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ACGME/AOA Merger May Change Osteopathic Training

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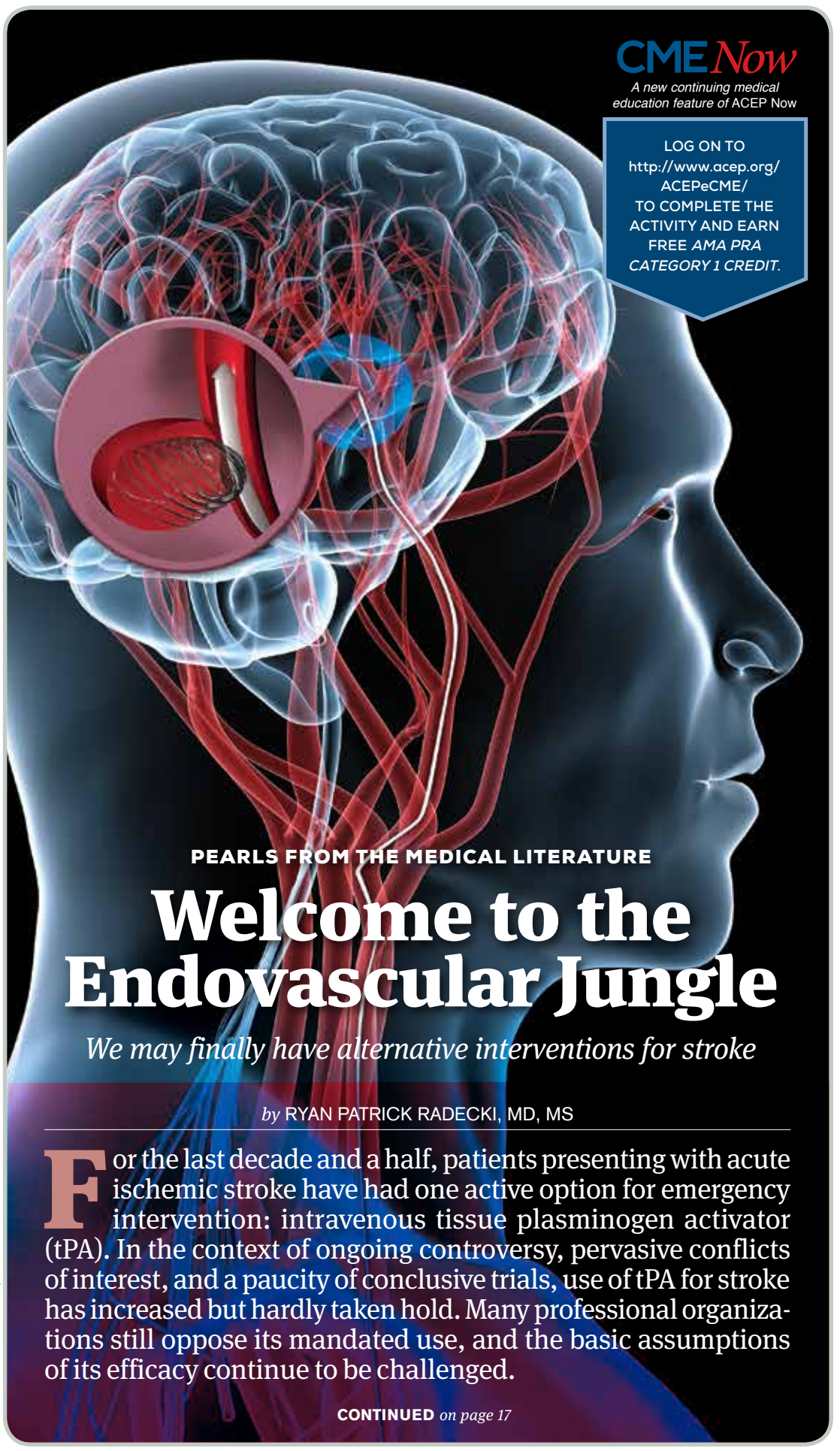

ILLUSTRATION/PAUL JUESTRICH; PHOTOS SHUTTERSTOCK.COM

PEARLS FROM THE MEDICAL LITERATURE

Welcome to the Endovascular Jungle

We may finally have alternative interventions for stroke

by RYAN PATRICK RADECKI, MD, MS

For the last decade and a half, patients presenting with acute ischemic stroke have had one active option for emergency intervention: intravenous tissue plasminogen activator (tPA). In the context of ongoing controversy, pervasive conflicts of interest, and a paucity of conclusive trials, use of tPA for stroke has increased but hardly taken hold. Many professional organizations still oppose its mandated use, and the basic assumptions of its efficacy continue to be challenged.

CONTINUED *on page 17*

MAKING EM HISTORY

Dr. Steven Stack, the first emergency physician to lead the AMA, weighs in on his presidency and the SGR

On June 9, 2015, Steven J. Stack, MD, FACEP, will make history as the first emergency physician to be named President of the American Medical Association (AMA). He will be sworn in for his one-year term as the 107th President of the AMA at the association's annual meeting. Dr. Stack recently spoke with ACEP Now *Medical Editor-in-Chief Kevin Klauer, DO, EJD, FACEP, about the challenges of serving as the second-youngest AMA President. He also commented on efforts to repeal use of the Sustainable Growth Rate (SGR) formula to determine physician payments via bill H.R.2, which had just been passed in the U.S. House of Representatives at the time of this interview. (Turn to page 5 for more on the SGR repeal, which was signed into law on April 16, 2015.)*

Dr. Stack

Here we present part one of the conversation. Part two will appear in the June issue.

DR. KEVIN KLAUER: You've spent the last year as President-Elect of the AMA. How do feel about the year ahead?

DR. STEVEN STACK: It's obviously a great privilege and honor in any sense to be able to serve in that role. It's also really cool to be able to be the first emergency physician to have ever had that position. This is something of a complete cycle for our specialty since our journey toward the formal political process

CONTINUED *on page 10*

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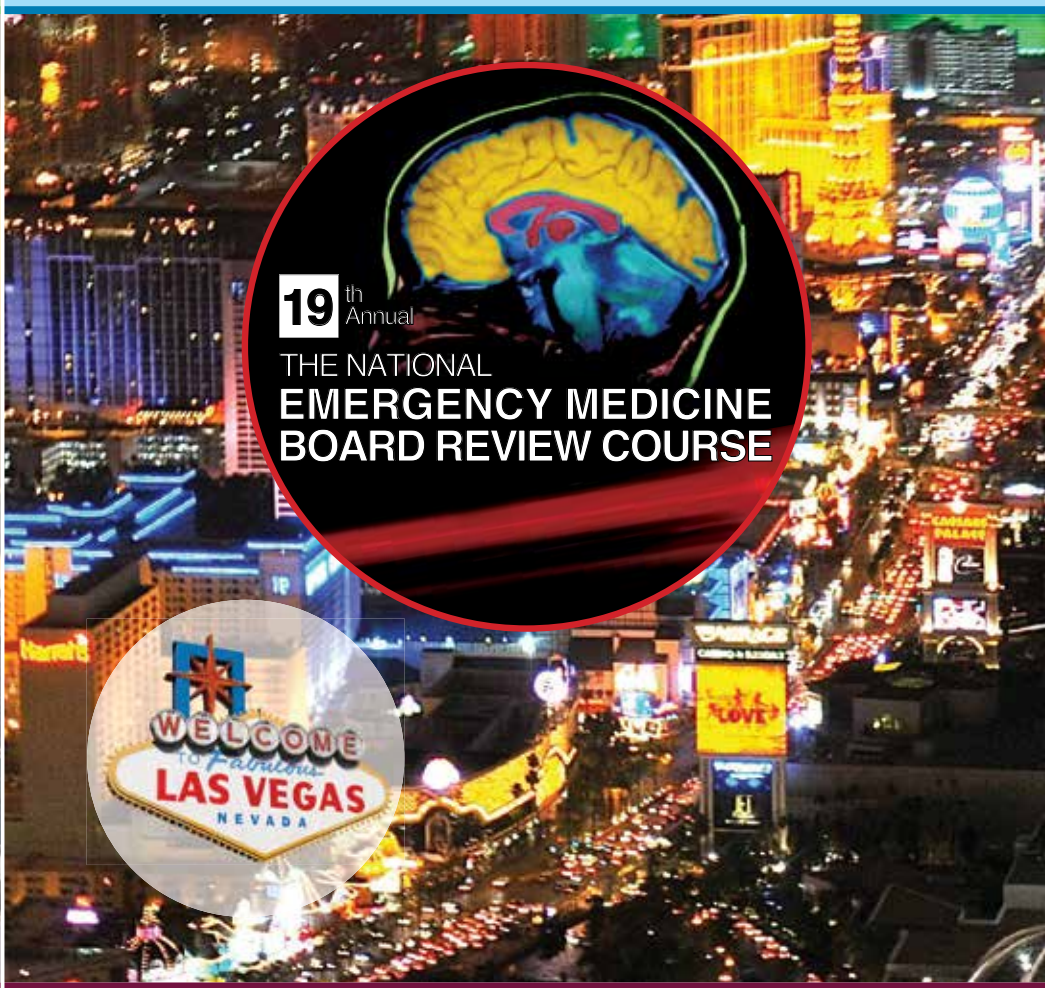

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A NEW SPIN

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The Patient-Physician-Body Cam Relationship

"Speak slowly and look directly into the camera"

by KENNETH V. ISERSON, MD, MBA, FACEP, FAAEM, FIFEM

Two fundamental pillars of the Hippocratic Oath have been attacked, not by politicians or faceless bureaucrats but by our own specialty's leaders.

Jeremy Brown, MD, director of the Office of Emergency Care Research at the National Institutes of Health, recently wrote that not only should police be using body cameras but that "these devices should also be worn by health care providers." Police, of course, have a job that constantly involves legal issues and a high potential for violence; our job doesn't.

Dr. Brown goes on to claim that wearing "med-cams" would have "a civilizing effect" on patient-physician interactions, decrease lawsuits, and reduce violence in EDs. These assertions are so patently ridiculous that he must use hypotheticals, tangential and off-topic research (colonoscopy?), and rare events (significant violence against clinicians) to justify them. His attempt to head off any criticism is likewise ill-advised, comparing any would-be opponents of this technology's use in the ED to those who ridiculed the stethoscope's early adopters.[1] Actually, the analogous group is those who oppose warrantless wiretapping.

OPINIONS FROM EMERGENCY MEDICINE

In the second article in the series, Judith Tintinalli, MD, MS, FACEP, professor and chair emeritus of emergency medicine at the University of North Carolina at Chapel Hill School of Medicine, argued that body cameras on medical personnel would provide objectivity to tumultuous ED situations, but in so doing, she actually illuminated the argument against the use by describing it as "a sort of enhanced photojournalism."[2] We have already seen the negative repercussions of the media violating patient privacy and confidentiality while filming resuscitations without permission. In another accompanying article, Nicholas Genes, MD, PhD, assistant professor of emergency medicine at Icahn School of Medicine at Mount Sinai in New York, provided a measure of realism. He noted this procedure's noncompliance with HIPAA, the tempting target it would make for hackers, the large number of system failures in tests of these systems, and the enormous number of patients who refuse (if asked) to have a video taken. He seems to imply, however, that physicians may soon push for this "panopticon" technology with natural language-processing

CONTINUED *on page 4*

algorithms (speech recognition) so that they can not only record patient-clinician interactions but also provide billing documentation.[3] Note that "panopticon" means an area where everything is visible. Is that what our patients want or will tolerate?

