FemInEM
Positive Path to Gender Equity
SEE PAGE 6


DECREASE BOARDING
Proven Success at Montefiore
SEE PAGE 11

ST. JOSEPH'S OPIATES PROGRAM
Cutting Edge Pain Management
SEE PAGE 15

WILEY

American College of Emergency Physicians®
ADVANCING EMERGENCY CARE

ACEP Now

The Official Voice of Emergency Medicine

WINNER 2015 APEX® AWARDS FOR PUBLICATION EXCELLENCE

AUGUST 2016 Volume 35 Number 8 FACEBOOK/ACEPFAN TWITTER/ACEPNOW ACEPNOW.COM

PLUS

PEARLS FROM THE MEDICAL LITERATURE

A WHIRLWIND YEAR IN REVIEW

SEE PAGE 17

CME Now
A new continuing medical education feature of ACEP Now

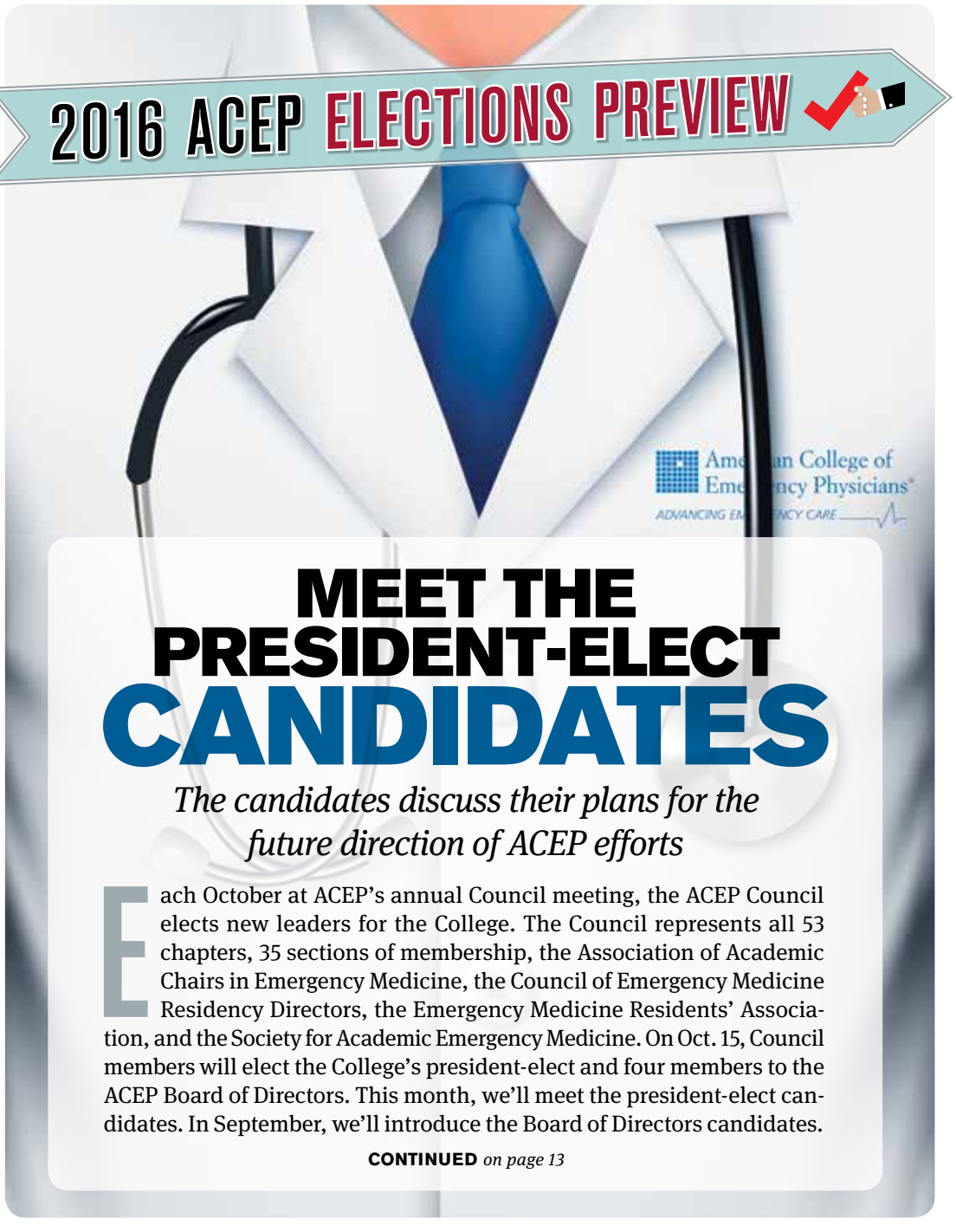
LOG ON TO http://www.acep.org/ACEPeCME/ TO COMPLETE THE ACTIVITY AND EARN FREE *AMA PRA CATEGORY 1 CREDIT.*

KIDS' KORNER

OVARIAN TORSION: SIZE MATTERS?

SEE PAGE 18

FIND IT ONLINE
For more clinical stories and practice trends, plus commentary and opinion pieces, go to:
www.acepnow.com



2016 ACEP ELECTIONS PREVIEW

MEET THE PRESIDENT-ELECT CANDIDATES

The candidates discuss their plans for the future direction of ACEP efforts

Each October at ACEP's annual Council meeting, the ACEP Council elects new leaders for the College. The Council represents all 53 chapters, 35 sections of membership, the Association of Academic Chairs in Emergency Medicine, the Council of Emergency Medicine Residency Directors, the Emergency Medicine Residents' Association, and the Society for Academic Emergency Medicine. On Oct. 15, Council members will elect the College's president-elect and four members to the ACEP Board of Directors. This month, we'll meet the president-elect candidates. In September, we'll introduce the Board of Directors candidates.

CONTINUED *on page 13*

SHUTTERSTOCK.COM

A NEW SPIN

The Recovering Academician

Crossing over from academia to community practice

by PATRICIA VAN LEER, MD

I listened to EMS's story (hypotension, bradycardia, altered) via the new electronic medical record then looked to head of the bed for my PGY-2, who would already have a GlideScope, bougie, and endotracheal tube ready to go. Instead, there was a nurse at the head of the bed, waiting for me to say something. My eyes then scanned the entire room for familiar sights (interns, residents, onlookers); there were none.

After graduating from the residency program at St. Luke's-Roosevelt Hospital in New York City, I continued working at the same hospital for several years. I was the assistant program director for two years when I made a huge life change last summer. I willfully stepped off of the academic train, but transitioning to a community hospital has not been the smooth ride that I expected.

Residents Versus No Residents

Getting back to my first shift without residents, in *Catch Me If You Can*, Leonardo DiCaprio briefly plays an attending. He fakes his way through medicine by asking for one resident's opinion, then turning to a second resident and asking, "Do you concur?" In some ways, I spent years asking, "Do you concur?" without having to initiate a plan of my own.

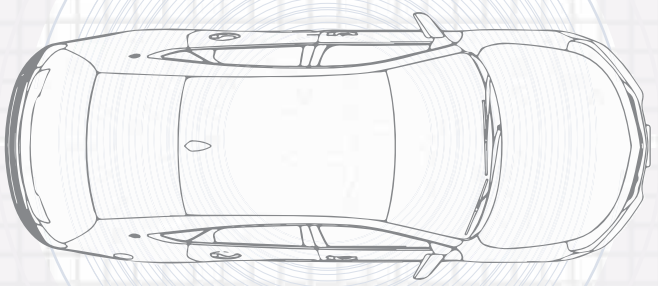
While I missed my residents for the complicated patients, I missed them even more during the minute-to-minute ED moments. I felt lonely without someone to share in the excitement of making a rare diagnosis or someone to show a cool X-ray finding.

CONTINUED *on page 5*

PERIODICAL

ACEP Now The Official Voice of Emergency Medicine
JOHN WILEY & SONS, INC.
Journal Customer Services
111 River Street
Hoboken, NJ 07030-5790

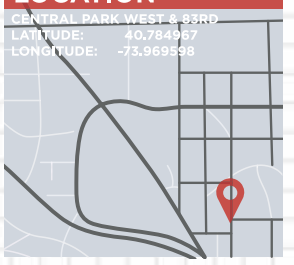
If you have changed your address or wish to contact us, please visit our website www.wileycustomerhelp.com



SOS

LOCATION

CENTRAL PARK WEST & 86RD
LATITUDE: 40.784967
LONGITUDE: -73.969598



CRASH DATA

– DELTA V/CHANGE IN VELOCITY:	45 MPH/72 KPH
– DIRECTION OF IMPACT:	SIDE
– MULTIPLE IMPACTS:	YES
– ROLLOVER STATUS:	NO
– AIR BAGS:	FRONT DEPLOYED
– INJURY SEVERITY PREDICTION:	HIGH

> “ISP tells us the likelihood of severe injury.”
>
> — Stewart Wang, M.D., Ph.D., *Director, University of Michigan International Center for Automotive Medicine*

OnStar technology tells a crash’s story.

As you respond to the scene, EMD-certified OnStar Emergency Advisors can relay crash data that includes an Injury Severity Prediction (ISP). By using Automatic Crash Response* data such as change in velocity, direction of impact, whether there were multiple impacts and more, the ISP algorithm calculates and reports if there is a high probability of severe injury. This helps you prepare for the scene and make decisions about the best treatment center for patients. It’s our way of helping you deliver the right care, right away.

Visit onstarISP.com for more information.

*Visit onstar.com for vehicle availability, details and system limitations. OnStar acts as a link to existing emergency service providers. Not all vehicles may transmit all crash data.

ACEP Now

The Official Voice of Emergency Medicine

INFORMATION FOR SUBSCRIBERS

Subscriptions are free for members of ACEP and SEMPA. Free access is also available online at www.acepnow.com. Paid subscriptions are available to all others for $247/year individual. To initiate a paid subscription, email cs-journals@wiley.com or call (800) 835 6770. ACEP Now (ISSN: 2333-259X print; 2333-2603 digital) is published monthly on behalf of the American College of Emergency Physicians by Wiley Subscription Services, Inc., a Wiley Company, 111 River Street, Hoboken, NJ 07030-5774. Periodical postage paid at Hoboken, NJ, and additional offices. Postmaster: Send address changes to ACEP Now, American College of Emergency Physicians, P.O. Box 619911, Dallas, Texas 75261-9911. Readers can email address changes and correspondence to acepnow@acep.org. Printed in the United States by Cadmus(Cenveo), Lancaster, PA.

SEND YOUR THOUGHTS AND COMMENTS TO ACEPNOW@ACEP.ORG

THE BREAK ROOM

More Female Physicians Needed

Editor,

AS A FEMALE EMERGENCY PHYSICIAN, I READ "A Call to Action: More female physicians need to join the emergency medicine workforce" with great interest. I agree with Dr. Clem that more female emergency medicine physicians are needed. There is a marked gender disparity in emergency medicine. I have long promoted EM as the one specialty tailor-made for women. The flexibility of shift work and lack of call give women the opportunity to be a nurturing mom and a medical professional. Women can choose shifts that allow them to fully participate in their children's lives and also fulfill their professional aspirations.

I especially see a great gender disparity in major leadership positions in EM. First and foremost, women need to want to participate in hospital and national organizations. Once a woman shows interest in leadership positions, she should be given support to aspire to those roles. Dr. Clem provided a lengthy list of Women in Medicine organizations, but she failed to mention the ACOEP Council for Women in Emergency Medicine. The ACOEP Council for Women in Emergency Medicine serves as a network to support and encourage women in all facets of emergency medicine, including moms and high-level administrators.

—Christina F. Giesa, DO, FACEP, FACOEP-d, ACOEP president-elect

Implementing *Choosing Wisely* Recommendations at Bedside

Letter to Editor,

I WAS SOMEWHAT DISAPPOINTED BY THE comments from practicing emergency physicians. Their reluctance to implement the test ordering approach suggested by the *Choosing Wisely* project seemed to be fixed on self-protection at the patient's (and society's) expense.

I am sure Dr. Lozanoff is correct when he says more testing results is better survey results, but unnecessary testing also results in an expense, increased incidence of "incidentalomas," and a sense of empowerment given to the patient. The latter result causes a continual increase in expectations for more testing on subsequent visits. Perhaps better patient education could substitute for unnecessary testing.

Dr. Fisher seems to want immunity from malpractice liability in exchange for more appropriate testing patterns. I do not see how we, as professionals, can disconnect our "rights" (immunity) from our responsibility to "do no (economic) harm."

Finally, I am not aware of any data that show a clear association between increasing testing and decreasing lawsuits.

—Bruce D. Janiak, MD, FACEP, FAAP, professor, Augusta University

ACEP Issues Statement on Orlando Mass Shooting

DR. KAPLAN'S STATEMENT IN RESPONSE TO the Orlando mass shooting and the related ACEP Task Force recommendations are inane and are an embarrassment to me as a long-standing member of the American College of Emergency Physicians.

Almost 50 years ago, after the assassinations of Senator Robert F. Kennedy and Reverend Martin Luther King in 1968, Senator Thomas Dodd of Connecticut issued the following statement:

"Pious condolences will no longer suffice ... Quarter measures and half measures will no longer suffice ... The time has now come that we must enact stringent gun control legislation comparable to the legislation in force in virtually every civilized country in the world."

