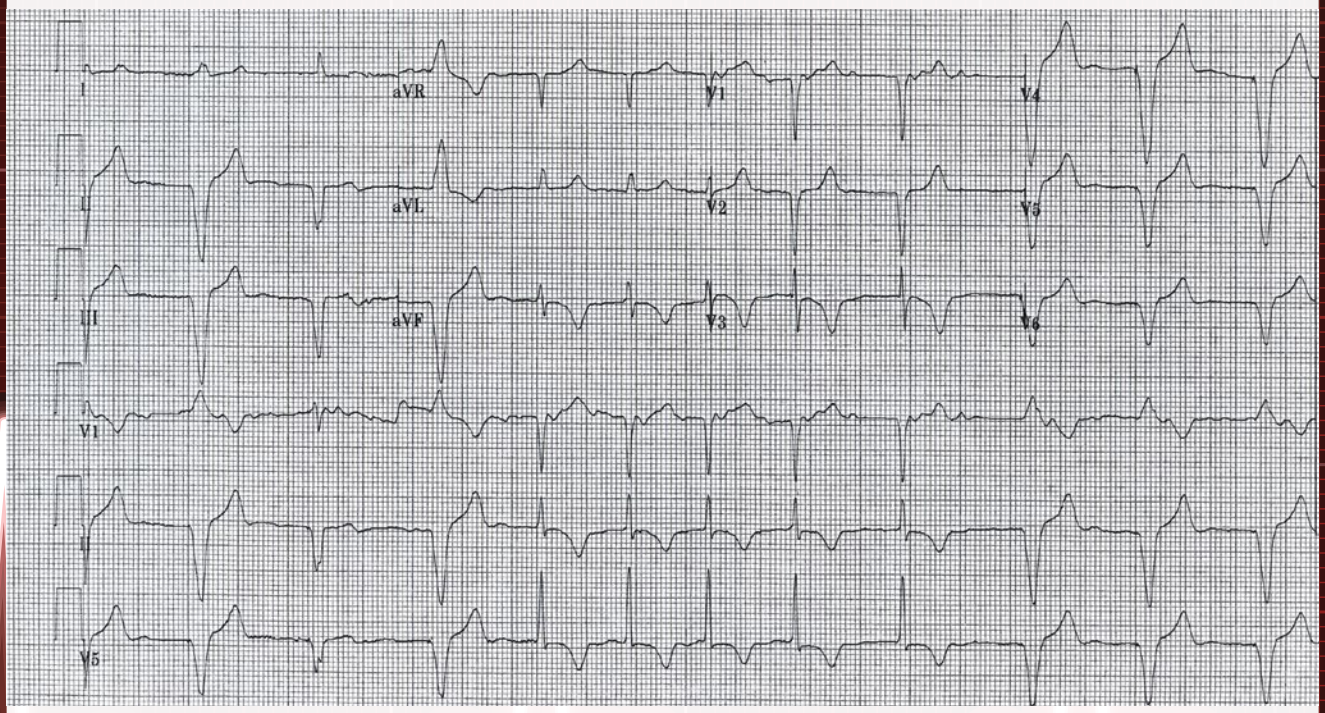
Q Seth, if you can only accomplish one thing as MSC chair, what do you want that to be?

A Emergency medicine is an amazing specialty and is becoming more competitive each year. I want to make sure that we do everything possible to engage medical students across the county who are excited about EM and arm them with the skills and knowledge necessary to apply and match into an EM residency. We've worked hard to provide a good, solid roadmap for our student members to guide them from the first day of medical school to Match Day. By engaging the energy and expertise of our students and residents, we can continue to innovate and make the resources we provide for our members even better. ✶

ECG Challenge

CASE

A 76-year-old female with dementia and unknown cardiac history presents with chest pain and palpitations for 4 hours.



ANSWER

Atrial fibrillation preceded and followed by paced beats.

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

Let's take this piece by piece. First, there are 2 distinct rhythms and 3 distinct QRS morphologies. In the middle of this ECG you can clearly see atrial fibrillation in which there is no clear and regular p-wave and the beats follow an irregularly irregular pattern. As there are no other conduction abnormalities, the QRS complex in this segment is narrow. At the beginning and end of this ECG there are wide-complex QRS complexes preceded by very subtle pacer spikes. The rate is also slower at approximately 60 beats per minute (bpm). The most likely explanation is that there was a string of atrial fibrillation and the ventricular pacemaker kicked in once the rate slowed below 60 bpm. There is a third distinct wave-form morphology seen in this ECG which is the third beat in this ECG. In this beat, which is a fusion beat, depolarization in the ventricle is initiated from both the pacemaker and the AV node. Another important aspect of this ECG is the diffuse inverted T waves seen in the non-paced beats. This could be secondary to ischemic changes (suspicion should be based on the clinical scenario) or due to T-wave memory. T-wave memory is a phenomenon in which permanent T-wave changes resulting from long-term ventricular pacemaker use can be seen in non-paced beats.

LEARNING POINTS

1. Be suspicious of atrial fibrillation in any ECG without clear p-waves and beats that occur at irregularly irregular intervals.
2. T-wave changes in a patient with a longstanding pacemaker may result in permanent T-wave changes in non-paced beats. ✶

empower
Sharing Our Stories

Your Time, Your Legacy

Amal Mattu, MD, FACEP

Medical School? University of Maryland School of Medicine

Residency? Thomas Jefferson University Hospital

Current position? University of Maryland Department of Emergency Medicine professor, vice chair, and director of the Faculty Development Fellowship and the Emergency Cardiology Fellowship.

Who gave you your best career advice – and what was it?
I think I'd have to give that credit to Dr. Glenn Hamilton, who was the first person I ever heard talk about the concept of and importance of developing an niche in academic EM; this wasn't personal advice, but what I learned listening to him at CORD and SAEM lectures.

If you were just starting your residency now, what would you do differently?
Ask more questions of EVERYONE…nurses, EM and off-service faculty, senior residents, etc.; spend time learning to do research, and do tough rotations rather than easy ones on electives.

What keeps you coming to work every day?
Opportunities to teach; colleagues I have fun working with.

How will EM change during the next decade?

Greater emphasis on technology, increased emphasis on facilitated workups, and greater push toward physicians having an "assembly line" mentality about patients; I fear that medicine is moving toward becoming more a job rather than a profession.

Last non-textbook you read?
John Wooden's "Wooden on Leadership"

What goes on your pizza?
Sausage, pepperoni, caramelized onions, sundried tomatoes

How do you get your exercise?
Jogging

Most-used app on your phone?
BY FAR—Tiny Wings is my "crack cocaine"…I don't know why… it's monotonous and simple, but I can't give it up. Also Angry Birds.

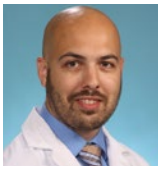
Family?
Wife, 14-year-old son, 11-year-old boy-girl twins ✶

You might know Amal Mattu as a social media giant, with 16,600 Twitter followers, countless readers of his popular blog, ECGWeekly, and an army of faithful podcast listeners. He's an oft-published author, a decorated EM educator, and one of the most popular speakers in the specialty. (*Be sure to see him at ACEP16 in Las Vegas, where he will share "Secrets from the Princess Bride" during the second of EMRA's resident lunches!*)

@amalmattu

WEIGHED DOWN by Words

How to Recognize and Avoid Anchoring Bias



Zac Hafez, MD
Emergency Medicine Resident
Washington University in St. Louis
St. Louis, MO

"Chief complaint: flank pain." I started thinking about my differential: nephrolithiasis, urinary tract infection, pyelonephritis, pelvic inflammatory disease, musculoskeletal pain. I read the triage note: "30yo F, 2 days of worsening left flank pain. Patient is heroin user on methadone." *Great*, I thought, mentally adding drug seeker to my differential. As the tech pushed her past me in a wheelchair, her hands were covering her face and she was rocking back and forth, moaning. The tech rolled his eyes; I shook my head.