Obviously, George Orwell's prescient novel *1984*, which described Big Brother watching everyone, did not teach its lesson. While our society increasingly relies on seemingly omnipresent security cameras and government surveillance, that level of invasiveness has not yet routinely entered the clinical examination room. Where possible, this preserves patient privacy and, generally, confidentiality. Of all the elements of the venerated Hippocratic Oath, these are the two elements that have persisted as bedrock values for medical encounters. As described in the Oath:

> *"Into as many houses as I may enter, I will go for the benefit from all voluntary and destructive injustice...About whatever I may see or hear in treatment, or even without treatment, in the life of human beings—things that should not ever be blurted out outside—I will remain silent, holding such things to be unutterable [sacred, not to be divulged]."*[4]

This distinction between public and private information has been not only integral to the practice of medicine but also fundamental to the idea of democracy.[4] Patients' knowledge that physicians, including emergency physicians, will maintain their privacy and confidentiality allows them the liberty to divulge any truths necessary to obtain a diagnosis and provide treatment. It is this confidence that gives physicians the enormous latitude to break otherwise strict societal taboos on asking sensitive questions and touching, sometimes intimately, strangers. It is ironic that Dr. Brown previously stated that one of his "other challenge(s) is to educate the emergency and critical care researcher community about the law of unintended consequences and how it's very easy to call for a change without realizing that it could bring about the very opposite effect."[5]

Obviously, George Orwell's prescient novel 1984, which described Big Brother watching everyone, did not teach its lesson. While our society increasingly relies on seemingly omnipresent security cameras and government surveillance, that level of invasiveness has not yet routinely entered the clinical examination room.

So what would be the unintended, but clearly seen, consequences resulting from universal emergency physician body cam use or even unconcealed audio-video surveillance throughout the ED? I posit that it would decrease open physician-patient dialogue, decrease the number of patients voluntarily coming to the ED, and increase lawsuits involving the ED for both valid and spurious reasons.

Clinicians' maintenance of patient privacy and confidentiality has elevated the physician-patient relationship to a special status within our social structure and, much more than the wonders of modern science, has given physicians their esteemed status.

The recent advocacy for emergency physicians to don body cameras to take videos of the most private interactions between themselves and their patients—by specialty leaders, no less—raises an awful stink. That stench signals that we are in danger of crossing substantive ethical barriers. Hopefully, Hippocrates will not need to roll over in his grave but smile from above at our maintaining the essence of his Oath.

References

1. Brown J. The case for body cameras: good for doctors—and their patients. *Emergency Physicians Monthly.* March 11, 2015.
2. Tintinalli J. The invisible gorilla: are doctors ready to have their professional lives on display? *Emergency Physicians Monthly.* March 13, 2015.
3. Genes N. By the numbers: are med-cams financially and technically feasible? *Emergency Physicians Monthly.* March 12, 2015.
4. Miles SH. *The Hippocratic oath and the ethics of medicine.* New York, N.Y.: Oxford University Press; 2005.
5. *Annals* Q&A with Dr. Jeremy Brown. *Ann Emerg Med.* 2014;63(1):A13-A15.

DR. ISERSON is professor emeritus of emergency medicine at The University of Arizona in Tucson.

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UPDATES AND ALERTS FROM ACEP

NEWS FROM THE COLLEGE

EMF Earns High Rating for Fiscal Management

The Emergency Medicine Foundation (EMF) has received a four-star rating from Charity Navigator, America's premier charity evaluator.

Nonprofit-sector organizations are graded on sound fiscal management and commitment to accountability and transparency. Receiving four out of a possible four stars indicates that EMF adheres to good governance and other best practices that minimize the chance of unethical activities and consistently executes its mission in a fiscally responsible way.

Approximately a quarter of the charities evaluated by Charity Navigator have received the highest rating, indicating that EMF outperforms most other charities in America.

Advanced PEM Assembly Wraps Up in New York

ACEP and the American Academy of Pediatrics teamed up in late March to offer the Advanced Pediatric Emergency Medicine (PEM) Assembly in New York City. In addition to attending ultrasound and pediatric skills workshops, more than 500 physicians, nurses and physician assistants attended the Essentials track and the two days of lectures.

More than 500 physicians, nurses and physician assistants attended the Advanced PEM Assembly lectures.

The Advanced PEM Assembly moves to Orlando in 2016, but that doesn't mean we've closed the book on the latest offering. Whether you want to brush up on your pediatric emergency medicine skills or take your dual-boarded training to the next level, the PEPID Virtual Advanced PEM15 and Virtual Essentials in PEM15 offer a wide range of valuable content. ***Sessions on wound care, pediatric resuscitation, pneumonia in children, and much more are now available at virtual.acep.org/common/tracks.aspx/13.***

ACEP Breaks Ground on New Headquarters

ACEP broke ground on new headquarters on April 16, 2015. Located on a six-acre tract of land near the Dallas/Fort Worth International Airport, the new building will be three stories with approximately 57,000 square feet. It will include modern work areas, top-notch audio-visual capabilities and video conferencing, a small media room for filming and interviews, history recognition throughout the building, and celebration of emergency medicine. The groundbreaking was held in conjunction with the Board of Directors meeting. ACEP has been located in Irving, Texas, since purchasing its current building in 1983.

RENEE FERNANDES

ACEP Board members and staff attended the groundbreaking ceremony. The new building will be approximately 57,000 square feet, with an estimated move-in scheduled for summer 2016.

Member Benefit of the Month: *Annals* Podcasts

Since February 2009, every issue of *Annals of Emergency Medicine* has featured podcasts that introduce and discuss a number of articles in the journal. The podcasts cover not only a broad range of topics but also offer an engaging discussion of their importance and relevance to emergency medicine.

Annals podcasts are created by David H. Newman, MD, and Ashley E. Shreves, MD. Dr. Newman teaches at Columbia University in the department of biology and is an emergency physician with the department of emergency medicine at the Icahn School of Medicine at Mount Sinai in New York. He is an evidence-based medicine editor at *Annals of Emergency Medicine*, authored the critically acclaimed *Hippocrates' Shadow*, and is widely published in both scientific and popular media journals. He also edits the SMART EM and TheNNT.com web resources. Dr. Shreves is a board-certified and practicing emergency and palliative medicine physician, works as faculty in both the ED and palliative medicine departments with the Icahn School of Medicine, and will soon be the associate program director for the Mount Sinai St. Luke's–Roosevelt Hospital EM residency.

"For us, it feels like a chance to chat about the latest studies and to have some fun," said Dr. Newman. "And if it helps *Annals* connect with the global community, well, that's icing on the cake."

The podcasts are free and accessible through multiple formats:

1. Play on your computer by clicking on any of the individual podcast files on the *Annals* Web site.
2. Download to your MP3 player.
3. Subscribe to the *Annals of Emergency Medicine* podcasts at the iTunes Store and have the podcast automatically download to your iTunes each month.
4. Use your RSS reader for automatic delivery of content of each issue.

The podcasts are an easy-to-use source of information from the journal. One listener said the podcasts "dive into why the article is important. I feel smarter after hearing you ask questions about the research." Another reader said, "What I love about your podcast is that it is very casual and you explain why certain studies are important and what they did well/poorly. You do this better than any other journal summary I've ever listened to."

Annals podcasts. One of a multitude of benefits for all ACEP members. Smart, engaging, relevant. Easy to listen to while exercising or driving to your shift. ***Come and hear what you've been missing.***

Celebrate EMS Week

ACEP is happy to partner with the National Association of Emergency Medical Technicians to celebrate the EMS Strong campaign this month. EMS Strong makes National EMS Week, May 17–23, 2015, a 365-day-a-year initiative to give EMS a significantly greater visibility among other health professions and communities. While EMS Week is an integral part of the campaign, EMS Strong is the vehicle to drive awareness, interest, and excitement about the profession year-round. EMS Week brings together local communities and medical personnel to publicize safety and honor the dedication of those who provide the day-to-day lifesaving services of medicine's "frontline." This information can be used throughout the year for public education and safety programs. ***For more about EMS Week and EMS Strong, go to www.acep.org/emsweek.***

Congress Repeals the SGR

After 17 temporary fixes and years of tireless efforts on the part of many of ACEP members, the Senate passed legislation (H.R.2) on April 14, 2015, to permanently replace the flawed Medicare Sustainable Growth Rate (SGR) formula with a payment system that rewards quality, efficiency, and innovation. President Barack Obama signed it into law on April 16.

I want to thank Congressional leaders in both the House and Senate for their leadership in securing passage of this historic legislation, which ends a 13-year annual bandage approach to preventing steep financial cuts to Medicare physician payments.

ACEP has long advocated for an end to the fiscally irresponsible cycle of annual short-term patches—and at long last, Congress has achieved it. This legislation will stabilize America's Medicare system and protect access to medical care by Medicare patients, including the 78 million baby boomers who will enroll over the next few years.

This new system is essential to emergency departments because elderly patients are more likely to need emergency care than any other age group, and the fastest growing segment of the US population is people over 85 years of age.

The legislation also extends the Children's Health Insurance Program, which provides affordable health care insurance for children in low-income families. This two-year extension is crucial to ensuring that our youngest and most vulnerable patients have access to health care.

It represents a significant accomplishment for all the emergency physicians who actively made their voices heard in Congress.

As president of ACEP, I want to thank you—the thousands of ACEP members who over many years responded to our grassroots alerts, came to Washington, D.C., and made thousands of Hill visits—and the staff of ACEP's public affairs office in Washington. Without everyone's collective efforts, this tremendous achievement might not have been realized.

Sincerely,
Michael J. Gerardi, MD, FAAP, FACEP
President
American College of Emergency Physicians

CAN'T-MISS EVENTS

DATE	EVENT	PLACE	WEB SITE
MAY 18–20	ACEP Simulation-based Immersive Medical Training Course	Phoenix	acep.org/sim
MAY 18–22	Reimbursement & Coding Conferences	Ft. Lauderdale, Florida	acep.org/rc
JUNE 3–4	Emergency Medicine Academy Phase 2	Denver	acep.org/emacademy
JUNE 5–7	Emergency Medicine Academy Phase 3	Denver	acep.org/emacademy
OCT. 26–29	ACEP15	Boston	acep.org/acep15

ACGME/AOA Merger May Change Osteopathic Training

Challenges are ahead for community-based osteopathic EM residency programs

BY REBECCA PARKER, MD, FACEP, AND RICK ROBINSON, MD, FACEP

On Feb. 24, 2013, the Accreditation Council for Graduate Medical Education (ACGME), the American Osteopathic Association (AOA), and the American Association of Colleges of Osteopathic Medicine (AACOM) announced their agreement to a memorandum of understanding that outlined a single graduate medical education system for residency and fellowship programs in the United States. Together, the organizations embarked upon a journey creating the infrastructure for a smooth transition to merge into a single system, which will transpire over the next five years.

