“With the constitutional uncertainty surrounding non-economic caps, states are looking at other avenues of tort reform, such as changing the standard of negligence and implementing higher burdens of proof.”

Medical liability: Negligence and burden of proof

Sarah Hoper MD, JD, Washington University, St. Louis, MO

After a tiring 12-hour shift in the emergency department, you go home, open your mail…and read you’re being sued. The patient alleges that during his cardiac arrest, you broke his ribs while performing CPR, which lead to a longer hospital stay. You shake your head in disbelief and wonder, “What is the status of medical liability reform?”

States have been grappling with reform for years – in total, 33 states have enacted medical liability reform. Most of these states have caps on non-economic damages that include: pain, suffering, physical and emotional distress, disfigurement, and physical impairment. Most of these states still allow for economic damages such as future medical expenses, loss of wages, wheelchair and other medical supplies, and nursing homes/home health aides.

In Delaware, the plaintiff can only receive non-economic damages if the medical injury was maliciously intended or the result of wanton and willful misconduct. Maine only has a cap on wrongful death suits. Therefore, patients that are injured and survive have no caps on their suits, but relatives of patients that die as a result of medical negligence have a cap on their claims.

The constitutionality of caps varies by state; in some it’s an ongoing battle.

- The constitutions of Arizona, Kentucky, Pennsylvania, and Wyoming prohibit caps.
- The supreme courts in Illinois, Alabama, Georgia, Wisconsin, Oregon, and Washington ruled non-economic caps are unconstitutional.
- The supreme court of Texas found caps unconstitutional – but the public felt so strongly about this that they voted to amend their constitution to allow caps.
- 13 states found caps are constitutional.
- Another 13 states with reform have not had a constitutional challenge.

continued on page 8
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A eulogy for the late Dr. John Marx

July 1, 2012 was a day filled with both apprehension and joy for residents across the country. It was the day that residents were promoted to their next years of practice, and thousands of new emergency medicine interns entered their hospitals to practice as physicians for the first time. For my program at Carolinas Medical Center, this typically happy day will forever be remembered as one of tragedy and grief – it was the day that Dr. John Marx died.

Dr. Marx was a veritable legend in emergency medicine. He was the chief editor of Rosen’s Emergency Medicine textbook, past SAEM President, the first emergency physician to publish in JAMA, an author of hundreds of articles, an ACEP-recognized “Hero of Emergency Medicine,” a mentor to hundreds of residents, and the Chair Emeritus of Carolinas Emergency Medicine program.

Dr. Marx was also a character – in conference he could effortlessly nail a difficult diagnosis, wax eloquently on the nuances of disease management or crack a profanity-laden one-liner. He was intelligent, compassionate, crass, determined – the perfect emergency physician. In the emergency department he was a superb physician educator. He was known to cry and grieve with families in crisis, help restrain violent patients, and always take time to teach, no matter how insane the departmental kinetics. One day during my intern year, one of my classmates worked with Dr. Marx during his first shift. That shift was made especially memorable by an elderly, demented nursing home patient who hadn’t had a bowel movement in weeks. Diagnostic dilemma? No. Severely impacted? Yes.

Dr. Marx walked my friend through his first sedation, stayed after his shift to show my friend how to perform a disimpaction, and literally scooped feces with him for an hour until the job was done. I know few attendings who would show the same commitment to a nervous new intern, even fewer departmental chairs. Stories like this, of which there are many, are what made Dr. Marx exceptional. While accomplished, he was above no person or task if it involved helping another human being, and he tried to instill that humanity and dedication into every resident with whom he worked.

Those who trained under him, myself included, regarded him as a hero. He had the demeanor, slick hair and stories to warrant the title. During one SAEM meeting, Dr. Marx and a female emergency physician colleague were kidnapped by two gun-wielding Chicago thugs. Under threat of death, they were shoved into the criminals’ vehicle. The plan: take Dr. Marx and his companion to an ATM and empty their bank accounts, before disposing of them. Dr. Marx, always cool in an emergency, talked the men into taking the two doctors back to their hotel, and sent his female companion in with one of the thugs to presumably fetch her debit card. Alone in the car with one of his captors, Dr. Marx let fly his fists, slugging his captor in the face and knocking his gun away. He expeditiously escaped to the hotel and informed security of his kidnapping, before spotting his friend exiting an elevator. He ran across the lobby at full speed and tackled the second criminal, who, by all accounts, outweighed him by 50lbs, and began wailing on him until security arrived and arrested the scoundrel. The accomplice in the car was eventually found and incarcerated by Chicago police, and both were convicted of several felonies, including kidnapping.

Beyond such heroic exploits and accolades, I will remember Dr. Marx best for his belief in us, his residents. He was always quick to celebrate the accomplishments of those in his charge, and to console and encourage us in our clinical and personal failures. He loved emergency medicine, and his love for working in the emergency department was infectious. Indeed, it is physicians like him that have made our specialty what it is today, a fully recognized and vital specialty in the house of medicine. Above all, he challenged us to honor and respect our most sacred charge – to care for our patients with true compassion.

As residents, we owe an enormous debt of gratitude to Dr. Marx and physician educators like him, in our residencies and across our specialty. EMRA salutes the faculty, mentors and heroes who commit themselves to our education, who teach the craft of emergency medicine, and who instill in us the will and knowledge to care for patients to the fullest of our abilities.

The next time you are on shift, be sure to thank those instructors who have made a special impact or investment in you or your residency.
Board Update

• **The EMRA Pressor-dex is coming:** The EMRA Critical Care committee has been hard at work – in October they’ll unveil a clinical reference guide of immense importance. The EMRA Pressor-dex will be the next must-have clinical reference, which will place in your hand a quick and definitive reference to aid you in caring for your most critical patients with skill and aplomb.

• **2011 EM Model of Emergency Medicine:** EMRA was proud to represent the voices and perspectives of emergency medicine residents, and help craft the new 2011 EM Model of Emergency Medicine. This hallmark paper will forever influence how emergency medicine is taught in residencies across the country, and contains innovations and new requirements that programs will be instituting over the next year. Visit emra.org for full details!

• **EMRA prepares for blockbuster Scientific Assembly:** Be you a medical student, resident, or alumni member, EMRA has the events and programming to make your ACEP Scientific Assembly an epic and worthwhile event! Find a fellowship at the EMRA Job Fair. Medical students can meet program directors and residents at the EMRA Residency Fair. All can enjoy an eye-opener at EMRA’s annual Bloody Mary Breakfast. Cheer on your favorite team in the EMRA Resident SimWars Competition, and make your voice and ideas heard during EMRA Representative Council, or by joining and participating in an EMRA Committee meeting. For more information, visit emra.org.

• **EMRA commemorates the pioneers of emergency medicine:** EMRA has recently inked a contract with Emmy-nominated producer/filmmaker Ann Johnson Prum to create a documentary on the founding fathers of emergency medicine. The EMRA Legacy Project will forever preserve the history of our specialty and the legendary figures who brought the specialty from obscurity into one of the most vibrant and well-respected specialties in the house of medicine!
LOST

You may have observed your institution operating a tad less smoothly this July. The recently promoted stand a bit taller as they assume a truckload of new responsibilities. Then the awkward adaptation begins.

Orders are placed, changed, and changed back again. Primary surveys are backwards. Nurses run low on patience. The emergency department is not the same smoothly run beast it was in June.

Part of it is hesitation to make decisions. Geodon or Haldol? X-ray or CT? As medical folk, we’re crammed full of knowledge. But that knowledge goes to waste when we try too hard to think about it.

Yet there are some smooth hours sprinkled in there, as residents slip into a sort of flow. If you catch them off guard, you can see it for yourself – they’re so caught up in their work, they’ve forgotten to hesitate.

I noted this curiosity three days into the new residency cycle. During the previous week, we interns had been glowing with pride – we’d made it through the year with sanity and employment intact. Yet now, without the protective title of intern, there was the concern that we’d quickly botch our new level of responsibility.

Overnight, interns everywhere became accountable, a fact we were all acutely, constantly aware of. But there was no explosion of tragedy on July 1. Everyone – first, second, and third-years – all stepped up. Once we started concentrating on the patients instead of ourselves, each of us performed exactly how we’d been trained to do. We stopped thinking about performance, and got lost in our work.

It’s a neat phenomenon. It’s how taxes and homework are finished. It’s how a prepubescent 19-year-old can do a back handspring on a 4-inch beam. It’s how someone can speak in front of 1,000 people without keeling over. I can’t fathom any other way marathons could exist, besides having a healthy hatred of one’s knees.

This isn’t a new idea. Buddhists sorted this problem out long ago – it’s easy to wrongly focus on one’s own performance instead of the task at hand. As soon as you think to yourself “I am doing this,” your mind freezes. You’re far more self-conscious than seconds prior. Whether it’s bowling or running a code, the right knowledge is already in your mind. It’s just trapped under a web of interfering thoughts doing more harm than good.

As for us, spur-of-the-moment medical decision-making relies on instinct – instinct that inexplicably grabs the right information off the right shelf in an overflowing noggin. It was one training method for the USMLE, if you un-blackout that period of your life: Choose the first answer that clicks in your mind and no second-guessing! Don’t think about it! We think a lot, sometimes too much, to the point of overshooting and passing over the correct decision.

To add more frustration, our thoughts are constantly interrupted, so concentration is nearly impossible anyway. Classic example: It can easily take 30 minutes to look up a chest x-ray, not due to any technological ineptitude, but the parade of staff asking unrelated questions every time you try to pull up PACS.

Luckily, when left mostly unperturbed – without external or internal distraction – on-the-spot decision-making is what we do best. Wherever you are on the ladder right now, being overwhelmed is inevitable. You have increasingly life-altering responsibility. It’s daunting!

I’ve been trying to avoid turning this into a pep talk. I might as well phrase it plainly: with new responsibility, it’s all too easy to second-guess yourself. But you’re more ready than you think, once you stop thinking about it.
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Medical liability: Negligence and burden of proof

1. Beyond a reasonable doubt
Generally, beyond a reasonable doubt refers to proof of such a convincing character that you would be willing to rely and act upon it without hesitation in the most important of your own affairs. This is the standard of proof needed to convict someone of a crime with a life or death sentence.

As related to our 65-year-old patient with chest pain, clear and convincing evidence of negligence would be: a nurse that clearly documents and then testifies that the doctor did not order an EKG or troponins, even though she told him to; there is no EKG scanned into the chart; and there are no lab results for the patient.

2. Clear and convincing
Clear and convincing evidence is evidence that is highly and substantially more probably to be true than not. Although there is no exact percentage of believability assigned to any of the standards of evidence, it is easier to understand if we simplify it to mean, “the evidence is equal to or greater than 75% believable.” Therefore, if a jury found that the evidence was 75% true/believable, the jury should convict the defendant.

Back to our chest pain patient, this time there is no nursing documentation about the doctor’s failure to get an EKG or troponins, but there is still not an EKG or lab results in the chart.

3. Preponderance of the evidence
The preponderance of the evidence – also known as the balance of probabilities – is met if the proposition is more likely to be true than not. In mathematical terms, we might think of this as “a greater than 50% probability of the evidence being true.”

In regard to our chest pain patient, evidence of this standard would be a negative troponin in the chart, but there is no EKG.

“Although there is no exact percentage of believability assigned to any of the standards of evidence, it is easier to understand the standard if we simplify it to mean, the evidence is equal to or greater than 75% believable.”

Sarah Hoper MD, JD
Washington University
St. Louis, MO
The higher the standard of evidence, the more difficult it is to convict the defendant.

In North Carolina, the standard of proof was changed from a preponderance of the evidence (>50% probability that the physician was negligent) to clear and convincing (>75% probability that the physician was negligent). There has not been a case using this new standard of evidence, so it is unclear how this change will affect medical liability in North Carolina, since the interpretation of these standards is based on prior case law.

Michigan has gone even a step further: requiring that physicians receive a notice of intent to sue six months prior to the date of being sued; limiting the statute of limitations to two years; requiring an affidavit of merit on the case from a physician in the same specialty; and by implementing rules as to who can testify as an expert witness.

In an environment of constitutional uncertainty surrounding non-economic caps – stricter standards of evidence and negligence plus the measures taken in Michigan – are good alternatives to caps. In states where caps are constitutional, changing the burden of proof and negligence requirements will give additional protection to physicians.

References
1. Database of State Tort Law Reforms (DSTLR 4th)
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3. Article 2, Sec 31 of the Arizona Constitution.
4. Article 54 of the Kentucky Constitution.
5. Article 3, Sec 18 of the Pennsylvania Constitution.
6. Article 10, Sec 4 of the Wyoming Constitution.
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This isn’t Kansas anymore …

Phrases like “all good things must come to an end,” and the title of this column, make us reminisce about “the good ol’ days.” So what am I referring to? As my term as Speaker of the Council on the EMRA Board of Directors concludes, looking back it’s rather remarkable the changes that have occurred within myself, our specialty, and our country. Without rehashing the last 12 issues of EM Resident, I would like to reflect on a few changes within the aforementioned categories.

Back when I was a “young” resident, I was passionate about not killing patients or myself on the road after a 36-hour shift. I was very self-centered, and – if you had asked me at the time – had no idea that I was. Today, I find myself involved and in tune with the landscape of emergency medicine and the world around me. When did the transition occur?

“What happens in Vegas, stays in Vegas” is not always true, as being elected a member of the Board of Directors at the 2010 ACEP Scientific Assembly was a real turning point in my career. I urge anyone interested in organized medicine to run for the Board of Directors of the greatest resident-run organization in medicine. As a new attending, I have developed into a young physician who is more concerned with the environment in which we live and work, than with myself. For this I thank EMRA.

Our specialty is young, but moving in the right direction faster than any other specialty. Emergency Medicine just celebrated it’s 40th birthday. We have the 4th largest political action committee in the country, with regard to medical specialties. We are the front door to the hospital. Our degree of responsibility is great – and it keeps growing.

It wasn’t long ago that our concerns started and ended within the emergency department. EMS wasn’t our concern, and neither were throughput and transitions of care. We have evolved because of young, ambitious, forward-thinkers, like you. In 10-20 years, we’ll look back in amazement at how much our profession has changed. This past year our specialty matched 100% of the first-year positions in the allopathic match; our future is bright and our specialty is thriving.

“And so, my fellow Americans: ask not what your country can do for you – ask what you can do for your country.” —John F. Kennedy.

We’re in the middle of a crossroads that will transform the way healthcare is delivered for years and decades to come. You have read about these changes. There are also some attacks on the care we provide. We are providing a service to the citizens of the U.S. that is invaluable and only accounts for less than 2% of all healthcare spending. We are “doing for our country” and this will never change.

With the decision regarding the Affordable Care Act now in place, we will continue to dictate the future within our local, state, and national governments. We have to be responsible stewards, just as we have to provide care that is evidence-based and in accordance with the “standard of care.”

I challenge each emergency medicine resident, medical student, and attending to not take this task lightly; make it an obligation to make our country better than it was when we entered it. The other approach of “this is my party and I can cry if I want to” is not the answer, or the alternative.

“The horse did all the work, but Paul Revere got all the credit.” I thank you for all the hard work and legwork that each of you put in to make change happen.

I will leave you with one last quote from my esteemed colleague, Matt Rudy, MD, who will be carrying the torch of Speaker of the Council upon my term ending. “There are three types of people that are involved with any group or organization: people that make things happen, people that watch things happen, and those that turn around and say ‘What the hell just happened?’” Thank you for making my term as Speaker so educational and productive. God Bless.
EM blogosphere

The word “blog” is barely a decade old. While this relatively new form of publication and communication is juvenile, as compared to traditional media, blogs have become as ubiquitous as their older printed siblings. EM has been quick to embrace this technology and adapt it to educating the EM community.