I turned my attention back to her chart. Afebrile, normal heart rate, normal blood pressure. Boring.

I walked into the room, introduced myself, and asked how I could help her. She continued rocking in the gurney, yelling "It hurts, it really hurts! I need pain medicine!" I made my way through the history. Two days of worsening left flank pain, nausea, and vomiting. No urinary symptoms, vaginal discharge, or trauma. She denied recent IV drug abuse but wouldn't let me look at her arms for track marks. She was very hesitant with answers, very difficult to examine, and resistant to questioning. I was growing frustrated.

As I started to place her orders, I was apprehensive about giving a significant amount of pain medication to a heroin user. *4 mg of morphine it is*. After two doses, it was clear the morphine was not working. She requested "that medicine that starts with a D." I shook my head again. *Great*. The nurse notified me she was throwing up — in fact I could hear her. *Maybe it was the morphine*, I thought.

I gave more pain medicine, antiemetics, fluids, and waited. Her labs came back: a mildly elevated white blood cell count, some white cells and some red cells in her urine, normal hemoglobin and electrolytes. Nothing exciting. As I saw her being wheeled back from her CT scan, I moved on to my other patients.

The phone rang. I looked at the caller ID: Radiology. *Oh great, she has a stone*.

"Are you taking care of room 28?" asked the radiologist.

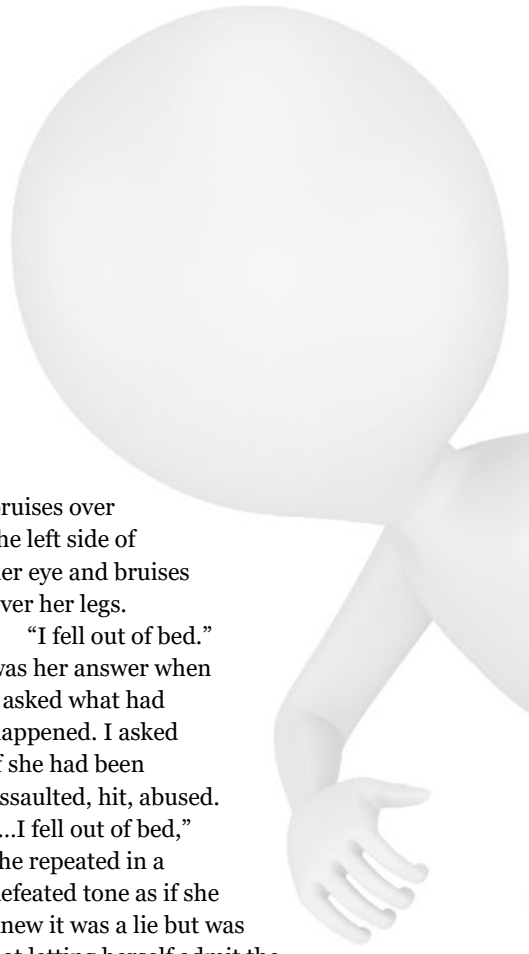
"Yeah, how big is her stone?" I replied.

"Umm, can you tell me more about her story, like what happened?" was the response.

"I'm not sure, just two days of worsening flank pain, sounds like a stone." I said.

He then began to tell me about the spleen and liver lacerations with active signs of extravasation, the left perinephric hematoma, the free fluid pelvis, and the multiple rib fractures at various stages of healing. My stomach was in knots.

I went back to the patient's room to notify her of the findings and, after adequate pain control, I really saw the patient for the first time. I could see faint bruises over the left side of her eye and bruises over her legs.



"I fell out of bed." was her answer when I asked what had happened. I asked if she had been assaulted, hit, abused. "...I fell out of bed," she repeated in a defeated tone as if she knew it was a lie but was not letting herself admit the truth.

I felt sick. I felt I had let myself down. More important, I had let my patient down. Why did I not grab the ultrasound machine and look at her kidneys at the bedside like I usually do? Why did I not heed the feeling that something was not adding up in her story and her symptoms? Why did I not take her complaint of pain more seriously? Why had I anchored my feelings on her

drug addiction and ultimately let it affect my feelings toward the patient and my treatment? Where did it start?

I read the triage note. "Patient is heroin user, on methadone."

It amazed me how just a simple sentence could have altered how I thought about a patient, how a tech's comment added to my own doubts and skepticism, how a nurse telling me about her pain medicine request "confirmed" my suspicions. Before I had even evaluated the patient, she had become a victim of anchoring bias.

"Anchoring bias" is the term used to describe the mental error of maintaining one's initial impression despite evidence pointing to the contrary.[1] Ultimately, anchoring bias can lead to incorrect diagnoses or a delay in arriving at the correct diagnosis. Anchoring bias commonly results from paying too much attention to one finding, not listening to the patient's full story, not reassessing the patient when information does not correlate with their symptoms, or simply being in too much of a hurry. In addition, emotions, previous experiences, personal beliefs and values, time, pressure, and peer influence can all lead to a biased perception of the patient. It is the clinician's responsibility to not only be aware of, but to overcome these internal and external biases, because they impede our ability to provide maximum care and compassion to our patients.

How to Combat Anchoring Bias

Being aware of bias is not enough to eliminate it. Research suggests that while there is no way to eliminate bias, it is possible to develop strategies to help reduce its likelihood of occurring. These include limiting words that might introduce bias, reporting only factual (not assumed) information, being careful to separate professional decisions from personal feelings, and developing cognitive "walk through" strategies for scenarios in which bias is more likely to be present, such as in my patient.[2,3]

To reduce my own biases, now when I am receiving sign out on a patient, I ask only for the facts of their current medical complaint. I discourage disparaging terms such as "frequent flyer," "malingerer," "crazy," or "drug-seeking" and do not use them personally. I frequently reassess my patients when the clinical exam does not correlate with the laboratory data, forcing myself to think of alternative diagnoses from new information I have gathered. Additionally, I treat acute pain adequately regardless of past history.

So what happened to my patient? Her bleeding was controlled through embolization, she was admitted to the ICU, and ultimately transferred to the floor. Through her entire hospital stay, "heroin abuser" was plastered all over her chart. They never found a definitive case of her injuries, although assault and abuse was strongly suspected. She was discharged in "good condition," a term that has lost much of its meaning for me. And while most of the people who cared for her surely have moved on, she is a patient I will never forget. ✶

Before I had even evaluated the patient, she had become a victim of anchoring bias.

Now Hear This! EMRA·CAST Episodes in Progress

EMRA wants to connect with members in every medium – including the podcast space. So this spring, the all-new EMRA·CAST hit the airwaves, beginning with a discussion of advocacy issues with Alison Haddock, MD, FACEP.

These informative episodes are designed to teach, train, and entertain. You'll find interesting stories about leaders in the specialty, helpful information on how to improve your practice, and lots of inspiring stories to help you become an emergency medicine leader yourself. Get insights from leaders in emergency medicine, find out how to prepare for EM, get a glimpse of life after residency, gain wisdom from the ER, and more.