As our allopathic and osteopathic emergency medicine programs undergo this merger together, there are current differences between the two regulatory bodies that may be especially significant to a subset of AOA emergency medicine residency programs: the community hospital–based osteopathic programs. Nearly three-quarters of the AOA EM programs are community based and have trained highly skilled board-certified physicians for many years. However, differences in core faculty requirements, as well as sponsoring institutional support, may threaten their stability and financial viability.

ILLUSTRATION/PAUL JUESTRICH; PHOTOS SHUTTERSTOCK.COM

FACULTY

The ACGME, unlike the AOA, requires protected time for core faculty. The current ACGME requirements state that core EM faculty cannot work in excess of 28 clinical hours per week on average. Further restrictions are placed on program directors (PDs), who are restricted to 20 clinical hours per week, and assistant or associate PDs, who are restricted to 24 clinical hours per week. The AOA requirements include protected time for their PDs but not for core faculty. Many of the community osteopathic programs pay their core faculty a small stipend, and many of those faculty members donate this stipend back to the school, serving as faculty for free. These osteopathic core faculty members earn their salary most often through their hourly paid clinical shift work. AOA community EM programs are understandably concerned about how to fund core faculty protected time, assuming incorporation of the limits on clinical hours with ACGME as the single accreditation body.

Additionally, ACGME programs previously could select their individual qualifying core faculty members from their rosters at large. The requirement included one core faculty member for every three residents, with the chair/chief, PD, and assistant or associate PDs as automatic core faculty members. However, recently, the definition of core faculty appears to have changed to automatically include all faculty on a given program's roster who provide at least 15 hours of resident interaction per week on average. Although the most recent iteration of ACGME program requirements for graduate medical education in emergency medicine does not specifically address this qualification for inclusion as core faculty, it is clearly in practice.[1]

Currently, allopathic programs must provide an annual online update through ACGME's Accreditation Data System (ADS). When entering/updating the faculty roster, the program is required to report the average number of resident interaction hours per week for all faculty who provide resident education and/or supervision. During the 2014 update, one of the authors noted that the ADS automatically assigned the status of core faculty to all staff meeting the 15 hours per week criteria mentioned above. The author's program must provide a minimum of 12 core faculty for its 36 residents. The effect of the ADS automated process was to increase the core faculty count to 29 individual staff, representing 88 percent of all regularly scheduled staff. Also of note is that the PD is no longer considered part of the core faculty count for ADS reporting purposes and is therefore not one of the 29 mentioned above. This automated process compounds protected time challenges when considering the strict definition of core faculty and has been the subject of some discussion on the Council of Residency Directors listserv.

> AOA community emergency medicine programs are understandably concerned about how to fund core faculty protected time.

COMMUNITY HOSPITAL SETTING

The ACGME clearly expects and holds the sponsoring institution accountable to provide a reasonable salary and protected time for core faculty. However, community-based osteopathic programs are concerned that their resources, often the local community hospitals, cannot afford to provide additional funding for their programs. Currently, an SAEM/ACEP work group is exploring alternative funding methods for graduate medical education spots, which could provide assistance. Some PDs and chairs suggest exploring the concept of clinical core faculty whose scholarly endeavors are truly centered at the bedside.

Along with required protected time for core faculty, the ACGME requires that they engage in a significant amount of scholarly activity, with specific requirements related to peer-review publications. In the community-based practice setting, this will be a change and a challenge related to the infrastructure of the sponsoring institutions, most frequently community hospitals.

Finally, current ACGME requirements include that the sponsoring institution for an EM program has a major educational commitment as evidenced by existing training programs in other major specialties to include internal medicine, general surgery, pediatrics, and obstetrics and gynecology. Once again, in a community hospital setting, the sponsoring institution may not have this supporting infrastructure in place.

As the ACGME/AOA merger advances, these significant differences will come to light. They are not insurmountable, and a thoughtful discussion aimed at a beneficial compromise for all programs will prevail. In the end, our uncompromising goal remains to provide the highest quality training and preservation of our hard-earned and staunchly supported EM programs.

Special thanks to Robert Hunter, DO, MPH, FACOEP, program director in emergency medicine at Grandview Medical Center in Dayton, Ohio; Thomas Matese, DO, FACOEP, program director in emergency medicine at St. Lucie Medical Center in Port St. Lucie, Florida; Mark Mitchell, DO, FACOEP, president of the American College of Osteopathic Emergency Physicians; and Sandy Schneider, MD, FACEP, ACEP director of emergency medicine practice and former chair of the University of Rochester department of emergency medicine.

Reference

1. ACGME program requirements for graduate medical education in emergency medicine. Available at: https://www.acgme.org/acgmeweb/Portals/0/PFAssets/2013-PR-FAQ-PIF/110_emergency_medicine_07012013.pdf. Accessed April 10, 2015.

DR. PARKER is chair of the ACEP Board of Directors and clinical assistant professor at Texas Tech University in El Paso. **DR. ROBINSON** is vice chair and program director in the department of emergency medicine at John Peter Smith Hospital in Fort Worth, Texas, and past president of the Texas College of Emergency Physicians.

Progress on ACEP's New CEDR

It will support patient care, enable participation in quality improvement programs, and meet value-based reimbursement requirements

BY JAMES J. AUGUSTINE, MD, FACEP, STEVE EPSTEIN, MD, FACEP, MICHAEL A. GRANOVSKY, MD, FACEP, AND STACIE SCHILLING JONES, MPH

As part of its ongoing commitment to providing the highest quality of emergency care, ACEP has developed the Clinical Emergency Data Registry (CEDR). This is the first emergency medicine specialty-wide registry at a national level, and it's designed to measure and report health care quality and outcomes. It will also provide data to identify practice patterns, trends, and outcomes in emergency care. CEDR is an evolving registry that will support emergency physicians' efforts to improve quality and practice in all types of EDs even as practice and payment policies change over the coming years. ACEP CEDR has been qualified by the Centers for Medicare & Medicaid Services (CMS) as a qualified clinical data registry (QCDR) to help emergency physicians and clinicians meet both the CMS Physician Quality Reporting System (PQRS) reporting and other quality reporting requirements.

Quality Care Through Comparative Evidence

CEDR will, for the first time, enable emergency physicians to review their practice patterns and outcomes in comparison with their peers. Starting in 2015, CEDR will provide emergency physicians and clinicians with patient outcomes and health care quality metrics at the physician, ED, and group levels. Initially focusing on ACEP's *Choosing Wisely* recommendations and ED throughput, CEDR will gradually expand to include other aspects of emergency care in 2016.

A Physician-Friendly System

CEDR is designed to be physician friendly. With little data entry burden to emergency clinicians or ED staff, clinical and patient data will be extracted, transformed, and loaded into CEDR from the ED's electronic health record system, revenue cycle management system, or administrative data system (see Figure 1).

How Will CEDR Data Be Used?

The use of de-identified aggregated data generated by CEDR will support national comparative benchmarks, evidence-based shared decision making, and guideline-informed physician practices. It will provide participating emergency clinicians with feedback regarding their individual- and/or ED-level performance on a range of process and outcome quality measures, benchmarked against their peers at national and regional levels. For government policy makers, CEDR will provide further understanding around clinical effectiveness, patient safety, care coordination, patient experience, efficiency, and system effectiveness.

Why Should Emergency Physicians Participate in CEDR?

Instead of miring physicians in an alphabet soup of reporting requirements, CEDR allows for a single data capture to fulfill the requirements of multiple programs, making quality measure reporting more efficient. The health care environment is transitioning from volume-based to value-based payment for care. CEDR will ensure that emergency physicians, rather than other parties, are identifying what practices work best and for whom.

Privacy Policy

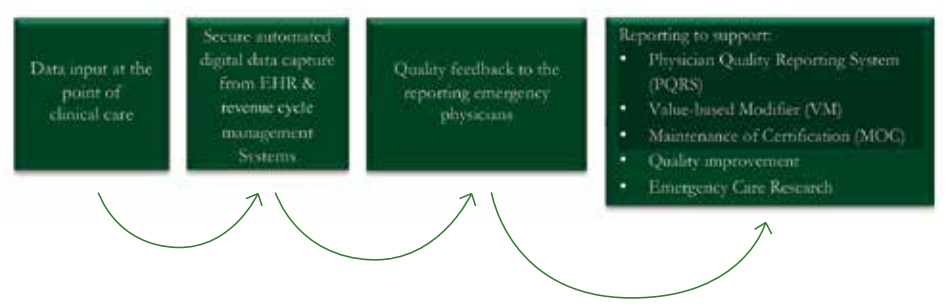
Information collected by CEDR is stored in a segregated HIPAA-compliant server in a secure electronic vault with robust backup. Only participating emergency clinicians or their designated ED administrator can see their performance with comparisons to national statistics.

Summary

CEDR is being developed under a sophisticated information technology infrastructure and will be implemented in phases over the next year in terms of the number of participating EDs, scope, and functionality. The initial testing and QCDR approval phase began in April 2015 with the participation of five EDs. The pilot phase is expected to begin in May 2015. Through the aggregation and organization of data on clinical effectiveness, patient safety, care coordination, patient experience, efficiency, and system effectiveness, CEDR will provide clinicians with a definitive resource for informing and advancing the highest quality of emergency care.

DR. AUGUSTINE is director of clinical operations at EMP in Canton, Ohio; clinical associate professor of Emergency Medicine at Wright State University in Dayton, Ohio; and on the ACEP Board of Directors. **DR. EPSTEIN** is an attending physician in the Department of Emergency Medicine at Beth Israel Deaconess Medical Center and assistant professor of emergency medicine at Harvard Medical School in Boston. **DR. GRANOVSKY** is president of LogixHealth, an ED coding and billing company, and currently serves as the course director of ACEP's Coding and Reimbursement courses. **MS. JONES** is director of quality and health information technology in the public affairs division of ACEP in Washington, D.C.