Perhaps one reason EM practitioners have been so quick to adopt blogs is because our specialty is relatively young. We pride ourselves on our ability to adapt, communicate, educate, and innovate. As such, dozens of blogs now exist, educating the medical community on general EM concepts, as well as dedicated EM subspecialties. What follows is a brief overview of a (very small) sample of the offerings out there, listed alphabetically for fairness:

**Academic Life in Emergency Medicine**
Certainly one of the more popular bloggers in EM, Dr. Michelle Lin of UCSF/SFGH posts entries on varying topics with popular features such as “Tricks of the Trade” and “Paucis Verbis” (Latin for “in a few words”). The former offers practical solutions to common problems encountered in the ED (such as using the bottom half of a plastic, illuminated, pelvic speculum to visualize the posterior oropharynx in PTA drainage). The latter are portable cards providing concise, yet comprehensive, summaries of EM topics ranging from acetaminophen toxicity to ventilator settings in ARDS. There are also numerous posts about EM education and academic EM. academiclifeinem.blogspot.com

**Dr. Smith’s ECG Blog**
The name really says it all. Dr. (Stephen) Smith of Hennepin County Medical Center posts ECGs of varying complexity, and then discusses the interpretation of the squiggly lines in a clinical context. More helpful than most cardiology consults, this site is helpful for those who need some remediation in the very complicated world of ECGs. Both the images and explanations are clear and concise. You already know his work, since he’s an EM Resident contributor. hqmeded-ecg.blogspot.com

**EM:RAP**
Perhaps the most popular EM audio publication, this one has been around since the early 2000s (it’s more than a decade old!), and is heard by thousands of subscribers every month. This podcast blog deals with all things EM and features host Mel Herbert chatting with EM experts. Podcasts are short, perfect for listening while commuting to a shift. (Note: EMRA resident members receive a free EM:RAP subscription! Take advantage through the EMRA website.) www.emrap.org

**EMCrit Blog**
Dr. Scott Weingart’s podcast blog deals with all things critical care in EM. As he so eloquently puts it, his goal is “to bring upstairсs care downstairсs.” Translation: Provide ICU level-of-care in the ED for our critically ill patients. His podcasts are concise, and deal with common issues in resuscitations and in the critically ill who come in the door. Definitely worth a listen early in residency to prepare for the complex patients sure to roll their way to an ED near you. A definite must: Watch the video of his residents intubating each other. emcrit.org

**Emergency Medicine Literature of Note**
What the author describes as a “poor man’s self-propelled Journal Watch” is an interesting look at recently published literature relevant to EM, with a quick description of the study findings and their application to the clinical setting. Topics vary widely from chest pain to informatics. The reviews go beyond strict EM literature and pull from other journals outside of EM as well. www.emlitofnote.com

**ercast.org**
A combination of blog posts and podcasts that address very practical questions in EM. The most recent post on anticoagulation reversal offers a quick, no-nonsense approach to the management of reversal agents. Think of it like UpToDate, but even more concise, which is ideal for EM physicians with the attention spans of 7-year-olds with ADHD. blog.ercast.org

**PEM+ED**
Addressing what many consider to be one of the scarier topics in EM…kids. This blog/podcast is quite new to the scene, but has some highly relevant posts about pediatric sedation, airways, and fever. www.pemmed.org

**SMART EM**
The acronym stands for “Scientific Medicine and Research Translation.” This site dedicates podcasts and blog entries to comprehensive literature reviews of certain topics, often shedding light on EM practices that aren’t necessarily evidence-based. The podcasts are about an hour long and provide great insight. smartem.org

**Ultrasound Podcast**
This blog, like some others on this list, is a site that is frequently updated in blog fashion, but is predominantly podcast in nature. The videos of each blog entry are where the money’s at, with excellent videos of studies ranging from ocular ultrasounds to advanced echocardiography. Not only are the videos educational, they’re quite entertaining. ultrasoundpodcast.com.

“Definitely worth a listen early in residency to prepare for the complex patients surely rolling their way to an ED near you.”
While the Supreme Court has left the Affordable Care Act standing, it will continue to face legislative threats in the months and years to come. The House of Representatives has successfully voted 33 times to repeal the Affordable Care Act (ACA), although these votes are currently meaningless without any support in the Senate, and with the promise of a Presidential veto. The future of the American healthcare system is uncertain, but we do know that the system is in dire need of reform. If the Affordable Care Act continues to stand, the single best outcome for emergency patients and emergency physicians would be expansion of coverage for the uninsured.

Without reform, reliable projections estimate that 54 million people will be uninsured in 2019 – 20% of the United States population under 65 years old. And despite the stereotypes, uninsured Americans are not primarily unemployed freeloaders or healthy, wealthy individuals making an informed gamble and skipping the elective expense of health insurance.

Only 24% of individuals without health insurance do not have a worker in their home, and only 10% of the uninsured in 2010 came from a household with an income greater than 400% above the federal poverty level. The uninsured are largely low-income workers stuck in jobs that do not offer affordable health insurance to their employees. Having so many millions of people uninsured – 1 in 5 Americans – is a crisis for the U.S., and was a large part of the impetus for healthcare reform.

Emergency physicians of all political stripes have a strong tendency to support expanded healthcare coverage for Americans. As emergency medicine physicians, we see the uninsured at their most vulnerable and frustrated, suffering the consequences of their poor access to care. Since 1999, the American College of Emergency Physicians has had a policy in support of universal healthcare in place.

- All Americans must have health care coverage;
- Health care coverage will contain a benefits package that provides for timely, unrestricted access to quality emergency care;
- Any benefit package should reflect generally accepted standards of medical practice supported by outcome-based evidence, where available.

In 2003, EMRA adopted a similar policy, stating, “EMRA firmly believes that all individuals should have access to quality healthcare.” While we may disagree about the details of how this should be accomplished, as emergency physicians, we know that emergency patients – and therefore all Americans – need healthcare coverage and access. After all, every American is only a heartbeat away from a medical emergency.

So while the Affordable Care Act has many faults, we can appreciate the advantages of expanded coverage for the uninsured. During my last shift in the emergency department, I met a patient who was a living example of our current crisis – the kind of patient we all see every day.

She was in her late 20s and generally healthy. She had completely recovered from a significant illness (and pre-existing condition) that she had suffered from as a child. Over the past few months, she
The policies of the Affordable Care Act, including the individual mandate, are projected to cover 60% of those currently uninsured:

- 30% gain coverage through public insurance (primarily Medicaid expansion, which would grow to cover all Americans making less than 133% of the Federal Poverty Line).
- 30% gain coverage through private insurance (largely through the development of state-level insurance exchanges, which would make purchasing individual coverage easier and more affordable).

The remainder is 22 million Americans likely uninsured – including undocumented immigrants; low-income individuals eligible for Medicaid, but not enrolled; and those choosing to pay the fine rather than comply with the individual mandate.

This system is by no means perfect. But under the ACA, coverage would be expanded, and a significantly greater percentage of our patients would have healthcare coverage and improved access to care. The Affordable Care Act may not survive the trials it will face in the next year – legal challenges, as well as political challenges, when elections bring in a new Congress and potentially a new president. Given this, we need to consider what we will be left with if the Affordable Care Act is repealed. How else can we solve the crisis in coverage facing America? As the future of emergency medicine, we must be part of the solution.
I’d planned to write a short article about the sneaky badness of aspirin toxicity, but it didn’t feel quite right this time of year. As I’m about to graduate from my toxicology fellowship – and many of you are beginning to wonder if a fellowship is right for you – this is the perfect time to share some lessons I’ve learned over the past two years.

Fellowship has been a wonderful experience, but it is definitely not for everybody. You must do some soul searching, ask yourself the tough questions to find the program suited to your needs…or avoid the process altogether if you find it’s not your bag.

**Questions to ask yourself before applying to toxicology fellowships**

The first real step before applications and interviews is to calibrate your expectations. Why do you want to do a fellowship in toxicology? Where do you want it to take you in life? There are likely as many reasons for doing a fellowship as there are toxicologists, but some deserve specific discussion.

**You want to diversify your practice and strengthen your academic portfolio**

This was certainly a major motivator for me. I take pleasure from my clinical time in the emergency department, but I have also come to enjoy the change of pace and clinical challenges that toxicology provides. As an emergency physician who’s also a consultant, I get the opportunity to be the kind of consultant I would want to deal with, which is tremendously rewarding. Working two specialties I love – each with its own unique vibe – will dramatically decrease burnout and increase my career longevity.

If you want an academic career, fellowship training in toxicology certainly helps on many levels. It can help get that academic gig you’ve been eyeing, if the chair needs a toxicologist or is looking to expand an existing tox service. Fellowship can also provide fertile ground for a career in research.

Lastly, a toxicology fellowship is truly a teaching fellowship. Fellows regularly work with resident and student rotators, do daily teaching on some level, and speak at conferences and grand rounds. The extra education practice helps the transition to becoming a faculty member and carving out time during a busy shift for clinical teaching.

**You want to augment your income**

In general, fellowship training in medical toxicology does not change your fiscal trajectory. Toxicology, like most emergency medicine fellowships, rarely increases your earning potential the same way cardiology or gastroenterology might for an internist.

Academic doctors, in general, sacrifice a significant amount of pay in exchange for happiness and job fulfillment. The vast majority of toxicologists fall into this category, contentedly practicing academic emergency medicine and toxicology. However, a small but growing number of medical toxicologists make their livings entirely from toxicology, either as clinical consultants or legal experts.

**You have always wanted to be the director of a Poison Center**

I’m joking…sort of. Poison Centers often have medical toxicologists for medical directors, but these interesting positions don’t
“The first real step before applications and interviews is to calibrate your expectations.”

come up very often. Unfortunately, in the current political and financial climates, poison centers are closing at an alarming rate. Thus, aspiring to the position of medical director is a lot like wanting to own an oil reserve - there aren’t a ton of them around, they aren’t making new ones, and the existing ones are spoken for.

Important questions you should ask fellowship directors
You’ve thought long and hard and have decided to apply for a fellowship. Here are some important questions to ask about the program to make sure it’s the right fit for you.

What type of fellowship experience does the program provide?
In what setting does the majority of fellowship time take place? Some programs offer education by clinical experience – patients are admitted and taken care of on the tox service by the fellow. Other programs are based in poison centers, have far less direct patient care, and more phone consulting time.

Each program will have its own mix, but you’ll want to know what the right training environment is for you. If the program is poison center-based, be clear what your duties there will be. Will you be responsible for answering calls that come into the center? How will you interact with the poison center specialists (think of them as ancillary staff in the emergency department), and how functional are they? Will you have data entry responsibilities?

Are emergency department shifts required as part of the fellowship?
Many programs have their fellows work in affiliated emergency departments as part of the fellowship. How many shifts (if any) are required? Are you paid as an attending when you work in the emergency departments, or do you just get a lump fellowship salary, regardless of hours worked?

At this stage you will be a board-eligible or board-certified emergency physician – having to do shifts essentially for free can be a tough pill to swallow. If you’re not compensated for shifts, will you be allowed to moonlight?

Fellowship is a wonderful time for learning, when your schedule is protected for advanced training in a challenging subspecialty. But you must take a hard look at the financial realities and how they apply to your particular situation. Potential fellows with a family to support should take special note of this. Make sure you can meet the local cost of living (without taking time away from your fellowship to moonlight) to make ends meet.

My toxicology fellowship has been a blast. I would do it all over again in a heartbeat. There is a real sense of satisfaction knowing I made the right choice for my career and myself. It is my hope that by asking tough questions up front, those residents considering a fellowship will be better equipped to make that decision, as well.

Medical Student Professionalism and Service Award
Deadline: October 15, 2012

The American College of Emergency Physicians (ACEP), a national medical specialty society representing emergency medicine with more than 30,000 members, is seeking your help in selecting a medical student who intends to pursue a career in emergency medicine, and who has demonstrated outstanding patient care and involvement in medical organizations or the community.

The award is intended to recognize students who excel in compassionate care of patients, professional behavior, and service to the community and/or specialty.

Award recognition includes:
• a plaque from ACEP
• free one-year membership in ACEP
• free registration to ACEP’s annual meeting
• reception at ACEP’s annual meeting

Submit an application for a medical student online at www.acep.org.

Contact Academic Affairs at academicaffairs@acep.org or call 800/798-1822, ext. 3143.

National Outstanding Medical Student Award
Apply Now!
Deadline: February 15, 2013

The American College of Emergency Physicians (ACEP), a national medical specialty society representing emergency medicine with more than 30,000 members, is seeking your help in selecting a medical student who intends to pursue a career in emergency medicine, and who has demonstrated outstanding patient care and involvement in medical organizations or the community.

The award is intended to recognize students who excel in compassionate care of patients, professional behavior, and service to the community and/or specialty.

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Submit an application for a medical student online at www.acep.org.

Contact Academic Affairs at academicaffairs@acep.org or call 800/798-1822, ext. 3143.
ACEP Clinical Policies turn focus to opioid prescribing in the emergency department

Now that the academic year is underway, you may find yourself in a new role. Perhaps you’re a medical student rotating through the emergency department, a new intern, a junior resident expanding your clinical skills, or a senior resident transitioning to a teaching role. You have likely amassed a collection of favored pocket guides, mobile apps, and websites for reference tools. Indeed, having up-to-date, evidence-based medical recommendations is critical to providing quality and safe emergency care. If you aren’t already using ACEP Clinical Policies, head over to acep.org to add these to your emergency medicine toolbox!

ACEP Clinical Policies
ACEP Clinical Policies are developed on specific topics by the ACEP Clinical Policies Committee, with input from the ACEP Quality & Performance Committee as well as ACEP members. EMRA is fortunate to have a representative on the ACEP Clinical Policies Committee every year, with the opportunity to participate in the full development process. This process includes extensive literature review, along with both internal and external peer review. The policies ultimately receive ACEP board approval before they are published and disseminated.

An abbreviated list of clinical policies can be seen in Table 1. The policies themselves are easy to find on acep.org under the Clinical and Practice Management tab located on the homepage.

Opioid prescribing
ACEP’s newest clinical policy is Critical Issues in the Prescribing of Opioids for Adult Patients in the Emergency Department. It’s slightly different than the classic ACEP clinical policy, as it did not go through the full Clinical Policies Committee; it was instead developed from the ACEP Opioid Guideline Writing Panel using the same careful development process.

This clinical policy was developed under a contract between ACEP and the CDC, and included representation from the FDA. ACEP received this contract in May 2011, which coincided nicely with discussions held by EMRA.

At the Spring 2011 EMRA Representative Council meeting, Dr. Eric Schenfeld brought a resolution forward entitled, “Support for the Establishment of Emergency Department Pain Protocols.” A task force was convened, which included multiple EMRA members (Table 2).

The task force’s recommendations were approved at the Fall 2011 EMRA Representative Council meeting. Recommendations included supporting resident education in the appropriate treatment and management of chronic pain; supporting the development of chronic pain treatment protocols; and supporting the development of a nationalized controlled substance database and educating residents about the availability of such databases.

When you look at recent data, it’s easy to see why opioid prescribing has become such a hot topic. Prescription drug abuse – opioid abuse, in particular – is the fastest growing drug problem in the U.S.1 Deaths due to opioid pain medications outnumber those from cocaine and heroin combined.2

In 1999, there were 4,030 reported deaths involving opioid pain medications. By 2008, that number climbed to 14,800.2,3 That year, drug overdoses were also the second leading cause of injury-related death in the United States, falling only behind motor vehicle collisions.4

The specific goal of the new ACEP policy is to provide evidence-based recommendations for the prescription of short-acting opioids for adult emergency department patients with acute or chronic pain. As such, the policy focuses on four critical questions (Table 3). While addressing these specific areas, the policy also considers issues of abuse, overdose, diversion, and other adverse events associated with prescription opioids.

As part of the expert review for this policy, comments were provided by emergency physicians,
### Table 1: Abbreviated list of available ACEP Clinical Policies

(visit acep.org for full collection)

| Critical Issues in the Evaluation of Adult Patients Presenting to the Emergency Department with Acute Blunt Abdominal Trauma | Critical Issues in the Management of Patients Presenting to the Emergency Department With Acetaminophen Overdose |
| Critical Issues in the Management of Adult Patients Presenting to the Emergency Department With Community-Acquired Pneumonia | Critical Issues in the Evaluation and Management of Adult Patients Presenting to the Emergency Department with Acute Heart Failure Syndromes |


### Table 2: EMRA Task Force members for “Support for the Establishment of Emergency Department Pain Protocols”

| Tom Becker, MD |
| Graves Fromang, DO |
| Sarah Hoper, MD JD |
| Matthew Rudy, MD |
| Eric Schenfeld, MD |
| Shae Sauney, MD |

### Table 4: Organizations involved in expert review of Clinical Policy: Critical Issues in the Prescribing of Opioids for Adult Patients in the Emergency Department

| American Academy of Clinical Toxicology |
| American Academy of Family Physicians |
| American Academy of Pain Medicine |
| American Chronic Pain Association |
| American College of Occupational and Environmental Medicine |
| American College of Osteopathic Emergency Physicians |
| American College of Physicians |
| American Pain Society |
| American Society of Health-System Pharmacists |
| American Society of Interventional Pain Physicians |
| Emergency Medicine Residents’ Association |
| Emergency Nurses Association |

Toxicologists, pain and addiction medicine specialists, pharmacologists, occupational medicine specialists, and members of many organizations (Table 4). EMRA was again fortunate to be included in this process, and provided comments regarding the new clinical policy.

The full clinical policy, including background information, methodology, and disclaimers is available at www.acep.org/clinicalpolicies.

You may notice a lack of Level A recommendations—which reflect generally accepted principles that reflect a high degree of clinical certainty, and are usually based on Class I or very strong Class II evidence. Clearly, there are many exciting opportunities for research within this specific area, and quality data has the potential to influence the everyday practice of emergency medicine.

Clinical Policy: Critical Issues in the Prescribing of Opioids for Adult Patients in the Emergency Department was approved by the ACEP Board of Directors at their June 2012 meeting. EMRA would like to thank ACEP as well as the ACEP Opioid Guideline Writing Panel for welcoming EMRA participation in the review of this new and important clinical policy.

### References

Pediatric head CT decision tools for dummies

Annually, traumatic brain injuries (TBI) cause 435,000 emergency department visits; 37,000 hospital admissions; and 2,685 deaths. Each year, 1 million children are unnecessarily imaged with CT. With these numbers in mind, consider the recent evidence showing that head CTs are causing new cases of leukemia and brain tumors. In the last decade, pediatric head injury guidelines have emerged. Meanwhile, several adult imaging rules have been applied to pediatrics, appropriate or not. Newer pediatric-specific decision instruments help us delineate which children with minor head injury can safely be observed, and which require CT to evaluate for significant TBI.