Access EMRA·CAST on iTunes or at emra.org/resources/EMRA%C2%B7CAST to listen to all the episodes. ✶

EM/Anesthesia Residency Programs on the Horizon

The American Board of Anesthesiology (ABA) and the American Board of Emergency Medicine (ABEM) have launched a new option for combined residency training in emergency medicine and anesthesiology. The combined program will require 5 years of residency training and will prepare residents for certification in both specialties.

Residency programs seeking to offer this combined training must be approved by both the ABEM and the ABA before residents are recruited. To be eligible for dual certification, residents must satisfactorily complete 60 months of combined education, which must be verified by both programs. The duration of training will increase to 72 months if the combined program involves a 4-year EM residency. Physicians may take the initial certification examinations for either board once they successfully complete all 5 (or 6) years of training.

The combined training program requirements and application are available on the ABA and ABEM websites (www.theABA.org and www.ABEM.org). Both boards are currently accepting applications from programs interested in offering this training. ✶

CORD Selects CPC Semifinalists

The stage is set for the Council of Emergency Medicine Residency Directors' 2016 CPC competition at ACEP's *Scientific Assembly* in Las Vegas. Congratulations to all of those advancing to the final round. Don't miss these outstanding semifinalists compete at ACEP16!

Division 1

Resident Presenter Winner: Nicole Cimino-Fialos, MD, University of Maryland

Faculty Discussant Winner: Kirk Dufty, MD, Dartmouth-Hitchcock Medical Center

Division 2

Resident Presenter Winner: Brendan Milliner, MD, Icahn School of Medical at Mt Sinai Program NY

Faculty Discussant Winner: Christina Shenvi, MD, PhD, University of North Carolina, Chapel Hill

Division 3

Resident Presenter Winner: Vincent Costa, MD, Mount Sinai St. Luke's Roosevelt

Faculty Discussant Winner: Chen He, MD, Mount Sinai St. Luke's Roosevelt

Division 4

Resident Presenter Winner: Graham Brant-Zawadzki, MD, MA, Alameda County – Highland Hospital

Faculty Discussant Winner: Bryant Allen, MD, Carolinas Medical Center

Division 5

Resident Presenter Winner: Rory Merritt, MD, George Washington University

Faculty Discussant Winner: Alisha Brown, MD, University of Washington

Division 6

Resident Presenter Winner: Guy Carmelli, MD, SUNY Downstate Kings County

Faculty Discussant Winner: Kristen Mueller, MD, Washington University ✶

Think Ahead – and THINK BIG

The EMRA Representative Council is now accepting resolutions for its fall meeting. If you have ideas for policy, projects, guidance, or positions on issues of the day, submit a resolution! The deadline for submissions to be heard at the fall Representative Council meeting is September 2. Submission instructions, sample resolutions, and more details can be found at https://www.emra.org/leadership/Representative-Council.

EMRA Hangouts

Bring Leaders to Your Living Room

When you're a medical student, time is short and money is tight. EMRA understands, so we're launching a new program designed with you in mind: *EMRA Hangouts*.

Functioning similar to Google Hangouts, the *EMRA Hangouts* will feature program directors, emergency medicine leaders, career physicians, and others who can offer insight about the things that matter to students: how to match, why (or whether) to consider a subspecialty, where to go for networking, when (and how) to study for your boards, etc.

EMRA Hangouts will occur the first Thursday of every month. Invitations will be sent in advance, with instructions on how to join. For a list of upcoming Hangout sessions or to view previous Hangouts, visit https://www.emra.org/students/EMRA-Hangouts. ✶

em day of service

#EMDayOfService

Emergency physicians, residents, nurses, PAs, and medical students are servant leaders who care and advocate for patients while working clinically. These health care providers also respond to the call to give back to the communities they serve. The **EM Day of Service** was created with this essential concept in mind, encouraging providers to identify community needs and volunteer to address those needs.

Throughout the month of September, join like-minded EM colleagues from around the country to participate in the **EM Day of Service**! Share your success stories on Twitter, using #EMDayOfService. ✶

KTAF Recipients Fine-Tune Teaching Skills

Three emergency medicine residents have stepped closer to their academic goals, thanks to the **2015 Knowledge To Action Fellowship** awards:

- Cassidy Dahn, MD, of Boston University Medical Center;
- Kevin Cullison, MD, PGY-IV at Washington University in St. Louis;
- Lauren Westafer, DO, MPH, chief resident at Baystate Medical Center.

Lauren Westafer, DO, MPH

Kevin Cullison, MD

Each received $1,100 to offset expenses for the 2015 TEACH (Teaching Evidence Assimilation for Collaborative Healthcare) conference in New York City. Building on what they learned there, the KTAF recipients then helped lead a Knowledge Translation workshop at ACEP's *Scientific Assembly* in Boston.

Dr. Cullison and Dr. Westafer shared their experiences with *EM Resident*.

Why apply for this award?

Dr. Cullison: A recurring theme I've noticed through working in the ED, attending journal clubs, and listening to podcasts is that there is a time-lag for when the best available research evidence is actually practiced bedside. I wanted to learn more about how to address this problem.

Dr. Westafer: Dissemination and implementation is hugely important in medicine bust still isn't widely talked about. This is a self-driven fellowship that allows residents into an inner circle, of sorts, focused on how to actually make things happen.

What's the best thing that happened as a result of winning this funding?

Dr. Cullison: I've met several experts in the field of knowledge translation (both within and outside the specialty of EM), and was able to help lead a KT (Knowledge Translation) workshop at ACEP last year on the topic of reducing avoidable imaging for suspected pulmonary embolism.

Dr. Westafer: Developing the workshop at ACEP was an invaluable experience and the crux of knowledge translation more broadly. This experience allowed us to connect lead investigators with stakeholders (largely community emergency physicians) to aid in helping them develop plans to take action for change at their institutions. Working on and presenting a workshop at a national conference provided insight into the coordination involved and was an incredible experience.

What have you been able to accomplish through KTAF that you otherwise wouldn't have?

Dr. Westafer: I have worked on institution specific projects on implementation of various outpatient protocols for common ED complaints. I would have had no idea how to work on this or get started without the fellowship.

How does the KTAF experience impact your career going forward?

Dr. Cullison: I'm interested in remaining in academics and possibly pursuing an MSCI in the future. Using many of the tools I learned about through this program, I'd like to systematically study the barriers to avoidable advanced imaging use in the ED and (hopefully) tailor some KT intervention strategies to these barriers. ✶

UPCOMING EVENTS

Anytime	**EMRA Hangout** (previously recorded)
Anytime	**EMRA•Cast Episodes**
June 2	**EMRA Hangout** with Dr. Christopher I. Doty
June 9-11	**AMA Resident-Fellow-Student Annual Meeting**, Chicago
June 15	**20 in 6:** Application Deadline for ACEP16
September	**EM Day of Service** (monthlong initiative)
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

20 in 6 Judges Announced!

Paul Jhun, MD, FAAEM: Clinical Assistant Professor of EM, UC San Francisco; San Francisco General Hospital
Mel Herbert, MD, FACEP: Associate Professor of EM, Keck SOM; LAC+USC Medical Center, Los Angeles
Nikita Joshi, MD: ALiEM Associate Editor
David Terca, MD: Winner, 20 in 6 at ACEP15; Resident, St. Luke's Roosevelt ✶

Fifteen smart, savvy residents will be chosen soon to compete in this second annual event to find the Best Resident Lecturer in EM!