Figure 1. CEDR Workflow



ADDITIONAL RESOURCES

ACEP CEDR website: www.acep.org/cedr/

National Quality Registry Network: www.ama-assn.org/ama/pub/physician-resources/physician-consortium-performance-improvement/nqrn.page

CMS qualified clinical data registry participation made simple: www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/2015PQRS_QCDR_MadeSimple.pdf

Business Weighs In

The U.S. Chamber of Commerce is one avenue to tap the promise of health–business collaboration

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Visit the U.S. Chamber of Commerce website, uschamber.com/health-care, for:
- Policy positions
- Health care background resources and toolkits
- Blog posts on health care issues and more

All businesses in the United States, from the mom-and-pop groceries to retail giants like Walmart, have an interest in health care. Whether they are health care providers, innovators, or purchasers, businesses can bring knowledge and a drive for innovation to the health care sphere. ACEP Now *Editorial Advisory Board member* ***Ricardo Martinez****, MD, FACEP, chief medical officer and vice president of North Highland and assistant professor of emergency medicine at Emory University in Atlanta, recently spoke with* ***Jennifer Pierotti****, director of health policy at the U.S. Chamber of Commerce, about how physicians and businesses can work together to create an innovative health care environment and provide the best care for patients. Here are some highlights from their conversation.*


Dr. Ricardo Martinez


Jennifer Pierotti

Dr. Ricardo Martinez: Tell us about the U.S. Chamber and who it represents.

Jennifer Pierotti: We are the world's largest business association. We represent the interests of over three million businesses from every size, sector, and region. Our members include everyone from local and state chambers, the mom-and-pop stores on the corner, to industry associations and international corporations. We have a broad array of interests as well as policy issues that we develop.

RM: I attended the Chamber's Annual Health Care Summit on innovation, and it was terrific to see the breadth of people on the business side and also the entrepreneurial side who are focusing on health care.

JP: Our Annual Health Care Summit is a chance to step away from looking at the political realities and driving policy issues of the day and look at the folks on the frontlines of delivering health care. We can talk about how doctors use telemedicine to access rural areas and new clinical trials happening at places like the Cleveland Clinic—areas we don't get a chance to look at on an everyday basis.

RM: I think emergency physicians would be surprised at how much the Chamber is involved in health care. Tell us more about where the business community sees itself in the health care landscape.

JP: A lot of businesses in the health care space, like the companies creating cutting-edge pharmaceuticals or hospital systems, are coming up with new delivery models or the latest health care technology. In addition to private-sector innovations, businesses are employers and are on the frontlines of being the providers of health care coverage to their employees. They have been dealing with the challenges of our health care system way before the Affordable Care Act. Finally, employers are uniquely positioned to deal with some of the wellness and chronic disease issues individuals are facing these days because employees spend about two-thirds of their work day at their place of employment.

RM: The rollout of health care reform has created a changing landscape, and different areas are evolving at various rates. What are the most important issues that the Chamber sees as needing to be tackled?

JP: In order to keep all of this private-sector innovation going, what sorts of regulatory reforms need to take place? What parts of the Affordable Care Act do we need to address so that employers can keep doing what they're doing? The Chamber as a whole has a regulatory reform agenda that promotes changes like more transparency and longer comment periods for the regulatory process. Reforms like this are meant to ensure that businesses aren't battling red tape and can continue to create health care startups and innovate. Much of the health care law was written through the regulatory process, and it went much faster than it should have gone given the complexity and scope of many of these health care regulations. Our main priority right now is reducing the impact of the employer mandate.

RM: Many of our readers would be surprised to know that there are a lot more private health care exchanges than public ones, spawned as business began to move away from defined benefits and toward defined contributions. As business moves from being the sole source of insurance to being a partner with the employees for insurance, what can we expect to see from business in terms of working with their employees to ensure that they have health coverage?

JP: The biggest thing we're seeing now is the shift to a new consumerism in health care. Despite some of the mandates on the insurance market, employers are looking to how they can use cost sharing to get their employees the best deals and options for coverage. They're investing in things like health reimbursement arrangements, flexible spending accounts, health savings accounts, and different ways employees can get more bang for their buck. We're going to see more of that as employees are seen as the consumers, rather than recipients, of health care on a much wider scale.

RM: Are employers trying to make it simpler for the employees to make better decisions?

JP: Definitely. Health insurers are focusing on better communications with employees to try to break down what employees are getting for each plan being offered. This is not just the summary of benefits and coverage that employers have to provide but really speaking to the employees in terms that make sense: "This is what you had last year. This is what is different this year."

Built into the private exchanges you mentioned is a feature where members can have direct contact with benefit advisors who can tell them what they're getting. Of course, a lot of this is done online, and there are strong efforts focused on figuring out what formats are easiest for people to understand, what kind of information they are looking for, and real-life examples of "if he gets this procedure, it's going to cost this much."

> **Right now, if you're a doctor and you want to treat your Medicare patient in another state using telemedicine, you have to be licensed in both states. This is a great example of a regulatory barrier that could use additional flexibility so we can open up these channels of care.**
>
> *—Jennifer Pierotti, director of health policy at the U.S. Chamber of Commerce*

RM: That last part especially is important to emergency medicine because we frequently have patients with high-deductible plans. Our ability to take care of them and then get paid can be a challenge, especially if it's a complicated patient. The other side of the coin is that that high deductible has really generated a large amount of competition for those first dollars in terms of the urgent care clinics and retail clinics. What do you see in that growth of consumerism and the first dollar affecting the growth of new types of businesses in the market?

JP: We're at an interesting place in the implementation of the Affordable Care Act. There's this whole new group of low-income people and "young invincibles" who now have access to coverage but still have trouble accessing care. If you're low income, you can't always leave work as easily or miss those working hours to go to the physician's office. As a country, we're still working through issues of where people are ending up in the access process. It is a learning experience both for the employees and consumers of health care, as well as the providers.

RM: Virtual care and telehealth have been slow in the uptake but are now accelerating. Do you have any insight into that from the business side?

JP: We've seen a huge emergence of health information technology, and everybody always assumes that more technology is better in whatever form.

Of course, we hear a lot from the physician side that electronic health records are really slowing them down. It's causing dissatisfaction in the workplace for physicians. But we're seeing more innovation in this space to make technology more useful and even tailored to physicians based on specialty.

On the other hand, telemedicine has shown it is a great way to reach some of these newly-insured populations, especially low-income populations and rural populations that don't have the same access to physicians as compared to large cities or high-income areas. As the U.S. Chamber, we're working toward getting rid of some of the barriers to using this telemedicine as a targeted tool to increase access to care. Right now, if you're a doctor and you want to treat your Medicare patient in another state using telemedicine, you have to be licensed in both states. This is a great example of a regulatory barrier that could use additional flexibility so we can open up these channels of care.

RM: As hospital-based physicians, a lot of times we find ourselves being very insular or working within our hospital, but it sounds like there's a need for us to reach out to the business community. From your experience, what would you advise physicians in order to start an effective and meaningful dialogue with business?

JP: The perfect place to start is your local or state chamber. We've seen a number of groups develop regional health care collaborations at the local or state level. For example, Nashville, Tennessee, has a health care effort led by the Nashville Area Chamber of Commerce that pulls together all of the health-sector players in that area—hospitals, physician groups, and businesses—and they all figure out the challenges together for the area. They've been able to move forward with creating cultures of wellness, making sure that they have adequate hospital and emergency room service and ensuring the business environment is supporting the local health care industry. At the end of the day, if these groups are insulated from the others, they can't collectively deal with the problems and come to a solution that's best for that geographic location.

New Guidance on Thoracic Aortic Dissection

ACEP Board of Directors approves clinical policy guiding diagnosis, treatment of TAD

BY ANDREW FREDERICKS, MD, AND DEBORAH DIERCKS, MD, FACEP

In October 2014, the ACEP Board of Directors approved a new clinical policy, developed by ACEP's Clinical Policies Committee, on the evaluation and management of adult patients with suspected acute nontraumatic thoracic aortic dissection. As is the case with all of ACEP's clinical policies, it has been published in *Annals of Emergency Medicine*.[1]

Acute nontraumatic thoracic aortic dissection is a deadly disease and a can't-miss diagnosis in the emergency department. Although inpatient mortality from this condition approaches 27 percent, the disease has a very low incidence, and there is little high-quality evidence to guide an approach to diagnosis and management. Considerable medical-legal risk also surrounds its misdiagnosis.

Committee members focused on five critical questions associated with the ED evaluation and management of this condition. A systematic review of the evidence was conducted, and the committee then elucidated a strength of recommendation (A, B, or C) associated with answers to each of the questions (see Table 1). Input was received from ACEP members and individual members of the American Heart Association and the Society for Vascular Surgery during the 60-day open-comment period.

Critical Question 1

In adult patients with suspected acute nontraumatic thoracic aortic dissection, are there clinical decision rules that identify a group of patients at very low risk for the diagnosis of thoracic aortic dissection?

Approximately 8–10 percent of all patients present to the ED with chest pain, and because chest pain is a common complaint in aortic dissection, the treating clinician often considers the diagnosis in patients with this complaint. Therefore, it would be ideal if a clinical decision rule could be used to identify patients at very low risk for having an aortic dissection who do not need to be evaluated for dissection by diagnostic testing. Unfortunately, no such clinical decision rule has been validated in a prospective trial, thus use of clinical decision rules to identify patients at very low risk for acute nontraumatic thoracic aortic dissection was given a Level C recommendation.

Critical Question 2

In adult patients with suspected acute nontraumatic thoracic aortic dissection, is a negative serum D-dimer sufficient to identify a group of patients at very low risk for the diagnosis of thoracic aortic dissection?

Once a clinician decides to evaluate a patient for thoracic aortic dissection, imaging and diagnostic tests must be selected. In recent years, there has been a great deal of literature published on the use of D-dimer in the evaluation of aortic dissection. However, the low quality of these studies resulted in a Level C recommendation for the use of D-dimer to rule out dissection.

Critical Question 3

In adult patients with suspected acute nontraumatic thoracic aortic dissection, is the diagnostic accuracy of a computed tomography angiogram (CTA) at least equivalent to that of transesophageal echocardiogram (TEE) or magnetic resonance angiogram (MRA) to exclude the diagnosis of thoracic aortic dissection?

In the ED, CTA is often used to evaluate patients for suspected thoracic aortic dissection. The Class I, II, and III studies identified in the systematic review of the diagnostic accuracy of CTA reported sensitivities ranging from 93 percent to 100 percent. The evidence demonstrated that the sensitivity of CTA is very similar to that of TEE and MRA, diagnostic modalities that have been suggested as useful for the evaluation of an aortic dissection. CTA is often more readily available in the ED than TEE and MRA, which makes it a practical diagnostic tool. As such, its use received a Level B recommendation.

Critical Question 4

In adult patients with suspected acute nontraumatic thoracic aortic dissection, does an abnormal bedside transthoracic echocardiogram establish the diagnosis of thoracic aortic dissection?