A retrospective analysis of three monumental adult head CT decision tools applied to pediatric populations demonstrated varying degrees of success. (See Table 1.) More recently, a review of decision rules designed specifically for pediatrics showed promise. (See Table 2.) The authors conclude that ultimately we need a prospective validation and comparison study. However, until this data is available, PECARN appears to be the tool with the strongest evidence. PECARN has been validated in a large cohort; has unique criteria for preverbal and verbal populations; and is projected to reduce the rate of head CT. Additionally, PECARN risk-stratifies patients into CT; no CT; and intermediate groups that in turn allow the physician and family to have a real conversation about the risks and benefits of head CT.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>NOC (New Orleans)</th>
<th>CCHR (Canadian Head CT Rule)</th>
<th>NEXUS II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>96.7% (93.1 – 100)</td>
<td>65.2% (55.5 – 74.9)</td>
<td>78.3% (69.9 – 86.7)</td>
</tr>
<tr>
<td>NPV</td>
<td>98.7%</td>
<td>97.6%</td>
<td>97.2%</td>
</tr>
<tr>
<td>Specificity</td>
<td>11.2% (9.8 – 12.6)</td>
<td>64.2% (62.1 - 66.3)</td>
<td>34.2% (32.1 – 36.3)</td>
</tr>
<tr>
<td>% CT Reduction</td>
<td>11%</td>
<td>63%</td>
<td>33%</td>
</tr>
</tbody>
</table>

The CHALICE decision instrument appears to actually increase the rate of CT. The CATCH tool is robust, but does not have the aforementioned advantages of PECARN. It is also rather complicated, with six inclusion criteria on top of seven variables. Notably, all three tools employ an ambiguous variable: PECARN’s “acting normally as per parent;” CATCH’s “irritability on examination;” and CHALICE’s “abnormal drowsiness.” Yet all still have good inter-observer reliability. (See Table 3.)

Regardless of the decision instrument, one must consider imaging the cervical spine of the patient with head injury. In addition to NEXUS (which has been validated in pediatrics), PECARN will soon be publishing a cervical spine imaging decision instrument. Despite improvement of TBI decision tools, our duty to educate patients and families remains. Beyond suggesting physical rest, we must ensure families understand our instruction. They should not leave the emergency department without a solemn discussion on the importance of cognitive rest, return-to-play guidelines, TBI anticipatory guidance, and consideration of follow-up neuropsychological testing. We must be aware of multidisciplinary rehabilitation resources in our communities – especially considering the poor outcomes linked to environmental and social disadvantages. If child abuse is suspected, appropriate social work and law enforcement resources must be involved. Additionally, a skeletal series should be repeated in two weeks. These decision instruments are excellent tools, as they give clinicians tangible numbers to provide families. In turn, families gain perspective into our decision-making processes. Nonetheless, emergency physicians must continue to use the common sense and good judgment we’re known for in the management of pediatric head trauma.
Table 2

<table>
<thead>
<tr>
<th></th>
<th>CATCH</th>
<th>CHALICE</th>
<th>PECARN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>100%</td>
<td>98.6%</td>
<td>&lt;2 years: 98.6% (92.6 – 99.97) [Validation 100.0% (86.3 – 100)]</td>
</tr>
<tr>
<td></td>
<td>(86.2 – 100)</td>
<td>(96.4 – 99.6)</td>
<td>≥2 years: 96.7% (93.4 – 98.7) [Validation 96.8% (89 – 99.6)]</td>
</tr>
<tr>
<td>Specificity</td>
<td>70.2%</td>
<td>86.9%</td>
<td>&lt;2 years: 53.7% (52.6 – 54.8) [Validation 53.7% (51.6 – 55.8)]</td>
</tr>
<tr>
<td></td>
<td>(68.8 – 71.6)</td>
<td>(86.5 – 87.4)</td>
<td>≥2 years: 58.5% (57.9 – 59.1) [Validation 59.8% (58.6 – 61.0)]</td>
</tr>
<tr>
<td>Negative predictive value (CI)</td>
<td>100%</td>
<td>99.9%</td>
<td>&lt;2 years: 99.9% (99.88 – 99.99) [Validation 100.0% (99.7 – 100)]</td>
</tr>
<tr>
<td></td>
<td>(99.9 – 100)</td>
<td>(99.9 – 100)</td>
<td>≥2 years: 99.9% (99.9 – 99.98) [Validation 99.99% (99.81 – 99.99)]</td>
</tr>
<tr>
<td>Projected change in CT rate</td>
<td>52.8% – 30.2%</td>
<td>3.3% – 14.1%</td>
<td>&lt;2 years: 31% to 25%</td>
</tr>
<tr>
<td></td>
<td>&lt;2 years:</td>
<td>≥2 years:</td>
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<td></td>
<td>37% to 20%</td>
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Table 3

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<thead>
<tr>
<th>Inclusion criteria</th>
<th>CATCH</th>
<th>CHALICE</th>
<th>PECARN</th>
</tr>
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<tbody>
<tr>
<td>Head injury within 24 hours</td>
<td>Head injury</td>
<td>Head injury within 24 hours</td>
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<tr>
<td>LOC / disorientation</td>
<td></td>
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</tr>
<tr>
<td>Amnesia</td>
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<tr>
<td>≥2 episodes of vomiting</td>
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<tr>
<td>Persistent irritability ( &lt; 2yo)</td>
<td></td>
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<tr>
<td>GCS ≥ 13</td>
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<table>
<thead>
<tr>
<th>Exclusion criteria</th>
<th>CATCH</th>
<th>CHALICE</th>
<th>PECARN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penetrating trauma</td>
<td>Refusal to consent</td>
<td></td>
<td></td>
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<tr>
<td>Depressed skull fracture</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Focal neurological deficit</td>
<td></td>
<td></td>
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<tr>
<td>Developmental delay</td>
<td></td>
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<tr>
<td>Suspected child abuse</td>
<td></td>
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<tr>
<td>Returning for reassessment</td>
<td></td>
<td></td>
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<tr>
<td>Pregnant patients</td>
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<thead>
<tr>
<th>Decision Variables</th>
<th>CATCH</th>
<th>CHALICE</th>
<th>PECARN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dangerous mechanism</td>
<td></td>
<td></td>
<td>&lt;2 years:</td>
</tr>
<tr>
<td>Worsening headache</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GCS &lt; 15 (2 hrs s/p injury)</td>
<td></td>
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<td></td>
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<tr>
<td>Irritability</td>
<td></td>
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<tr>
<td>Signs of basilar skull fracture</td>
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<tr>
<td>Large boggy scalp hematoma</td>
<td></td>
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<td></td>
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<tr>
<td>Speed &gt;40 mph</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Fall &gt;3 m</td>
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<td></td>
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<tr>
<td>High speed projectile</td>
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<tr>
<td>LOC &gt;5 min</td>
<td></td>
<td></td>
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<tr>
<td>3 bouts of emesis</td>
<td></td>
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<tr>
<td>Amnesia &gt;5 min</td>
<td></td>
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<tr>
<td>Suspected child abuse</td>
<td></td>
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<tr>
<td>New onset Seizure</td>
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<tr>
<td>GCS &lt; 14 (≤ 15 if &lt;1yo)</td>
<td></td>
<td></td>
<td>≥ 2 years:</td>
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<tr>
<td>Abnormal drowsiness</td>
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<td>Focal neuro deficit</td>
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<tr>
<td>Signs of basilar skull fx</td>
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<tr>
<td>Penetrating/depressed skull injury or tense fontanels</td>
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<tr>
<td>Bruise / swelling / lac &gt;5 cm if &lt;1yo</td>
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<tr>
<td>Severe mechanism of injury</td>
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<tr>
<td>LOC</td>
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<tr>
<td>Not acting normally per parent</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>GCS &lt;15</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Altered mental status</td>
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<td></td>
<td></td>
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<tr>
<td>Skull fracture signs</td>
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<tr>
<td>Occipital, parietal, or temporal scalp hematoma</td>
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<tr>
<td>Severe mechanism of injury</td>
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<tr>
<td>LOC</td>
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<tr>
<td>Vomiting</td>
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<tr>
<td>Severe headache</td>
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<tr>
<td>GCS &lt;15</td>
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<td></td>
<td></td>
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<tr>
<td>Altered mental status</td>
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<tr>
<td>Signs of basilar skull fracture</td>
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References

At its core, emergency medicine is a team sport. The successful care of emergency department patients requires a complex series of interactions between the patient and various team “players,” including medical students, residents, senior physicians, nurses, and ancillary support staff. As in other sports, the team’s ultimate success depends not only on the skills of the individual players, but also on the ability of team members to communicate well, trust each other, and work together towards achieving a common goal.

As medical students, we often depend upon other members of the team to help guide our decision-making and monitor our performance. Although we often seek help from certain team members (especially residents, attendings, and ancillary staff), the best advice often comes from our fellow students.

In that spirit, medical students from the University of Miami and Florida International University recently hosted the Southeast Emergency Medicine Medical Student Symposium, introducing our specialty to medical students at schools with no formal emergency medicine residency program. The event was sponsored by EMRA, including physicians from south Florida, as well as emergency medicine residents and faculty from the University of Florida-Jacksonville. Students from five different medical schools were represented.

The day began with an introduction to the field of EM, followed by a presentation on residency structure provided by David Caro, MD, the Program Director at University of Florida-Jacksonville. A panel of physicians representing the specialties of emergency medical services (EMS), toxicology, and academic emergency medicine led an animated discussion on the pros and cons of working in such a demanding specialty and different ways to stay involved. The day ended with a hands-on airway course and a refreshingly upbeat social luncheon.

The Southeast Emergency Medicine Medical Student Symposium serves as a great example of what can happen when we pool resources as a team, rather than working alone. By sharing their experiences and working with one another towards a common end, these students gained a better appreciation of what a career in emergency medicine can provide. As an added bonus, the group gained valuable insight into how to prepare for entering the field from a diverse group of panelists.

EMRA provides a wide range of similar opportunities, bringing students and residents together at events ranging from regional symposia to national events, such as the EMRA events at ACEP’s Scientific Assembly. Events like these show that when team members come together to share their ideas, experiences, and camaraderie, the team flourishes.
Meet me at the top of the Hill

Hundreds of attendings, residents, and medical students representing emergency departments from Alaska to Maine attended the 2012 ACEP Leadership and Advocacy Conference (LAC) in Washington, D.C. this past May. Many of emergency medicine’s finest had the opportunity to hone and amplify their voices on critical issues facing the profession.

An important component of the conference was leadership development training; participants could attend seminars on smart social networking, advanced presentation skills, and inter-generational communication. (Did you know that for the first time there are four generations of emergency physicians practicing at one time?)

Particularly savvy attendees even had the chance to attend media training for surviving “gotcha” journalism. Conference participants also learned about the most important legislative challenges, including liability reform, synthetic substance legislation, graduate medical education, and funding.

No visit to Washington, D.C. would be complete without a healthy dose of politics. Representatives from both the Republican and Democratic parties provided the inside scoop on their respective chances in the 2012 Congressional and Presidential elections. Other lectures focused specifically on broad national health care issues, including impending challenges to the Medicaid program, quality indices, and ever-expanding reporting requirements.

As a medical student, the experience was unparalleled. A personal highlight was the interactive session on delivering effective presentations. I was asked to deliver an impromptu, two-minute presentation in front of 100 people and received instant feedback on my presentation skills. On top of that, I was privileged to interact so closely with emergency medicine giants and informally meet with department chairs, program directors, and residents from across the country.

The conference culminated in face-to-face visits with national legislators. Hundreds of emergency physicians and students blanketed Capitol Hill to get the word out to policymakers about the most critical challenges in emergency medicine. Here, we not only had the opportunity to put a face on emergency medicine but to advocate for issues affecting emergency departments across the country. The advocacy training provided by the LAC made the visits unintimidating, informative, and enjoyable.

I hope to see you next year!

“The conference culminated in face-to-face visits with national legislators.”

August/September 2012

2nd Annual Great Plains Medical Student Sim Wars Competition

Great Plains Regional SAEM

Medical Student Simulation Wars

September 29, 2012

Teams of 4 Medical Students Accepted

Apply Now!

will be held

September 29, 2012

at Washington University School of Medicine in St. Louis!

Applications are now being accepted for teams of four students. Compete with other students from across the country for the coveted Medical Student Sim Wars trophy!

Contact Jonathan Heidt at rrcemrep@emra.org or Christopher Sampson at sampsonc@wusm.wustl.edu to apply to for more information.

Rory Merritt, MSIV
Alpert Medical School, Brown University
Providence, RI

“The conference culminated in face-to-face visits with national legislators.”
Take your poster to the next step: Seven tips for success

A Cochrane review in 2008 found that less than half of all abstracts presented at scientific meetings ultimately produce a full publication in a peer reviewed journal. Having a project accepted for a poster presentation at a national meeting is a major accomplishment! Obtaining a peer-reviewed publication is the logical next step for quality projects. Here are some quick and easy tips on how to take your project to publication.

1. Identify your faculty mentor
   - Having experienced faculty support is an absolute necessity. An experienced academician will help guide you and show you how to avoid pitfalls, roadblocks, and other delays encountered on the path to publication.
   - Typically, you’ve already found a faculty mentor by the time you present your poster. Now, make sure that whoever helped you with the abstract is willing to guide you through the manuscript process. If not, consider asking an additional faculty member with publication experience to assist you. Make sure to ask your mentor before you add authors to the project.

2. Perform a literature review before you present your poster
   - You must be familiar with the literature available on your topic. If your literature review skills are lacking, look for a reference librarian to help. They often can do a great job of collecting resources in a short amount of time.
   - Find a good way to organize the information you gather. This will be important when you begin writing your discussion. The more organized your references are, the easier it will be to make appropriate and valuable citations.

3. Decide which journal you would like to target
   - This will help you shape your manuscript and increase the success rate of final publication. To make this decision, review your citations and consider which journal might yield the highest impact. Consult your faculty mentor. Once you have decided where you would like to publish, find the “instructions for authors” section on the journal’s website. Keep this information handy, looking for specifics, such as word counts and how the editors describe what they are looking for from your type of manuscript.

4. Start writing your manuscript before you present at the meeting
   - Your first draft doesn’t have to be grammatically correct, or even well-organized. Just start writing something, anything, to get the ideas flowing.
   - If you wait until after the meeting, there is that sense of fulfillment and completion that may inhibit you from pursuing a peer-reviewed publication.

5. Ask for feedback from meeting attendees
   - You may find that your poster or oral presentation will force you to flesh out ideas about your project that you will want to include in your manuscript. Your presentation attendees may also make some valuable contributions by asking intelligent and thought-provoking questions about your project.
   - Keep in mind that many walking around poster halls and attending oral presentations are authors of research related to yours! Some may even be the editors and reviewers of the journal to which you plan to submit...
“Most of the time, rejections are not because of poor quality, but are a matter of ‘fit’ for the journal.”

6. Set deadlines
Let’s face it…we are all very busy residents. If you do not set deadlines for yourself, your project can easily fall behind your other priorities. If you don’t set deadlines for others, such as co-authors or faculty advisors, your project may fall behind their priorities.

7. Don’t be discouraged by rejection
If your manuscript is rejected, find a new journal for submission. Seasoned authors casually report an average of four submissions per project. Most of the time, rejections are not because of poor quality, but are a matter of “fit” for the journal. The same is true for abstract submissions to academic meetings.

We’re all eager to fulfill the academic project requirement – but we should not lose sight of its intention. Every contribution to emergency medicine literature is a valuable addition to our specialty’s recognition and credibility. Even small projects help define the questions that grow into high quality, practice-changing research that will ultimately trickle down to the bedside. If you have good data, or a good idea, it’s important that it’s shared among your peers in a well-organized and well-publicized manner.

References
New program requirements, Milestones, and EM Model released!

Over the past few weeks, we have witnessed the release of multiple documents that directly impact residency training in emergency medicine. After a great deal of work and revisions, the much anticipated emergency medicine milestones, core program requirements, EMS program requirements, and revision to the Model of the Clinical Practice of Emergency Medicine have all been released. The EMRA Board of Directors is proud to have participated in the development of these documents, which form the core of residency training in emergency medicine. We will continue to participate in future revisions and welcome all comments, suggestions and questions. Below is a summary of the key points and/or changes from each document.

Emergency medicine program requirements

1. **Length of training.** The PGY 2-4 format will be discontinued. The PGY 1-3 and 1-4 formats will remain. This change will impact 1% of the 158 emergency medicine residency training programs. By ensuring continuity throughout training, resident education is anticipated to be positively impacted.

2. **Incorporation of emergency medicine guidelines into the program requirements.** Prior to the current revision of the program requirements, the RRC-EM had published guidelines that detailed the expectations for procedure numbers, faculty participation in didactics, faculty scholarly activity, and emergency department staffing. The formal incorporation of the guidelines into the program requirements will further standardize the educational experience in emergency medicine residencies. Since the majority of programs already adhere to the guidelines, many residents will not notice an immediate change.