It is regrettable that over the past two decades ACEP has retreated from its prior position of advocating stringent gun control regulations and that following the worst mass shooting in U.S. history, the best that ACEP can offer is "pious condolences" and recommendations such as gathering more data on "wounding patterns and causes of death for victims of mass violence."

It is long past time that we should heed Senator Dodd's words and enact gun control legislation similar to regulations already in place in every other high-income democratic country of the world—countries in which mass shootings are rare or nonexistent and in which overall rates of firearm-related deaths and injuries are far lower than in the U.S. Such legislation includes stringent regulation of, if not complete bans on, civilian ownership of handguns and rapid-fire semiautomatic rifles. In 1998, ACEP endorsed the Eastern Association of the Surgery of Trauma position paper on violence in America, which called for this very kind of gun control regulations.

It is regrettable that over the past two decades ACEP has retreated from its prior position of advocating stringent gun control regulations and that following the worst mass shooting in U.S. history, the best that ACEP can offer is "pious condolences" and recommendations such as gathering more data on "wounding patterns and causes of death for victims of mass violence."

Mass shootings are preventable, as are most of the more than 90 firearm-related deaths that occur every day in the U.S. and the many other non-fatal gunshot wounds. I would like to invite fellow ACEP members to join me in becoming charter members of a new organization, Americans Against Gun Violence (aagunv.org), that will work toward definitive measures to stop what a former ACEP president, Dr. Jack Allison, referred to in 1992 as the "shameful epidemic" of gun violence that afflicts our country.

—Bill Durston, MD

Dr. Kaplan Responds

Dr. Durston,

In response to your allegation that my reaction to the Orlando mass shooting was inane and is an embarrassment to you, I must respond. The statement to which you refer was written and released immediately after the shooting. It was meant to express my prayers for those who were hurt and killed as well as what ACEP was doing in an attempt to have our communities be better prepared in the future.

If you saw any of my public statements in multiple news organizations that followed those initial words, some of which were video-recorded, you would see that I also called gun-related violence a public health catastrophe and shared my personal sentiment that much more must be done by our federal legislators. I even traveled to Washington, D.C., on June 17, catching a 5:40 a.m. flight after working a clinical shift until 11:30 p.m. the night before in order to speak to a group of 40 legislative aides gathered by House Minority Whip Steny Hoyer to talk about what we should do together to stem this plethora of mass-casualty incidents. A video captured after that talk is available on ACEP.org.

At times, I have had to indicate that I have personal sentiments (which I elucidated) that differ from a significant number of ACEP members. While you criticize me for not doing enough, I have been condemned by some ACEP members for calling firearm-related violence a public health crisis and for saying too much. Please remember that I must represent all of our members. We have had vigorous debates at our Council meeting about ACEP's position on this issue, and I expect that we will have many more. A change in our "Firearm Safety and Injury Prevention" clinical policy has come before the Board, and a workgroup is being put together to ensure appropriate revisions. I will certainly share your name with Becky Parker, MD, FACEP, who will be assuming the ACEP presidency in mid-October and will be watching over those deliberations.

I have reiterated ACEP's 2013 policy, which includes the following:

Promoting firearm safety and injury prevention research;

- Creating a confidential national firearm injury research registry while encouraging states to establish a uniform approach to tracking;

If you saw any of my public statements in multiple news organizations that followed those initial words, some of which were video-recorded, you would see that I called gun-related violence a public health catastrophe and shared my personal sentiment that much more must be done by our federal legislators.

—Jay Kaplan, MD, FACEP, president of ACEP

- Recording firearm-related injuries;
- Promoting access to effective, affordable, and sustainable mental health services;
- Protecting the duty of physicians and encouraging health care provider discussions with patients on firearm safety;
- Promoting the development of technology that increases firearm safety;
- Supporting universal background checks for firearm transactions;
- Requiring the enforcement of existing laws and supporting new legislation that prevents high-risk and prohibited individuals from obtaining firearms by any means; and
- Restricting the sale and ownership of weapons, munitions, and large-capacity magazines that are designed for military or law enforcement use.

I take your comments very seriously. You would not know that my own family has been affected by gun violence. One of my nieces, who lives in Springfield, Oregon, was in her high school cafeteria when she was shot by a student gunman in 1998. She survived, but she still carries the bullet in her pelvis as well as the post-traumatic effects of that experience; her best friend was shot in the head and died.

I understand that you are president of the new organization, Americans Against Gun Violence. I wish you well in your efforts. ACEP has stood publically against gun violence. Our policy promotes some of the measures that you support. We will continue to advocate for stronger laws to protect the public and decrease the penetrating trauma that we unfortunately see so often in our emergency departments.

—Jay Kaplan, MD, FACEP, president of ACEP

CORRECTION

The July "A Dialogue on Gun Control" article contained an editorial error on page 5 of the print issue. The number of deaths from firearms last year was incorrectly printed as 330,000. The correct number is 33,000.

OPINIONS FROM EMERGENCY MEDICINE

A NEW SPIN

The Recovering Academician CONTINUED FROM PAGE 1

Education

Surprisingly, the thing I don't miss is teaching. Don't freak out. I love teaching, and I think it's something I do well. The reason I don't miss teaching is that I'm still constantly teaching. I work with scribes who are super-eager premed students dying for two minutes of teaching. Have you tried to explain an anion gap to a kid who is taking biochemistry? It requires an understanding of the science well beyond MUDPILES. It's both fun and challenging to teach to their academic level.

I also work with many nurses who are working on their nurse practitioner degree. Once I know they are interested in education, I'll take a minute to pull them aside and teach. I made the mistake of waltzing into my new emergency department and assuming that everyone wanted me to teach. Many nurses are receptive, but some are not interested in pausing during their busy day for "learning." On a few occasions, my two-minute mini-lectures were taken as pejorative instead of well-intentioned. Asking the simple question, "Do you have a minute to discuss that patient?" has gone a long way in figuring out who is interested and who is not.

Patient Satisfaction

While teaching is not one of my job requirements anymore, patient satisfaction is. I like to think that I was nice and respectful to patients as an academician, but I've made one major change to my practice since moving to the community: I wear a white coat. For those of you who have never practiced medicine as a youngish female, introducing myself as "Dr. Van Leer" and having "Doctor" in bold on my nametag is not enough. Patients would complain to a nurse that they've never seen a doctor. I even had an old woman say to me after my initial introduction, "You're adorable; now I'd like to see my doctor please." I now use the white coat as another cue to show, "I'm your doctor."

Salary

One of the biggest purported differences between academia and the community is compensation. I spent my first years as an attending being told repeatedly by co-workers how little we made. I heard about endless examples of easy money in the community. "I have a friend who works one week a month in rural Minnesota and makes as much as we do," or, "In Texas, no one works for less than $$$ per hour."

I took a community job that offered a higher salary than my academic job; my weekly clinical hours were similar, with no academic responsibilities. I was finally going to get a taste of this community living that I'd heard so much about. It was somewhere in the middle of my third shift when one of my new co-workers started telling me about how little we make. "You can make $$$ if you go to Hospital X or $$$ if you go to Hospital Y." How had I moved to the community and still found the lowest-paying hospital?

> Physicians often equate job satisfaction with salary, but it is clearly a much more complicated equation—trigonometry as opposed to algebra.

There will always be a higher salary or a lower patient load or a nicer physician lounge, but at what cost? Academia didn't pay me well but offered a lot of personal satisfaction and professional growth opportunities; I was happy. Can you quantify how much happiness is worth? My new job is only a few minutes from my house. If I moved to a hospital 40 minutes away, how much more would I have to make to pay for that time difference? Physicians often equate job satisfaction with salary, but it is clearly a much more complicated equation—trigonometry as opposed to algebra.

Career Path

A few weeks ago, I was sitting on the beach in Mexico when I received the text: "Vinny and Chen won CPC!!" It was a message from my old program director. In my old life, I would have been at those Clinical Pathologic Case competitions, cheering them on. Immediately, all of my anxieties came flooding back. Why did I leave a job I loved? I looked up to see my boys playing in the water and felt the warm sand on my toes. I felt like the universe was telling me that I was in the right place.

There will always be negative voices telling you that you're not making enough money, but as I left academia, I also encountered some negative voices telling me, "You won't be able to come back." I guess the main thing I've learned this past year is that there is no traditional career path. Don't let those negative voices or expectations unduly influence your decisions. EM physicians have so many options; make choices that prioritize the things that are important to you.

DR. VAN LEER is an emergency physician at Howard County General Hospital in Columbia, Maryland.

ILLUSTRATION/PAUL JUESTRICH; PHOTOS SHUTTERSTOCK.COM

"FemInEM" Is Blazing a Positive Path to Gender Equity

The FemInEM website tackles gender equity through positivity and peer support

by DARA KASS, MD, FACEP

Editor's Note:

Dear Colleagues,

We recognize that there has been considerable discussion and concern regarding the recently published opinions that were received in response to Dr. Clem's article, "Emergency Medicine Workforce Needs More Women Physicians." ACEP Now *has made a commitment to its readership to be a platform for open discussion and debate. The opinions expressed are not those of ACEP or* ACEP Now. *They are the opinions of readers and ACEP members that are not solicited, but are received on the website and passed through to the print publication. As in this case, there are times when comments are received that I do not personally agree with or even strongly oppose. However, I feel that my beliefs should have no bearing on the navigation of "our" discussions.* ACEP Now *will not publish profanity or ad hominem attacks, but otherwise, we have maintained a liberal approach to the expression of personal opinion and have consistently demonstrated this with a variety of contentious topics.*

We felt an obligation to publish these responses and are committed to continuing this very important dialogue that ACEP leadership has identified as critical to our future. These responses are but a portion of a detailed series on this topic, and the article below by Dr. Kass was in production following their receipt. We believe that diversity of opinion, albeit controversial and/or insensitive at times, raises awareness and creates an informed community.

I recognize that our readers had no way of knowing that these responses would not be left unanswered, which resulted in frustration, and even outrage from some. For that, I offer my sincere apologies.

Sincerely,

Kevin Klauer, DO, EJD, FACEP, medical editor-in-chief for ACEP Now

Although the saying goes, "Inspiration often strikes when you're least expecting it," I tend to find inspiration in lots of places. I'm inspired by the strength of my patients, tolerating procedures that are no doubt painful and unfamiliar. My children inspire me with their insightful questions on the ways of a world they're just figuring out, and I was inspired after reading the recent *ACEP Now* article "Emergency Medicine Workforce Needs More Women Physicians" by Kathleen Clem, MD, FACEP.

In the article, Dr. Clem, professor and chair of the department of emergency medicine at Loma Linda University in Loma Linda, California, spelled out a call to action surrounding the careers of women in emergency medicine. She reminded everyone that supporting women in emergency medicine isn't just a "gender equity" issue but a patient care and physician workforce issue. For much of the article, she described recommendations that could improve the recruitment, retention, and support of women in emergency medicine.

Many of her recommendations were derived from the recently published paper "The Development of Best Practice Recommendations to Support the Hiring, Recruitment and Advancement of Women Physicians in Emergency Medicine." A lot of these suggestions are, in fact, gender neutral, with broad impact across the physician workforce, including:

- Experiment with changes in practices that are out of step with the realities of modern life and work to create environments that foster success for all the physicians in your group.
- Include positives about emergency medicine opportunities for work-life balance in recruitment.
- Ensure that maternity/paternity leave policies are in place.

An article like Dr. Clem's is meant to be inspiring, but as an active member of the Academy for Women in Academic Emergency Medicine (AWAEM) and the American Association of Women Emergency Physicians (AAWEP) and a vociferous advocate for gender equity in emergency medicine, I figured I was unlikely to derive new inspiration from the piece. And then I read the online comments.

Dr. Clem's article elicited some colorful responses; here are just a few:

- "I don't support the subsidizing of coworkers' life choices."
- "If you are asserting that medicine is at risk for not surviving because women now make up 60 percent of medical students, perhaps we should seek out more men to enter the field."
- "If you CHOOSE to have kids, try to be super-mom, expect your colleagues to work around you and your personal life, you have made yourself less marketable."

These comments were neither *surprising* nor *enlightening* to me, but they were viscerally *inspiring*. They served as an immediate and obvious reminder that many of my colleagues still believe "every man for himself" policies are the acceptable and that gender equity is a burden without benefit. And that feeling, the energy I derive from trying *do something* about this issue, is why I work so tirelessly as the editor-in-chief of FemInEM.

Support System

Launched in 2015, FemInEM (www.feminem.org) is an open-access resource for women working in emergency medicine that discusses, discovers, and affects common experiences. Through deliberate and engaging dialogue, the site explores a variety of issues that support the development and advancement of colleagues and ourselves. FemInEM aims to address gender disparities in a positive way, empowering both male and female physicians. It also celebrates and promotes workplace flexibility policies for everyone practicing emergency medicine.

FemInEM, and its associated social media affiliations (@feminemtweets, Facebook), have been using positivity and peer support to address and overcome the traditional biases facing women in emergency medicine.

FemInEM consists of three main sections: blog posts, an honors section, and the speakers bureau.