WANT TO COMPETE?
Submit your application by June 15.

NOT COMPETING?
Then we think you should be in the audience.

ACEP16
Las Vegas

Don't miss this!
Monday, Oct. 17

Submit Your Idea by June 15, 2016 emra.org/Events/20-in-6--Resident-Lecture-Competition

Fall Awards

Submit Applications by July 15
emra.org/awards

WE'RE ON THE HUNT AGAIN!

Where are you, all you super achievers, best of the best EM physicians and medical students? We're on the lookout for deserving EMRA members — and we can't wait to recognize you for your accomplishments at ACEP16 in Las Vegas.

IS IT YOU WE'RE LOOKING FOR?
MAYBE, JUST MAYBE!

Check out the Spring Award Winners on emresident.org

Questions should be directed to
Martha Morrison
Editorial Assistant
Annals of Emergency Medicine
at 800-803-1403 x 3223
or by email at
mmorrison@acep.org

Annals of Emergency Medicine

Resident Editorial Board Fellowship Appointment

The Resident Fellow appointment to the Editorial Board of *Annals of Emergency Medicine* is designed to introduce the Fellow to the peer review, editing, and publishing of medical research manuscripts. Its purpose is not only to give the Fellow an experience that will enhance his/her career in academic emergency medicine and scientific publication, but also to develop skills that could lead to later participation as a peer reviewer or editor at a scientific journal. It also provides a strong resident voice at *Annals* to reflect the concerns of the next generation of emergency physicians.

Please visit *Annals*' Web site at www.annemergmed.com for a copy of the complete application.

Due date is Monday, July 11, 2016

3 Steps to Radical Financial Gains

M. Shayne Ruffing, CLU, ChFC, AEP
Managing Director
Integrated WealthCare

Springtime often means transition. Whether upgrading your PGY status or breaking free of "house-staff living," 3 actions can improve your net worth by hundreds of thousands of dollars over the course of your career:

1. Obtain adequate disability insurance at the most competitive price.
2. Go all-in on your employer provided retirement plan.
3. Consider refinancing your student loans.

Disability Insurance

There are plenty of good opportunities for disability insurance. However, misinformation abounds. Currently, there are 6 competitive contracts for EM in most states. Each has everything you need, including:

- **Own Occupation definition of disability –** You are considered totally disabled if you cannot perform the substantial and material duties of *your* occupation, regardless of outside income or earnings. An own occupation contract does not guarantee full benefits in every situation, but it does offer the most comprehensive, flexible level of income protection, in the most diverse set of potential claim scenarios.
- **Specialty Benefit Limits** – A resident or fellow within the last 6 months of training can obtain up to $7,500 of tax-free monthly income protection. Obtain this prior to completing training and you may be able to start in practice with greater than 100% of your net income insured. This is well above the normal industry guidelines, and the opportunity expires as soon as you complete your training.
- **Two Important Supplemental Benefits** – All 6 insurance companies offer a way for you to increase your disability benefit in the future, with no new medical qualification, and also allow your benefit to increase annually if disabled. These provisions are called a Future Purchase option and Cost of Living Adjustment, respectively.

What is the important differentiator? **Out of pocket cost.** Females pay significantly more than males in most cases, but some programs allow the rates to be blended, reducing the male rates by 14% and the female rate by 44%. This can save $350 per year for men and $2,400 for women – or, over 30 years, $10,500 and $72,000, respectively!

A competent disability adviser will be able to compare multiple contracts, design an appropriate strategy, and negotiate the terms of the contract(s). For details, review the Disability Filter video at http://www.integratedwealthcare.com/physician-strategies/emra-members.

Retirement Planning

Regardless of your status as of July 1, recognize that retirement planning opportunities are based on a calendar year, not the academic year. Here is how to make the most of the current law:

- **SEP IRA –** If you moonlight and have 1099/self-employment income, if you are starting practice as an independent contractor, or if you are in practice and do case review or other legal work, you need to understand the SEP IRA. It allows you to defer +/- 25% of your self-employment income, saving you an average of $0.34 in tax per $1 invested. Many CPAs will not proactively advise you of this. Make sure you request it!
- **Employer Based Plans –** If you are starting practice and have the ability to fund a 401(k), 403(b), 457, or other such program, you may be able to contribute between $18,000 and $36,000 per year, before taxes. Enroll the day you start in practice by dividing the annual amount you can contribute by the number of remaining pay periods. This will fully fund the plan, provide maximum tax savings, and get you accustomed to a standard of living that includes disciplined savings.
- **Invest Appropriately –** Aim for maximum growth with minimal risk. The industry term is asset allocation. This can be complex; consider paying someone for their expertise.

Between tax savings, contributions, and potentially higher and more consistent rates of growth, you can significantly improve your current and future standard of living.

Student Loan Refinance

This is an emerging industry, with at least 2 financial institutions now offering loan refinancing. The interest rate increase in December 2015 has narrowed the spread and therefore the potential cost savings, but it's worth considering if your loans are financed at 6.8% or higher. Rate discounts also may be available. Keep in mind:

- It's important to understand the lender's debt-to-income ratio formula. Ask this up front and work through it, to save yourself a lot of time.
- You can structure a "basket" of loans, refinancing some – but not all – of your loans, based on the varying interest rates. The lender will only show you the terms for a complete refinance, but if you have 8 different loans, only 3 of them may be appealing for refi. It is not an all-or-nothing game. ✶

*M. Shayne Ruffing, CLU, ChFC, AEP is the creator of the **Confident** Transition Plan™ for medical residents, the Physician Disability Income Analyzer™ and the Physician's Financial Navigator™. Shayne specializes in developing intentional, progressive wealth management programs for physicians. He can be reached at 866-694-6292, shayne@iwcglobal.net, or iwcglobal.net.*

AN INITIATIVE OF
THE EMRA RESEARCH COMMITTEE

By Joshua Davis, MSIII

Rapid Research Review

Terms

Likelihood Ratio. The probability that the test result is correct compared to the probability that the test result is incorrect.

There is both a Positive (LR+) and a Negative Likelihood Ratio (LR-):

LR+ = (Sensitivity) / (1-Specificity)

LR+	Magnitude of Positive Change
1	No difference
2	Small
5	Moderate
10	Large

LR- = (1 – Sensitivity) / (Specificity)

LR-	Magnitude of Negative Change
1	No difference
0.5	Small
0.2	Moderate
0.1	Large

Use LR to determine whether a test will change your management of a patient (see example below). You will need to create your own pre-test probability of a disease based on the patient's presentation.

LR in Action: D-Dimer for PE

D-Dimer has a LR- of .05 (See figure). If you have a low pretest probability of PE (10%) then a negative D-Dimer will give you a sufficiently low post-test probability, and you will not pursue a CT PE. If you have a high pre-test probability, then a negative D-Dimer does not give you a low enough post-test probability (still 30%), and you may still need to do further testing.

EXTRA POINT

The **Diagnostic Odds Ratio**, a single statistic to represent the overall diagnostic accuracy of a test, is calculated by dividing LR+ by LR-.