3. **New clinical workload restrictions for assistant/associate program directors.** Previously, clinical workload restrictions applied only to program directors (20 hours/week) and core (key) faculty members (28 hours/week). Associate and assistant program directors are now limited to 24 clinical hours per week. This new requirement is expected to increase faculty availability for educational and research opportunities for residents outside of the emergency department.

4. **Experience for program director and chair.** New requirements for the experience of newly appointed program directors and department chairs have been proposed. The change will require new program directors to have had five years (increased from three) of experience as a faculty member in an emergency medicine training program. The program director now will also be required to have had five years of GME administrative experience prior to appointment. These requirements will apply to department chairs as well.

5. **Training programs in other specialties.** The prior program requirements stated that institutions needed to have residency programs in “other major specialties.” The proposed revisions state that the institution should also sponsor programs in internal...
“Critical care exposure is now set at 4 months, with at least two months at the PGY 2 level or higher. Five FTE months, dedicated to pediatrics, is now required.”

medicine, OB-GYN, orthopedic surgery, pediatrics, psychiatry, and surgery. The availability of faculty members in these specialties is considered essential for training in emergency medicine.

6. Faculty to resident ratio. The one faculty member to three resident ratio was previously required up to a resident complement of 30. Now all programs will be required to adhere to the 1:3 ratio, regardless of size. This change is meant to allow all residents to have the same degree of supervision.

7. Changes to curriculum. Critical care exposure is now set at four months, with at least two months at the PGY 2 level or higher. Five FTE months dedicated to pediatrics is now required. These changes were based upon program surveys that reviewed current standard curriculums, and an ABEM survey that reviewed the current educational needs of practicing emergency medicine physicians.

8. Board pass rates. At least 75% of a program’s graduates must take the written and oral ABEM exams. Of those who take the exam, 85% must pass on the first attempt.

Initial program requirements of the new subspecialty of EMS – a few key points

1. The required length of training is set at 12 months.
2. Fellowship program directors are required to have had at least five years of participation as an active faculty member and three years of administrative experience. Program directors will also need to be currently clinically active in EMS.
3. In addition to the program director, the fellowship will need at least two more faculty members who devote a minimum of five hours per week of direct teaching to the fellows.
4. The program will be required to provide at least three hours per week of didactics. Fellows will be required to attend 70% of such sessions.
5. The RRC-EM will not consider requests for exceptions to the 80-hour limit to the fellows’ workweek.

Revisions to the Model of the Clinical Practice of Emergency Medicine

The EM Model is a multidimensional description of emergency medicine clinical practice that includes patient acuity, physician tasks, and a listing of medical knowledge, patient care, and procedural skills. Multiple detailed changes were made to the medical knowledge, patient care, and procedural skills. The full description of the changes can be found within the newly published EM Model, which is posted on the EMRA website. The physician tasks of consultation, disposition, multitasking, and team management were also separated into unique physician skills.

Within the core competency of professionalism, the skill of patient and professional advocacy was added. This addition to the Model of EM complements EMRA’s objective to provide the skills and training necessary for residents to become advocates for their profession.

MILESTONES

After much anticipation, the emergency medicine milestones have been released. The current draft includes 24 milestones for training in emergency medicine. Each milestone is divided into five levels, with level one equated to a graduating medical student, and level four to a graduating resident. Level four would be equated to an expert in the area. The milestones include:

1. Emergency Stabilization
2. Performance of Focused History and Physical Exam
3. Diagnostic Studies
4. Diagnosis
5. Pharmacotherapy
6. Observation and Reassessment
7. Disposition
8. Multitasking
9. General Approach to Procedures
10. Airway Management
11. Anesthesia and Acute Pain Management
12. Ultrasound
13. Wound Management
14. Vascular Access
15. Medical Knowledge
16. Professional Values
17. Accountability
18. Patient Centered Communication
19. Team Management
20. Teaching
21. Practice Based Performance Improvement
22. Patient Safety
23. Systems Based Management
24. Technology

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Infectious diseases

Fever in the returned traveler

As frontline providers, we should be familiar with the basic approach to evaluating fever in the returned traveler.

Mid the countless fever workups that emergency physicians embark upon each shift, that of the returned traveler sparks the imagination most, conjuring differentials of infectious diseases many of us have only read about. Air travel and international tourism have made it possible for anyone to be anywhere in the world within hours to days. Consequently, infectious diseases traditionally associated with distant corners of the globe may now present far beyond their geographic confines. As frontline providers, we should be familiar with the basic approach to evaluating fever in the returned traveler.

In a study of 24,920 returned travelers seen from 1997 through 2006 in participating GeoSentinel Surveillance Network travel or tropical medicine clinics spread across six continents, 6,957 (28%) reported fever as the primary reason for seeking medical care. Of these febrile patients, a quarter required hospitalization.

Traveling bugs
Malaria was the most common diagnosis in travelers with a systemic febrile illness (21%), followed by dengue (6%), enteric fever due to Salmonella typhi and S. paratyphi (2%), and rickettsial diseases (2%). Plasmodium falciparum malaria remains a leading cause of febrile illness and mortality in travelers, and should be high on the differential in any febrile patient returning from Sub-Saharan Africa or other tropical areas. Nurturing a healthy respect for malaria can mean the difference between life and death.

Common things being common
At the same time, respiratory tract infections, bacterial gastroenteritis, genitourinary infections, skin and soft tissue infections, and viral syndromes (e.g., mononucleosis due to Epstein Barr virus or cytomegalovirus) must be taken into account. Acute HIV infection should never be overlooked in returning travelers, in light of the ongoing global pandemic.

Where?
A sensible differential diagnosis begins with identifying the risk of infectious disease based on where the patient has been. Exact dates of travel and a list of all regions visited (e.g., country, city, town, rural, wilderness) should be obtained. Then, start researching: Resources available through the CDC can provide invaluable medical intelligence about endemic diseases and ongoing outbreaks in areas the patient has been to (http://wwwnce.cdc.gov/travel).

Exposures
A thorough exposure history can hone down an overwhelming list of potential infectious causes of fever (Table 1). Ask about the living conditions encountered, local foods consumed (including raw or undercooked meat and unpasteurized dairy products), and access to clean drinking water. Recreational activities (e.g., camping, hiking, swimming, hunting, caving, engaging in unprotected sex) should be explored, with particular attention paid to animal, insect, and freshwater exposures. As always, ask about any sick contacts and their symptoms.

An ounce of prevention
Gather information about pre-travel immunizations, compliance with chemoprophylaxis (particularly for malaria), and preventive measures taken during travel (e.g., bed net or insect repellent use). These can significantly modify a patient’s risk of acquiring certain infectious diseases!

Who?
Individuals visiting friends or relatives (VFR), usually immigrants returning home to a developing country, can be at greater risk for infectious diseases as they are likely to travel for longer periods of time, often to rural areas, and consume local cuisine and water. They are also less likely to seek pre-travel immunizations or chemoprophylaxis, or implement preventive measures during travel.
Timeline
A timeline encompassing the patient’s febrile illness and any other symptoms, even self-limited ones, should be plotted in relation to travel dates to establish the incubation period of the illness. Working knowledge of incubation periods for a handful of key infectious diseases can be useful to further narrow the differential (Table 2).

The workup
Diagnostic workup of the febrile returned traveler in the emergency department should consist of a CBC-D, BMP, liver function tests, blood cultures, urinalysis, urine culture, and a chest film. Thick and thin peripheral blood smears should be performed in patients returning from the tropics where malaria is prevalent. (Note: A negative initial blood smear does not rule out malaria! Antigen-based rapid diagnostic tests for malaria can expedite diagnosis when an experienced parasitologist is not available to review the blood smears.)

If the patient is experiencing diarrheal illness, stool should be sent for ova and parasites, culture, and fecal leukocytes. Given the appropriate season and constellation of symptoms, rapid influenza testing may be advisable. Always consider HIV screening. Additional disease-specific laboratory tests (e.g., serology, molecular diagnostics) are best pursued in consultation with an infectious disease or travel medicine specialist.

Treatment
Based on the presentation and workup, begin empiric antimicrobial therapy. Particular focus should be treating suspected life-threatening travel-related infections (like malaria) and treating the ordinary emergency department infections (pneumonia, UTI, gastroenteritis, skin and soft tissue infections).

It cannot be emphasized enough: If the patient is unstable or septic-appearing – and you suspect malaria solely from history of travel to an endemic region – start empiric therapy against *P. falciparum* immediately! Proceed even if the initial blood smear is negative. Severe malaria can prove fatal within 24-48 hours if left untreated. Likewise, if rickettsial disease is suspected in the setting of fever and a rash or eschar, the addition of doxycycline is always reasonable, as serologies are unlikely to return in a timely fashion. Initial emergency department evaluation of fever in the returned traveler draws heavily upon careful assessment of geographic and epidemiological risk factors for infectious diseases. While the differential diagnosis is broad, two particular skills can go a long way toward winnowing down the list:
1. Ability to recognize the common presentations of key infections encountered in travel medicine
2. Having a basic appreciation of incubation periods.

Given the appropriate risk factors, the diagnosis is truly within reach.

**References**

**Table 1. Common risk factors for travel-related infections**

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Infections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consuming undercooked meat</td>
<td>Trichinosis, teniasis, salmonellosis</td>
</tr>
<tr>
<td>Consuming unpasteurized dairy products</td>
<td>Brucellosis, Q fever, salmonellosis</td>
</tr>
<tr>
<td>Drinking untreated water</td>
<td>Hepatitis A + E, cholera, amebiasis</td>
</tr>
<tr>
<td>Animal contact</td>
<td>Q fever, brucellosis, leptospirosis</td>
</tr>
<tr>
<td>Mosquito bites</td>
<td>Malaria, dengue, yellow fever, chikungunya fever, arboviral diseases</td>
</tr>
<tr>
<td>Tick bites</td>
<td>Rickettsial disease (e.g., African tick bite fever, Mediterranean spotted fever)</td>
</tr>
<tr>
<td>Freshwater exposure (e.g., swimming, rafting)</td>
<td>Leptospirosis, schistosomiasis</td>
</tr>
<tr>
<td>Barefoot exposure</td>
<td>Strongyloides, cutaneous larva migrans</td>
</tr>
<tr>
<td>Unprotected sex</td>
<td>HIV, hepatitis B + C</td>
</tr>
</tbody>
</table>

**Table 2. Incubation periods for selected travel-related infections (may vary)**

<table>
<thead>
<tr>
<th>Incubation Period</th>
<th>Malaria</th>
<th>Enteric fever</th>
<th>Leptospirosis</th>
<th>Rickettsial disease</th>
<th>Dengue</th>
<th>Yellow fever</th>
<th>Influenza</th>
<th>Chikungunya fever</th>
<th>HIV</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10 days</td>
<td>Malaria</td>
<td>Enteric fever</td>
<td>Leptospirosis</td>
<td>Rickettsial disease</td>
<td>Dengue</td>
<td>Yellow fever</td>
<td>Influenza</td>
<td>Chikungunya fever</td>
<td>HIV</td>
</tr>
<tr>
<td>10-21 days</td>
<td>Malaria</td>
<td>Brucellosis</td>
<td>Q fever</td>
<td>Amebiasis</td>
<td>African trypanosomiasis</td>
<td>HIV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;21 days</td>
<td>Malaria</td>
<td>Tuberculosis</td>
<td>Schistosomiasis</td>
<td>Leishmaniasis</td>
<td>Viral hepatitis</td>
<td>HIV</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Academic affairs update

Pulseless...and talking

The emergence of left ventricular assist devices (LVADs) has revolutionized the treatment of patients with end-stage heart failure. Although cardiac transplantation remains the definitive therapy, **LVADs offer patients who are refractory to medical therapy a bridge to transplantation.** Likewise, LVADs can **improve quality of life for those patients who are not candidates for cardiac transplant.** As these devices are more widely used, the management of patients with LVADs in the emergency department will become more common.

This article focuses on the emergency department evaluation and treatment of patients with continuous-flow left ventricular assist devices (CF-LVAD), since these systems are more widely used due to fewer device replacements and adverse events compared to older pulsatile devices.

**Devices**

LVADs can be pulsatile or continuous flow models. The LVAD system consists of a pump, a controller, a power source, and the connections between these components. The devices are implanted into abdominal wall musculature or a pocket created in the peritoneum. The LVAD system shunts blood out of the left ventricle, through the pump, and into the aorta. Leads from the pump usually exit through a site in the right upper quadrant of the abdomen, connecting to an external battery power supply.

**History, physical, and diagnostic testing**

As with any patient presenting to the emergency department, a history and physical are fundamental to the evaluation of patients with LVADs. Patients and their family members are often experts on the individual’s device. Patients (usually) carry information cards containing critical information about their diagnosis, the device itself, modes of resuscitation, emergency contact information for their cardiologist and device manufacturer. Impressively, the cards also include normal physical exam findings, such as the lack of a palpable pulse in patients with a CF-LVAD.

Don’t be alarmed if you cannot find a palpable pulse in an awake, alert, conversational LVAD patient! Blood pressure measurement often requires **bedside Doppler** and **manual sphygmomanometry.** Both vital sign abnormalities are due to minimal pulse pressure differences, especially in patients with CF-LVADs. Patients with LVADs can also present with physical exam manifestations of right heart failure.

Lab studies in the emergency evaluation of patients with LVADs should be similar to those for any patient with cardiac complaints, with the addition of **clotting profiles** and **blood cultures** if infection is suspected. ECGs should naturally be obtained, but **echocardiography** and **CT** are imaging modalities of choice in evaluating LVADs. CT can provide critical information regarding LVAD placements, lead integrity, and the presence of abnormalities such as abscesses.

**Complications**

**Infections**

Infections are very common in patients with LVADs. Topkara et al reported that 51% of all LVAD patients – not just those presenting to the emergency department – had an infection, with most infections occurring after hospital discharge for the initial device implantation. Infections can occur at local wound sites, as driveline infections, or as pump-pocket infections.

Infection often occurs within the first several weeks after device implantation and should be evaluated and managed aggressively – infection and sepsis in patients with LVADs are a leading cause of death. *Staphylococcus aureus* (MRSA) and *Pseudomonas* are the most common pathogens, although polymicrobial or fungal infections can also be present. These infections must be treated with...
intravenous antibiotics and careful local wound care by experienced staff. In severe cases they may need surgical intervention.

**Bleeding complications**

Patients with LVADs are at risk for both thromboembolic events and bleeding coagulopathies from long-term anticoagulation. These patients can also be at increased risk for gastrointestinal bleeding and intracranial hemorrhage. Depending on the manufacturer and model of the LVAD, patients are also at risk for developing acquired von Willebrand factor (vWF) deficit.

**Cardiac complications**

Ventricular fibrillation and ventricular tachycardia are commonly encountered in patients with heart failure, including those with LVADs. However, because LVADs prevent the circulatory collapse encountered with VF and VT, patients with LVADs can tolerate ventricular arrhythmias for extended periods of time. However, pharmacologic or electrical rhythm conversion is recommended to reduce the risks of thrombotic events.

CPR should be used judiciously in patients with LVADs because of the potential for dislocation or damage of leads or cannulas, or even rupture of the ventricular wall, necessitating emergency cardiac surgery.

**Device malfunction or failure**

Failures of the LVAD power source or pump are rare and can be easily replaced or exchanged at an experienced institution. Should cable or pump failure develop, immediate transport to an institution specializing in LVAD is required, with some patients requiring ECMO in cases of severely impaired LV function.

As LVADs become more common in patients with heart failure, emergency physicians will need to be aware of the unique characteristics of patients with LVADs, as well as the potential complications associated with these devices.

**Considerations for the Emergency Physician Caring for Patients with LVADs**

- Unique physical exam findings (+/- pulse; minimal to no pulse pressure; palpable subcutaneous mass that is pump)
- History from patient and family provide guidance regarding device characteristics, manufacturer information, cardiac follow-up information
- Use CPR judiciously
- Aggressively manage sepsis
- Avoid removal of power source
- Avoid manipulation of lead dressing
- Early consultation with cardiologist, perfusionist, LVAD nurse, other experts
- Can tolerate VT

**References**

It’s complicated: The case of prolonged pediatric resuscitation and ECMO

A 12-year-old female with no past medical history was found unresponsive by her parents and brought via ambulance to the emergency department, lethargic and tachycardic. According to her parents, she had abdominal pain, vomiting, and tactile fever for the past two days. There was no history of travel, sick contacts, medication/drug use, or toxic ingestion.

Initial vitals: BP 84/65, HR 212, Temperature 97.1°, RR 12, O₂ saturation 95% on room air, finger-stick 74.

Upon arrival, the patient’s mental status began to deteriorate. EKG revealed wide complex tachycardia (Image 1). Pulses were undetected and CPR was initiated. She was shocked five times for pulseless ventricular tachycardia and given multiple rounds of epinephrine.

Return of spontaneous circulation was achieved after 10 minutes and repeat vitals revealed a BP of 70s/40s and HR of 140s. Chest radiography revealed no pneumothorax, consolidation, or cardiomegaly. Two central lines and an arterial line were placed, she was intubated, and vasopressors were initiated. A bedside EKG was performed and marked decreased contractility was noted. Labs were significant for lactate 12.7, CK 2,070, CK-MB 32.87, and troponin 38.8.