The blog posts are informative, well-researched, and frequently personal. They cover content that highlights the unique but inspiring journeys of many women practicing emergency medicine. Topics range from the perception of women as resuscitation leaders, difficult work-family integration issues, and the gender gap in salary for women physicians. It's a forum to proactively and productively discuss the difficult issues many face as we "*CHOOSE to have kids, try to be supermom, expect [our] colleagues to work around [us] and [have a] personal life.*"

The Honors and Speakers Bureau sections are unique to FemInEM. Through these sections, and positive but unapologetic peer support, FemInEM subtly addresses many of the biases that women have faced for years.

Self-promotion is a quality that has come to be expected and often revered in men but generally resented in women. An early post on FemInEM discussed this topic in detail. In this piece, entitled "On Self-Promotion: Wisdom from Paul the Maintenance Man," the hospital maintenance man is quoted as saying, "All the men around here hang up their plaques. None of the women do."

Self-promotion, when accurate and genuine, is beneficial and helps others understand your value. Unfortunately, self-promotion can also decrease likability, a bias proven to prevent women from advancing in the workplace. Striking the right balance between likability, competence, and confidence is frequently mentioned as the enormous obstacle for women leaders. So FemInEM decided to make it easier for women to share their accomplishments.

FemInEM Honors is the place to celebrate the amazing accomplishments of women in this field. Any time a woman physician receives an award or honor, a page dedicated to that achievement is created and promoted. That post is then disseminated through all of the social media channels. The response has been overwhelming. FemInEM used to have to seek out awardees, searching Twitter or Facebook for notifications. Now there are unsolicited emails from chairs, program directors, and the women themselves, reminding that it actually isn't about self-promotion at all—it's about having a neutral space for peer and mentor support.

The Speakers Bureau grew out of a debate on the lack of women speakers at emergency medicine conferences. The bureau is the first searchable database of women speakers in emergency medicine. Each profile page has a short bio of the speaker and her topics of interest. In addition, when available, we've embedded a video or podcast of the speaker in action.

This rapidly growing database has more than 100 international speakers, all of whom submitted themselves as ready, willing, and able to handle speaking assignments. This database is open-access and available to all emergency medicine conference organizers, hopefully increasing the proportion of women speaking in the near future.

FemInEM is approaching the cause for gender equity and workplace flexibility exactly opposite to those commenting on Dr. Clem's article. For that, I'm inspired. The commenters on her piece are never going to feel good about "paying for someone's disability [maternity leave]," but maybe once they get to know these extraordinarily talented and dedicated physicians, they'll stop seeing them as "disabled."

FemInEM will never be about quotas, modification of clinical standards, or special consideration. Instead, it's about a common journey to be the best physicians, wives, mothers, daughters, employees, and people we can be. Because being true to all aspects of each of us isn't a choice—it's just honest.

DR. KASS completed her residency training at SUNY Downstate/Kings County Hospital and is currently the director of undergraduate medical education at New York University/Bellevue Hospital. She is active in the Academy for Women in Academic Emergency Medicine and is the editor in chief of www.feminem.org, an open-access resource meant to discuss, discover, and affect the journey of women working in emergency medicine.

EMF RESEARCH ASSESSES FLUID RESPONSIVENESS WITH ULTRASOUND

Study explores using ultrasound to support clinical judgment in complex decisions regarding fluid management

by SARA CRAGER, MD

Editor's Note: *This is the next installment of a continuing series highlighting researchers sponsored by the Emergency Medicine Foundation (EMF) and illustrating the impact EMF-funded research is having on emergency medicine.*

Study Title: Agreement of different ultrasound measures of fluid responsiveness with each other and with clinical judgment in critically ill patients

Authors: Sara Crager, MD, Ricky Amii, MD, Caleb Canders, MD, Daniel Weingrow, DO, Stephanie Tseeng, MD, and Alan Chiem, MD

Researcher Information: Dr. Crager received her MD from Yale School of Medicine. She completed residency training in emergency medicine in 2015 at the Olive View-UCLA Medical Center and is currently a critical care fellow in the Department of Anesthesia at Stanford Hospital. She is interested in studying the use of multi-point ultrasound assessments to evaluate volume status in critically ill patients. Ultimately, she hopes to develop protocols for ultrasound assessment of volume status in undifferentiated shock patients.

Dr. Amii is an assistant clinical professor at UCLA-Olive View Medical Center.

Dr. Canders is an ultrasound fellow at UCLA-Olive View Medical Center.

Dr. Weingrow is an assistant clinical professor at UCLA-Ronald Regan Medical Center.

Dr. Tseeng is an assistant clinical professor, UCLA-Ronald Regan Medical Center.

Dr. Chiem is an assistant clinical professor, UCLA-Olive View Medical Center.

Study Background: The ability to accurately assess fluid responsiveness (FRes) is central to guiding fluid management in critically ill patients. Evidence is accumulating that both inadequate and excessive fluid resuscitation are associated with increased morbidity and mortality, and there is a growing body of literature underscoring the importance of achieving this balance early in the course of treatment. It is becoming increasingly important to have access to point-of-care tools that facilitate tailoring fluid management to the needs of individual patients. As the utility of central venous pressure is being increasingly called into question, ultrasound is becoming the major modality used by emergency physicians to assess FRes, with multiple different ultrasound approaches currently in use. While left ventricular outflow tract velocity time integral ($LVOT_{VTI}$) is the most validated of these, it's difficult to perform correctly, and significant controversy remains as to which ultrasound modality is best for emergency physicians to use and even whether clinical judgment by itself is just as effective for accurately predicting FRes. In this study, we assessed the agreement of various ultrasound approaches to FRes prediction with one another and with the clinical judgment of experienced physicians.

Study Design: We evaluated 29 patients admitted to the medical intensive care unit. Patients for whom there was a clinical decision being made about fluid management by the clinical team were enrolled. We asked attending physicians caring for the patients to predict whether the patients would be fluid responsive (i.e. whether they would expect the patient to increase their cardiac output after a fluid bolus) based on their clinical judgment and how certain they were of this assessment. We obtained four different ultrasound measurements at the time of clinical assessment: inferior vena cava respiratory variation (IVC), $LVOT_{VTI}$, carotid artery maximal velocity (carotid V_{max}), and femoral artery maximal velocity (femoral V_{max}). The four sonographers performing the scans were all ultrasound fellowship-trained emergency physicians and were blinded to the admitting diagnosis and the physician's clinical assessment of FRes.

Results: Overall, there was poor agreement

CONTINUED *on page 10*

ADVERTISEMENT

WHAT IS CULTURE AND WHY DO I NEED IT?

CULTURE IS TRENDING

You can't open a magazine or read an article lately without a reference to culture. But what is it, really, and why do organizations need it?

BY DAVID BIRDSALL, MD
VICE PRESIDENT & EMERGENCY MEDICINE PARTNER

WHAT IS CULTURE?

Like an iceberg, culture is largely invisible. If you ask your nursing or medical staff to describe your hospital's culture, they'd probably have a hard time. However, it's likely that everyone in your organization shares an unspoken understanding of the rules and their place in the pecking order.

> "Culture represents your organization's core, its true self."

It's expressed continuously by what your people do and say. For this reason, it can't be faked or changed through directives. It has to be changed through hearts and minds.

CULTURE IS MISSION CRITICAL

Developing and maintaining a positive culture probably isn't in your job description as a leader. But make no mistake, it's one of the most important things you can do.

Culture touches everything in your organization. It influences behavior, relationships, decisions and ultimately, effectiveness. A survey of top supply chain executives found that they viewed culture (or lack thereof) as the number one barrier to business success. Culture has elevated many ventures — and crushed many more. On the positive side, the best and the brightest minds compete to work for culture-conscious companies like Google, Twitter, Facebook and even the fully unionized Southwest Airlines. On the negative side, we have the culture of unchecked greed that tanked Enron. Glaring cultural differences made the $35 billion Sprint Nextel merger a disaster.

CULTURE & HEALTHCARE

Let's talk about what this all means for hospitals and health systems.

As a vice president and former regional director of CEP America, it's been enlightening to work with dozens of hospitals over the years.

Very often, when a department is struggling, team members will point out why their department is different. Maybe they're in a part of the country where recruiting top-notch providers and staff is difficult. Maybe the facilities are outdated, cramped and uncomfortable. Or maybe they have high patient volumes, high acuity or a challenging population.

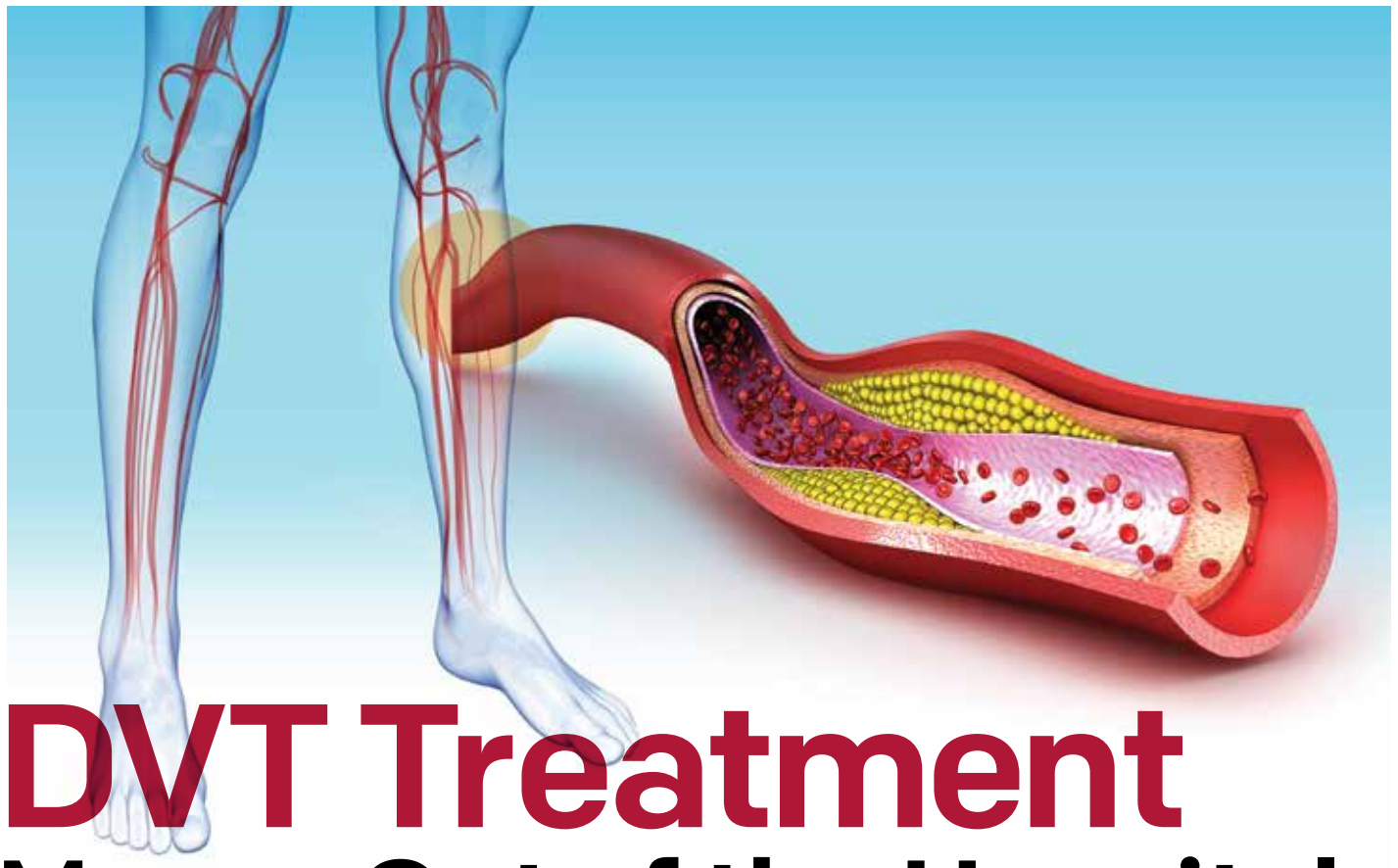
Granted, these difficulties are real. But I also think these departments are underestimating the role culture plays.

In my day, I've seen hospitals with every advantage struggle with staff retention, patient satisfaction and quality. And I've seen hospitals with stark disadvantages excel at all of the above.

Performance areas directly impacted by culture include:
Patient Satisfaction, Provider Satisfaction, and Medical Staff Alignment.

To read more about the importance of culture and how CEP America enacted change, visit:
go.cep.com/yourculture

CEP America®



DVT Treatment Moves Out of the Hospital

Rational approaches to outpatient treatment of deep vein thrombosis

by BORIS GARBER, DO; AND JONATHAN GLAUSER, MD, MBA, FACEP

Emergency physicians have been tasked not only with providing safe and accurate care but also with stewardship of society's scarce resources. Among other things, this means outpatient management of some disease entities traditionally managed in an inpatient setting.

Deep vein thrombosis (DVT) is a relatively common condition, having lifetime prevalence of up to 5 percent, and is commonly first diagnosed in the emergency department.[1,2] Massive proximal DVT can lead to phlegmasia alba, which is itself limb-threatening. Pulmonary embolism is a frequent complication, and in patients with patent foramen ovale, paradoxic/systemic thromboembolic complications such as stroke can develop. Late morbidity of venous thromboembolism (VTE) such as postphlebitic syndrome characterized by extremity edema and pain, stasis dermatitis, and, in severe cases, ulcer formation, as well as pulmonary hypertension, is well-described. Timely therapy reduces the rate of these complications.