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. In a patient with jaundice with laboratory findings of a conjugated/direct hyperbilirubinemia, what is the most likely etiology
   A. Autoimmune hemolytic anemia
   B. Gilbert syndrome
   C. Sclerosing cholangitis
   D. Sickle cell disease

2. Intermittent agitation and rapid, full return of consciousness from a state of coma are characteristic of poisoning from which of the following agents?
   A. Carisoprodol
   B. Flunitrazepam
   C. Gamma-hydroxybutyric acid
   D. Methylene dioxymethamphetamine

3. A 14-year-old boy presents with pain in his right eye that started while he was mowing the lawn. On initial examination, visual acuity is 20/20 in the normal eye and 20/25 in the affected eye. The conjunctiva is injected, but there is no foreign body visualized; no corneal abrasion is detected using fluorescein staining. Which of the following is the most important evaluation if foreign body is suspected?
   A. Dilated ophthalmic examination
   B. Eversion of the lids
   C. Seidel test
   D. Slit lamp microscopy

4. Which of the following statements regarding the use of procedural sedation agents is correct?
   A. Hypertension is a common side effect of the rapid administration of sedative agents
   B. Propofol is generally considered unsafe for use in the emergency department
   C. Using two drugs increases the risk of side effects that are seen with each drug individually
   D. When both a benzodiazepine and a narcotic agent are used, the benzodiazepine should be given first and the opioid dose titrated

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. C; 2. C; 3. B; 4. C; 5. C

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Pearls From the May Issue

Balanced salt solutions (e.g., Ringer's lactate) was associated with less mortality vs. saline in early resuscitation of septic shock.

In blunt chest trauma patients getting a CXR and chest CT, half had an occult injury and, of these, 15% had a major intervention.

A specific single high-sens. troponin in combination with a HEART score of 3 or less had a negative predictive value of at least 99.5%.

IV magnesium, a vasodilator, anti-inflammatory and analgesic, did not decrease LOS or opioid use in children with sickle pain crisis.

Pooled MRI from 10 centers (709 patients) revealed a 96.8% sensitive and 99.2% specific for appendicitis in the 9% positives.

POCUS of the vena cava to assess volume plus POCUS of the lungs to assess for excess fluid can be used to guide fluid resuscitation.

In 128 patients hematoma expansion and mortality from significant ICH was not prevented by treatment of post-thrombolysis bleeding.

ECMO was used on 49 OHCAs with a non-shockable rhythm (0 survived) and 19 with a shockable rhythm (3 discharged neuro intact). ROI??

In apparent minor head trauma, the Canadian CT Head Rule will lower the probability of severe injury to 0.3% (0.6% - NOLA criteria).

Clinicians are poor at approximating adult patient weight (particularly at the extremes of weight) for calculating TPA stroke dose.

A request by a wife for the harvest of her dead husband's testicles for in vitro fertilizaion can result in ethical ED challenges.

In a retrospective study at MGH, papain was successful in the passage of protein esophageal obstructions in 60 of 69 cases.

...And This List Covers Less Than Half of the 30 Papers in the May Issue of EM Abstracts.

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ARIZONA

Casa Grande: Banner Casa Grande Regional Medical Center is a full-service community hospital with an annual volume of 39,000 emergency patients. Excellent back up includes 24-hour hospitalists. Casa Grande is located just south of Phoenix and north of Tucson. Beautiful weather year round, unlimited outdoor activities and major metro areas a short distance away make this an ideal setting. US Acute Care Solutions (USACS) was founded by EMP and other like-minded groups that share an ironclad commitment to a physician-led and majority-owned, 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 (occurrence based with tail), an industry leading company-funded 401(k), exceptional healthcare and the camaraderie that is exclusive to a physician led and majority owned group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Make your own schedule first year guaranteed. Contact Bernhard Beltran directly at 800-359-9117 or email bbeltran@emp.com.

Emergency Professional Services EPS

Phoenix: Tired of the rain and cold? **Phoenix, Arizona** offers affordable living, sunshine, great schools, an urban environment, and endless options to enjoy a myriad of activities outside of work. You will find every major sports team, a golfers' paradise, a spa haven, thousands of venues for arts and culture, an urban vibe — the list of attractions is endless. Combine an exceptional career with the one of the most desirable cities to live in. You get a fantastic career with a growing and successful ED group and a lifestyle that allows you to enjoy your time away from work. By joining EPS you get the best of both worlds: working in a world class emergency room while living in a city with everything to offer. Openings in for full-time Emergency Physician with established independent, democratic group. We contract with four Banner hospitals in the Phoenix-metro valley. University Medical Center Phoenix — an academic tertiary care hospital located in downtown Phoenix with 9 residency and 8 fellowship programs. **New state-of-the art ED opening early 2017**. Estrella Medical Center located in west Phoenix near the University of Phoenix stadium and Phoenix International Raceway. Ironwood Medical located in the San Tan Valley area. Goldfield Medical Center located in Apache Junction, in the shadows of the Superstition Mountains. We offer a comprehensive benefits package that includes: a partnership opportunity with a defined partnership track; paid claims-made malpractice insurance/tail coverage included; group health insurance; disability insurance; CME allowance; paid licensing fees and dues; 401(k) plan. This compensation package is extremely competitive. Candidates must be EM residency trained or ABEM/ABOEM certified/eligible. **For more information about this position, contact Monica Holt, Emergency Professional Services, P.C. Email: monica.holt@bannerhealth.com telephone (602) 839-6968.**

CALIFORNIA

Anaheim: Anaheim Regional Medical Center's Democratic ED Physician group in *sunny, vibrant Anaheim – home of Disneyland and close to the beach* – has immediate part time/full time positions available for BC/BP Emergency Physicians. We have a busy, high acuity department with 44,000 annual visits. Shifts are 9-10 hours long with night shift/holiday differential and double coverage during peak hours. We offer a competitive salary, paid malpractice and full partnership opportunities. Interested physicians E-mail your CV and references to vijay4@aol.com, amit4ten@aol.com or call us at 714-999-5112.

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 EMP and other like-minded groups that share an ironclad commitment to a physician-led and majority-owned, 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 (occurrence based with tail), an industry leading company-funded 401(k), exceptional healthcare and the camaraderie that is exclusive to a physician led and majority owned group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Make your own schedule first year guaranteed. Contact Bernhard Beltran directly at 800-359-9117 or email bbeltran@emp.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 by EMP and other like-minded groups that share an ironclad commitment to a physician-led and majority-owned, 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 (occurrence based with tail), an industry leading company-funded 401(k), exceptional healthcare and the camaraderie that is exclusive to a physician led and majority owned group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Make your own schedule first year guaranteed. Contact Bernhard Beltran directly at 800-359-9117 or email bbeltran@emp.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 is opening 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 founded by EMP and other like-minded groups that share an ironclad commitment to a physician-led and majority-owned, 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 (occurrence based with tail), an industry leading company-funded 401(k), exceptional healthcare and the camaraderie that is exclusive to a physician led and majority owned group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Make your own schedule first year guaranteed. Contact Bernhard Beltran directly at 800-359-9117 or email bbeltran@emp.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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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.

FLORIDA

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

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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.

HAWAII

Pali Momi Medical Center: Emergency Medicine Physicians (EMP) 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 EMP and other like-minded groups that share an ironclad commitment to a physician-led and majority-owned, 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 (occurrence based

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This group, comprised of 63 physicians and advanced practice providers, currently staffs six of Kettering Health Network's Emergency Departments; four hospital locations (Trauma Level II/III choices); and two freestanding Emergency Centers. Choose your perfect setting!