A working diagnosis of acute fulminant myocarditis was made. Despite aggressive management, the patient’s perfusion remained poor; CPR was re instituted and continued uninterrupted for four hours while awaiting transport to an ECMO-capable facility. During the patient’s emergency department course, she ultimately had a troponin peak to 244, lactate to 27, and signs of multiorgan failure with an INR of 2.5 and creatinine elevation to 1.7.

ECMO as a bridge to recovery

ECMO (extracorporeal membrane oxygenation) is a modified cardiopulmonary bypass circuit in which blood is removed from the venous or arterial system, either peripherally via cannulation of a femoral vein or centrally via cannulation of the right atrium. The two types of ECMO are veno-arterial (VA) ECMO and veno-venous (VV) ECMO.

- In VA ECMO, a venous cannula is placed in the right common femoral vein for extraction, and an arterial cannula is usually placed into the right femoral artery for infusion.
- VV ECMO cannulae are placed in right common femoral vein for drainage and right internal jugular vein for infusion.

VA ECMO is reserved for patients that need cardio-pulmonary bypass, while VV ECMO is solely for pulmonary bypass. As blood flows through a circuit, it is oxygenated, carbon dioxide is extracted, and it is returned back to the body, either peripherally via a femoral artery or centrally via the ascending aorta. It’s indicated for the management of life-threatening respiratory or cardiac failure unresponsive to traditional measures, and is considered a temporary support. ECMO is only considered if the disease process is acute; is reversible with rest and therapy; or as a bridge to device or organ transplantation. In the pediatric population, utilization of ECMO is based on institutional experience, as there is no unified set of inclusion or exclusion criteria. In the setting of cardiac failure, however, it is generally accepted that ECMO is inadvisable if the patient has a terminal underlying condition; has significant brain injury; is immunosuppressed; has a contraindication to anticoagulation; has multiorgan failure; or has uncontrolled metabolic acidosis.
Studies have shown that extracorporeal cardiopulmonary resuscitation (ECPR) can successfully be used to resuscitate children with myocarditis or following refractory in-hospital cardiac arrest, and can be implemented during active CPR. In a retrospective review of the Extracorporeal Life Support Organization registry database, of 255 patients whom were diagnosed with myocarditis, 61% survived to hospital discharge. In another study, ECMO candidates were patients in cardiac arrest receiving CPR >10 minutes with a mean duration of 48 minutes (+/- 13). The rate of weaning from ECMO was 67% – the survival rate was 32%. Multiple-organ failure was the major reason for mortality, even despite successful weaning. Among survivors, long-term follow-up revealed 89% survival.

In a review of the American National Registry of CPR, of 199 ECPR patients, 44% survived to hospital discharge and 95% of survivors had favorable neurologic outcomes. While it has been reported that acceptable survival and neurologic outcomes can be achieved with ECPR in children after arrest up to 95 minutes, the duration of CPR that results in futility of care is unknown.

**Hospital Course**

As for our patient, she was transferred to an ECMO-capable facility, where she was placed on ECMO and given IVIG. Due to electrolyte disturbances, she initially required continuous venovenous hemofiltration (CVVH). By hospital day five she showed marked end-organ improvement. All blood cultures were negative, and she was decannulated from ECMO on day eight. She was weaned off all vasopressors and extubated on day nine. Her last day of hemodialysis was day 12. On hospital day 28 her echocardiogram revealed normal biventricular function, and she was discharged to a rehabilitation facility with full recovery of neurologic function.

**References**


“CPR was reinitiated and continued uninterrupted for four hours while awaiting transport to an ECMO-capable facility.”

**Image 1: Initial EKG**

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### MEDICAL STUDENT EVENTS

**Saturday, October 6**
- 1:00 pm–5:00 pm: EMRA Medical Student Governing Council Meeting
- 5:30 pm–7:30 pm: EMRA MSCG/EMIG Representative Mixer *(by invitation)*
  (Tamayo, 1400 Larimer St)

**Sunday, October 7**
- 8:00 am–2:00 pm: EMRA Medical Student Forum
  - Hot Topics in Emergency Medicine
  - Career Opportunities in Emergency Medicine
  - Discussion Panel
- Medical Student Breakout Sessions:
  - MSIV–Interview Day Tips & Match Process
  - MSIII–Taming the Application, Interview, & Match Ranking Process
  - MSII–Opportunities for EM during Preclinical Year
  - MSIII/IV–What Osteopathic Students Need to Know
  - Application and Interview Advice–Intern Panel
- Medical Student Networking Lunch/Roundtable Discussion w/Program Directors
- Managing Student Loans, GL Advisor

**EMRA Residency Fair**
Attend the EMRA Residency Fair to help you scout out the more than 100 residency programs from around the country. Medical students cannot afford to miss this terrific opportunity to network with program directors, coordinators, and chief residents.

### RESIDENT EVENTS

**Monday, October 8**
- 7:00 am–7:45 am: EMRA Welcome Reception & Bloody Mary Breakfast
- 7:50 am–2:00 pm: EMRA Resident Forum: Life after Residency
  - Business of EM: Contracts/Malpractice
  - Mechanics of the Job Search
  - Leadership During Residency
  - Financial Planning for Young Physicians
  - Resident Networking Lunch: Been There Done That–Tips from EMRA Alumni on Life After Residency–Sponsored by Schumacher Group
- Resident Breakouts:
  - Research during Residency Advocacy 101
  - Resident as Educator
  - Board Exam Preparation

**EMRA Job Fair**
Refreshments Co-Sponsored by Florida Emergency Physicians & TeamHealth
Looking for that perfect job? EMRA is here to help! All EM job seekers need to attend the largest and best Job Fair in the specialty of Emergency Medicine. With more than 150 companies expected to participate in this year’s event. You are bound to find the job that is just right for you!

### EMRA COMMITTEE & BUSINESS MEETINGS

**Friday, October 5**
- 8:00 am–5:00 pm: EMRA Board of Directors Meeting

**Saturday, October 6**
- 7:00 pm–10:00 pm: EMRA Board of Directors Meeting

**Monday, October 8**
- 2:00 pm–3:00 pm: EMRA Awards Committee Meeting

**Tuesday, October 9**
- 1:00 pm–3:00 pm: EMRA EMS Committee
- 1:30 pm–2:30 pm: EMRA New Board of Directors Orientation
- 3:00 pm–4:00 pm: EMRA Reps to ACEP Committees Meeting

**Wednesday, October 10**
- 9:00 am–10:00 am: EMRA Editorial Advisory Committee
- 10:00 am–12:00 pm: EMRA Board of Directors Meeting
- 12:00 pm–1:30 pm: EMRA Transition Luncheon *(by invitation)*
- 2:00 pm–4:00 pm: EMRA Technology Committee
  - EMRA Health Policy Committee
  - EMRA International Health Committee
  - EMRA Critical Care Committee
  - EMRA Research Committee
  - EMRA Education Committee
  - EMRA Wilderness Committee

**EMRA Board Meeting & Committee Updates**

### REPRESENTATIVE COUNCIL MEETINGS

**Monday, October 8**
- 1:00 pm–2:00 pm: EMRA Rep Council Conference Committee Orientation
- 2:00 pm–3:00 pm: EMRA Regional Representative Meeting
- 3:00 pm–4:30 pm: EMRA Rep Council Reference Committee Public Hearing
- 6:00 pm–8:30 pm: EMRA Reference Committee Work Meeting

**Tuesday, October 9**
- 7:30 am–8:00 am: Rep Council Welcome Breakfast & Candidate’s Forum
- 7:30 am–8:00 am: EMRA Rep Council Registration
- 8:00 am–12:00 pm: EMRA Rep Council Meeting and Town Hall
- 12:00 pm–1:00 pm: Resident/Rep Council Luncheon & Education Presentation
  - Sponsored by Vidacare

### OTHER FUN STUFF

**Tuesday, October 9**
- 5:00 pm–6:00 pm: EMRA Fall Award Reception
- 6:00 pm–7:00 pm: EMRA Board Alumni Reception
- 10:00 pm–2:00 am: EMRA Party, Beta Night Club, 1909 Blake Street
  - Sponsored by Emergency Medical Associates

**Wednesday, October 10**
- 12:00 pm–5:00 pm: EMRA Resident Sim Wars Competition

*Schedule is subject to change, please visit the website for updates and room assignments.*
MEGA-PARTY!
IN THE MILLE HIGH CITY!

TUESDAY OCTOBER 9

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Open to all
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$8.00 Calls • $11.00 premiums
10:00 pm - 2:00 am

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Sometimes it’s STEMI. Sometimes it’s not.

Normal variant ST-elevation vs acute anterior STEMI

Diagnosing a STEMI in the emergency department can be challenging – there are often subtle mimics. My colleagues and I recently published an article in *Annals of Emergency Medicine*, deriving and validating an ECG rule to differentiate early repolarization (normal variant ST elevation) of the precordial leads from subtle anterior STEMI. We found that, by using three variables on the ECG, we could differentiate the two with high sensitivity and specificity:

1. ST-elevation at 60 ms after the J-point, relative to the PR interval, in lead V3 (STE60V3)
2. Computerized QTc

\[(0.196 \times \text{STE60V3}) + (0.059 \times \text{QTc}) - (0.326 \times \text{RA-V4})\]

If the value of the equation > 23.4, it predicted STEMI; if ≤ 23.4, it predicted early repolarization. Note: An Excel spreadsheet calculator can be found on Dr. Smith’s ECG blog.

In this study, we did not include bundle branch block or left ventricular hypertrophy (LVH), either of which may result in false positive ECGs. We also excluded obvious STEMIs, as defined by ECGs with

1. Inferior ST-segment depression (ST depression in leads II, III, and/or aVF)
2. Upward convexity in any of leads V2-V5
3. T-wave inversion in any precordial lead
4. Q-waves in any precordial lead
5. ST-segment elevation of at least 5 mm in any precordial lead
6. Terminal QRS distortion, defined by either a) absence of an S-wave in leads V2 and V3 and b) absence of a J-wave in leads V2 and V3.

In deriving these rules we found that, in this group of subtle anterior STEMI vs early repolarization, no millimeter-based ST elevation rule had any value in differentiating the two entities. R-wave amplitude was actually the best single variable differentiating the two, such that low R-wave amplitude is unlikely to signify early repolarization.

**Case One.** A 45-year-old male was in his usual state of health until three hours prior to arrival, when he developed left-sided chest pressure with radiation to the neck while walking. His pre-hospital ECG is identical to the first emergency department ECG shown in Figure 1. Based on this, the paramedics activated the cath lab, administered nitroglycerin, and the pain resolved.

![Figure 1: First ED ECG at 15:44](image)

There is at least 2-mm ST-elevation at the J-point in leads V2 and V3, but the morphology of the T-wave is typical of early repolarization (slow upstroke, fast downstroke). There is minimal ST-elevation in leads I, aVL, V5, and V6. There is no inferior ST-depression, no upward convexity, no precordial T-wave inversion, no Q-waves, and no terminal QRS distortion.

This is when the *Early Repolarization vs LAD Occlusion Equation* can be applied – STE60V3 is 4 mm, QTc is 416ms, and RA-V4 is 15mm. Plugging these values in yields 23.753. Being > 23.4, the equation points to STEMI. The specificity of the rule is not perfect, but a value above 23.4 should at least prompt you to aggressively evaluate the patient.

As for the patient’s clinical course, his chest pressure resolved. A bedside emergency department echocardiogram (not a formal echo) reportedly showed no wall motion abnormality. The equation was not used. The cath lab was de-
activated. A repeat ECG showed less ST-elevation (Figure 2).

Figure 2: The 45-year-old male patient’s ECG, recorded later in the day

In the second ECG, V2-V5 have less ST-elevation and the T-waves are smaller. It appears normal, different from the presenting ECG.

An application of the Early Repolarization vs LAD Occlusion Equation has equivocal results, depending on whether the STE60V3 is measured at 1.5 or 2.0 mm. Nevertheless, the change shows that the previous ECG was indeed due to acute coronary syndrome (ACS).

Remember – not all ACS has a positive troponin! When negative, it is –of course– called “unstable angina.” It usually presents with a normal or nonspecific ECG, with ST-depression, or T-wave inversion – but unstable angina may also present with transient ST-segment elevation. Perhaps more disgruntling, transient ST-elevation does not always result in a positive troponin. The ischemia may resolve so quickly that there is both no wall motion abnormality and the troponin is negative!

With the advent of high-sensitivity troponin in the future, perhaps such cases will become more rare. But this increased sensitivity may come at the expense of worse specificity, or more false positive troponins.

The patient ruled out for acute MI with serial troponins remaining < 0.04 ng/ml (using a sensitive troponin assay). And so the patient was discharged. Yet 13 days later, he again presented with chest pain that again resolved. Another ECG was done after resolution of pain, as seen in Figure 3.

Figure 3: EKG after the patient’s second episode of chest pain resolved

There is new T-wave inversion in I, aVL, V4-V6. There is terminal T-wave inversion (biphasic) in V2 and V3, but complicated by the U-waves seen in these leads. This T-wave inversion represents a form of Wellens’ syndrome, indicating spontaneous reperfusion of a brief left anterior descending coronary occlusion.

This time troponin was positive, and the patient underwent coronary angiography, which showed severe subtotal left anterior descending artery disease and 70% left main disease. He underwent coronary artery bypass surgery.

This case illustrates the importance of paying close attention to the ECG and its evolution. With the formula applied, this patient’s ACS could’ve been diagnosed earlier.

Case Two. A 54-year-old with chest pain.

Figure 4: 54-year-old with chest pain and terminal QRS distortion.

This ECG shows terminal QRS distortion in lead V3 (no S-wave and no J-wave), which is not commonly seen in normal variant ST-elevation. Plus, the T-wave “towers over the R-wave” in lead V2. Because of the terminal QRS distortion, the equation should not be applied to this case – the ECG should be assumed to be STEMI until proven otherwise.

However, if you did apply the Early Repolarization vs LAD Occlusion Equation,

\[
\begin{align*}
&\left[1.196 \times 3.5\right] + \left[0.059 \times 402\right] - \\
&\left[0.326 \times 17\right] = 22.362
\end{align*}
\]

the result is < 23.4, consistent with early repolarization. STEMI was not immediately recognized in this case, but serial ECGs over 2 hours did diagnose it and the patient was taken for PCI of an LAD occlusion.

Case Three. A 50-year-old with chest pain.

Figure 5: 50-year-old with chest pain and significant ST-elevation.

This ECG has significant ST-segment elevation. There are J-waves in lead V3, and it meets none of the other exclusions, so the equation can be applied. The QTc was 404ms, so:

\[
\begin{align*}
&\left[1.196 \times 2.5\right] + \left[0.059 \times 404\right] - \\
&\left[0.326 \times 28\right] = 17.698
\end{align*}
\]

which is far below 23.4. This was indeed early repolarization.

Parting advice

Beware cases that are close to 23.4, because they may be falsely positive or negative. Always evaluate in clinical context. Remember adjunctive methods of assessment: Compare with previous ECGs, get serial ECGs, and get a stat echocardiogram. Troponin is very insensitive for STEMI, but, if positive, then any ST-elevation is more likely to be due to STEMI.

References

Emergency Medicine Research Handbook for Residents and Medical Students
Brian C. Geyer, MD, PhD, MPH and Elizabeth Gabbott, MD
This handbook is the result of over two years of discussion within the EMRA Research Committee about how to assist emergency medicine residents and medical students who are just getting started in research. The scholarship project that all emergency medicine residents are obligated to complete during residency is an opportunity to get your feet wet in research and discover answers to clinical questions you may encounter.

Critical Care Handbook
Anand Swaminathan, MD, MPH
As hospitals become increasingly overcrowded, Emergency Physicians are called on more than ever to provide not only immediate resuscitative care but also continued, high-quality critical care in the Emergency Department. This new handbook provides emergency physicians and medical students interested in Emergency Medicine with a succinct guide which addresses common critical care topics and their emergent as well as continued management.

The Basics of Emergency Medicine, A Chief Complaint Based Guide
Joseph Habibouche, MD, MBA
This new pocket reference creates a framework to learn from and provides an easy-to-use resource to make sure the basics aren’t overlooked. Dr. Habibouche compiled patient’s 20 most common chief complaints from head to toe! This practical tool is for interns, medical students, off-service rotating residents, NPs, PAs, and nurses to use on the fly!

Nicholas R. Schlicher, MD, JD
In this expanded 2nd edition of the handbook, Dr. Schlicher and the chapter authors outline the essential and advocacy issues surrounding emergency medicine today. Not just for the politically-minded, this resource is useful for the student, resident, physician, patient or concerned citizen to help understand the important issues affecting all aspects of emergency care.

Clinical Prediction Card
John D. Anderson, MD and Todd Smith, MD
A great reminder of commonly-used prediction rules for the ED. Perfect for medical students and interns and an indispensable prompt for those guidelines until they become like second nature: Level of evidence rating; Ottawa Ankle/Foot/Knee; Nexus Criteria; C-spine; Canadian C-spine; Center Criteria for Acute Pharyngitis; Canadian CT Head; Wells Criteria/ Pulmonary Embolism Wells Criteria/DVT/PE Rule-out Criteria; and PORT Score/Pneumonia.