Systemic anticoagulation for DVT may include therapeutic dosages of unfractionated heparin, low-molecular-weight heparin (LMWH), rivaroxaban, or fondaparinux. Alternatives such as vena cava filters and mechanical clot removal in patients with contraindications to anticoagulation exist, but they are outside the practice of emergency medicine. Since development of LMWH in the late-20th century, the option for discharge of select patients with DVT from the emergency department became viable. This has the potential to improve quality of life, increase patient convenience, and reduce health care expenditures.[1,3–5] Outpatient management of DVT was slow to catch on. One report of patients diagnosed with DVT treated from 2003 to 2007 noted that only 28 percent of patients were treated as outpatients.[6]

After the diagnosis is established, it should be decided if the patient is appropriate for outpatient management. Those with iliofemoral clot, unstable clot visualized on ultrasound, severe comorbid conditions, or unstable social situations make poor candidates for discharge from the emergency department. There is a paucity of data on outpatient management of upper-extremity DVT. Special attention should be paid to the patient's risk of bleeding once anticoagulated. In addition to the physician's judgment, there are tools such as the Registry of Patients with Venous Thromboembolism (RIETE) score (available at www.mdcalc.com/riete-score-risk-hemorrhage-pulmonary-embolism-treatment) for assistance in determining suitability for outpatient management. Patients judged to be a higher risk should be given an easily reversible agent and monitored in the hospital initially.

As there are currently multiple pharmacologic options for anticoagulation (see Table 1), it is important for emergency physicians to be well-informed to choose the best option for their patients. Current options include the following agents: LMWH, enoxaparin, dalteparin, tinzaparin, nadroparin, fondaparinux, warfarin, and the novel anticoagulants (NOACs) dabigatran, rivaroxaban, apixaban, and edoxaban. If the patient is prescribed warfarin, then therapeutic dosages of an unfractionated heparin should be given for five days until the international normalized ratio (INR) is therapeutic. Starting warfarin at 10 mg per day on days one and two has been recommended as safe and able to achieve a therapeutic INR more rapidly than 5 mg daily.[1,2] Regular monitoring of the INR for patients taking warfarin is necessary due to wide individual genetic differences to warfarin response as well as to the wide number of medication interactions with warfarin. NOACs are attractive alternatives due to their oral route of administration, quick and predictable onset of action, and avoidance of repeat blood draws to monitor coagulation parameters. Studies suggest that NOACs are non-inferior to warfarin with regard to DVT complications and risk of bleeding.[7] NOACs are renally excreted but have not been well-studied in patients with creatinine clearance levels less than 30 µmol/L.

Since development of LMWH in the late-20th century, the option for discharge of select patients with DVT from the emergency department became viable. This has the potential to improve quality of life, increase patient convenience, and reduce health care expenditures.

Suggested doses of anticoagulants are listed in Table 2. Here are short summaries of selected agents.

LMWHs are preferred agents for treatment of DVT in pregnancy, DVT in cancer patients, and patients with procoagulant disorders.[2] Enoxaparin (Lovenox) is administered at 1 mg subcutaneously (SC) every 12 hours or 1.5 mg/kg daily. Dalteparin (Fragmin) is typically dosed at 200 units/kg SC daily for one month, then 150 units/kg Sc thereafter. LMWHs are renally excreted, and dosing must be modified for renal insufficiency.

While generally safe, a subset of patients will develop life-threatening bleeding complications while anticoagulated. Heparin-induced thrombocytopenia (HIT), with its risk of extensive thrombotic complications, is less likely to occur with LMWHs than with unfractionated heparin but still mandates discontinuation of these agents, including unfractionated heparin, for the rest of the patient's life.

The limitations of warfarin prompted the development of NOACs, which produce a predictable anticoagulant response without requiring routine monitoring.

Fondaparinux (Arixtra) is an indirect factor Xa inhibitor. It lacks cross-reactivity with heparin-induced antibodies and can be administered to patients diagnosed with HIT. Since it is 100 percent renally cleared, the patient must have a creatinine clearance of at least 30 mL/minute and preferably more than 50 mL/minute. It is typically weight-dosed, with 5 mg/day SC prescribed daily for patients less than 50 kg, 7.5 mg daily if the patient weighs 50–100 kg, and 10 mg/day SC for patients weighing more than 100 kg.

Rivaroxaban (Xarelto) is an oral direct factor Xa inhibitor. It may be used for acute and long-term treatment of DVT. As with LMWHs, it may not be appropriate for use in patients with renal insufficiency. It is typically started at 15 mg orally twice daily for three weeks, then 20 mg orally each day. It has been shown to be non-inferior to LMWHs, with similar or fewer major hemorrhages.

Apixaban (Eliquis), another factor Xa inhibitor, is administered at 10 mg orally twice daily for 10 days, then at 5 mg daily thereafter. **Edoxaban** (Savaysa), the third approved factor Xa inhibitor, is typically dosed at 60 mg orally per day, although it has been dosed at 15–30 mg daily for patients weighing less than 60 kg or with a creatinine clearance of 15–50 mL/minute. All of the factor Xa inhibitors are relatively expensive compared to warfarin, with 30-day cost to pharmacy cited in the $277–$315 range.[8]

There are no approved reversal agents for the factor Xa inhibitors. It should be noted that several molecules are being studied as potential reversal agents for NOACs.[9] When there is an effective reversal agent available, NOAC indications may broaden.[2] It is unclear how effective prothrombin complex concentrates (PCCs) are in reversing anticoagulation effects of the factor Xa inhibitors, but they may be a treatment option for now until specific antidotes are approved.

Dabigatran etexilate (Pradaxa) is a direct thrombin inhibitor dosed typically at 150 mg twice daily orally for patients with creatinine clearance of more than 30 mL/minute after seven to 10 days of parenteral anticoagulation. It is approved for treatment of VTE in the United States. For emergency bleeding or for preparation for emergency surgery, a monoclonal antibody idarucizumab (Praxbind) is

CONTINUED *on page 10*

ILLUSTRATION/PAUL JUESTRICH; PHOTOS SHUTTERSTOCK.COM

available to reverse its effects, given in 2.5 gm IV for two doses, no more than 15 minutes apart.[9] Supratherapeutic levels of dabigatran may occur in patients with decreased renal function.

Conclusions

The emergency physician has a variety of options for managing patients with DVT as outpatients. Clearly, patients' renal function, reliability, and support system will dictate the optimal treatment course.

DR. GARBER is an attending physician at MetroHealth Medical Center and assistant professor at *Case Western Reserve University School of Medicine, both in Cleveland.*
DR. GLAUSER is on the faculty of the Emergency Medicine Residency Program at MetroHealth Medical Center and professor of emergency medicine at Case Western Reserve University.

References

1. Wells PS, Forgie MA, Rodger MA. Treatment of venous thromboembolism. *JAMA.* 2014;311(7):717-728.
2. Yeh CH, Gross PL, Weitz JI. Evolving use of new oral anticoagulants for treatment of venous thromboembolism. *Blood.* 2014; 124(7):1020-1028.
3. Zakai NA, McClure LA, Lutsey P, et al. Adoption of outpatient treatment of deep vein thrombosis in the U.S.: the reasons for geographic and racial differences in stroke study (REGARDS) [abstract]. *Blood.* 2014;686.
4. Lozano F, Trujillo-Santos J, Barron M, et al. Home versus in-hospital treatment of patients with acute deep venous thrombosis of the lower limbs. *J Vasc Surg.* 2014;59:1362-1327.
5. Fahad M, Al-Hameed MD, Hasan M, et al. The Saudi clinical practice guideline for the treatment of venous thromboembolism: outpatient versus inpatient management. *Saudi Med J.* 2015;36(8):1004-1010.
6. Zakai NA, McClure LA, Lutsey PL, et al. Adoption of outpatient treatment of deep vein thrombosis in the US: The reasons for geographic and racial differences in stroke study (REGARDS). 56th American Society of hematology (ASH) Meeting and Exposition, Dec 2014. Abstr
7. Kakkos SK, Kirkilesis GI, Tsolakis IA. Efficacy and safety of the new oral anticoagulants dabigatran, rivaroxaban, apixaban, and edoxaban in the treatment and secondary prevention of venous thromboembolism: a systematic review and meta-analysis of phase III trials. *Eur J Vasc Endovasc Surg.* 2014;48(5):565-575.
8. Edoxaban (savaysa) – the fourth new oral anticoagulant. *The Medical Letter.* 2015;57(1465):43-44.
9. Hu TY, Vaidya VR, Asirvatham SJ. Reversing anticoagulant effects of novel oral anticoagulants: role of ciraparantag, andexanet alfa, and idarucizumab. *Vasc Health Risk Manag.* 2016;12:35-44.

Table 1: Options for Outpatient Anticoagulation in Patients with DVT.[1,9]

AGENT	MECHANISM OF ACTION	DOSE/ROUTE OF ADMINISTRATION	ELIMINATION	ANTIDOTE	MONITORING OF ANTICOAGULATION	COMMENTS
LMWHs (enoxaparin, others)	Activate antithrombin III and inhibit thrombin	Subcutaneous	Renal clearance 80%	Protamine sulfate	Unnecessary	Not for use in patients with history of HIT
Warfarin	Blocks synthesis of vitamin K–dependent clotting factors II, VII, IX, X	Oral	Renal clearance negligible	Vitamin K, FFP, 3 and 4 factor PCCs	Regular INR checks due to large individual variation in response	Many drug-drug interactions; needs to be bridged with a heparin for the first 4–5 days
Fondaparinux	Indirect factor Xa inhibitor	Subcutaneous	Renal clearance 100%	Under investigation	Can be used in patients with history of HIT	
Dabigatran	Direct factor Xa inhibitor	Oral	Renal clearance 80%	Idarucizumab	Risk of thrombotic events (such as stroke) if suddenly stopped	Affects INR level; increased levels with strong inhibitors of P-gp and amiodarone; decreased levels with inducers of P-gp
Rivaroxaban	Direct factor Xa inhibitor	Oral	Renal clearance 33%	Under investigation PCCs		Affects INR levels; caution with strong inhibitors (increased activity of anticoagulant) or inducers (decreased activity of anticoagulant) of CYP3A4 and P-gp
Apixaban	Direct factor Xa inhibitor	Oral	Renal clearance 25%	Under investigation PCCs		Affects INR levels; caution with strong inhibitors (increased activity of anticoagulant) or inducers (decreased activity of anticoagulant) of CYP3A4 and P-gp
Edoxaban	Direct factor Xa inhibitor	Oral	Renal clearance 35%	Under investigation PCCs		Affects INR levels; less affected by CYP341 and P-gp modulators[2]

Table 2: Selected Dosing of Anticoagulants in Patients with DVT. Note that limited data are available for morbidly obese patients, while patients with mass less than 57 kg for men and less than 45 kg for women are at increased risk of bleeding with heparins.[1,2]

AGENT	DOSES	COMMENTS
Enoxaparin	1 mg/kg SC q12hr 1.5 mg q24hr alternatively	1 mg/kg SC q24hr in severe renal impairment
Warfarin	Adjusted on case-by-case basis: typically 5–10 mg daily initially, 5 mg thereafter	Regular monitoring of INR needed
Fondaparinux	<50 kg 5mg SC q24hr 50–100 kg 7.5 mg q24hr >100 kg 10 mg SC every 24 hrs	Not for patients with renal impairment
Dabigatran	150 mg PO bid	
Apixaban	Start 10 mg PO bid for 10 days, then 5 mg PO bid	
Edoxaban	60 mg PO q24hr	

among the different FRes assessments evaluated. The only measures that showed fair agreement were $LVOT_{VTI}$ and carotid V_{max} (κ = 0.34) as well as carotid V_{max} and femoral V_{max} (κ = 0.26). IVC respiratory variation showed poor agreement with all other measures studied (κ = 0 to -0.01). Clinician judgment showed poor agreement with all ultrasound measures studied (κ = -0.15 to 0.18). Clinicians rated their judgment as "highly certain" 45 percent of the time, "somewhat certain" 35 percent of the time, and "not at all certain" 20 percent of the time.

This research will ... contribute to understanding how ultrasound may ... support clinical judgment when making complex decisions regarding fluid management in septic and critically ill patients.

Projected Impact: This research will hopefully contribute to understanding how ultrasound may be used by emergency physicians to support clinical judgment when making complex decisions regarding fluid management in septic and critically ill patients. Even when performed by expert sonographers, the variety of ultrasound measurements currently in use to assess FRes show only poor to fair agreement with one another. Despite experienced clinicians expressing a high or moderate degree of certainty in their clinical assessment of FRes 80 percent of the time, there was poor agreement of these assessments with all ultrasound measures of FRes. Given the increasing recognition of the importance of accurate assessment of FRes in critically ill patients, future studies will need to clarify which measures should be used by emergency physicians when assessing FRes as these data suggest that the same patient could be deemed fluid responsive or nonresponsive depending on the method of assessment used.

DR. CRAGER is a critical care fellow in the Department of Anesthesia at Stanford Hospital in Stanford, California.

Proven Success at Montefiore

WAYS TO DECREASE BOARDING BY INCREASING CAPACITY

MODERATOR

Peter Viccellio, MD, FACEP, is vice chairman of the Department of Emergency Medicine and associate chief medical officer for the Health Sciences Center at Stony Brook University in New York.