The network has received numerous awards for excellent clinical care and service. In fact, CareChex named Kettering Health Network #1 in Ohio for overall medical care – a testament to our team and the exceptional care it provides.

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Visit ***ketteringdocs.org*** for more information.

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ILLINOIS

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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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 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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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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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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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.

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Emergency Physicians of Tidewater (EPT) is a democratic group of BC/BP (only) EM physicians serving 7 EDs in the Norfolk/VA Beach area for the past 40+ years. We provide coverage to 5 hospitals and 2 free-standing EDs. Facilities range from a Level 1 Trauma, tertiary care referral center to a rural hospital ED. Members serve as faculty for an EM residency and 2 fellowships. All facilities have EMR, PACS, and we utilize MPs. Great opportunities for involvement in ED Administration, EMS, US, Hyperbarics and medical student education.

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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

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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.

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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

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- Highly competitive salary
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- $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);
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Contact Dennis Burns, Manager Physician Recruitment
570-522-2739 Dennis.burns@evanhospital.com

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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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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 shareholder 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. There's a lot to do in Port Huron. With its location on Lake Huron and the St. Clair River, there are many outdoor activities to participate in. Sandy beaches, friendly parks, and convenient marinas are just a few of the outdoor attractions Port Huron has to offer. 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. A variety of newly refurbished lofts and apartments offer residential options convenient to amenities. Port Huron also boasts several world-class museum attractions including the Huron Lightship, the retired Coast Guard Cutter Bramble, Port Huron Museum, and the Fort Gratiot Lighthouse. 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.cejkasearch.com.

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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.

NEW YORK

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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, democratic business model. As a USACS physician, you'll have an equal voice as an owner, and

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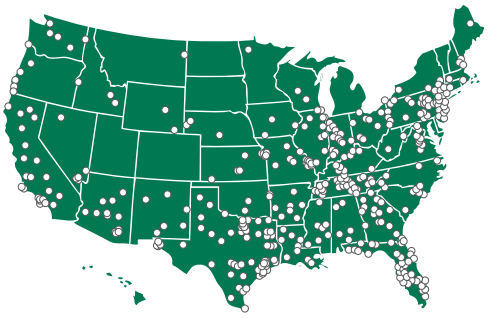

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Cortland: Cortland Regional Medical Center is a modern, full-service facility situated in the Finger Lakes Region between Syracuse and Ithaca. A broad mix of pathology makes up 33,000 ED pts/yr., and there is strong support from medical staff and administration. US Acute Care Solutions (USACS) was founded by EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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.

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.

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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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.

Saratoga Springs: Practice In the Perfect Place: Vibrant Saratoga Springs, NY! Saratoga Emergency Physicians, P.C. (SEPPC) seeks enthusiastic, BC/BP Emergency Medicine physicians to join our comfortable, physician-owned practice in the small, but vibrant Upstate New York city of Saratoga Springs, near Albany, at the edge of the Adirondacks. This is an exceptional opportunity to join a stable practice at Saratoga Hospital, with annual volume of 40,000 visits, in a spacious, state-of-the-art, 41-bed ED, constructed six years ago. SEPPC has staffed the hospital for 26 years. We offer comprehensive benefits and locally competitive compensation. There is a two-year shareholder track with no financial buy-in. Check out our website at www.seppc.com. Contact: Denise Romand, Saratoga Hospital (518)583-8436, email: docfind@saratogacare.org. Famous venues locally include Saratoga Race Course, Saratoga Spa State Park, and the Saratoga Performing Arts Center. Visit us at: www.saratogahospital.org, www.saratoga.org, http://discoversaratoga.org, and http://www.ilovesaratoga.us.

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coverage and a level 3 NICU. US Acute Care Solutions (USACS) was founded by EMP and other like-minded groups that share an ironclad commitment to a physician-led and majority-owned, 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 (occurrence based with tail), an industry leading company-funded 401(k), exceptional healthcare and the camaraderie that is exclusive to a physician led and majority owned group. At USACS, we control our careers and love our lives! Visit us at www.usacs.com. Make your own schedule first year guaranteed. Contact Bernhard Beltran directly at 800-359-9117 or email bbeltran@emp.com.

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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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 (USACS) was founded by EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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.

OHIO

Cincinnati: Mercy Hospital-Anderson is located in a desirable suburban community and has been named a "100 Top Hospital" ten times. A great place to work with excellent support, the renovated ED sees 45,000 emergency pts./yr. US Acute Care Solutions (USACS) was founded by EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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: EMP's affiliation with 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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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.

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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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.

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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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.

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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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.

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

CLASSIFIED ADVERTISING

OREGON

Salem: Partnership opportunity with independent, democratic, and well established group at 95K annual volume Salem Hospital, Level II trauma center with excellent specialty support. New ED built in 2009, EPIC EMR with scribes, extensive leadership opportunities. Benefits include flexible scheduling, CME stipend, malpractice, medical, 401K, and more. Must be EM BC/BP. Salem is located 45 minutes south of Portland, in the heart of Oregon's wine country. We love it here and you will too. Send CV, cover letter and recent photo to sepspc@salemhealth.org or call us at 503-561-5634.

PENNSYLVANIA

Western – Connellsville and Ellwood City: These smaller town settings within an hour of Pittsburgh provide a great practice of emergency medicine. The Ellwood City Hospital sees 12,000 emergency pts./yr. and affords easy access the north-Pittsburgh's most desirable suburbs. Highlands Hospital in Connellsville treats 14,000 emergency patients per year and is near the area's best skiing and outdoor activities. Allegheny Health Network Emergency Medicine Management (AHNEMM) has a strong commitment to a physician-led and majority-owned, 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 majority-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-led and majority-owned, 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 majority-owned group. Visit us at www.usacs.com Contact Jim Nicholas (jnicholas@usacs.com) or call (800) 828-0898.

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

Emergency Medicine Physicians: If YOU'RE the Best, why not JOIN the Best?

The Stratton VA Medical Center is seeking per diem and full-time Emergency Department physicians. The physician functions as a cooperative and collegial team member with the entire medical staff. The Emergency Medicine Physician is charged with delivering the best possible care to our Veteran patients. The Albany VA Medical Center is a major affiliate of the Albany Medical College offering ample opportunities for teaching and clinical research.

Tour of duty is 12 hour rotational schedule including days, nights, weekends and holidays. Applicant must be a U.S. Citizen, possess a full, unrestricted license to practice medicine in any U.S. State or territory, and must be Board Certified or Board Eligible in Emergency Medicine.

Call Bobbie Kirsch for more information at 518-626-7091 or bobbie.kirsch@va.gov. You may also apply online at usajobs.gov Vacancy ID 1383396.

Department of Veterans Affairs

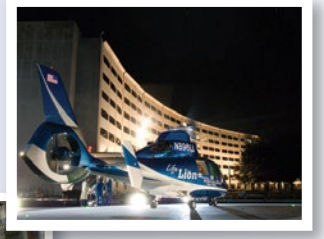
CLASSIFIED ADVERTISING

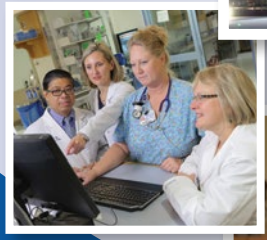
Pittsburgh – Canonsburg: Canonsburg Hospital is a friendly, community oriented facility situated 21 miles south of Pittsburgh near the region's most attractive suburbs including Peters Township, Upper St. Clair and Mt. Lebanon. A modern ED sees 18,000 pts./yr., and most major services are available on-site. Allegheny Health Network Emergency Medicine Management (AHNEMM) has a strong commitment to a physician-led and majority-owned, 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 majority-owned group. Contact Jim Nicholas (jnicholas@usacs.com); (800) 828-0898.