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Everything you need to know about improving outcomes for septic patients in the ED available in this newly revised pocket reference guide. This comprehensive review of sepsis treatment recommendations was developed by the EMRA Critical Care Committee.

EMRA Airway Card
Michele J. Haydel, MD and Todd Gutt, MD
A handy pocket reference for intubation of neonates to adults. Includes helpful information on drips, tube placement and Glasgow Coma Scale. A must-have in the emergency department for patients of all ages!

The Medical Student Survival Guide, 2nd Edition
Gus Garriel, MD
Get help organizing and understanding the many complex issues concerning emergency medicine careers. Topics include career possibilities, CV’s, interview tips, contract negotiations, benefits & more. Reviewed by Ann Emer Med 2009; 53; 292

Emergency Medicine’s Top Pediatric Clinical Problems, 1st Edition
Dale Woolridge, MD, PhD
The pediatric version of top clinical problems features the same design and format as its cousin. Is a must have pocket reference and teaching tool for all EM physicians, especially during pediatric rotations.

Critical Care Card
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BE PREPARED with the 2013 EMRA Antibiotic Guide

EMRA Resident and Alumni members receive a complimentary printed copy as a free member benefit. Order through the ACEP Bookstore. Mobile versions available at your providers app store.
Preparing for the Emergency Medicine Boards

The Emergency Medicine Residents’ Association (EMRA) Emergency Medicine Qualifying and Certification Exam Preparation Survey

Background

Emergency medicine residency graduates need to pass both written qualifying and oral certification exams as the final benchmark to achieve board certification through The American Board of Emergency Medicine (ABEM). Following the successful completion of an accredited emergency medicine residency, candidates for board certification take the written qualifying exam in the fall after graduation as the first step to becoming an ABEM diplomate. If successful in this first step, candidates will take the oral certification exam in the spring or fall of the following year.

Many residents and recent graduates spend a significant amount of time and money preparing for these important exams. With this in mind, EMRA would like to help you to make informed decisions about how best to spend your time and resources preparing for the boards. In fall 2011 the EMRA Board of Directors sponsored a survey of recent graduates to assess their overall preparedness for the boards, and solicit their opinions and comments about specific board review products that they may have used during their preparations. EMRA neither produces nor promotes any specific board review product; and every effort was made to include a comprehensive list of all textbooks, review courses, tutoring, and online products available.

The objectives of the survey were to:
1. Determine the amount of residency and individual preparation,
2. Determine the extent of the use of various board review products, and
3. Elicit evaluations of the various board review products used for the ABEM qualifying and certification exams.

Methods

Emergency medicine residency graduates from the past three years who were members of EMRA upon graduation were surveyed via email. There are approximately 900 residents graduating from residency each year, with 95% of these graduates being EMRA members. Residents were sent an introductory email explaining the survey, and three follow-up emails with links to the online survey. A total of 520 graduates completed the survey, corresponding to a response rate of approximately 19%.

Respondents were asked about the presence of formalized educational activities within residency training for the written and oral board exams, frequency of formalized training sessions, and average numbers of hours per week spent studying for the boards. They were asked to comment on the numbers and types of board review products used. For each product, respondents were asked to rate the quality of content; quality of the figures and photos; level of detail; relevance of practice questions; ease of use; value for time and money; and overall impression.

Results

Preparation

Many residencies seek to prepare their residents by including written (67%) and oral board (85%) preparation activities. The majority of the written board preparation activities occur around the in-training exam (50%), but are often spread throughout the academic calendar. Similarly, residency-sponsored oral board review sessions are clustered around an annual educational activity, such as a retreat (36%), or are administered on a quarterly basis (33%).

Individual board preparation starts in earnest, on average, nine weeks [range: 4-40 weeks] prior to the written qualifying exam, and five weeks [range: 0-20 weeks] prior to the oral certification exam. Respondents to the survey reported an average of 15 hours per week [range: 4-60 hours] of study time for the written qualifying exam, and eight hours per week [range: 0-30 hours] of study time for the oral certification exam in the month prior to the exam.

In preparing for the written qualifying exam, 90% of respondents used a board preparation textbook, with 69% using two or more books. Half of recent graduates answering the survey (51%) used a written qualifying board review course, while 17% used a commercially available online written board exam preparation product. In preparing for the oral certification exam, 57% of respondents used a
board preparation textbook, and 34% took an oral board review course.

Similar to the reported ABEM passing rates on the written qualifying and oral certification exams, respondents reported passing rates of 94% and 97% respectively. Respondents reported an average estimated cost of $716 spent on books, courses, and online products in preparing for the written qualifying exam, and $510 in preparing for the oral certification exam.

### Table 2. Highest Rated Board Review Products

<table>
<thead>
<tr>
<th>Type of Product</th>
<th>Overall Impression of Board Review Products</th>
<th>Avg Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Qualifying</td>
<td>PEER VII by Wagner</td>
<td>3.50%</td>
</tr>
<tr>
<td>Examination Review Books</td>
<td>Emergency Medicine: Focused Review by Schofer</td>
<td>3.47%</td>
</tr>
<tr>
<td></td>
<td>1000 Questions to Help You Pass the Boards by Alddeen</td>
<td>3.28%</td>
</tr>
<tr>
<td></td>
<td>Emergency Medicine: Just the Facts by Ma</td>
<td>3.26%</td>
</tr>
<tr>
<td></td>
<td>First Aid for the EM Qualifying Examination by Blok</td>
<td>3.25%</td>
</tr>
<tr>
<td></td>
<td>Preparing for the Written Exam in EM by Rivers</td>
<td>3.05%</td>
</tr>
<tr>
<td>Oral Certification</td>
<td>EM Oral Board Review Illustrated by Okuda</td>
<td>3.60%</td>
</tr>
<tr>
<td>Examination Review Books</td>
<td>First Aid for the EM Oral Boards by Howes</td>
<td>3.11%</td>
</tr>
<tr>
<td></td>
<td>Preparing for the Oral Exam in EM by Rivers</td>
<td>2.88%</td>
</tr>
<tr>
<td></td>
<td>EM Oral Board Review by Grossman</td>
<td>2.79%</td>
</tr>
<tr>
<td>Written Qualifying</td>
<td>National Emergency Medicine Board Review Course</td>
<td>3.70%</td>
</tr>
<tr>
<td>Examination Preparation</td>
<td>Ohio ACEP EM Written Board Review Course</td>
<td>3.60%</td>
</tr>
<tr>
<td>Courses</td>
<td>AAEM EM Written Board Review Course</td>
<td>3.58%</td>
</tr>
<tr>
<td></td>
<td>ACOEP Written Board Preparation Course</td>
<td>3.18%</td>
</tr>
<tr>
<td>Oral Certification</td>
<td>Oral Board Tutorials by Weber and Illinois ACEP</td>
<td>3.72%</td>
</tr>
<tr>
<td>Examination Preparation</td>
<td>Pennsylvania ACEP EM Oral Board Review Course</td>
<td>3.70%</td>
</tr>
<tr>
<td>Course</td>
<td>Ohio ACEP EM Oral Board Review Course</td>
<td>3.50%</td>
</tr>
<tr>
<td>Online Board Preparation</td>
<td>MED-Challenger EM Comprehensive Board Review</td>
<td>3.80%</td>
</tr>
<tr>
<td>Materials</td>
<td>PEER VII on Spaced Ed</td>
<td>3.46%</td>
</tr>
<tr>
<td></td>
<td>ABEM Prep.com</td>
<td>2.22%</td>
</tr>
</tbody>
</table>

The highest rated preparation products that at least 5% of respondents used are listed in Table 2. Respondents were asked to provide an overall impression on a scale of Excellent-4, Good-3, Average-2, or Poor-1. Average scores of the overall impression are reported. Additional details of the individual variables of each board review product are listed in a separate link on the EMRA website.

Respondents were asked to name a board review product that was essential for them to pass the boards, and these are listed in Table 3.

### Discussion

For those emergency medicine residents and graduates preparing to take the ABEM written qualifying and oral certification exams, a number of written texts, in-person review courses, and online review products are available. The vast majority of preparation products received good to excellent ratings across the variables asked in the survey, including overall impression.

As many respondents pointed out in their comments about preparing for the emergency medicine boards, the best preparation for the boards is a quality emergency medicine residency. In addition to quality clinical training, many residency programs specifically facilitate preparation for the boards by having written and oral board preparation activities, such as in-training exam reviews and mock oral board sessions.

In addition to those activities organized within residency programs, respondents to the survey spent a significant amount of time and money in preparing for the emergency medicine boards. Almost all respondents (90%) used a book to prepare for the written exams, and half of respondents (57%) used an oral board preparation textbook. In general, respondents start preparing sooner and spend more time per week preparing for the written qualifying exam when compared to the oral certification exam. Perhaps this is due to the greater breadth of knowledge covered by the written exam, or the higher passing rate for the oral certification exam, when compared to the written qualifying exam.

While far fewer respondents took either a written (51%) or oral (34%) board

continued on page 40
Preparation for the Emergency Medicine Boards

The Emergency Medicine Residents’ Association (EMRA) Emergency Medicine Qualifying and Certification Exam Preparation Survey

continued from page 39

Table 3. Essential Board Review Product for Passing the Boards

<table>
<thead>
<tr>
<th>Board Review Product</th>
<th>Total Mentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEER Products</td>
<td>102</td>
</tr>
<tr>
<td>National Emergency Medicine Board Review Course</td>
<td>41</td>
</tr>
<tr>
<td>Preparing for the Board Exam in EM Series</td>
<td>40</td>
</tr>
<tr>
<td>First Aid for the EM Boards Series</td>
<td>17</td>
</tr>
<tr>
<td>AAEM Emergency Medicine: Focused Review</td>
<td>13</td>
</tr>
</tbody>
</table>

preparation review course compared to those using textbooks, many respondents spent the money and made the commitment to attend a formal review course. Uniformly, review courses received favorable reviews; therefore, cost, convenience, and proximity are likely the most important considerations versus overall course quality when choosing to attend a particular board review course. The American College of Osteopathic Emergency Physicians (ACOEP) provides both written qualifying and oral certification preparation courses specific to each specialty board, and several respondents reported favorable reviews of these products. There are also private tutorials available for the oral certification board that a few respondents have used, and they also receive favorable reviews.

Although only a few online or computer-based board review products are currently available to emergency medicine graduates preparing for the boards, these types of resources are likely to become increasingly popular in the future. This is especially true of the written board preparation products, as the current version of the qualifying exam is now computer-based. While these products are not as popular among respondents, when compared to currently available textbook and review courses, the quality of these products will likely improve as experience with this format increases. There are no current oral certification computer-based products on the market, but it does not take much to imagine a live chat oral board preparation format with an instructor, in the near future.

Fortunately for emergency medicine graduates, the passing rates for the written qualifying exam and the oral certification exam remain greater than 90%. Despite these reassuring passing rates, emergency medicine graduates should not underestimate these high-stakes examinations. Candidates applying to take these board examinations should come up with a preparation strategy while in residency, and execute the plan following graduation and the first year out of training. Performance on the in-training exam and mock oral board sessions will help guide the amount of preparation that an individual graduate will need to invest in his or her preparation. Familiarity with the electronic format of the written exam and the interview scenarios of the oral written, are imperative for successful performance on examination day. Many of the board review products provide guidance about the structure and logistics of the examination day to shape examinee expectations of the testing experience.

The written qualifying exam and the oral certification exam represent not only the final hurdle for board certification in emergency medicine, but also a significant investment of time and financial expense. Hopefully, the results of this survey will help upcoming graduates and current residents to make informed choices about their board preparation strategies. Detailed information about each of the board review products, including open comments from survey respondents, are included on the EMRA website under the board preparation survey link.
1. In the assessment of health care personnel for HIV postexposure prophylaxis following a percutaneous injury, a less severe exposure type is associated with:
   A. Deep puncture
   B. Needle used in an artery or vein
   C. Solid needle
   D. Visible blood on device

2. A 24-year-old man with a history of ulcerative colitis and previous appendectomy presents with a 3-day history of progressively worsening fever, vomiting, and abdominal pain. He says he has had several episodes of bloody diarrhea over the past 10 days. Blood pressure is 100/70, pulse is 115, and temperature is 38.4°C (101.1°F). He appears ill and dehydrated, with a distended abdomen and stool mixed with blood. Abdominal radiography reveals a transverse colon diameter of 8 cm with air seen within the rectum. What is the appropriate next step in management?
   A. Give parenteral steroids
   B. Order a barium enema
   C. Place a rectal tube
   D. Start oral vancomycin

3. A 27-year-old man presents with severe left knee pain after a low-speed motorcycle crash. Physical examination is limited and reveals only swelling and tenderness. Radiographs reveal dislocation of the knee. Which of the following findings is most concerning for concomitant popliteal artery injury?
   A. Ankle-brachial index of 0.93
   B. Intact dorsalis pedis pulse
   C. Joint effusion
   D. Posterior dislocation

4. What is the effect of placing a magnet over a permanent cardiac pacemaker?
   A. All pacemaker impulses are temporarily disabled
   B. Pacemaker is set to fixed-rate mode
   C. Pacemaker is set to interrogation mode
   D. Pacemaker is set to overdrive pacing mode

5. A 62-year-old man with a long smoking history presents coughing up large amounts of blood. He says that it started as flecks of blood in his sputum several weeks earlier. He began coughing clumps of blood earlier in the day and has since filled a coffee cup. Vital signs are blood pressure 180/94, pulse 130, respirations 18, temperature 36.9°C (98.4°F), and oxygen saturation 92% on room air. He has decreased breath sounds. A chest radiograph reveals a right upper lobe mass; Hct is 31%. He coughs up about 5 mL of blood every 15 to 20 minutes. What should be the next step in management?
   A. Arrange outpatient chest CT scanning and followup with oncology
   B. Intubate left mainstem and obtain thoracic surgery consultation for emergent thoracotomy
   C. Obtain pulmonology or thoracic surgery consultation for bronchoscopy
   D. Start transfusion and arrange ICU admission
Risk management pitfalls in the treatment of pediatric hypertension

From the April 2012 issue of Pediatric Emergency Medicine Practice. Reprinted with permission. To access your EMRA member benefit of free online access to all EM Practice, Pediatric EM Practice, and EM Practice Guidelines Update issues, go to www.ebmedicine.net/emra, call 1-800-249-5770, or email ebm@ebmedicine.net.

1. “I didn’t check his blood pressure because my patient is an infant. It is impossible to get a blood pressure in this age group.”
   Though it can sometimes be challenging to check blood pressure in an infant or toddler, all age groups, including neonates, can and should have blood pressures measured when indicated. Using the proper size blood pressure cuff can ensure accurate measurements, and distraction techniques can help providers obtain the measurements.

2. “Hypertension is only a primary care issue.”
   Though much of the diagnostic evaluation and treatment of hypertension can and should be completed as an outpatient in a primary care setting, there are times when it is appropriate to work-up these patients in the ED. Hypertensive crises should have treatment and a limited evaluation in the ED.

3. “I knew the patient was having a hypertensive emergency, but I didn’t admit the patient to the ICU because I lowered his blood pressure and he looked well.”
   Patients who experience a hypertensive emergency should be admitted and closely monitored in an intensive care setting after initiation of therapy in the ED. Intravenous agents should be utilized in order to achieve a controlled decrease in blood pressure. Patients are at risk for complications and require close monitoring during the 24 to 48 hours required to gradually normalize their blood pressure.

4. “Her blood pressure is just high because the child is anxious and scared.”
   In addition to WCH and hypertension due to anxiety, there are other important reasons for patients to present with hypertension that should be considered. In an asymptomatic hypertensive patient, attempts should be made to repeat the blood pressure. If blood pressure continues to be elevated, the child and family should be instructed to seek follow-up with their primary care physician for repeat blood pressures and have diagnostic evaluation if the hypertension persists on repeated measurements. If the child is symptomatic or having a hypertensive crisis, the child should be appropriately treated and diagnostically evaluated in the ED.

5. “The child has hypertension and neurologic deficits. I need to lower his blood pressure immediately.”
   Though it is tempting to immediately lower the child’s blood pressure by 25%, consideration must be given to the possibility that the child may be having an ischemic stroke which, in turn, is causing the child’s hypertension. If the child is having an ischemic stroke, lowering the blood pressure can worsen the situation and allowing permissive hypertension is the better choice. Delineating the 2 entities is very important in order to pursue the appropriate treatment course.

6. “The child is obese, so there isn’t a need to search for secondary causes of hypertension.”
   Though obesity is certainly a risk factor for hypertension and can be the sole cause of hypertension, due to the risk of morbidity and mortality, it is important to consider possible secondary causes of pediatric hypertension.

7. “I don’t need to treat this child’s hypertension because the child has a history of high blood pressure, so his body is used to it being this high.”
   Though children with chronic hypertension should have their blood pressure lowered more slowly than a child with an episode of acute hypertension, children with chronic hypertension need to receive treatment for their hypertension as well. Children with chronic hypertension can also experience hypertensive crises and require emergency treatment.