PARTICIPANTS

Peter Semczuk, DDS, MPH, is senior vice president and executive director of Montefiore's Moses Campus in Bronx, New York. He is well-known for his work in emergency services, having overseen the expansion of Montefiore's Department of Emergency Medicine to the second busiest in the nation.

David Esses, MD, FACEP, is a professor of clinical emergency medicine and vice chair and medical director at the Department of Emergency Medicine at Montefiore Medical Center, Moses Division, in Bronx, New York.

We know that many hospitals in the country operate at capacity, and many patients are boarded in the emergency department. The literature is replete with the adverse consequences, including morbidity and increased mortality. It seems that it's the way our system runs that creates this problem. We're a nine-to-five, Monday-through-Friday system, trying to address a seven-day-a-week problem.

There are a few major initiatives to address this, including smoothing of elective admissions, which seems to have a profound effect on improving capacity. Early-morning discharges also have a strong impact on capacity, can virtually eliminate boarding, and also decrease the length of stay. The untouched area in the hospital industry has been weekends. Looking at the Statewide Planning and Research Cooperative System (SPARCS) data compiled by the New York State Department of Health reveals that discharges on a Saturday have an average length of stay of 3.9 days, but patients discharged on a Monday stay an average of 7.3 days.

I recently had a conversation with Peter Semczuk, DDS, MPH, and David Esses, MD, both with the Department of Emergency Medicine at Montefiore Medical Center, about how they solved their problems with ED boarding, particularly on weekends. The following is an edited transcript of our conversation.

PV: David, would you describe what the emergency department was like before these interventions and then describe the interventions and what has changed at Montefiore?

DE: I'll paint the picture of January and February of last year. We had an average of 29 patients waiting for beds at 8 o'clock in the morning. We would have more than a ward full of patients just waiting for beds every single day—that includes Saturdays and Sundays. About eight years ago, we hired a team of hospitalists to help take care of the patients who were waiting for beds.

ILLUSTRATION/PAUL JUESTRICH; PHOTOS SHUTTERSTOCK.COM

PS: Our work actually began in March 2015. We have a very large academic medical center with 96,000 discharges a year and a little over 300,000 ED patients. We were in the busiest quarter of the year and were falling behind our admission and discharge targets in the first two months. We were contemplating all kinds of actions, and chose to take on ED crowding. It was really unbelievable in the middle of March, the winter flu season. The emergency department was packed, and yet all of these admitted patients were being boarded because we were not looking at ED crowding as a system-wide issue. One of the less popular but most important changes we made was that we insisted that each of our key directors join me and come in on the weekends. We worked consecutively for about six months, every Saturday and Sunday, so that we could get a much better understanding of some of the rate-limiting steps to safely discharge patients. It was painfully apparent that things that should have been happening on Saturday and Sunday simply were not.

An example was that you couldn't get an echocardiograph done on a Saturday or a Sunday. It turned out it was only a matter of talking to the leadership in cardiology and saying, "Guys, we have to find a way to do echos seven days a week, especially if it's going to help our clinical teams reach disposition decisions." Today, we have access to echos seven days a week.

We also realigned the schedules of our physical therapists because we didn't have rehabilitation services on Saturdays and Sundays, a major barrier to discharges. We asked them to schedule over a seven-day period instead of a five-day period. We did the same thing with social services. We identified the five biggest nursing homes that we do business with and clearly communicated to them that if they valued the Montefiore business, they needed to figure out a way to have intake coordinators available to us on weekends. It's amazing. Once you put that kind of pressure and leverage on them, everything changes.

PV: How hard was it to get people to come in on weekends?

PS: I think initially there was a tremendous amount of resistance at the leadership level to coming in on Saturdays and Sundays. It was a matter of working seven days a week for six months to really better understand some of the struggles that our clinical teams were having on weekends. The skeptics started to see the change by going downstairs and seeing the impact that it was having. Now on Monday morning, our biggest day of the week, there are only two or three patients waiting for beds.

PV: What advice would you give to other places that struggle with boarding?

CONTINUED *on page 12*

PS: I think it begins with leadership. They need to come in on the weekends in particular. When you think about it, you have quite a bit of capacity to do things for patients on two out of seven days, and most institutions just don't use them. The work we've done here, without question, has been transformative for everyone.

PV: We have a 600-bed institution and experience a lot of boarding. If we absorbed the exact same volumes moved out over seven days a week, which we're not planning on doing, we would actually need only 498 beds instead of 600 to take care of that volume, and we wouldn't have capacity issues. It speaks to how much money we spend as a result of running a hospital system 65 percent of the time while the 35 percent that represents Friday afternoon to Monday morning is just lost.

PS: Also, we drove down our inpatient length of stay dramatically. Over the course of last year, not only were we able to significantly exceed our targets for admissions and discharges, we actually closed 30 inpatient beds. At the early part of last year, we were at about 6.5 days for average length of stay. We finished at about 5.5. And this is at a place that runs at near 100 percent occupancy all the time.

That was one of the most eye-opening things for the directors when we started coming in on the weekends and we started going floor by floor. You'd see patients here for 120 or 125 days.

—*Peter Semczuk, DDS, MPH*

PV: If I understand my hospital economics, a wild guess is that that change in length of stay would be worth about $150 million annually to your hospital.

DE: You started the hallway placement program as a safe option for stable patients, which is a big deal. It plays a huge role over here in getting patients out of the emergency department when there are no beds.

PV: Do you have problems with discharge where it takes a long time to get the orders in and it takes a long time for the nurse to go through it and get them out?

DE: Yes.

PV: I think when you start the discharges in the hallway, the tail would wag the dog. Suddenly, discharge papers would be available.

PS: One of the hidden gems is to take a look at your long-stay patients. That was one of the most eye-opening things for the directors when we started coming in on the weekends and we started going floor by floor. You'd see patients here for 120 or 125 days.

The point is this: Think about creating just one additional bed when someone is in that bed for 100 days. You asked earlier what my recommendation would be to a CEO. Start looking at these long-stay cases; we define long-stay as anyone here more than 20 days.

In some instances, it has a lot to do with our partner nursing homes being more willing to take patients from us who were here for a long period of time. In other instances, there were placement issues that were somewhat beyond our control. There were many examples of, "We could always do this next Thursday." That's different now. It's, "Why can't you do that today or tomorrow?"

PV: Have you done anything in terms of smoothing of elective schedules?

PS: We've got a couple of our pediatric subspecialties telling us that they're very busy Monday through Friday, and they want to start Saturday hours. That's also happening with some of the adult disciplines. We used to start our operating rooms late on Monday. Monday was grand rounds for anesthesia and surgery; we wouldn't start until 10 o'clock. We shifted grand rounds to Friday, which was the slowest day of the week from the operating perspective.

2016 ACEP ELECTIONS PREVIEW

CONTINUED FROM PAGE 1

MEET THE PRESIDENT-ELECT CANDIDATES

PLATFORM-STATEMENTS

The following Board members are candidates for the office of president-elect. They responded to this question:

What major challenge does the College face that you would like to make your signature issue for the next three years?

Hans House, MD, FACEP (Iowa)

Current Professional Positions: professor, emergency medicine, University of Iowa; vice chair for education, Department of Emergency Medicine, University of Iowa

Internships and Residency: combined internal medicine–emergency medicine residency, Olive View-UCLA Medical Center

Medical Degree: MD, University of Southern California (1997)

Candidate Question Response:

Physician wellness is the most concerning challenge that faces not just the College but all of medicine. Our health care system cannot afford the loss of talent and productivity that comes with today's frightening rate of burnout. Improving physician wellness isn't just about making work-life balance changes to what we do outside the hospital, such as exercise, diet, sleep, and family time.

Curing the epidemic of burnout requires us to change the system and put physicians back in control of their environment. In a 2014 article in *The Atlantic*, Richard Gunderman wrote, "Professional burnout is the sum total of hundreds and thousands of tiny betrayals of purpose, each one so minute that it hardly attracts notice."[1]

Each time emergency physicians feel bogged down by the detailed legal paperwork for admitting psychiatric patients, they suffer one of those hundred-thousand betrayals. Every time physicians scream at multiple hard stops in their electronic health record (EHR) that were placed there only to satisfy inspectors with clipboards and checklists, they suffer one of those betrayals. Every time physicians are denied compensation because their value is judged by an invalid quarterly Press Ganey survey, they suffer one of those betrayals.

> "Each time emergency physicians feel bogged down by the detailed legal paperwork for admitting psychiatric patients, they suffer one of those hundred-thousand betrayals."
>
> ***–Hans House, MD, FACEP***

Our members want to have sufficient resources to care for their patients and carry out the mission of emergency medicine: the calling to care for anyone, anytime, for anything.

How do we take back control of our profession? By empowering physicians as leaders from the hospital boardroom to the statehouse. By taking every possible opportunity to tell our story to the public to build up the trust our patients place in emergency providers. By encouraging physician ownership of groups and emergency departments so that emergency physicians define the practice and processes as patient-centered and true to the core mission of emergency medicine.

ACEP's staff in Washington, D.C., is adept and influential, but we can do more to support the efforts of state chapters in shaping local legislation. ACEP can leverage our investment in the Clinical Emergency Data Registry (CEDR) to encourage provider-friendly improvements to the EHR, such as pushing prescription and laboratory data to the user without enduring further mouse clicks. By speaking with one voice and taking collective action for the well-being of our members and patients, ACEP can once again allow physicians to be healers and focus on practicing the art of medicine.

Paul Kivela, MD, MBA, FACEP (California)

Current Professional Positions: managing partner, Napa Valley Emergency Medical Group; medical director, Medic Ambulance; chief medical officer, Newsura Insurance Services; business consultant, numerous medical businesses

Internships and Residency: emergency medicine internship and residency, LA County–Harbor–UCLA Medical Center

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

CONTINUED *on page 14*

Candidate Question Response:

Our specialty is under a public relations attack. Insurance companies have accused us of "balance billing" and sending "surprise medical bills." Legislators have accused us of being a cause of the opioid epidemic and portrayed many emergency visits as expensive and unnecessary. So often over the last several years, whether it's price or care issues, emergency medicine has been viewed as the "problem." Hospitals have forced inefficient EHRs on us, boarded patients in the emergency department, and then complained to us about throughput times. Our approach to many of these important issues has been largely defensive of our practices. Consolidation of payers, health systems, and medical groups will add additional pressures in the very near future.

> "Hospitals have forced inefficient EHRs on us, boarded patients in the emergency department, and then complained to us about throughput times."
>
> *–Paul Kivela, MD, MBA, FACEP*

However, medicine is changing, and we must change our strategies.

ACEP needs to embrace the future and be recognized as the organization that the government, insurance companies, consumer groups, patients, and every emergency physician goes to for solutions to their problems.

In order to answer the challenge:

1. We need to provide solutions that show that emergency medicine residency training is cost-effective and improves medical outcomes.
2. We need to advocate for payment models that reward emergency physicians for their value through gainsharing models that reward physicians for providing cost-effective quality care. This must be a win-win-win for payers, physicians, and patients.
3. We need to advocate for further physician autonomy and resources, including interoperable EHRs that allow physicians to determine the best product for the job.
4. We need to further vet and develop medical-legal solutions that safeguard evidence-based practices and minimize defensive ordering.
5. We need to make sure, as health systems consolidate, that physicians, not administrators, are determining appropriate care.

The president of ACEP serves two crucial roles for the College. He or she is a spokesperson for the College and determines the direction by establishing objectives and assigning them to committees.

I have the proven spokesperson experience and skills to effectively communicate the message, whether that's with policymakers, the public, our colleagues in the House of Medicine, or other emergency physicians. I have the background and vision to unify the specialty and fortify the College.

Robert E. O'Connor, MD, MPH, FACEP (Virginia)

Current Professional Positions: professor and chair, physician-in-chief, Department of Emergency Medicine, University of Virginia Health System; emergency physician, Culpeper Regional Hospital
Internships and Residency: emergency medicine residency, Medical Center of Delaware
Medical Degree: MD, Medical College of Pennsylvania (1982)

Candidate Question Response:

I have been asked to define my "signature issue" for the next three years. I have served on the ACEP Board for six years, including this past year as chair of the Board. I have worked to formulate solutions to many of the problems that we all face every day. Fair payment, tort reform, practice management, and physician wellness are but a few of these issues. Two of our newest initiatives, the CEDR and the Emergency Department Information Exchange (EDIE), represent a significant way to improve emergency care.

Would you rather work harder or work smarter? Documentation requirements, clinical decision making, reimbursement, and quality reporting are converging on emergency medicine and will force us to choose—do we work harder or smarter?

During my time as chair of the Board, we have made major commitments to launching CEDR and EDIE. Implementation is only the first step, and the use of technology to enable greater efficiency will be my signature issue during the next three years. These systems will require a sustained commitment to reach as many ED patients as possible while undergoing continual refinement. Imagine working a shift where you have access to information from every ED visit in the country for every patient you see. No more faxing medical releases to outside hospitals for old records. Imagine having access to national-level practice-improvement data that can be used to satisfy pay-for-performance requirements for reimbursement but also can be used to improve quality of care and outcomes. Imagine an EHR that provides work-saving decision support, documentation assistance, and integration with clinical data from all sources. This is how we work smarter.