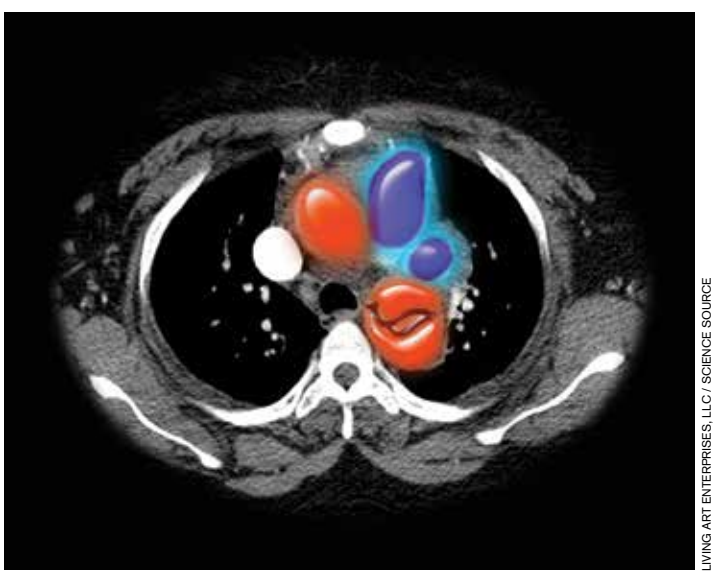
A bedside ultrasound exam such as a transthoracic echocardiogram (TTE) to rule out acute nontraumatic thoracic aortic dissection would be very useful and is becoming a tool in the ED physicians' diagnostic algorithm as our skills in ultrasound have evolved. However, there are no current studies evaluating ED physician–performed TTE in ruling out thoracic aortic dissection. Thus, no recommendation was provided.

Critical Question 5

In adult patients with acute nontraumatic thoracic aortic dissection, does targeted heart rate and blood pressure lowering reduce morbidity or mortality?

Once a diagnosis is made, treatment is initiated with the aim of reducing heart rate and blood pressure. Existing guidelines generally recommend aiming for targets of 60 beats/minute and systolic blood pressure below 120 mm Hg. However, there are currently no prospective human trials that demonstrate the superiority of a strategy of decreasing heart rate prior to reducing blood pressure. There is insufficient evidence to definitively identify an optimal target in all patients regardless of age and comorbidities. Therefore, no recommendation was made.

The diagnosis and management of acute thoracic aortic dissection in the ED are challenging. For many reasons, this disease is very difficult to study in randomized controlled trials that might elucidate clearer diagnostic or management pathways. This clinical policy reflects the quality of the literature on this topic and therefore the lack of Level A recommendations that can be made on the management of these patients.



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Color-enhanced computerized axial tomography (CT) image of a human chest, showing a dissection of the descending thoracic aorta (red fish-mouth shaped structure) in which the wall of the artery tears and blood accumulates within the artery wall.

Reference

1. Diercks DB, Promes SB, Schuur JD, et al. Clinical policy: critical issues in the evaluation and management of adult patients with suspected acute nontraumatic thoracic aortic dissection. *Ann Emerg Med.* 2015;65(1):32-42.e12.

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Table 1.

TRANSLATION OF CLASSES OF EVIDENCE TO RECOMMENDATION LEVELS

Strength of recommendations regarding each critical question were made by subcommittee members using results from strength-of-evidence grading, expert opinion, and consensus among subcommittee members according to the following guidelines:

LEVEL A RECOMMENDATIONS. **Generally accepted principles for patient care that reflect a high degree of clinical certainty (ie, based on evidence from one or more Class of Evidence I or multiple Class of Evidence II studies).**

LEVEL B RECOMMENDATIONS. **Recommendations for patient care that may identify a particular strategy or range of strategies that reflect moderate clinical certainty (ie, based on evidence from one or more Class of Evidence II studies or strong consensus of Class of Evidence III studies).**

LEVEL C RECOMMENDATIONS. **Recommendations for patient care that are based on evidence from Class of Evidence III studies or, in the absence of any adequate published literature, based on expert consensus. In instances where consensus recommendations are made, "consensus" is placed in parentheses at the end of the recommendation.**

'They'll always patch it.' Well, that's a risky assumption when you see that Congress has played Russian roulette with the entire nation's economy through the debt ceiling debates when they shut the government down. If... people just take it as a given that all these patches are going to happen, they have not paid attention to contemporary politics.

—Steven J. Stack, MD, FACEP

of recognition began on the floor of the AMA House of Delegates. John Wiegenstein, MD, and others had to fight very, very hard in that venue to persuade a dismissive and unconvinced medical profession that there was a need and a value for the specialty that you and I clearly know there's a value and a need for. It's really neat to close that circle. Just for your information—because I know this more clearly than I did before—at the age of 43, I will be the youngest president of the AMA since 1854, and I will be the second youngest of the 170 presidents. The youngest was Dr. Charles Pope in 1854. He was 36 years old. So to paraphrase whoever singer that was—Vanilla Ice?—"can't touch that," but it will be pretty cool to be so young in over 160 years of that position.

KK: Absolutely, and you'll be able to instruct us on many, many different areas of medicine and policy, so I will instruct you on hip-hop. That was MC Hammer, my friend.

SS: Ah, MC Hammer. I'm sorry. That's right. That's my foray into popular culture.

KK: As far as scheduling and different responsibilities go, how much different will it be for you after June 9?

SS: I'm in a position where, because of the work I've done on health information technology and what I've done with my interactions with certain facets of the federal government, my schedule right now is at a presidential pace. My life will look something like this: I will average between 50 and 55 clinical hours in the emergency department every month, and I will travel probably more than 180 days for the AMA this calendar year. I will have innumerable conference calls wedged and peppered during transition points in airports, hotel meeting rooms, office places, or at home. It will be a very, very brisk pace, and I will obviously try very, very hard to build little pockets of time to make sure I remain familiar with my wife and my daughter.

KK: Will your position provide some unique opportunities for them travel-wise or being exposed to things that they might not have otherwise experienced?

SS: Generally, no—because these trips are so focused on the task or on work, they don't come with me. Two other reasons: My daughter is appropriately busy for a fourth grader, with her soccer and martial arts schedules and horseback riding, which she loves to do. My wife is a practicing pediatric allergist. She has a full-time practice, and she is the owner of the practice. She and my daughter have very busy lives on their own and can't just up and come with me on trips. The one exception for that: I will attend the World Medical Association, which meets twice a year. It's like the United Nations for physicians, and I get to travel around the world and meet with my physician colleagues who represent the other nations of the world. It really is a true conclave of the top leadership of the profession of medicine across the globe. [My wife], Tracie, will go with me on some of those trips because it's such a novel and once-in-a-lifetime experience.

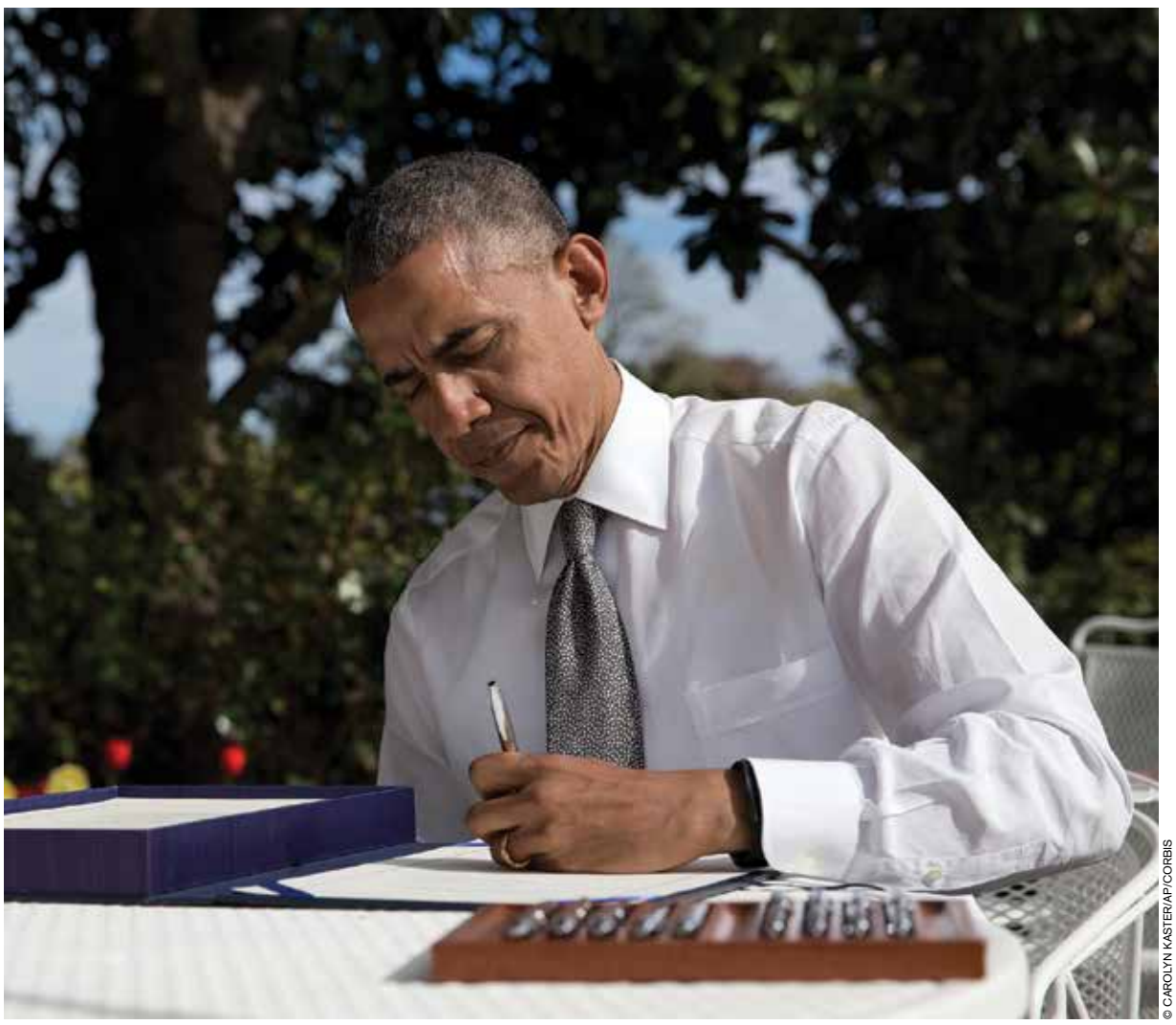
KK: I'm glad that she'll get to experience some of this with you. Let's get into some policy issues. Regarding the recent developments with the Sustainable Growth Rate (SGR) repeal, what are your feelings about the current success, and do you think there are any devils in the details, anything in fine print, any concessions that may soften the potential benefit of this repeal for us?

SS: On March 26, the House had a historic day whereby, 392 to 37, they passed a bill that would repeal the SGR once and for all. That's historic because we've never gotten this far for a complete repeal of the SGR, and it was a slam dunk. It was overwhelming that the House of Representatives said we're going to do this. Last year, we did not succeed, but the policy from last year was also historic because it was the first time that both chambers of Congress—the House and the Senate—and both parties—the Democrats and Republicans—and all three committees of jurisdiction within—two in the House and one in the Senate—all voted up policy in support of repealing the SGR.

At that time, the AMA was able to get over 600 physician organizations to join in a sign-on letter supporting that policy. That's the whole profession of medicine. I've never seen a sign-on letter in our profession with that many signatories. This year, we got a sign-on letter with over 700 physician organizations. There apparently were more societies who have come out of the woodwork and signed. When we have over 700 physician organizations signed on to a letter supporting the policy, if you are on the outside of that group, you are clearly the outlier because everybody has joined in supporting that this is the best opportunity we have within the political process to finally eliminate the SGR and achieve meaningful reform.