8. “It’s too busy in the ED to take a family history and ask a complete review of systems.”
   Though the ED can be and usually is a very busy place, appropriate history needs to be asked when indicated. There are secondary causes of pediatric hypertension that will be much more obvious in certain children if the family history or review of systems is positive. Without this history, the secondary cause of hypertension may be overlooked.

9. “This child can’t have coarctation of the aorta, Turner Syndrome, or congenital adrenal hyperplasia. Those diagnoses would have been made as an infant.”
   Though the majority of children with these issues are identified early in infancy, there are certainly cases of older children being diagnosed due to incidental findings or the identification of complications. Never say never; always avoid always.

10. “Hypertensive crises only happen in adults. I only take care of children, so I don’t really need to know how to treat it.”
    Though hypertensive crisis is uncommon in children, it can and does happen. It is important for all ED providers who care for children to know how to manage hypertensive crises.
1. “I didn’t check his blood pressure because my patient is an infant. It is impossible to get a blood pressure in this age group.”
   Though it can sometimes be challenging to check blood pressure in an infant or toddler, all age groups, including neonates, can and should have blood pressures measured when indicated. Using the proper size blood pressure cuff can ensure accurate measurements, and distraction techniques can help providers obtain the measurements.

2. “Hypertension is only a primary care issue.”
   Though much of the diagnostic evaluation and treatment of hypertension can and should be completed as an outpatient in a primary care setting, there are times when it is appropriate to work-up these patients in the ED. Hypertensive crises should have treatment and a limited evaluation in the ED.

3. “I knew the patient was having a hypertensive emergency, but I didn’t admit the patient to the ICU because I lowered his blood pressure and he looked well.”
   Patients who experience a hypertensive emergency should be admitted and closely monitored in an intensive care setting after initiation of therapy in the ED. Intravenous agents should be utilized in order to achieve a controlled decrease in blood pressure. Patients are at risk for complications and require close monitoring during the 24 to 48 hours required to gradually normalize their blood pressure.

4. “Her blood pressure is just high because the child is anxious and scared.”
   In addition to WCH and hypertension due to anxiety, there are other important reasons for patients to present with hypertension that should be considered. In an asymptomatic hypertensive patient, attempts should be made to repeat the blood pressure. If blood pressure continues to be elevated, the child and family should be instructed to seek follow-up with their primary care physician for repeat blood pressures and have diagnostic evaluation if the hypertension persists on repeated measurements. If the child is symptomatic or having a hypertensive crisis, the child should be appropriately treated and diagnostically evaluated in the ED.

5. “The child has hypertension and neurologic deficits. I need to lower his blood pressure immediately.”
   Though it is tempting to immediately lower the child’s blood pressure by 25%, consideration must be given to the possibility that the child may be having an ischemic stroke which, in turn, is causing the child’s hypertension. If the child is having an ischemic stroke, lowering the blood pressure can worsen the situation and allowing permissive hypertension is the better choice. Delineating the 2 entities is very important in order to pursue the appropriate treatment course.

6. “The child is obese, so there isn’t a need to search for secondary causes of hypertension.”
   Though obesity is certainly a risk factor for hypertension and can be the sole cause of hypertension, due to the risk of morbidity and mortality, it is important to consider possible secondary causes of pediatric hypertension.

7. “I don’t need to treat this child’s hypertension because the child has a history of high blood pressure, so his body is used to it being high.”
   Though children with chronic hypertension should have their blood pressure lowered more slowly than a child with an episode of acute hypertension, children with chronic hypertension need to receive treatment for their hypertension as well. Children with chronic hypertension can also experience hypertensive crises and require emergency treatment.

8. “It’s too busy in the ED to take a family history and ask a complete review of systems.”
   Though the ED can be and usually is a very busy place, appropriate history needs to be asked when indicated. There are secondary causes of pediatric hypertension that will be much more obvious in certain children if the family history or review of systems is positive. Without this history, the secondary cause of hypertension may be overlooked.

9. “This child can’t have coarctation of the aorta, Turner Syndrome, or congenital adrenal hyperplasia. Those diagnoses would have been made as an infant.”
   Though the majority of children with these issues are identified early in infancy, there are certainly cases of older children being diagnosed due to incidental findings or the identification of complications. Never say never; always avoid always.

10. Hypertensive crises only happen in adults. I only take care of children, so I don’t really need to know how to treat it.”
    Though hypertensive crisis is uncommon in children, it can and does happen. It is important for all ED providers who care for children to know how to manage hypertensive crises.
Call for Teams! EMRA Resident SimWars Competition 2012

We are recruiting teams to compete in the EMRA Resident SimWars Competition, which will be held at the ACEP Scientific Assembly; Wednesday, October 10 in Denver, Colorado. The purpose of the competition is to allow residencies from various institutions, to demonstrate their skills in teamwork and communication during the management of simulated cases in front of a live audience. Each team will consist of four residents from the same residency program. We recommend one senior resident at the minimum. If your residency program would like to compete, please submit entries to simwars@gmail.com and include the following information: 1) Name of your residency; 2) Program Director; 3) Team member’s names and PGY year; and 4) Email addresses for all team members. **Deadline: September 17**, teams will be announced by September 21.

Augustine D’Orta Award
Bestowed upon a resident physician who demonstrates outstanding community-minded, grass-roots oriented political involvement in health policy or community issues.

Joseph F. Waeckerle Founder’s Award
Honoring a physician who has made an extra-ordinary, lasting contribution to the success of EMRA.

Leadership Excellence Award
Presented to a resident who has demonstrated outstanding leadership ability.

EMRA Mentorship Award
This award recognizes an EMRA alumnus who has demonstrated exceptional service as a mentor for medical students and/or residents in Emergency Medicine. The dedicated recipient is an outstanding role model for future emergency physicians.

Clinical Excellence Award
Recognizes a resident who has done outstanding work in the clinical aspect of emergency medicine.

Local Action Grant
Promoting the involvement of emergency medicine residents in community service and other activities that supports the specialty of emergency medicine.

Excellence in Teaching Award
Given to an outstanding faculty member who has served as a unique role model for residents.

EMRA Travel Scholarship to Scientific Assembly
These $500 scholarships assist a resident or student member of EMRA in the costs associated with attendance of Scientific Assembly. Up to three applicants may be chosen based on financial need and academic pursuit.

MAKE YOUR VOICE HEARD

Call for Fall Resolutions
Get involved and steer the future of EMRA by writing a resolution. A resolution is a directive for EMRA to take certain action or to form a policy. These resolutions are discussed and voted on at the EMRA Representative Council Meeting at ACEP's Scientific Assembly in Denver, CO, October 8-11.

The deadline for resolution submissions is August 24, 2012.

For more information on authoring a resolution or to see recently adopted resolutions, visit www.emra.org or email speaker@emra.org.

Call for 2012 EMRA Fall Award Nominations

It’s time to nominate yourself or a colleague for an EMRA Award. Visit the website for application instructions. Deadline for submission is August 15. Awards will be presented at the EMRA Award Reception during ACEP’s Scientific Assembly in Denver, CO, Tuesday, October 9, 2012.

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EMRA Fall Elections

EMRA Elections will be held during ACEP Scientific Assembly in Denver, Colorado, October 9, 2012 for the following positions:

- **President-Elect**: Candidates for President-Elect must make a three-year commitment to EMRA. The first year serving as President-Elect. The second year in the term is as the President. The third and final year is spent as Immediate Past President/Treasurer.

- **Vice Speaker of the Representative Council**: This two-year term with the first year serving as Vice Speaker and the second as Speaker, assists Speaker as Parliamentarian for the Representative Council, acts as director of all Representative Council taskforces, and is the EMRA Delegate to the AMA Resident and Fellows Section at the annual and interim AMA meetings.

- **Legislative Advisor**: Candidates for Legislative Advisor must make a two-year commitment to EMRA. Position is responsible for coordinating and running the Residents and First-Timers Track at ACEP Leadership and Advocacy Conference. Generating and updating the EMRA Emergency Medicine Advocacy Handbook. As well as helping foster resident advocacy.

- **ACEP Representative**: This two-year position requires significant travel and interaction with a number of leaders in emergency medicine. In addition to the regular duties of an EMRA Board member, you will attend all ACEP Board of Directors meetings, serve on the ACEP Steering Committee, and be primary liaison with EMRA Representatives serving on ACEP Committees.

- **Member Development Coordinator**: EMRA is proud to announce a brand new position on its board of directors. The Member Development Coordinator is a two-year commitment, and will be charged with adding value to EMRA membership, finding innovative ways to recruit new EMRA members, spearheading the creation of new EMRA regional meetings, increasing EMRA’s organizational presence at the local & regional levels, coordinating the activities of EMRA’s multiple intra-organizational representatives, finding ways to improve resident wellness and serving as the board liaison to EMRA’s Research Committee.

For full position descriptions please visit [www.emra.org](http://www.emra.org).

If you are interested in running for a position, please email your CV, a statement of interest (200 words or less), letter of support from your residency director, and a photo (jpeg format) to mpackardmilam@emra.org by September 10, 2012. EMRA will post statements and photos received from candidates on the EMRA website. Nominations from the council floor will also be accepted.

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CANDIDATES AND EMPLOYERS

Connect through EM Career Central at ACEP’s Scientific Assembly

**October 8-10, 2012**

**Denver, Colorado**

**Located in the ACEP Resource Center in the Denver Convention Center**

- Monday, Oct 8  
  9:30am–3:30pm
- Tuesday, Oct 9  
  9:30am–3:30pm
- Wednesday, Oct 10  
  9:30am–3:00pm

**EMRA**

American College of Emergency Physicians

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Visit www.emcareercentral.org today to find the ideal position!
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Visit EMCareerCentral.org now to:

• **Find The Right Jobs**: Look for hundreds of emergency medicine positions by location, keyword and company name.
• **Get Job Alerts**: Register for e-mail about jobs that match your skills and interests.
• **Connect At Events**: Use our improved Event Connection™ feature to see who’s attending ACEP’s Scientific Assembly and EMRA’s Job Fair.
• **Sign Up For eNewsletters**: Employment best practices and job tips are as close as your inbox.
• **Find Career Advice**: Access the latest tips to help you land the right position.
• **Tie It All Together**: Upload your existing CV or build a new one, and easily keep track of job applications.

And if you’re hiring, there’s something for you too. The newly redesigned EM Career Central is attracting lots of attention from qualified applicants. Take advantage of the additional traffic and put more jobs in front of the right candidates.

**Are you ready for a career consult?**
See what’s new – at EMCareerCentral.org today!
Multi Area: EM Physician – Live Where You Choose – Equity Ownership Opportunity. Premier Physician Services has a very appealing opportunity for an internal traveler. How does this differ from a locum tenens position? This position would provide full-time benefits, shareholder opportunity at one year with no buy-in, enhanced compensation and limited clinical hours to make up for travel time; plus the advantage of growth opportunities. Who qualifies for this position? Candidates must be BP/BC ABEM or AOBEM with outstanding clinical and interpersonal skills. Who is the employer? Premier Physician Services is an extremely stable and reputable EM group with 25 years of success. Premier has an outstanding retention rate, appealing physician/patient ratios, and an excellent record of valuable contribution to the industry. For further information… Contact Kim Rooney, Premier Physician Services, (800)726-3627, ext. 3674, krooney@premierdocs.com, fax (937)312-3675.

Arizona, Casa Grande: EMP is proud to announce our expansion in Arizona and our affiliation with Casa Grande Regional Medical Center. The hospital has an annual volume of 40,000 emergency patients and offers excellent services and back up including 24 hour hospitalists. A multi-million dollar ED expansion is planned to increase the department to 32 beds. 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. Excellent compensation and benefits are available. For more information please contact Bernhard Beltran directly at 800-359-9117 or bbeltran@emp.com.

Arizona, Cottonwood and Sedona: EMP is pleased to announce our expansion in Arizona and our affiliation with Verde Valley Medical Center in Cottonwood and Sedona. These state-of-the-art facilities see approximately 24,000 and 7,000 emergency patients respectively per year. Situated in a beautiful, scenic area in North Central Arizona, Cottonwood combines the charm and friendliness of a small community with easy access to the metropolitan areas of Phoenix and Las Vegas and the charming college town of Flagstaff. Sedona is a beautiful tourist community located in Arizona’s “Red Rock Country”; this outdoor paradise is surrounded by mountains, forests, creeks and rivers. Full-time partnership opportunities are available for Emergency Medicine residency-trained and Board-Certified Physicians. EMP offers democratic governance, open books and bonus plus shareholder status after one year. Compensation package includes comprehensive benefits with funded pension (up to $33,000/yr), CME account ($8,000/yr), and more. Contact Bernhard Beltran directly at 800-359-9117 or 800-828-0898, e-mail bbeltran@emp.com.

California, Carmichael: Sacramento is one of California’s most livable cities, and Mercy San Juan Medical Center affords easy access to all that the area offers including a wide variety of housing, excellent schools, plus recreation in Lake Tahoe, Napa Valley and more. Modern facility is a Level II Trauma Center and host to full specialty back up and support services, providing for excellent care to 68,000 emergency patients per year. Enjoy a dynamic EM practice with broad pathology, family practice resident rotations and active EMS. Contact Bernhard Beltran at 800-359-9117 or bbeltran@emp.com.

California, Madera: Excellent compensation package — Children’s Hospital Central California. Full time opportunities for Pediatric Emergency Medicine Physicians. Join an outstanding team of fellowship trained/board certified pediatric emergency medicine physicians. Children’s Hospital Central California sees over 72,000 pediatric ED pts./yr. with excellent back up, PICU, and in-house intensivist coverage. The ED physicians also staff the hospital-wide sedation service. The compensation package includes comprehensive benefits with funded pension (up to $33,000/yr), CME account ($8,000/yr), family medical/dental/prescription/ vision coverage, short and long term disability, life insurance, malpractice and more. Contact Bernhard Beltran directly at 800-359-9117 or bbeltran@emp.com.

Southern California, Rancho Mirage: Emergency Medicine – Excellent Compensation with full-time partnership opportunities. Eisenhower Medical Center is a modern hospital with a newly expanded state-of-the-art 42-bed Emergency Department and an annual volume of 65,000 patients. The community is nestled at the base of the San Jacinto Mountains in the Palm Springs area and is truly an outdoor paradise with gorgeous weather year round. Candidates must be Emergency Medicine residency trained. EMP offers a competitive hourly rate plus, democratic governance, open books, and excellent compensation/bonus plus shareholder status after one year. Compensation package includes comprehensive benefits with funded pension, CME account ($8,000/yr) and more. Contact Bernhard Beltran directly at 800-359-9117 or e-mail bbeltran@emp.com.

California, Sacramento: Mercy General Hospital is a 300-bed, urban community hospital that is one of the busiest, most highly regarded tertiary cardiovascular referral centers for Northern CA and the west coast. 36,000 emergency patients are treated annually, and are supported by a full specialty medical staff of over 900. State-of-the-art imaging includes 64-bit spiral CT, MR color Doppler plus bedside ultrasound in the ED. The location provides for easy commutes from the area’s most desirable communities and recreation options. Contact Bernhard Beltran at 800-359-9117 or bbeltran@emp.com.

Connecticut, Meriden, New London and Stamford: Midstate Medical Center is a modern community situated between Hartford and New Haven seeing 55,000 EM pts. /yr. Lawrence & Memorial is a Level II Trauma Center on the coast near Mystic seeing 48,000 pts. /yr. The Stamford Hospital is a Level II Trauma Center seeing 48,000 ED pts. /yr. Located 35 miles from New York City near excellent residential areas. EMP is an exclusively physician owned/managed group with open books, equal voting, equal profit sharing, equity ownership, funded pension, comprehensive benefits and more. Contact Ann Benson (careers@emp.com), Emergency Medicine Physicians, 4355 Dressler Rd. NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.

Georgia, Atlanta: EmergiNet, a progressive, well-established physician owned emergency group has positions available for BC/BE. 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 Sara Gunn, sgunn@emerginet.com; fax 770-994-4747; or call 770-994-9326, ext. 319.
The Emory/Centers for Disease Control and Prevention (CDC)

Medical Toxicology Fellowship Program

Panama, Kenya, Bangladesh, Ethiopia, Mexico, Nicaragua and the Ukraine.... These are just a few of the places where our Medical Toxicology Fellows have traveled while investigating outbreaks of chemical-associated illness, mass poisonings, and environmental health threats. These outbreaks and investigations have included:

- Cholinesterase inhibitor poisoning among a cluster of children (Bangladesh)
- A mystery illness characterized by severe hepatic dysfunction (Ethiopia)
- Mass poisoning from diethylene glycol contaminated cough syrup (Panama)
- Occupational exposures to manganese (Mexico)
- Aflatoxicosis from contaminated maize (Kenya)
- And others...