> "Imagine having access to national-level practice-improvement data that can be used to satisfy pay-for-performance requirements for reimbursement but also can be used to improve quality of care and outcomes."
>
> *–Robert E. O'Connor, MD, MPH, FACEP*

In July, I attended a corporate advisory council meeting hosted by ACEP. I have participated in these meetings in the past, but this one was different. The overriding theme from companies providing goods and services to emergency physicians was a desire to make products that will improve care and allow us to work smarter. I will enable industry to work with emergency physicians to develop these strategies so that we stop wasting our time performing pointless, repetitive actions in order to do our job.

These initiatives are only just the beginning. For us to successfully incorporate CEDR, EDIE, and IT solutions into our practice at the national level, ACEP will need unwavering presidential support.

Implementation of CEDR, EDIE, and IT support will be my signature issue.

John J. Rogers, MD, CPE, FACEP (Georgia)

Current Professional Positions: co-emergency department medical director, Coliseum Northside Hospital; staff ED physician, multiple locations throughout Georgia
Internships and Residency: internship, Department of Surgery, University of Iowa; residency, Department of Surgery, Medical Center of Central Georgia (now Mercer University)
Medical Degree: MD, University of Iowa (1978)

Candidate Question Response:

Our major challenge is also our major opportunity: to ensure that the health care reforms embedded in the Affordable Care Act are implemented in a manner that supports our ability to deliver emergency care while at the same time improves rather than impedes our work life. As MACRA (the Medicare Access and CHIP Reauthorization Act of 2015) matures, we must provide the strategies that tie quality and payment in a rational manner. Quality measures must be meaningful, improve outcomes, be aligned with facility measures, and must not be implemented prematurely nor in a fashion that's so complex or costly that it punishes small groups. MIPS (the Merit-Based Incentive Payment System) requires streamlining; we must understand how we can function in an alternative payment model and ensure the financial risks are appropriate.

> "We must not be satisfied with the mere appearance of diversity but insist on something more substantial and meaningful: diversity of thought and perspective."
>
> *–John J. Rogers, MD, CPE, FACEP*

Another challenge is President Obama's budget proposal that requires all hospital-based physicians to accept in-network payment and prohibits balance billing. We must not passively acquiesce to becoming indentured servants who serve at the whims of the insurance industry. We must also be prepared to intelligently discuss the idea of offering a public option that many see as a precursor to a single-payer system.

Each ACEP president builds upon what others have begun. We have been enlightened about our diversity deficit, and a task force will develop a white paper to serve as our road map to close this diversity gap. Diversity is neither a cause de jour nor what is trendy or fashionable, but it is how organizations become stronger. Anything that makes us stronger must be embraced. We must not be satisfied with the mere appearance of diversity but insist on something more substantial and meaningful: diversity of thought and perspective.

Our attention has been turned to wellness, yet wellness is only the first part of a twofold approach to burnout. Wellness is about coping with the significant stresses of our practice; however, we must also remove the cause of our burnout. The cause is not the usual stress of practicing our craft; it's the abuse heaped upon us by bad policy and its implementation. These are born from well-meaning but poorly informed and educated legislators, regulators, and administrators. Advocacy is important, but to be truly effective, we need the data and the evidence to be truly persuasive and effective, and this comes from health policy research. We also need more of us as the decision makers, as I mentioned in my address to the Council two years ago.

Reference

1. Gunderman R. For the Young Doctor About to Burn Out. *The Atlantic*. February 21, 2014. Available at: http://www.theatlantic.com/health/archive/2014/02/for-the-young-doctor-about-to-burn-out/284005/.

Cutting Edge Pain Management

A look inside St. Joseph's Alternatives to Opiates Program

by ALEXIS M. LaPIETRA, DO

Opioids have a place in the emergency department for the treatment of acute pain. However, they can also lead to significant morbidity and mortality with their misuse. The United States is in the middle of an epidemic, seeing an increasing number of preventable deaths and emergency department visits due to prescription opioid abuse. Of the more than 47,000 lethal opioid drug overdoses in the United States in 2014, 18,893 were related to prescription pain relievers, and 10,574 were related to heroin.[1] According to the Centers for Disease Control and Prevention, 259 million prescriptions were written for opioids in 2012—enough for every U.S. adult to have their own bottle of pills.[2]

After residency, I completed a yearlong emergency medicine acute pain management fellowship. My training included managing chronic pain with and without opioids, performing ultrasound-guided nerve blocks, and understanding best practice for acute pain control. My training extended to rotations with orthopedic spine surgery, neurology, radiology, physical medicine and rehabilitation, palliative care, and addiction medicine. During my fellowship year, I was exposed to the concept that for the majority of painful conditions, opioids are not immediately necessary but rather should be reserved as a last resort and only for severe pain. Physicians must be aware of the non-opioid modalities and medications available and work to integrate them into their day-to-day practice.

St. Joseph's Regional Medical Center in Paterson, New Jersey, launched a formal program called Alternatives to Opiates (ALTO) to help improve pain management, patient care, and patient safety. The ALTO program utilizes targeted non-opioid medications, trigger-point injections, nitrous oxide, and ultrasound-guided nerve blocks to tailor patients' pain management needs and avoid opioid use whenever possible.

Not every condition is appropriate for ALTO treatment. Cancer pain, significant trauma, or intra-abdominal pathology are conditions in which opioids are appropriate and often required. Examples of ALTO treatment include kidney stone pain now being treated with intravenous lidocaine instead of opioids; acute low back pain being treated with a combination of oral and topical pain medications, as well as trigger-point injections; extremity fractures being treated with focused ultrasound-guided nerve blocks; and acute headache and migraine pain being treated based on an algorithm using a variety of non-opioid medications. However, if patients' pain is not adequately managed using ALTO techniques, opioids are used as second line.

Through the ALTO program, the emergency department is taking every step it can to decrease its opioid use in and out of the hospital. It has partnered with the St. Joseph's Healthcare System Overdose Prevention and Naloxone Distribution Program to educate friends and family members of high-risk individuals about prescription opioid abuse and

CONTINUED *on page 16*

Table 1. Clinical Applications for ALTO Program Protocols

Headache/ migraine	• **Metoclopramide, ketorolac, IV fluids, sumatriptan** *-If <50% relief, then* • **Magnesium, valproic acid, dexamethasone** *-If <50% relief, then* • **Haloperidol** *-If <50% relief, then* • **Observation with neuro consult**
Extremity fracture or dislocation	• **Nitrous oxide + intranasal ketamine** *-Set up for block* • **Ultrasound-guided regional anesthesia**
Musculoskeletal pain	• **Ibuprofen + acetaminophen** • **Lidocaine or diclofenac patches** • **Cyclobenzaprine or diazepam** • **Trigger-point or other soft tissue injection**
Lumbar radiculopathy	• **Ibuprofen + acetaminophen** • **Cyclobenzaprine or diazepam** • **Gabapentin** • **Lidocaine patch** • **Ketamine infusion + drip**
Renal colic	• **Ketorolac + acetaminophen + IVF** • **Cardiac lidocaine 1.5 mg/kg IV, max 200 mg**

provide a naloxone kit to be kept in the home.

Additionally, the principles of the ALTO program have been adopted by the St. Joseph's Departments of Family Medicine, Chronic Pain Management, PM&R, and Psychiatry. The multidisciplinary team works to tailor treatment plans for all patients. The ALTO program works closely with surrounding mental health facilities and detox centers such as Eva's Village and the Straight & Narrow program. Peer screeners evaluate opioid-addicted patients in the emergency department in an effort to enroll them into a detox program immediately following their ED discharge.

Through education, implementation of novel concepts, and partnerships within the community, the ALTO program is changing the practice of pain management; the goal is to make the program a national model.

If you are interested in finding out more about the program or joining the newly formed ACEP Pain Management Section, please contact me or join the section at www.acep.org/painmanagement.

DR. LaPIETRA is the medical director of emergency medicine pain management at St. Joseph's Regional Medical Center, Paterson, New Jersey, and chair of the ACEP Pain Management Section.

References

1. Number and age-adjusted rates of drug-poisoning deaths involving opioid analgesics and heroin: United States, 2000–2014. Center for Disease Control and Prevention website. Available at: http://www.cdc.gov/nchs/data/health_policy/AADR_drug_poisoning_involving_OA_Heroin_US_2000-2014.pdf. Accessed June 9, 2016.
2. Opioid painkiller prescribing: where you live makes a difference. Centers for Disease Control and Prevention website. Available at: http://www.cdc.gov/vitalsigns/opioid-prescribing/. Accessed June 9, 2016.

RESOURCES FOR FURTHER READING

- Balakrishnamoorthy R, Horgan I, Perez S, et al. Does a single dose of intravenous dexamethasone reduce symptoms in emergency department patients with low back pain and radiculopathy (SEBRA)? A double-blind randomized controlled trial. *Emerg Med J.* 2015;32(7):525-530.
- Blaivas M, Adhikari S, Lander L. A prospective comparison of procedural sedation and ultrasound-guided interscalene nerve block for shoulder reduction in the emergency department. *Acad Emerg Med.* 2011;18(9):922-927.
- Colman I, Friedman BW, Brown MD, et al. Parenteral dexamethasone for acute severe migraine headache: meta-analysis of randomised controlled trials for preventing recurrence. *BMJ.* 2008;336(7657):1359-1361.
- Frei R. Cleveland Clinic algorithm reduces migraine opioid use in ED. Pain Medicine News website. Available at: http://www.painmedicinenews.com/Clinical-Pain-Medicine/Article/09-15/Cleveland-Clinic-Algorithm-Reduces-Migraine-Opioid-Use-in-ED/33453/ses=ogst. Accessed June 9, 2016.
- Friedman BW, Dym AA, Davitt M, et al. Naproxen with cyclobenzaprine, oxycodone/acetaminophen, or placebo for treating acute low back pain: a randomized clinical trial. *JAMA.* 2015;314(15):1572-1580.
- Ghaderibarmi F, Tavakkoli N, Togha M. Intravenous valproate versus subcutaneous sumatriptan in acute migraine attack. *Acta Med Iran.* 2015;53(10):633-636.
- Ferrini R, Paice JA. How to initiate and monitor infusional lidocaine for severe and/or neuropathic pain. *J Support Oncol.* 2004;2(1):90-94.
- Galer BS, Gammaitoni AR, Oleka N, et al. Use of the lidocaine patch 5% in reducing intensity of various pain qualities reported by patients with low-back pain. *Curr Med Res Opin.* 2004;20 Suppl 2:S5-12.
- Gelfand AA, Goadsby PJ. A neurologist's guide to acute migraine therapy in the emergency room. *The Neurohospitalist.* 2012;2(2):51-59.
- Herres J, Chudnofsky CR, Manur R, et al. The use of inhaled nitrous oxide for analgesia in adult ED patients: a pilot study. *Am J Emerg Med.* 2016;34(2):269-273.
- Kranke P, Jokinen J, Pace NL, et al. Continuous intravenous perioperative lidocaine infusion for postoperative pain and recovery. *Cochrane Database Syst Rev.* 2015;7:CD009642.
- Linde M, Mulleners WM, Chronicle EP, et al. Valproate (valproic acid or sodium valproate or a combination of the two) for the prophylaxis of episodic migraine in adults. *Cochrane Database Syst Rev.* 2013;6:CD010611.
- Moore RA, Derry S, Wiffen PJ, et al. Overview review: comparative efficacy of oral ibuprofen and paracetamol (acetaminophen) across acute and chronic pain conditions. *Eur J Pain.* 2015;19(9):1213-1223.
- Cohen V, Motov S, Rockoff B, et al. Development of an opioid reduction protocol in an emergency department. *Am J Health Syst Pharm.* 2015;72(23):2080-2086.
- Soleimanpour H, Hassanzadeh K, Vaezi H, et al. Effectiveness of intravenous lidocaine versus intravenous morphine for patients with renal colic in the emergency department. *BMC Urol.* 2012;12:13.
- Singh A, Alter HJ, Zaia B. Does the addition of dexamethasone to standard therapy for acute migraine headache decrease the incidence of recurrent headache for patients treated in the emergency department? A meta-analysis and systematic review of the literature. *Acad Emerg Med.* 2008;15(12):1223-1233
- Vigneault L, Turgeon AF, Côté D, et al. Perioperative intravenous lidocaine infusion for postoperative pain control: a meta-analysis of randomized controlled trials. *Can J Anaesth.* 2011;58(1):22-37.

EM LITERATURE OF NOTE

PEARLS FROM THE MEDICAL LITERATURE

DR. RADECKI is assistant professor of emergency medicine at The University of Texas Medical School at Houston. He blogs at Emergency Medicine Literature of Note (emlitofnote.com) and can be found on Twitter @emlitofnote.

A Whirlwind Year in Review

Publication of practice-changing literature reached a fevered pitch this year

by RYAN PATRICK RADECKI, MD, MS, FACEP

A couple of months ago, EM physician Ashley Shreves, MD, and I collaborated on a lecture highlighting the top articles in the emergency medicine literature from the past year. The sheer volume of practice-changing literature was simply too great to condense into a concise presentation, but that didn't stop us from trying.