When you ask about the policy itself, the SGR every year or every six months or every three months, depending on the 17 different patches of varying durations, was like a guillotine over the head of the profession. If these cuts, 20 or 30 percent, were ever to happen, it would be devastating. It would be crippling, and it would be entirely unsustainable. To their own detriment, there are a number of folks, physicians included, who have become inured to this and say, "Oh, it's no big deal. They'll always patch it." Well, that's a risky assumption when you see that Congress has played Russian roulette with the entire nation's economy through the debt-ceiling debates when they shut the government down. If we're willing to go that far with the entire nation's economy and people just take it as a given that all these patches are going to happen, they have not paid attention to contemporary politics.

All of these other changes that have to happen in payment and delivery reform for new ways to pay physicians, new ways to measure quality, and new ways to adopt technology always get bungled up in this SGR mess. It makes it harder to address those other policies because you have this much more enormous issue that affects everybody. If we pave this over and get rid of this deficit, now physicians at least will have the stability or predictability of knowing, "I don't have that threat every year." They'll have to deal with all of the other regulatory burdens that the government is forcing on us, but they won't have that burden and the uncertainty of a massive disruption in their revenue



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In this April 16, 2015, President Barack signs the bill H.R. 2 Medicare Access and CHIP Reauthorization Act of 2015 in the Rose Garden of the White House in Washington.

stream. Hopefully, we can focus on those other programs and make those better, and physicians and their practices will be able to better invest in the future knowing that there is some stability going forward. By any measure you look at it, the proposed policy that the U.S. House of Representatives passed is directionally better, and in some ways substantially so, than where we currently are; however, I have to qualify that and say we haven't actually won it. There's always more work to be done, and when this hopefully finally comes to a close by the time you publish this, hopefully we'll be in a better position with this gone to focus on the other never-ending parade of issues we have to deal with.

KK: If I understand correctly, there's about a $200 billion price tag on the SGR repeal. How are they paying for it? Is it all in incentives and payment reforms from physicians, or is there some other mechanism?

SS: Well, no. The "price tag" is an artifact of the way of the political process more than the reality. The only way this has not already been part of the federal debt is that we pretend we haven't spent the money because whatever the price tag is estimated over a 10-year period, which is how the Congressional Budget Office (CBO) does it, whether it's $150 billion, $140, or $200, you have to remember there are other things included when they quote the total price because there's not just Medicare. There are extenders for various other payment programs, programs like the Children's Health Insurance Program (CHIP), Tricare, and other things that are tagalongs to the SGR. What the true cost of the SGR is apart from all of these other things almost doesn't matter. The only way the federal government doesn't already have $150 billion more as part of its debt is we pretend we haven't spent that $150 billion already because the only way we haven't spent it is if they let a 25 percent cut into play and they take it back from us by not paying us. It's actually spent money. It's a debt, and it's just not recognized on the books. It's the kind of stuff that probably Enron did, and we all know what happened to Enron. It is funny accounting, and to say that it's going to add to the debt is a fallacious premise in the first place because it's already part of the debt. We just pretend it doesn't exist in the first place. All the politicians say, "We'd never let a cut like that happen with docs because we know it would destroy the health system." Even the CBO, when it shows projections, has to follow the assumption that the laws of the land will be executed, but it even creates a second series of charts that show, given that the history is they never follow the law of the land, what we really predict to happen. Because we don't follow the law, there's more than enough evidence that shows that this is already part of the debt.

The only way the federal government doesn't already have $150 billion more as part of its debt is we pretend we haven't spent [it] already, because the only way we haven't spent it is if they let a 25 percent cut into play and they take it back from us by not paying us. —*Steven J. Stack, MD, FACEP*

As far as how are we going to pay for it, they have a number of different ways where they partially offset it and some where they don't offset. There's a new quality paradigm in the bill called MIPS, Merit-Based Incentive Payment System. They are rolling up existing quality programs and integrating them into a more coherent penalty and incentive program. There are still things we'd like to have changed, but politics is a compromise when possible, not about me always getting what I want. We'll work on that over time, but it really is taking things like Meaningful Use, Physician Quality Reporting System, and Value Based Modifier and rolling them up into a more integrated program.

KK: That makes perfect sense and is probably the best explanation I have heard about whether this is actually incurring additional debt. Like you said, it's money already spent. I am glad we're down the road, and I suspect from your comments that maybe things aren't exactly perfect but any way to get the SGR repealed would be of great value to us, despite the fact that there may be small details we'd want to tweak later.

Potential Pitfalls of POLST

New approach to advanced directives brings new challenges

BY FERDINANDO L. MIRARCHI, DO, FAAEM, FACEP

Physician orders for life-sustaining treatment (POLST) is a paradigm moving quickly across the United States and was intended to address deficiencies in the advance directive process. The movement is quickly outpacing quality research, educational standards, and regulatory processes. This POLST movement is becoming an unfunded mandate very similar to the mandate proposed back in 1990 with the passage of the patient's self-determination act related to living wills and advance directives.

POLST is to be utilized in patients who are frail, elderly, and expected to die within six months to one year.[1] However, states and hospital systems are becoming more liberal with utilization. Additionally, payer systems are financially incentivizing institutions to create POLST forms for many different patient populations, especially those discharged to skilled nursing or rehabilitation or admitted to hospitals for a variety of conditions. POLST is a physician order. However, it is often completed by nonmedical personnel and then signed by a physician and in some states by an advanced practice provider.[2] This process, combined with payer incentives, should raise one's level of concern with the ability of the patient to fully understand the implications and provide informed consent.

Regardless of the aforementioned concerns, POLST has proven useful. In multiple studies, POLST is very effective at minimizing unnecessary resuscitation, predicting location of death, and preventing unwarranted hospital admission.[3–5] Although POLST's intended purpose is to address deficiencies in the advance directive process, advance directives have also proven useful in providing patient and family fulfillment, decreased Medicare spending, decreased in-hospital deaths, and increased utilization of hospice.[6]

In March 2015, the *Journal of Patient Safety* published a pair of The Realistic Interpretation of Advance Directives (TRIAD) studies. TRIAD-VI–Emergency Medicine Physician and TRIAD-VII–Emergency Medical Services understanding of POLST in Pennsylvania indicate that there is confusion among providers with POLST utilization in the setting of critical illness.[7,8] In reality, this may indicate confusion across the nation, as there is very little practice variation with respect to end-of-life care in the practice of emergency medicine and prehospital care throughout the United States.

> In multiple studies, POLST is very effective at minimizing unnecessary resuscitation, predicting location of death, and preventing unwarranted hospital admission.

The studies indicate, based upon provider understanding in the setting of critical illness, that patients are at risk to be both over- and underresuscitated.[7,8] These rates appear to be similar to what was previously published in TRIAD-III–Nationwide Assessment of Living Wills and Do Not Resuscitate (DNR) Orders.[9]

In the face of a quickly growing national POLST movement, we should perform more research as it relates to patient safety and provider understanding. Medical providers need to embrace POLST but be aware of its limitations. One should consider guidelines from the American Bar Association and National POLST Paradigm Task Force regarding reviewing and confirming choices elected on POLST forms.[10] The use of a patient-safety checklist would be a conservative approach to individualize patient care and safety. A resuscitation pause or advance directive patient-safety checklist (see Table 1) represents an opportunity to maintain compliance with existing national recommendations and also help ensure the delivery of appropriate care.[7,8,11,12]

Table 1. ABCDEs of the Living Will, DNR, or POLST[13]

Ask patients or surrogates to be clear as to their intentions for their advance directive (living will, DNR order, or POLST form).

Be clear as to if this is a terminal condition despite sound medical treatment or persistent vegetative state versus a treatable critical illness.

Communicate clearly if you feel the condition is reversible and treatable with a good or poor prognostic outcome.

Design a plan and discuss next steps. For example, say, "Your mom is critically ill. We can give her a trial of instituting life-sustaining care for 48 to 72 hours, and if there is no benefit, we can withdraw care and treatment."

Explain that it's OK to withhold care and treatment or withdraw care so long as it's in keeping with the patients' perceived wishes. Also, take a moment to explain the benefits of palliative care and hospice.

References

1. Hickman SE, Nelson CA, Perrin NA, et al. A comparison of methods to communicate treatment preferences in nursing facilities: traditional practices versus the physician orders for life-sustaining treatment program. *J Am Geriatr Soc.* 2010;58:1241-1248.
2. California Advocates for Nursing Home Reform. Physician orders for life sustaining treatment ("POLST"): problems and recommendations, 2010. Available at: http://www.canhr.org/reports/2010/POLST_WhitePaper.pdf. Accessed April 9, 2014.
3. Fromme E, Zive D, Schmidt T, et al. Association between physician orders for life-sustaining treatment for scope of treatment and in-hospital death in Oregon. *J Am Geriatr Soc.* 2014;62(7):1246-1251.
4. Richardson DK, Fromme E, Zive D, et al. Concordance of out-of-hospital and emergency department cardiac arrest resuscitation with documented end-of-life choices in Oregon. *Ann Emerg Med.* 2014;63:375-383.
5. Schmidt TA, Zive D, Fromme EK, et al. Physician orders for life-sustaining treatment (POLST): lessons learned from analysis of the Oregon POLST registry. *Resuscitation.* 2014;85:480-485.
6. Nicholas LH, Langa KM, Iwashyna TJ. Regional variations in the association between advanced directives and end-of-life Medicare expenditures. *JAMA.* 2011;306:1447-1453.
7. Mirarchi FL, Doshi AA, Zerkle SW. TRIAD VI–how well do emergency physicians understand physicians orders for life-sustaining treatment (POLST) forms? *J Patient Safe.* 2015;11:1-8.
8. Mirarchi FL, Cammarata C, Zerkle SW. TRIAD VII–do prehospital providers understand physicians orders for life-sustaining treatment documents? *J Patient Safe.* 2015;1:9-17.
9. Mirarchi FL, Costello E, Puller J, et al. TRIAD III: nationwide assessment of living wills and do not resuscitate orders. *J Emerg Med.* 2012;42:511-520.
10. National POLST Paradigm Task Force. POLST legislative guide. Available at: http://www.polst.org/wp-content/uploads/2014/02/2014-02-20-POLST-Legislative-Guide-FINAL.pdf. Accessed May 16, 2014.
11. Mirarchi FL. Avoid potential pitfalls of living wills, DNR, and POLST with checklists, standardization. *ACEP Now.* 2014;33:13.
12. Mirarchi FL. A new nationwide patient safety concern related to living will, DNR orders and POLST-like documents. October 2014. Available at: http://www.npsf.org/blogpost/1158873/200782/A-New-Nationwide-Patient-Safety-Concern-Related-to-Living-Wills-DNR-Orders-and-POLST-Like-Documents. Accessed April 15, 2015.
13. Mirarchi FL. *Understanding Your Living Will.* Omaha, Neb: Addicus Books; 2006.