This two-year program offers you affiliations with the Emory University School of Medicine, CDC, the Agency for Toxic Substances and Disease Registry (ATSDR), and the Georgia Poison Center. The Georgia Poison Center is among the 5 busiest poison centers in the United States and receives more than 90,000 calls per year. As an Emory/CDC Medical Toxicology Fellow you will):

- Participate in the toxicological evaluation, management, and bedside care of patients at five Atlanta-area metropolitan hospitals
- Provide expert toxicological guidance and consultation for the Georgia Poison Center
- See a wide variety of environmental/occupational cases of illness in the Grady Toxicology Clinic
- Learn from a diverse faculty that includes more than 10 board-certified medical toxicologists
- Work and train with international Medical Toxicology Fellows and Pharmacy Clinical Toxicology Fellows as well as mentor/teach medical students and rotating residents
- Have protected time to maintain your primary clinical skills within and/or outside of the Emory system
- Participate in international and domestic chemical-associated outbreak and public health investigations
- Receive formal training in epidemiology, statistics, scientific writing, medical management of both biological and chemical casualties, public health risk assessment, laboratory science, and more
- Have the opportunity to obtain a Masters of Public Health (MPH) degree at Emory in a single year (this adds one additional year to the 2-year fellowship)

For more information please contact:
Brent Morgan MD
Director, Emory/CDC Medical Toxicology Fellowship

Georgia Poison Center
50 Hurt Plaza SE, Suite 600
Atlanta, GA 30303
(404) 616-6651
bmorg02@emory.edu

www.emory.edu/em/fellowships_toxicology.html

Illinois, Chicago, Joliet and Kaneake: EMP manages EDs at 4 community teaching hospitals seeing 32,000 – 75,000 pts. /yr. with trauma center designations and residency training teaching options. We are an exclusively physician-owned/managed group with open books, equal voting, equal profit sharing, equity ownership, funded pension, full benefits and more. Contact Ann Benson (careers@emp.com), Emergency Medicine Physicians, 4535 Dressler Rd. NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.

Maryland, Leonardtown: Waterfront Metro DC lifestyle at the #1 Hospital in Maryland! May 2011- Using Joint Commission data, the University of Maryland Medical System ranked St. Mary’s Hospital as the No. 1 hospital in the state! SMH has been recognized for excellence in quality improvement by the Delmar Foundation for three consecutive years! Serving the community since 1912, St. Mary’s Hospital ED treats more than 50,000 patients annually. Medical Emergency Professionals is seeking ambitious, experienced BC/BE Emergency Medicine Residency Trained Physicians to join the TEAM at SMH in Leonardtown, MD. MEP offers an exceptional productivity based compensation plan, a $40,000 sign-on bonus and a comprehensive benefits package including A-rated malpractice with tail coverage. Total compensation package value over $345,000. SMH is a full-service hospital with a newly designed and renovated 27-bed ED, a 6-bed Fast Track, and a scribe for every physician/every shift. With MEP’s commitment to open and transparent relationships and a dynamic ED practice, this is a career opportunity you must explore! Leonardtown offers a relaxed waterfront lifestyle only 50 miles from Washington, DC. Qualified candidates should contact Sandra Lee at 301-944-0049 or e-mail CV to sleet@EmergencyDocs.com.

Michigan, Grand Blanc: EMP is proud of our newest affiliation with Genesys Regional Medical Center located 45 minutes north of metro-Detroit and minutes from a number of desirable residential areas. Genesys hosts both allopathic and osteopathic emergency medicine residency programs and sees 64,000 emergency pts./yr. We are an exclusively physician-owned/managed group with equal profit sharing, equal voting, equal profit sharing, equity ownership, funded pension, amazing benefits and more. Contact Ann Benson (careers@emp.com), Emergency Medicine Physicians, 4535 Dressler Rd. NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.

Nebraska, Omaha: Excellent compensation, equity ownership, desirable setting. Opportunity for 2013 for BC/BE EM physicians. EM volume ED in Council Bluffs, Iowa. This is a highly appealing ED in a suburban town in minutes from Omaha Nebraska. An excellent package is offered with guaranteed hourly rate plus additional incentive, family medical plan, employer-funded pension, CME expenses, account, shareholder status at one year with no buy-in, and additional benefits. As Nebraska’s largest city and a leader on many “best cities” lists, Omaha is home to Fortune 500 companies, celebrated jazz and theater, several world class zoos. For additional information contact Rachel Klockow, Premier Health Care Services, (800)406-8118, e-mail rklkow@phcsday.com, fax (954)986-8820.

Nevada, Las Vegas: St. Rose Dominican Hospitals. Open books, equal profit sharing, equity ownership and no buy-in! Work in modern, highly regarded community hospitals seeing 26,000 – 49,000 emergency patients per year. Emergency Medicine Physicians (EMP) offers democratic governance, open books, and excellent compensation/bonus plus shareholder status after one year. Compensation package includes comprehensive benefits, family medical/dental/prescription vision coverage, short and long term disability, life insurance, malpractice and more. If you have ever considered living in Las Vegas now is your chance; this rare opportunity will fill quickly. I urge you to contact me, Bernhard Beltran, at your earliest convenience directly at 800-359-9117 or email your CV to bbeltran@emp.com for immediate consideration.

Nevada, Henderson and Las Vegas: Full-time and part-time opportunities for Pediatric Emergency Medicine Physician. Joining a hospital team of fellowship-trained/board-certified pediatric emergency medicine physicians at two sites. University Medical Center is a Level I Trauma Center seeing 31,000 pediatric ED pts./yr. with excellent back up, PICU, and 24-hour in-house intensivist coverage. There is also an associated pediatric residency (36 residents). Time will be split with shifts also at St. Rose Dominican Hospital’s Siena Campus, which is situated in a upscale suburban area. EMP offers democratic governance, open books, and excellent compensation/bonus plus shareholder status after one year. Compensation package includes comprehensive benefits with funded pension (up to $33,000/yr.), CME account ($8,000/yr.), family medical/dental/prescription vision coverage, short and long term disability, life insurance, malpractice and more. Contact Bernhard Beltran at 800-359-9117, e-mail bbeltran@emp.com.

New York, Brooklyn: Emergency Medicine Physicians Needed. NES Healthcare Group is seeking emergency medicine physicians for Lutheran Medical Center (LMC), Brooklyn, NY. LMC is a Level I Trauma Center and a designated stroke center. Candidates must be BC/BE EM and have current EM experience. Competitive compensation, incentive program, CME allowance and malpractice coverage provided. Contact: Megan Evans, Physician Recruiter, 800-394-6376, fax 631-265-8875, mevans@neshold.com.

New York, Long Island, Albany area and Cortland: Brookhaven Memorial Hospital is in Patchogue on the southern shore of Long Island and sees 74,000 ED pts/yr. Cortland Memorial Hospital is a modern, full-service facility situated in the Finger Lake Region between Syracuse and Ithaca (34,000 ED pts/yr). Albany Memorial has a new ED (44,000 pts/yr) and hosts EM resident rotations, while Samaritan Hospital in Troy is a respected community hospital minutes from Albany seeing 46,000 ED pts/yr. Outstanding partnership opportunity includes equal profit sharing, equity ownership, funded pension, open books, full benefits and more. Contact Ann Benson, (careers@emp.com), Emergency Medicine Physicians, 4535 Dressler Rd, NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.

North Carolina, Charlotte: EMP is partnered with 8 community hospitals and free-standing EDs in Charlotte, Gastonia, Lincolnton, Pineville and Statesville. A variety of opportunities are available in urban, suburban and smaller town settings with EDs seeing 22,000 - 104,000 pts. /yr. EMP is an exclusively physician owned/managed group with open books, equal voting, equal profit sharing, equity ownership, funded pension, full benefits and more. Contact Ann Benson (careers@emp.com), Emergency Medicine Physicians, 4535 Dressler Rd. NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.

North Carolina, Kinston: Located in the center of eastern North Carolina, Kinston is less than 60 miles from some of the most beautiful beaches of the Carolina coast, and 35 miles from Greenville: 200-bed full-service community hospital treats 41,000 ED pts. /yr. Outstanding partnership opportunity includes equal profit sharing, equity ownership, funded pension, open books, full benefits and more. Contact Ann Benson (careers@emp.com), Emergency Medicine Physicians, 4535 Dressler Rd. NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.
The Fellowship is designed to give graduates of ACGME-recognized residencies in Emergency Medicine a broad introduction to all aspects of prehospital clinical practice and EMS medical direction including ground EMS (fire-based, private, rural, urban and critical care), air medical transport, tactical medicine and mountain rescue. Depending on specific interests and long-term goals, fellows may focus on any one of these areas. Curriculum meets the new ACGME draft EMS Fellowship requirements and includes a month-long orientation, didactics, research, Assistant Medical Directorships with excellent mentoring, limited ED shifts and a very active EMS Physician Field Response Program with take-home emergency response vehicles for call. Competitive junior faculty salary and benefits including a $5000 travel and education stipend.

Darren Braude, MD, EMT-P
EMS Section Chief and Fellowship Director
DBraude@salud.unm.edu

For more information, visit: http://hsc.unm.edu/SOM/emscad/EMSAFellowship.shtml
MEDICAL SIMULATION FELLOWSHIP

Summa Health System, in collaboration with the Austen BioInnovation Institute in Akron (ABIA), is pleased to sponsor the region’s first Medical Simulation Fellowship based in the Summa Akron City Hospital Department of Emergency Medicine. The Summa/ABIA program is a one to two year program of study that accepts one to two fellows per year. Fellows participate in a wide array of simulation training opportunities provided to them at the Akron City Hospital Virtual Care Simulation Laboratory (VCSL) and at the Center for Simulation and Integrated Healthcare Education (CSIHE) at ABIA.

CSIHE is a 25,000 square foot, state-of-the-art regional simulation center at the Austen BioInnovation Institute in downtown Akron. Fellows will have the opportunity to develop expertise in the educational, administrative and research aspects of a simulation program. Upon completion of the fellowship, graduates will have the leadership training necessary to direct their own simulation program.

Fellows practice clinically in three local Emergency Departments that includes a Level I trauma center with an annual volume of over 80,000 patient visits. Fellows must be board-eligible/board-certified in Emergency Medicine and eligible for an appointment as an attending physician in Emergency Medicine at Summa Health System.

For more information, please visit our website at: http://www.abia Akron.org/medical-simulation-fellowship-program

Applications should be sent directly to the Simulation Fellowship Director or to the office: ahmedr@summahealth.org

For additional information, please go to the SAEM fellowship website at: www.SAEM.org.

Summa Health System and the ABIA are equal opportunity employers.

EMS FELLOWSHIPS

Summa Health System Akron City Hospital is pleased to sponsor a number of EMS Fellowships based in the Summa Akron City Hospital Department of Emergency Medicine and Summa Institute of EMS including:

- Operational (i.e. traditional) EMS
- Wilderness and Disaster EMS
- International EMS
- EMS Education and Research

All tracks are designed to satisfy the ACGME EMS fellowship requirements and prepare the Fellow for a successful career in EMS. The unique offerings and experiences within each of these programs are available to all EMS fellows, while allowing a unique focus and in depth experience in that particular field if desired.

All Fellows will develop expertise in the educational, administrative and research aspects of a successful EMS program, while providing valuable hands-on clinical care in the field in a variety of settings ranging from urban to rural, and from aeromedical to tactical. Opportunities for advanced training such as the European Masters in Disaster Medicine are available. The Research and Education Fellow will work closely with Dr. Ahmed and his simulation fellows at the Akron City Hospital Virtual Care Simulation Laboratory (VCSL) and at the Center for Simulation and Integrated Healthcare Education (CSHE) a brand new 25,000 square foot, state-of-the-art regional simulation center at the Austen BioInnovation Institute.

All Fellows will also serve as faculty in one of the oldest EM programs in the region while practicing clinically at Akron City Hospital a Level I trauma center with 80,000 patient visits a year. Akron City Hospital is the first accredited AHA STEMI Receiving Center in Ohio and one of only 11 in the nation, as well as a certified stroke center.

The Summa program is a one to two year program that accepts up to four fellows per year. Fellows must be board-eligible/board-certified in Emergency Medicine and eligible for an appointment as an attending physician in Emergency Medicine at Summa Health System.

For more information, please visit our website at: www.summa-ems.org

Applications should be sent directly to the EMS Fellowship Program Coordinator: pagej@summahealth.org

Or call 330-375-5914
Patients per hour:

You just found it.

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Ohio, Dayton: BP/BC EM physician sought to join solidly established, equity-ownership group at 40,000 volume ED in north Dayton suburb. Enjoy life & work with the appeal of 9-hour shifts, collegial environment and outstanding physical plant. Excellent package includes guaranteed hourly plus additional incentive, malpractice, employer-funded pension, family medical plan, CME, and shareholder opportunity at one year with no buy-in. Premier’s outstanding record of physician and client retention, plus stable risk management program add to the appeal. For additional information contact Greg Felder, Premier Physician Services, (800) 726-3627, ext 3670, e-mail gfelder@premierdocs.com, fax CV (937)312-3671.

Ohio, Findlay: Premier Physician Services announces a new opportunity in 40,000 volume ED. Located 45 minutes south of Toledo, this Level III Trauma Center is a Top 100 Hospital with an appealing environment and excellent support services. Enjoy the benefits of an outstanding model offering equity-ownership at one year with no buy-in; giving you a voice and ownership in your company. Terrific benefits include family medical plan, employer-funded pension, malpractice, expense account & additional benefits including loan repayment opportunity; plus the advantage of guaranteed rate AND additional incentive. For additional information contact Amy Spegal, Premier Physician Services, at (800)726-3627, ext 3682, e-mail aspegal@premierdocs.com, or fax CV to Premier at (937)312-3683.

Ohio, Medina and Wadsworth: Combined two-site position at a brand new free-standing ED (~11,000 pts/yr) and established community hospital (20,000 pts/yr). Nice communities are near Akron and the area’s most desirable residential communities. Outstanding partnership opportunity includes equal profit sharing, equity ownership, funded pension, open books, full benefits and more. Contact Ann Benson (careers@emp.com), Emergency Medicine Physicians, 4535 Dressler Rd. NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.

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Ohio, Lima: Meet your financial and practice goals. Named among Top 100 Hospitals, this 57,000 volume, level II ED will complete an expansive, state-of-the-art renovation in 2012. Excellent coverage and great compensation make this opportunity ideal. Package includes guaranteed hourly plus RVU and additional incentives, malpractice, employer-funded pension, family medical plan CME/expense account, and shareholder opportunity at one year with no buy-in. Contact Kim Rooney, Premier Physician Services, (800)726-3627, ext. 3674, krooney@premierdocs.com, fax (937)312-3675.

Ohio, Parma: Parma Community General Hospital is situated in the SW Cleveland suburbs. State-of-the-art physical plant and equipment serve 48,000 patients per year. Outstanding partnership opportunity includes equal profit sharing, equity ownership, equal voting, funded pension, open books, comprehensive benefits and more. Contact Ann Benson (careers@emp.com), Emergency Medicine Physicians, 4535 Dressler Rd. NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.

Oklahoma, Tulsa: Modern 971-bed regional tertiary care center sees 84,000 ED patients per year. Broad pathology, high acuity, modern facilities and supportive environment. Outstanding partnership opportunity includes equal profit sharing, equity ownership, funded pension, open books, full benefits and more. Contact Ann Benson (careers@emp.com), Emergency Medicine Physicians, 4535 Dressler Rd. NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.

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 ER built in 2009, sophisticated EMR, extensive career opportunities. Benefits include scribes, 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.


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Pennsylvania, York: Staff and Assistant Director/Assistant Residency Director positions at Memorial Hospital. Site has new ED, respected osteopathic EM residency, and sees approximately 40,000 ED pts/yr. Outstanding partnership opportunity includes equal profit sharing, equity ownership, funded pension, open books, full benefits and more. Contact Ann Benson (careers@emp.com), Emergency Medicine Physicians, 4535 Dressler Rd. NW, Canton, OH 44718. 800-828-0898 or fax 330-493-8677.

Texas, Odessa: EM Opportunity in Odessa, TX! Wonderful immediate opportunity for a BC ER physician who desires to live in Odessa, Texas and succeed in a busy Emergency Room (24,000 annual visits). This would be a hospital-based employment arrangement. Hospital offers Level IV Trauma, Novarad PAC System, Level III Nursery and 10 Operating Rooms along with an active Hospitalist program. Physician coverage is 24/7 with 12 hours of mid-level coverage outside winter months – 2 mid-levels during peak winter season. Admission rate is low for most ERs (11-15%) including observations. There is a high pediatric volume, although there is a Pediatric After Hours Clinic which attempts to capture non-emergent Pediatric volume. Facility recently obtained Chest Pain Accreditation and should have Stroke Accreditation soon. Intensivist coverage will be added effective September, 2011. The Hospital has earned a 5-star rating from HealthGrades for three straight years. The faculty is located in the beautiful “Open Sky” country of Odessa/Midland in west Texas. Enjoy the great sense of community, excellent schools, and reasonable cost of living in this quality medical community. Area has a wide variety of cultural and sporting events. Odessa is known for its diversity, contrasts and hospitality. Please e-mail CV: ihudson@iassishcarehealthcare.com, fax: 615-467-1293 or call Irene Hudson at 877-844-2747, x1280.

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If you've ever shared a college apartment, you recognize this couch. It had more stuff spilled on it than a theater floor. Beer, con queso—you name it.
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