So, in the same vein, consider this snapshot of practice-changing articles published within the last year a whirlwind tour of a very busy year. Here are a few of my favorites:

"A Randomized Controlled Noninferiority Trial of Single Dose of Oral Dexamethasone Versus 5 Days of Oral Prednisone in Acute Adult Asthma"[1]
While this is technically a negative trial, these data support, rather than refute, the use of a single dose of dexamethasone in the treatment of asthma with acute exacerbation. The statistical underpinnings of noninferiority trials mean there simply weren't enough patients enrolled to meet their predefined criteria. The overall context of these data fits with other smaller samples, showing the choice of single-dose dexamethasone is likely as safe as the typical prednisone burst.

"Naproxen with Cyclobenzaprine, Oxycodone/Acetaminophen, or Placebo for Treating Acute Low Back Pain: A Randomized Clinical Trial"[2]
The challenge of managing low back pain in the emergency department is an age-old struggle. This is a negative trial, showing no significant difference between good-old NSAIDs alone or NSAIDs combined with either narcotics or muscle relaxants. The truth underlying this trial, however, is probably more complex, as it applies only to the narrowest population of acute presentations, and patients receiving oxycodone/acetaminophen appeared to have more rapid pain resolution in the immediate post-visit period.

"Delivering Safe and Effective Analgesia for Management of Renal Colic in the Emergency Department: A Double-Blind, Multigroup, Randomised Controlled Trial"[3]
We've always known nonsteroidal analgesia is undersold in general and has particular usefulness in renal colic. However, this trial takes it a step further, showing that intramuscular diclofenac is just as effective, if not more so, as intravenous paracetamol (acetaminophen) or intravenous morphine. Study-specific quibbles aside, intramuscular NSAIDs are great options for rapid treatment of suspected renal colic.

"Medical Expulsive Therapy in Adults with Ureteric Colic: A Multicentre, Randomised, Placebo-Controlled Trial"[4]
This is the larger of two trials testing "medical expulsive therapy" for ureteral stones. Typically, this is understood to be the alpha-blocker tamsulosin but also includes calcium-channel blockers like nifedipine. The purported benefit of medical expulsive therapy all but vanishes in this large high-quality trial. However, there may be a small benefit for large (>5 mm) distal stones; it's reasonable to offer an alpha-blocker to this subset of patients.

"Trimethoprim-Sulfamethoxazole Versus Placebo for Uncomplicated Skin Abscess"[5]
For a few stalwart holdouts, the oft-repeated mantra has always been "incision and drainage [I&D] is definitive care for uncomplicated abscesses." This well-designed trial seems to show that patients receiving trimethoprim-sulfamethoxazole following I&D had substantial reduction in both initial treatment failure and abscess recurrence.

"Antibiotic Therapy Versus Appendectomy for Treatment of Uncomplicated Acute Appendicitis"[6]
Can you treat appendicitis with antibiotics? You certainly can, and even better, some of those patients will be clinical cures. Unfortunately, many of those cures seem to be only short-term, with a worrisome handful of recurrences during long-term follow-up. Furthermore, this study probably overstates the harms of surgery as a "straw man" comparator. Antibiotics can be offered as an alternative to surgery, but their effectiveness shouldn't be oversold.

"Platelet Transfusion Versus Standard Care After Acute Stroke Due to Spontaneous Cerebral Haemorrhage Associated with Antiplatelet Therapy"[7]
Intracerebral hemorrhage, already a dire clinical scenario, is only made worse by the anticoagulant effects of antiplatelet therapy. Do platelet transfusions help? No—in fact, they may even make outcomes worse. Save your blood products for other uses.

"Sensitivity of Early Brain Computed Tomography to Exclude Aneurysmal Subarachnoid Hemorrhage: A Systematic Review and Meta-Analysis"[8]
In the debate regarding the necessity of lumbar puncture (LP) for exclusion of subarachnoid hemorrhage, it's clear the ultimate winner is destined to be the "no-LP" camp. As CT technology improves, the detection of clinically important hemorrhage is greater than 99 percent within six hours of headache onset. Owing to the inaccuracy of the lumbar puncture pathway, it's reasonable to stop after a current-generation non-contrast CT.

"Idarucizumab for Dabigatran Reversal"[9]
Dabigatran has been decried during its many years on the market as having no reasonable reversal pathway. That has now changed with the advent of Praxbind (idarucizumab). This monoclonal antibody fragment irreversibly binds dabigatran and is marketed as the antidote. The evidence is much weaker than the marketing teams would have you believe, but it's the only option available.

Can you treat appendicitis with antibiotics? You certainly can, and even better, some of those patients will be clinical cures. Unfortunately, many of those cures seem to be only short-term, with a worrisome handful of recurrences during long-term follow-up.

"Andexanet Alfa for the Reversal of Factor Xa Inhibitor Activity"[10]
The news isn't as good regarding reversal of factor Xa inhibitors. Andexanet alfa does bind apixaban and rivaroxaban but only as long as the infusion is maintained. Once the infusion is discontinued, factor Xa inhibition returns, and the faucets will flow again. Prothrombin complex concentrates remain the best reversal option.

"Risk for Clinically Relevant Adverse Cardiac Events in Patients with Chest Pain at Hospital Admission"[11]
The "observation admission" for chest pain has become nearly so ubiquitous, it has spawned its own cottage industry of short-stay medicine. However, this study followed every patient admitted for chest pain and found that iatrogenic harms outnumbered true cardiac harms in low-risk patients. In patients with normal ECGs, negative biomarkers, and normal vital signs, there was no added value in hospitalization specifically for the purposes of observation.

"Postural Modification to the Standard Valsalva Manoeuvre for Emergency Treatment of Supraventricular Tachycardias"[12]
If you've been continually disappointed by the ineffectiveness of vagal maneuvers for terminating supraventricular tachycardias, this is the study for you. With a simple recumbent leg-raise position immediately following vagal stimulation, these authors boosted response to therapy from 17 percent to 43 percent. This is almost certainly worth trying as an alternative to using adenosine or calcium-channel blockers.

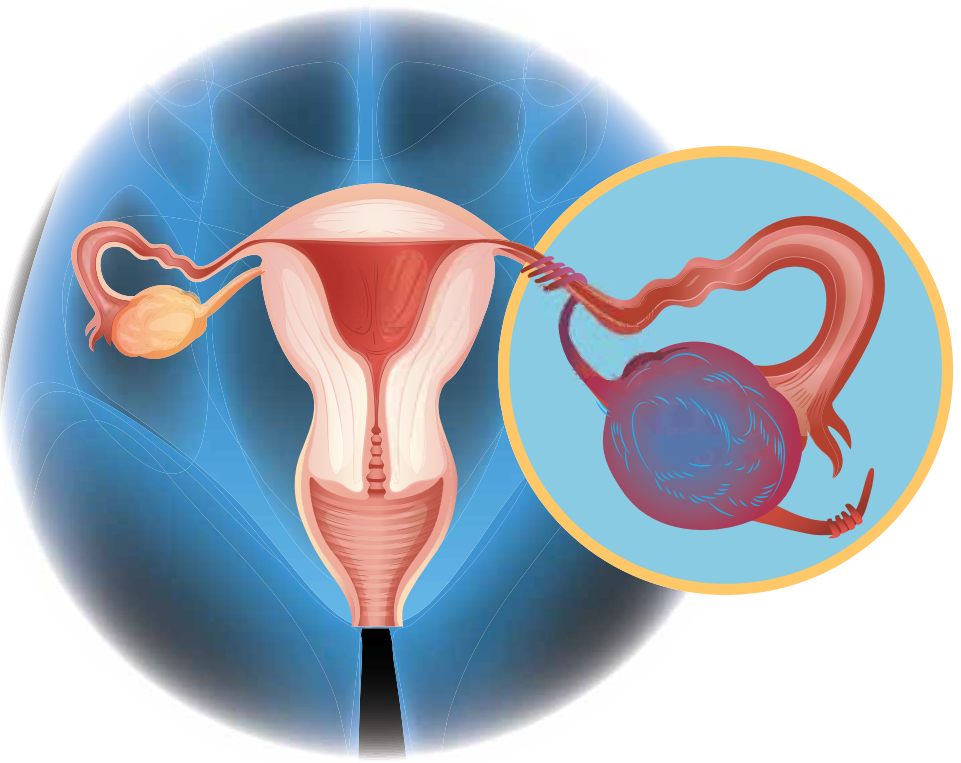
"Intravascular Complications of Central Line Venous Catheterization by Insertion Site"[13]
Choice of central line insertion site is frequently dogmatic. As it turns out in this study, each site has its pros and cons, making each one reasonable as dictated by circumstance. Femoral sites have the fewest procedural complications, subclavian sites cause the fewest venous thromboemboli, and internal jugular sites slot right in between. Infectious complications were highest in the femoral and internal jugular locations, while subclavian attempts resulted in a small number of pneumothoraces.

"Ketamine as Rescue Treatment for Difficult-to-Sedate Severe Acute Behavioral Disturbance in the Emergency Department"[14]
When agitated delirium exceeds the capacity of basic antipsychotic management, there's a real danger to patients and staff. This observational study reports on the use of intramuscular ketamine to control behavioral disturbance after initial treatment failure. In the setting of polypharmacy and intoxication, no agent can be presumed universally safe, but patients treated with high doses (greater than 200 mg) attained safe levels of treatment for agitation.

"An Age-Adjusted D-Dimer Threshold for Emergency Department Patients with Suspected Pulmonary Embolus: Accuracy and Clinical Implications"[15]
Baseline circulating D-dimer gradually increases with age, so why not increase the D-dimer threshold for rule-out pulmonary embolus with age? The large retrospective cohort examined by this study indicated the "age-adjusted" D-dimer improved specificity but at the expense of sensitivity. The net result was one small missed pulmonary embolism for every 100 CT scans prevented. This represents high-value change in practice.

As you can see, if you blinked, you might have missed important news! Who knows what the next year will bring?

FOR REFERENCES TO THIS ARTICLE GO TO:
www.acepnow.com



Ovarian Size in Relation to Ovarian Torsion; Blood Cultures for Cellulitis

Research provides guidance when dealing with ovarian torsion and uncomplicated cellulitis in children

by LANDON JONES, MD, AND RICHARD M. CANTOR, MD, FAAP, FACEP

CME Now
A new continuing medical education feature of ACEP Now

LOG ON TO http://www.acep.org/ACEPeCME/ TO COMPLETE THE ACTIVITY AND EARN FREE *AMA PRA CATEGORY 1 CREDIT.*

The best questions often stem from the inquisitive learner. As educators, we love and are always humbled by those moments when we get to say, "I don't know." For some of these questions, you may already know the answers. For others, you may never have thought to ask the question. For all, questions, comments, concerns, and critiques are encouraged. Welcome to the Kids' Korner.

Question #1: "In children, is there an ovarian size (volume) that rules out torsion?"

About 15 percent of cases of ovarian torsion occur in childhood. Two peak times of occurrence exist: 1) within the first year of life, and 2) at menarche. This has lead some to speculate that ovarian volumes in the normal range may "rule out" ovarian torsion and some articles do find abnormally enlarged volumes in their ovarian torsion cases.[1] Torsed ovaries are more commonly enlarged secondary to impeded venous return and edema that occurs after the initial torsion—prohibiting spontaneous detorsion.[2] While it decreases the probability of ovarian torsion, it does not appear to definitively exclude ovarian torsion.

DR. JONES is assistant professor of pediatric emergency medicine at the University of Kentucky in Lexington.

DR. CANTOR is professor of emergency medicine and pediatrics, director of the pediatric emergency department, and medical director of the Central New York Poison Control Center at Upstate Medical University in Syracuse, New York.

A retrospective study by Servaes et al evaluated sonographic findings of surgically proved cases of ovarian torsion in 41 patients over a 12-year period. The median age of patients with ovarian torsion was 11 years, with a range of 1 month to 21 years of age. The authors mention that torsion occurred in "otherwise normal ovaries without a potential lead point in 34 percent (14/41)" of patients. The authors found that the mean volume ratio was 12 times larger in the torsed ovaries compared to the contralateral ovaries. While the article makes the statement that "all torsed adnexa were larger than the normal contralateral ovary," the data report that there was only one of 41 patients who had an enlarged ovary and adnexa.[3] While these data appear slightly confusing, they do emphasize one important point: Comparing the patient's contralateral (good) ovary may be helpful.

A second retrospective study by Tsafrir et al evaluated 22 ovarian torsion cases over an 11-year period in premenarchal patients only. On surgical exploration, they found that the torsed ovary was not enlarged in 59.1 percent (13/22) of cases. Of the 22 cases, they performed transabdominal ultrasound with a full bladder on 20 of them, noting that there were "normal-sized ovaries with or without signs of edema in eight and four cases, respectively."[4] This means that 12 of 20 cases (60 percent) had a normal reported ovarian size. Specific measurements weren't provided in this article, however.

Summary

While the data are very limited, there doesn't appear to be a lower-limit volume that rules out ovarian torsion in children. Most cases of ovarian torsion demonstrate an enlarged torsed ovary, but a potentially large percentage of confirmed ovarian torsion cases have normal ovarian volumes. A comparison to the contralateral (normal) ovary size may be helpful.

Question #2: "In pediatric cases of uncomplicated cellulitis, are blood cultures necessary?"

One big difference between past pediatric literature and adult literature was the pediatric presence of *Haemophilus influenzae* (Hib), which commonly progressed to bacteremia. The traditional practice of obtaining blood cultures for cellulitis, though, was based in the pre-Hib era. In the post-Hib era, studies are slowly accumulating on this topic.