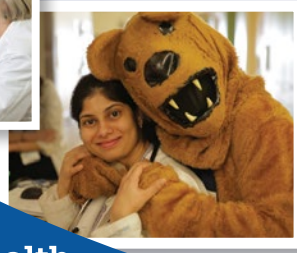
Pittsburgh – Natrona Heights: Allegheny Valley Hospital is situated just 18 miles north of Pittsburgh and sees 39,000 ED pts./yr. A newer, state of the art ED and strong medical staff, administration and community support make for a great work environment. Allegheny Health Network Emergency Medicine Management (AHNEMM) has a strong commitment to a physician-led and majority-owned, 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 majority-owned group. Contact Jim Nicholas (jnicholas@usacs.com); (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-led and majority-owned, 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

Emergency Physicians
Hershey, PA







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.

Apply online:
www.pennstatehersheycareers.com/EDPhysician

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**

PennState Health
Milton S. Hershey Medical Center

The Penn State Milton S. Hershey Medical Center is committed to affirmative action, equal opportunity and the diversity of its workforce. Equal Opportunity Employer – Minorities/Women/Protected Veterans/Disabled.

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

EXCITING PRACTICE OPPORTUNITIES

Nationwide

TeedCo. Healthcare Recruiting is a unique firm in that we work diligently year after year assisting graduating residents and fellows in preparation for their job search. With a 25-year track record of exclusively working in the field of Emergency Medicine, we have been in introducing Emergency Physicians to hospitals and groups nationwide.

All of our services are **FREE** to you! As you will find, there are many moving pieces to identify more of the right opportunities to consider. TeedCo. consultants provide full cycle career services to candidates to prepare you for making the right final decision.

Chief Residents, TeedCo. travels the country presenting "**Tips and Guidance as you transition into your medical career**" to groups of graduating Residents and Fellows. We have ***limited availability*** in certain regions, so please inquire quickly. The presentation briefly outlines aspects of practices, compensation, lifestyle, location and family needs and ends with an open forum.

TeedCo. is the founding co-sponsor of the EMRA Clinical Excellence Award. We would like to congratulate Dr. Benjamin Murphy with Denver Health Medical Center.

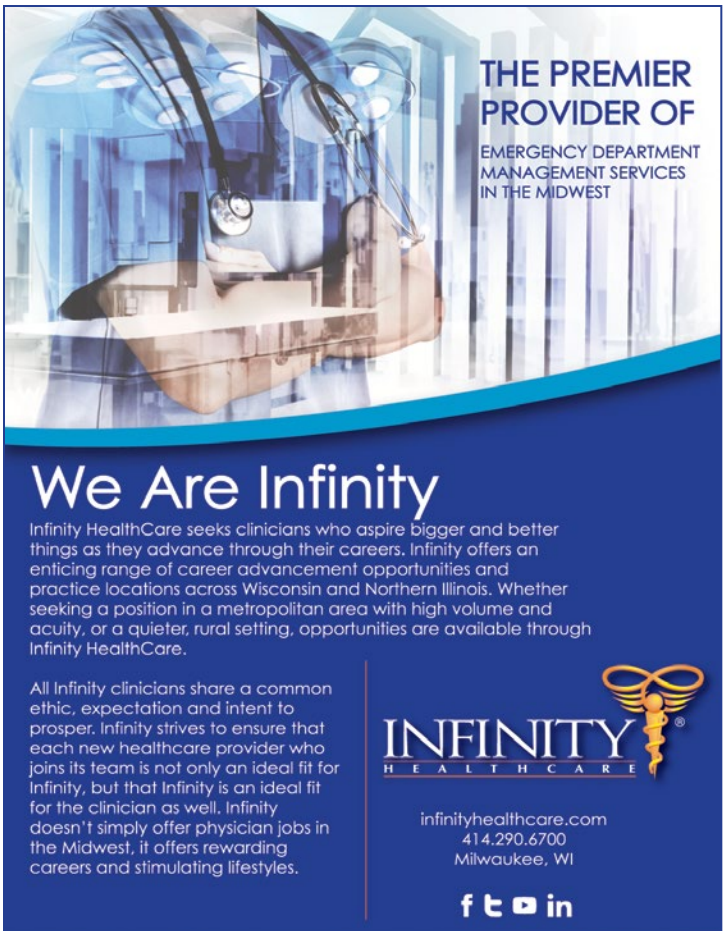
Mark Ariano
TeedCo. Healthcare Recruiting
(203)295-8310 · mariano@teedco.com
www.teedco.com

malpractice (occurrence – includes tail), industry leading company-funded retirement plan, exceptional healthcare and the camaraderie that is exclusive to a physician-led and majority-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-led and majority-owned, 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 majority-owned group. Contact Jim Nicholas (jnicholas@usacs.com); (800) 828-0898.

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. Allegheny Health Network Emergency Medicine Management is part of US Acute Care Solutions (USACS) which was founded by EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, democratic business model. As a 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 majority-owned group. Visit us at www.usacs.com. Contact Jim Nicholas (jnicholas@usacs.com) or call (800) 828-0898.

Somerset: Somerset Hospital has a beautiful new ED seeing 19,000 ED pts./yr. The facility hosts close-knit and supportive EM and administrative staffs which provides for a great work environment. Located in the Laurel Highlands region, easy access is afforded to the mountains and great ski resorts, biking/hiking and a number of rivers and lakes, as well as the metropolitan amenities of Pittsburgh which are just an hour away. Allegheny Health Network Emergency Medicine Management (AHNEMM) has a strong commitment to a physician-led and majority-owned, 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 majority-owned group. Visit us at www.usacs.com Contact Jim Nicholas (jnicholas@usacs.com) or call (800) 828-0898.



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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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