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ACEP Advocates for Children by Supporting EMSC Program

BY GORDON B. WHEELER

Nearly 30 million children receive emergency medical care each year. The federal Emergency Medical Services for Children (EMSC) program, administered by the Health Resources and Services Administration within the U.S. Department of Health and Human Services, helps ensure emergency departments and ambulances have the equipment, supplies, and medications necessary to treat children and helps develop pediatric treatment protocols.

The funding that EMSC provides each state goes toward strengthening hospital and pre-hospital services, training first responders, and improving systems to provide more efficient and effective pediatric emergency medical care. Specifically, EMSC funding improves access to care in rural and remote areas, helps improve capacity and transport of pediatric patients, and overall expedites emerging issues for pediatric patients.

For years, ACEP has worked in collaboration with other stakeholders, including the American Academy of Pediatrics, to promote and support appropriate funding for the important research conducted by EMSC. In 2014, our coalition worked with U.S. Representatives Jim Matheson (D-UT) and Peter King (R-NY) and Senators Bob Casey (D-PA) and Orrin Hatch (R-UT) to successfully reauthorize the program before it expired on Sept. 30. Most recently, ACEP and its partners sent a letter to both the House and Senate appropriations committees urging them to fully fund EMSC at $21 million in fiscal year 2016.

To see a list of some of the resources developed by ACEP, go to www.acep.org/Clinical---Practice-Management/EMSC-Resources-Developed-by-ACEP/.

MR. WHEELER is ACEP associate executive director for public affairs.

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Bougienage on a Budget

Use this trick when kids treat their stomachs like piggy banks

by TERRANCE MCGOVERN, DO, MPH, JUSTIN MCNAMEE, DO, AND JULIE SANICOLA-JOHNSON, DO

Children, for whatever reason, have a predilection for swallowing coins. Perhaps it's the taste or that they're using their stomach as a piggy bank. When these young patients present to the emergency department with a coin lodged in their esophagus, what options do we have? We could call gastroenterology or try to take it out ourselves. One option with few complications is bougienage, where we manually advance the coin into the stomach classically using a Hurst dilator and allow it to pass naturally.

Background

In 2012, there were approximately 93,000 cases of foreign-body ingestions, nearly 4,000 of which were coins.[1] While the feared button-battery ingestion can cause esophageal necrosis in as little as two hours, impacted coins can also cause perforation, obstruction, or fistulas if left untreated.[2,3]

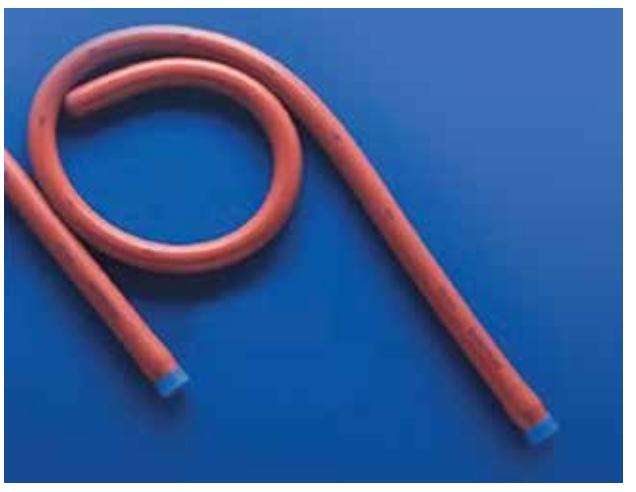
The American Society for Gastrointestinal Endoscopy (ASGE) currently recommends an observation period of 24 hours for asymptomatic patients to see if the coin will pass into the stomach without any intervention.[4] Up to 56 percent of coins lodged in the distal esophagus and 27 percent in the proximal esophagus will pass into the stomach without any complications.[5] Once in the stomach, most coins will transverse the gastrointestinal tract spontaneously.[5,6] If the coin is retained within the stomach for more than three to four weeks, the patient will likely need endoscopic removal. The same is true for any coin that remains stationary for one week past the duodenum; it will need surgical removal.

For coins that do not spontaneously pass into the stomach, endoscopy has shown to be very successful (100 percent), with a small but measurable rate of complications, which are predominantly airway related (2.5 percent).[7] An additional method of removal is using the Foley catheter technique. There are variations to the actual procedure, but typically it involves placing a Foley catheter (either orally or nasally) past the foreign body, inflating the Foley balloon, and extracting the foreign body. As you may imagine, the most concerning aspect to this technique is the thought of dragging the foreign body right past the glottis, which is just lying there open and waiting for that coin to drop in as though you are playing the penny slots in Vegas. While the concern is valid, the complication rate is relatively low (0–2 percent), and the success rate is favorable (88–94 percent).[7–12]

Data on the use of glucagon in impacted esophageal coins is relatively sparse. In 2001, Mehta et al prospectively evaluated the use of glucagon and found it to be ineffective in dislodging impacted esophageal coins.[13] While the study was double-blind and placebo-controlled, the enrollment of only 14 patients limits its applicability and influence. Emergency physicians, at this point, cannot endoscopically remove a coin, and most of the published literature surrounding Foley catheter removal is done by other specialties (ie, otolaryngology, gastroenterology, surgery). When the right patient is selected, bougienage is a low-risk, highly successful alternative to the previously mentioned interventions and one we can employ in the emergency department.

Figure 1. Tongue depressors taped together to act as a bite block

Figure 2. Hurst dilator



Bougienage

Bougienage has been around for decades, but it remains an infrequently used modality for the treatment of retained esophageal coins.[14] In the correctly selected patient, as detailed in Table 1, bougienage has a success rate of 83–100 percent in advancing the coin into the patient's stomach.[14–18] Among larger studies with more than 100 patients undergoing bougienage, the success rate is 94–95.4 percent.[15,19] Rigid adherence to the inclusion criteria maintains bougienage as a reliable modality. However, when not following these criteria, the success rate drops to 75 percent, as Allie et al demonstrated in their 2014 article.[15]

Perhaps more important, throughout the previous studies, complications directly related to bougienage are nearly unheard of. Arms et al attempted bougienage on 372 patients, two of whom had the complication of intraoral abrasions from the bite block used during the procedure.[19] Additionally, Allie et al demonstrated a minor complication rate of 16.8 percent in their 137 bougienage attempts.[15] The majority of these minor complications resulted from vomiting, gagging, or the need for repeat bougienage, without major complications noted. To the best of our knowledge, there has not been a documented serious or life-threatening complication from attempted bougienage.[14–19] In addition to the safety and efficacy of bougienage, there have been numerous reports of the decreased cost and length of stay with bougienage versus endoscopy. The length of stay is decreased 4–20 hours and is associated with a decrease in cost of $1,890–$6,000.[15–17,19,20] This procedure is not limited to otolaryngology, gastroenterology, or surgery; trained emergency physicians have proven that we, too, can bougienage with the best of them, with success rates of 94–100 percent.[14,18,19]

Table 1. Inclusion Criteria for Esophageal Bougienage[15,18]

1	Witnessed ingestion
2	Foreign body is a coin
3	Coin radiographically located in esophagus
4	Single coin present
5	Coin lodged fewer than 24 hours
6	No previous history of esophageal foreign body, disease process, or surgery
7	No respiratory compromise on physical exam
8	Trained personnel performing procedure

Bougienage Procedure

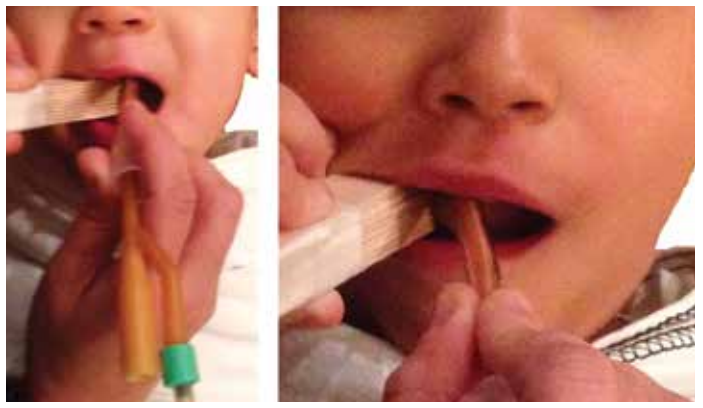
Equipment

1. Tape measure
2. Tongue depressors (approximately 5–6) taped together to act as a bite block (Figure 1)
3. Hurst dilator (Figure 2) or alternative as described in the sidebar on pg. 15.
4. Topical anesthetic (ie, benzocaine spray)
5. Water-based lubricant

Procedure

1. Confirm that the patient has an esophageal coin with a two-view radiograph and that the patient meets the criteria for bougienage (see Table 1).
2. Measure the distance from the patient's nares to the epigastrium and mark this distance on the Hurst dilator to approximate how far to insert the dilator.
3. Topically anesthetize the patient with benzocaine spray.
4. Sit the patient upright with a sheet held tightly around the patient and with either an assistant or a parent holding the patient's head still by the forehead.

Figure 3. Insertion of the apparatus into the oropharynx.



Written parental consent was obtained for this simulated procedure. Additionally, this demonstrates that if your child is guilty of pocketing a quarter, you could go after it in the comfort of your own home.

5. The makeshift bite block constructed earlier can now be inserted to protect the Hurst dilator and allow unobstructed entry of the Hurst dilator into the oropharynx.
6. Place a liberal amount of water-based lubricant on the Hurst dilator, or the alternative device, and insert it into the oropharynx (see Figure 3). Advance it until you reach the mark you placed on the dilator. If, at any time, you encounter resistance, stop the procedure.
7. Remove the dilator and take another radiograph to determine the new location of the coin.
   a. If the coin remains in the esophagus, the patient can undergo another attempt at bougienage at the discretion of the provider. If still unsuccessful, you will need to contact your gastroenterology colleagues.
   b. If the coin is now in the stomach, the patient can be observed for a short time in the emergency department and then discharged home with detailed follow-up instructions.

Follow-up

After a successful bougienage with passage of the coin into the stomach, the patient can be discharged home. The patient's parents need to be extensively educated on the need to return to the emergency department with any concerning symptoms. Despite the lack of known serious complications following bougienage, the parents should be monitoring for abdominal pain, nausea, vomiting, chest pain, constipation, obstipation, fever, chills, or any other concerning signs of obstruction or perforation. The parents also have the privilege of checking all of the patient's bowel movements for passage of the coin; if by two weeks they have not noticed passage of the coin, a repeat radiograph may be warranted.