A study by Sadow and Chamberlain retrospectively evaluated 243 children who were admitted with cellulitis with or without an associated abscess. The population was 67 percent African-American, 16 percent Caucasian, and 11 percent Hispanic. Ninety-seven (97) percent were described as nontoxic. The authors looked at all causes and locations of cellulitis, both on the face and body, and found that 60 of 243 cases (24.7 percent) had an associated abscess. Blood cultures were positive in 18 patients (7.4 percent). Thirteen (13) were false-positives. Only five of 243 (2.1 percent) were true-positives. This meant they were 2.5 times as likely to have a false-positive blood culture as a true-positive result, and true-positive cultures grew either staph or strep. Only one blood culture led to a change in the patient's antibiotic. The authors concluded, "Blood cultures are not cost-effective in the management of immunocompetent patients admitted for cellulitis."[5] While retrospective in nature, this study suggests that blood cultures rarely change medical management in a positive fashion.

There were 10 contaminated samples and two true-positive blood cultures, neither of which changed antibiotics or medical management. The authors concluded that a "blood culture is not useful in the management of immunocompetent well-appearing children admitted for uncomplicated skin and soft tissue infections, and its routine practice should be avoided.

Similarly, a study by Trenchs et al retrospectively evaluated blood cultures for uncomplicated skin and soft tissue infections in admitted children. Cellulitis anywhere on the body was included, and blood cultures were drawn on 353 of 445 included patients (79.3 percent). Abscesses were involved in 78 (17.5 percent) of these cases. Like the prior study, false-positive culture results were more prevalent than true-positive results. There were 10 contaminated samples and two true-positive blood cultures, neither of which changed antibiotics or medical management. The authors concluded that a "blood culture is not useful in the management of immunocompetent well-appearing children admitted for uncomplicated skin and soft tissue infections, and its routine practice should be avoided."[6] Other studies by Malone et al and Leonard and Beattie reported similar results, suggesting that blood cultures minimally affect clinical management and, more commonly, are false-positive.[7,8]

Summary

In cases of uncomplicated cellulitis in children with and without an abscess, multiple retrospective studies appear to suggest that blood cultures rarely affect clinical management and probably aren't needed.

References

1. Linam LE, Darolia R, Naffaa LN, et al. US findings of adnexal torsion in children and adolescents: size really does matter. *Pediatr Radiol.* 2007;37(10):1013-1019.
2. Spinelli C, Piscioneri J, Strambi S. Adnexal torsion in adolescents: update and review of the literature. *Curr Opin Obstet Gynecol.* 2015;Oct;(27)5:320-5.
3. Servaes S, Zurakowski D, Laufer MR, et al. Sonographic findings of ovarian torsion in children. *Pediatr Radiol.* 2007;37(5):446-451.
4. Tsafrir Z, Azem F, Hasson J, et al. Risk factors, symptoms, and treatment of ovarian torsion in children: the twelve-year experience of one center. *J Minim Invasive Gynecol.* 2012;19(1):29-33.
5. Sadow KB, Chamberlain JM. Blood cultures in the evaluation of children with cellulitis. Pediatr. 1998;101(3):E4.
6. Trenchs V, Hernandez-Bou S, Bianchi C, et al. Blood cultures are not useful in the evaluation of children with uncomplicated superficial skin and soft tissue infections. *Pediatr Infect Dis J.* 2015;34(9):924-927.
7. Malone JR, Durica SR, Thompson DM, et al. Blood cultures in the evaluation of uncomplicated skin and soft tissue infections. *Pediatrics.* 2013;132(3):454-459.
8. Leonard P, Beattie TF. How do blood cultures sent from a paediatric accident and emergency department influence subsequent clinical management? *Emerg Med J.* 2003;20(4):347-348.

CODING WIZARD

NAVIGATE THE CPT MAZE, OPTIMIZING YOUR REIMBURSEMENT

Editor's Note: *Cutting through the red tape to make certain that you get paid for every dollar you earn has become more difficult than ever, particularly in our current climate of health care reform and ICD-10 transition. The ACEP Coding and Nomenclature Committee has partnered with* ACEP Now *to provide you with practical, impactful tips to help you navigate through this coding and reimbursement maze.*

Pitfalls in the Physical Exam

by MIKE LEMANSKI, MD, FACEP, FAAFP, AND HAMILTON LEMPERT, MD, FACEP, CEDC

Question: My coders keep telling me that my exam of a patient's head, neck, and back or chest wall just isn't good enough for a Level 5. Why?

Answer: Medicare documentation guidelines make a distinction between body areas and organ systems, and that distinction is what distinguishes a Level 5 exam. The most important thing to remember when coding examinations is that a Level 5 (99285) exam requires that eight or more organ systems be examined and documented. For lower levels of service (Levels 1–4, 99281–99284), it doesn't matter whether you use body areas or organ systems or mix and match them.

For a Level 1–4 (99281–99284) examination, it's acceptable to mix and match the following body areas with organ systems:

- Head, including the face
- Neck
- Chest, including breasts and axillae
- Abdomen
- Genitalia, groin, buttocks
- Back, including spine
- Each extremity

For a Level 5 (99285) examination, however, you must use eight or more of the following organ systems:

- Constitutional (eg, vital signs, general appearance)
- Eyes
- Ears, nose, mouth, and throat
- Cardiovascular
- Respiratory
- Gastrointestinal
- Genitourinary
- Musculoskeletal
- Skin
- Neurologic
- Psychiatric
- Hematologic/lymphatic/immunologic

For more information about documentation requirements, please see ACEP FAQs at http://ow.ly/sshx301cTA3.

Brought to you by the ACEP Coding and Nomenclature Committee.

DR. LEMANSKI is associate professor of emergency medicine at Baystate Medical Center/Tufts University School of Medicine in Springfield, Massachusetts, and chair of the ACEP Coding and Nomenclature Committee. **DR. LEMPERT** is vice president and medical director, health care financial services, at TeamHealth, based in Knoxville, Tennessee.

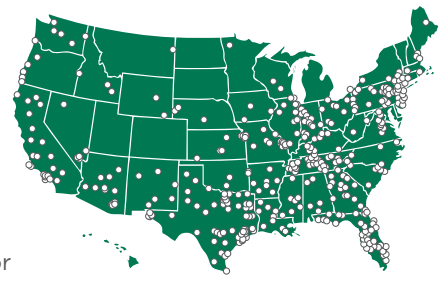
EMCARE IS COMMITTED TO PROVIDING RESIDENTS WITH UNPARALLELED SUPPORT

From Residency Dinners to lecture series by some of the country's top thought leaders, and web-based tools and resources, EmCare is committed to being your "go to" resource provider.

Visit our Resident Resource Center on the web at www.EmCare.com.

EmCare is recognized for:

- Innovation (cutting-edge tools and resources, national leaders in Telehealth and Mobile Integrated Health)
- Quality of Provider Practice (advanced practice providers, medical scribes, EMR and equitable scheduling)
- Practice Diversity (FT/PT/IC and moonlighting opportunities, EmBassador travel team, EMS control, Aeronautical Medicine and Telehealth)
- Clinical Education and Career Growth (comprehensive CME offerings, Leadership Institute, Director, Associate Director and Administrative Career Track)



COAST-TO-COAST OPPORTUNITIES

CONTACT US TODAY
855.367.3650
Recruiting@EmCare.com
EmCare.com

Visit Us!
ACEP16
Booth#S3026

EmCare®
Emergency Medicine
MAKING HEALTHCARE WORK BETTER™

TEG
The Emergency Group, Inc.

Honolulu, Hawaii

The Emergency Group, Inc. (TEG) is a growing, independent, democratic group that has been providing emergency services at The Queen's Medical Center (QMC) in Honolulu, Hawaii since 1973. QMC is the largest and only trauma hospital in the state and cares for more than 65,000 ED patients per year. QMC opened an additional medical center in the community of West Oahu in 2014, which currently sees 50,000 ED patients annually.

Due to the vastly growing community in the West Oahu area, TEG is actively recruiting for **EM Physicians BC/BE, EM Physicians with Pediatric Fellowship who are BE/BC and an Ultrasound Director**. Physicians will be credentialed at both facilities and will work the majority of the shifts at the West Oahu facility in Ewa Beach, Hawaii.

We offer competitive compensation, benefits, and an opportunity to share in the ownership and profits of the company. Our physicians enjoy working in QMC's excellent facilities and experience the wonderful surroundings of living in Hawaii.

For more information, visit our website at www.teghi.com. Email your CV to tegrecruiter@gmail.com or call the Operations Manager at 808-597-8799.

Baylor College of Medicine
EMERGENCY MEDICINE RESIDENCY PROGRAM
Service • Education • Leadership

Exciting Academic Emergency Medicine Opportunities

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

MEDICAL DIRECTOR

The program is searching for a dedicated Medical Director for the Ben Taub General Hospital, The Medical Director will oversee all clinical operations at Ben Taub, with a focus on clinical excellence. The successful candidate will be board certified and eligible for licensure in the state of Texas. The candidate will have a solid academic and administrative track record with prior experience in medical direction. Faculty rank will be determined by qualifications.

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

Tired of the rain and cold?

We are based in **Phoenix, Arizona!**

Openings for full-time Emergency Physician with established independent, democratic group. We contract with four Banner hospitals in the Phoenix-metro valley. University Medical Center Phoenix - **state-of-the art ED opening early 2017.** Estrella, Ironwood, and Goldfield Medical Centers.

We offer an extremely competitive comprehensive benefits package including • a partnership opportunity with a defined partnership track • paid claims-made malpractice insurance/ tail coverage included • group health insurance • disability insurance • CME allowance • paid licensing fees and dues • 401(k) plan.

Candidates must be EM residency trained or ABEM/ABOEM certified/ eligible.

Email CV to Monica Holt Emergency Professional Services, P.C. at monica.holt@bannerhealth.com

Visit us at
www.emergencyprofessionaservices.com

PEMM
PROFESSIONAL EMERGENCY MEDICINE MANAGEMENT

EXCLUSIVE DEMOCRATIC GROUP POSITIONS AVAILABLE ACROSS SOUTH LOUISIANA including academic positions!

•Baton Rouge, LA Our Lady of the Lake Regional Medical Center

•Covington, LA, and several more

Contact us anytime for more information or send your CV to:

Taylor Sanders, MD, FACEP
Vice President, Physician Development
Taylor.Sanders@pemmanagement.com

Phone: 843-743-5505

TO PLACE AN AD IN ACEP *NOW*'S CLASSIFIED ADVERTISING SECTION PLEASE CONTACT:

Kevin Dunn: kdunn@cunnasso.com • Cynthia Kucera: ckucera@cunnasso.com

Phone: 201-767-4170

CEP America: Your Partnership
Bay Area Hospital
Coos Bay, Oregon

- Up to $100k sign-on bonus for qualified candidates
- BE/BC EM physicians; current state license a plus
- Level 3 Trauma Center; 25,000+ annual ED volume
- Enjoy picturesque forests, beautiful coast, and plenty of outdoor activities

Apply Now! Call, email, or visit us at:
(800)842-2619
careers@cepamerica.com
www.cepamerica.com/careers

A change ***for the better.***

At first, **Dr. Larry Geisler** had doubts about working in a contract management environment. But when St. Mary Medical Center in Langhorne, PA, made a change to TeamHealth in 2005, Dr. Geisler says everything changed for the better. Patient visits are up. He has far fewer administrative headaches than before. And, as Assistant Medical Director, he has plenty of opportunity for professional growth. The best part? His close-knit family and church can count on him for what they need most—his time.

Visit teamhealth.com to find the job that's right for you.

Featured Opportunities:

Missouri Baptist Hospital
Sullivan, MO
22,000 volume

Abrazo West Campus
Goodyear, AZ
50,000 volume

Bay Area Medical Center
Marinette, WI
21,000 volume

Penn State Health – St. Joseph
Reading, PA
43,000 volume

Springs Memorial Hospital
Lancaster, SC
34,000 volume

Metroplex Adventist Hospital
Austin, TX
48,000 volume

Hill Regional Hospital
Hillsboro, TX
10,000 volume
Medical Director

Memorial Emergency Center Mandarin
Jacksonville, FL
OPENING SOON!

Parrish Medical Center
Titusville, FL
40,000 volume
Assistant Medical Director

University of Tennessee Medical Center
Knoxville, TN
90,000 volume

Comanche County Memorial Hospital
Lawton, OK
65,000 volume

DCH Regional Medical Center
Tuscaloosa, AL
80,000 volume

TEAMHealth®

855.615.0010
physicianjobs@teamhealth.com
www.teamhealth.com

Ergentus joins US Acute Care Solutions.

Welcome Denver adventurers.

Strap in, we're going to stomp this ride. As one of the six founding partner groups of US Acute Care Solutions, you're joining us in making an epic move that's dropping the jaws of healthcare onlookers. To the ones who say physician-owned acute care groups can't compete, we say–watch this. See what happens when you bring passionate, like-minded physician owners together that believe physician ownership creates the best results for patients and hospital partners. We're USACS and we own the mountain.

ERGENTUS™
Emergency Service Physicians

US Acute Care Solutions

Own your future now. Visit usacs.com
or call Darrin Grella at 800-828-0898. dgrella@usacs.com

Founded by ERGENTUS, APEX, TBEP, MEP, EPPH and EMP