LEMA
LEADING EDGE MEDICAL ASSOCIATES
Clinical Excellence – Innovative Solutions

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 EMP and other like-minded groups that share a strong commitment to a physician-led and majority-owned, 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 majority-owned 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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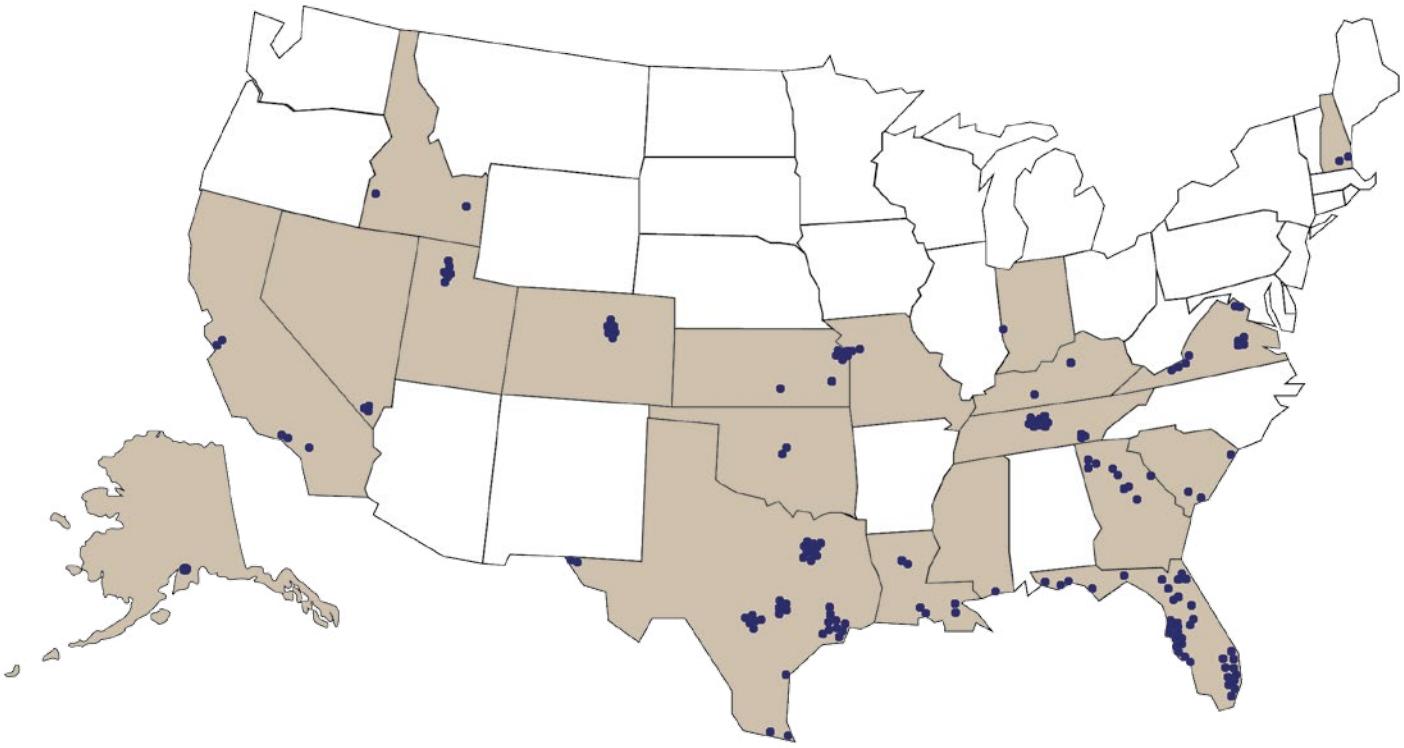
Practice Extraordinary



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

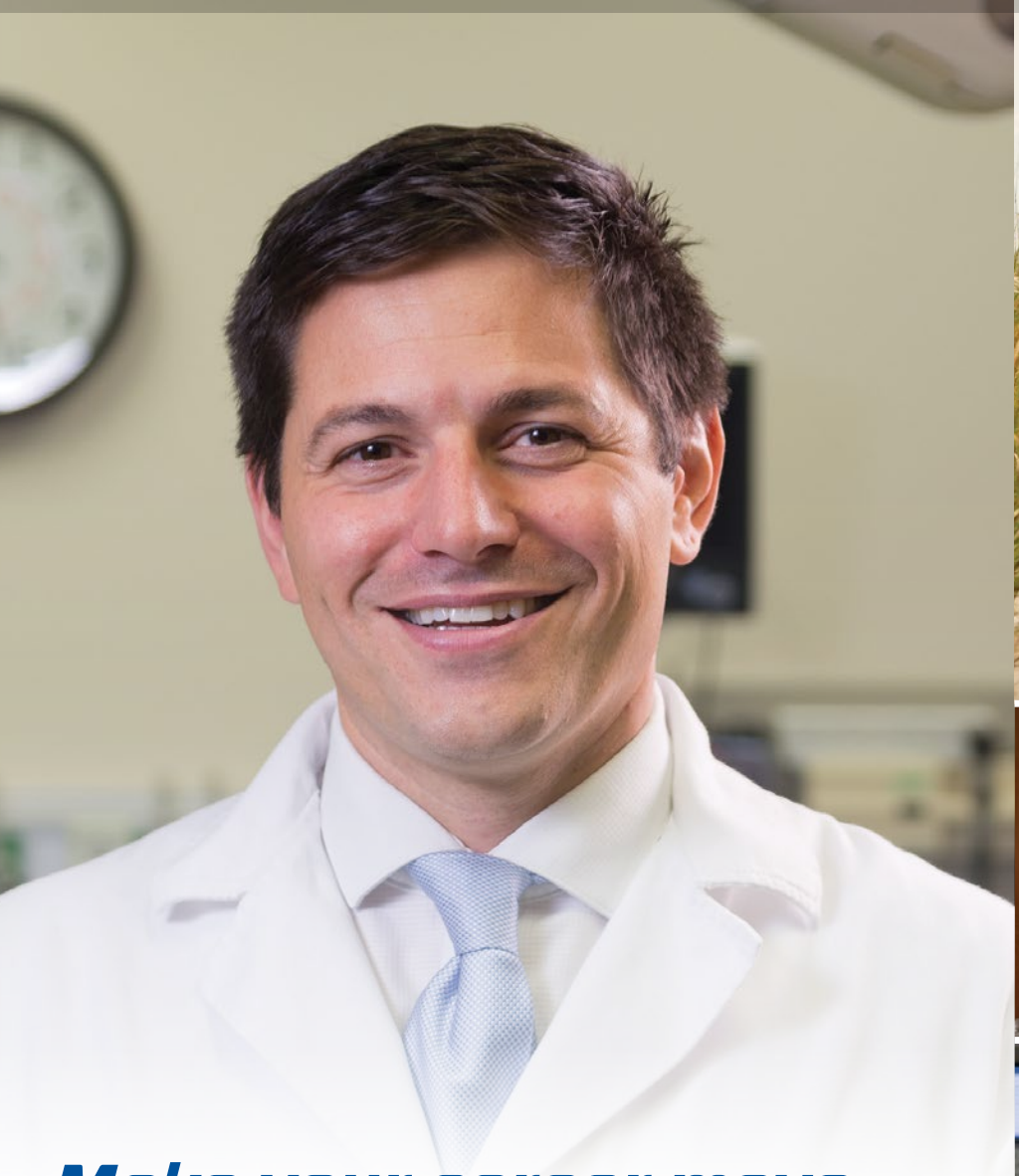
We are looking for BC/BP Emergency Medicine physicians to join our medical staffs and join us in our mission to deliver high quality, cost effective healthcare in the communities we serve. Our facilities include tertiary care centers, community hospitals, freestanding emergency rooms, academic affiliations and urgent care centers. Medical Director, Assistant Medical Director, Program Director, Faculty and Staff physicians are needed for immediate openings!

We have something for everyone…

- **Interested in coastal living?** Try Myrtle Beach, South Carolina or Sarasota, Florida.
- **Wanting to live near the mountains?** Check out positions in Denver, Colorado or Blacksburg, VA.
- **Looking for all the amenities of a big city with a community feel?** Nashville, TN and Kansas City, MO are always on the top 10 places to live.
- **Have to have lights and action?** Miami, FL and Las Vegas, NV provide nonstop entertainment year round.
- **Only interested in Texas?** Great opportunities are available in San Antonio and El Paso.

FIND YOUR IDEAL JOB IN THE PERFECT LOCATION TODAY!

Contact Amber Holiman, National Emergency Medicine Recruiter at amber.holiman@hcahealthcare.com or 501-226-9020.



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!

Featured Opportunities:

Core Faculty
Associate Program Director
Specialty Directors

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