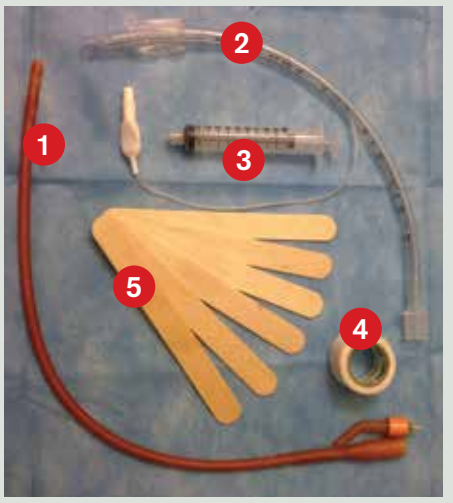
References

1. Mowry J, Spyker J, Cantilena L, et al. 2012 Annual Report of the American Association of Poison Control Centers' National Poison Data System: 30th Annual Report. *Clin Toxicol.* 2013;51:949-1229.
2. Eisen G, Baron T, Dominitz A, et al. Guideline for the management of ingested foreign bodies. *Gastrointest Endosc.* 2002;55(7):802-806.
3. National Capital Poison Center. Mechanisms of battery-induced injury. National Capital Poison Center Web site. Available at: http://www.poison.org/battery/mechanism.asp. Accessed January 20, 2015.
4. Ikenberry S, Jue T, Anderson M, et al. Management of ingested foreign bodies and food impactions. *Gastrointest Endosc.* 2011;73(6):1085-1091.
5. Waltzman M, Baskin M, Wypij D, et al. A randomized clinical trial of the management of esophageal coins in children. *Pediatrics.* 2005;116:614-619.
6. Conners G, Chamberlain J, Ochesenschlager D. Conservative management of pediatric distal esophageal coins. *J Emerg Med.* 1996;14(6):723-726.
7. Conners G. A literature-based comparison of three methods of pediatric esophageal coin removal. *Ped Emerg Care.* 1997;13(2):154-157.
8. Hawkins D. Removal of blunt foreign bodies from the esophagus. *Ann Otol Rhinol Laryngol.* 1990;99(12):935-940.
9. Campbell J, Condon V. Catheter removal of blunt esophageal foreign bodies in children. Survey of the Society for Pediatric Radiology. *Pediatr Radiol.* 1989;19(6-7):361-365.
10. Schunk J, Harrison A, Corneli H, et al. Fluoroscopic Foley catheter removal of esophageal foreign bodies in children: experience with 415 episodes. *Pediatrics.* 1994;94 (5):709-714.
11. Chen M, Beierle E. Gastrointestinal foreign bodies. *Pediatr Ann.* 2001;30(12):736-742.
12. Little D, Shah S, St Peter S, et al. Esophageal foreign bodies in the pediatric population: our first 500 cases. *J Pediatr Surg.* 2006;41:914-918.
13. Mehta D, Attia M, Quintana E, et al. Glucagon use for esophageal coin dislodgement in children: a prospective, double-blind, placebo-controlled trial. *Acad Emerg Med.* 2001;8:200-203.
14. Bonadio W, Jona J, Glicklich M, et al. Esophageal bougienage technique for coin ingestion in children. *J Pediatr Surg.* 1988;23(10):917-918.
15. Allie E, Blackshaw A, Losek J, et al. Clinical effectiveness of bougienage for esophageal coins in a pediatric ED. *Am J Emerg Med.* 2014;32:1263-1269.
16. Calkins C, Christians K, Sell L. Cost analysis in the management of esophageal coins: endoscopy vs bougienage. *J Pediatr Surg.* 1999;34(3):412-414.
17. Dahshan A, Donovan K. Bougienage versus endoscopy for esophageal coin removal in children. *J Clin Gastroenterol.* 2007;41(5):454-456.
18. Emslander H, Bonadio W, Klatzo M. Efficacy of esophageal bougienage by emergency physicians in pediatric coin ingestion. *Ann Emerg Med.* 1996;27(6):726-729.
19. Arms J, Mackenberg-Mohn M, Bowen M, et al. Safety and efficacy of a protocol using bougienage or endoscopy for the management of coins acutely lodged in the esophagus: a large case series. *Ann Emerg Med.* 2008;51:367-372.
20. Soprano J, Mandl K. Four strategies for the management of esophageal coins in children. *Pediatrics.* 2000;105(1):1-5.

What If I Don't Have a Hurst Dilator?

Hurst dilators (see Figure 2) are reusable, flexible silicone-based devices that are more commonly used for dilatation of benign esophageal sphincters but are also used off-label for bougienage. Most pediatric centers will have access to these through their operating or endoscopy suites. For emergency physicians who do not have easy access to one of these, we offer a potential alternative made of products commonly found in every emergency department across the country.

Figure 4. Equipment needed for the assembly of the alternative to the Hurst dilator and the bougienage.



1. Foley catheter
2. Endotracheal tube
3. 10cc syringe with water
4. Tape
5. Tongue depressors (approximately 5–6) taped together to act as a bite block

Figure 5. Cut the tip of the endotracheal tube in a perpendicular manner just distal to the cuff.

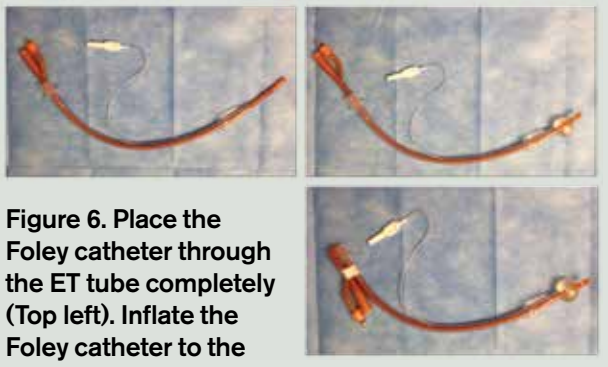


Figure 6. Place the Foley catheter through the ET tube completely (Top left). Inflate the Foley catheter to the predetermined volume and place traction on the opposite end to have it flush against the distal tip of the ET tube (Top right). Option to secure the Foley catheter to the ET tube (Bottom).

Assembling an Alternative to the Hurst Dilator

After gathering the equipment (Figure 4), you'll need to cut the tip of the endotracheal (ET) tube in a perpendicular manner at the distal aspect of the cuff, as shown in Figure 5. Try to avoid forming any sharp corners on the ET tube when making this cut. For the smallest children, likely between 1 and 2 years old, you'll have to trim the ET tube proximal to the cuff so that the Foley balloon reaches the end of the ET tube. Next, you'll take the proper-sized Foley and feed it through the ET tube, as in Figure 6. Inflate the balloon to the specified amount (see Table 2) with sterile water and then pull traction on the Foley through the opposite end of the ET tube so that the Foley balloon is held firmly against the distal tip of the ET tube. The operator can either maintain traction on the device throughout the procedure or secure it with tape (see Figure 6). This can now serve as your substitute for a Hurst dilator for the bougienage procedure.

The ET tube is necessary for the production of an alternative to a Hurst dilator because the Foley catheter alone does not provide enough rigidity to manipulate and advance the coin. If you were to use the Foley catheter without the addition of the ET tube, you may be able to reach the esophageal coin but not successfully advance it into the stomach. *Please use this alternative device at your own discretion because use of this device has not been studied to support its use for bougienage.*

Table 2. Proper Sizing of Hurst Dilator and Equivalent-Sized Equipment for Facilities Without Access to Hurst Dilators

Age	Hurst dilator size	ET tube size	Foley size	Amount to fill Foley balloon
1–2 years old	28F	5.0 mm	8F	0.75 mL
2–3 years old	32F	6.0 mm	12F	1.0 mL
3–4 years old	36F	6.0 mm	12F	1.25 mL
4–5 years old	38F	6.0 mm	12F	1.5 mL
>5 years old	40F	6.0 mm	12F	1.75mL

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Cash Balance Plans Can Be an Extra Retirement Account

These pension-type plans are another tool in your savings arsenal

Most physicians do have a 401(k), which, in 2015, allows an $18,000 annual employee contribution ($24,000 for those over 50), plus up to $35,000 of employer contributions. However, surprisingly few have access to a cash balance plan.

by JAMES M. DAHLE, MD, FACEP

***Question.** I've heard that a cash balance plan can allow me to contribute more toward retirement and save on my current large tax bill. What do I need to know before using one of these?*

A. One of the biggest deficits in physicians' collective "financial fund of knowledge" is a lack of understanding of the various retirement accounts available to them. I have written before about using a health savings account as a "stealth IRA" and about how to contribute to a personal and spousal Roth IRA "through the backdoor." Another little known, but very useful, retirement account for physicians is a cash balance plan.

In fact, I think the standard retirement options made available to emergency physicians should include both a 401(k) with a profit-sharing component ($53,000 contribution limit for those under age 50, with an extra $6,000 catch-up contribution for those over 50) and a cash balance plan. Most physicians do have a 401(k), which, in 2015, allows an $18,000 annual employee contribution ($24,000 for those over 50), plus up to $35,000 of employer contributions. However, surprisingly few have access to a cash balance plan.

There are two broad categories of retirement plans: defined contribution and defined benefit. A 401(k) is an example of the first type. There is no guaranteed benefit when all is said and done. All that is defined is how much you can put into it as you go along. The amount of money you will have to spend in retirement depends entirely on how much you put into the account and the performance of your selected investments. A defined benefit retirement plan works differently. The classic example is the increasingly rare company pension. You work for a company or government entity for 20 or 30 years, and after you retire, the company pays you a defined benefit for the rest of your life. The company takes all the investment risk. If the investments do well, the company can get away with putting less money into the account. If the investments do poorly, the company must contribute more to the account.

A cash balance plan is technically a type of defined benefit plan, but it can act like a defined contribution plan in two important ways. The first is that, depending on how your plan is designed, you can actually change how much you can contribute each year to the plan. The second is that upon separation from the employer, or when the plan is closed for any reason, you can transfer the money into a 401(k) or IRA, just like most defined contribution plans. For most participants, the cash balance plan is essentially an extra retirement plan allowing for additional tax-deferred retirement contributions above and beyond those allowed in the 401(k).

How Cash Balance Plans Work

A cash balance plan seems complicated because, as a defined benefit plan, it must at least resemble a typical pension. That means the participants in the plan cannot select or manage investments in the plan. It also requires complicated actuarial calculations to determine the maximum contributions that can be made into the plan. The contributions also must technically come from the employer, not the employee. Due to these complications, fees on a cash balance plan are generally higher than those in a 401(k). This type of plan is not a do-it-yourself project; you will need to hire an experienced company to design and run the plan.

All contributions into the plan are pooled and invested together by the plan trustee. However, hypothetical individual accounts are tracked and credited with a certain amount of interest each year, depending on the performance of the underlying investments. If the investments perform well, that credited interest rate may be higher up to a certain point, such as 5–7 percent per year. If the investments perform very well, the additional earnings, above and beyond the 5–7 percent limit, are allocated to a surplus account where they can be used to make up for future shortfalls in investment performance or to reduce future required contributions. If the investments perform poorly, the owners of the company may be required to contribute additional money to the plan to make up the losses over a period of a few years. This aspect of defined contribution plans turns off many physicians (who are generally not only the participants in the plan but also the owners of the company). However, in reality, this mechanism is of significant benefit to the physician. Not only do you get to defer even more money into the plan, the make-up contributions are also deductible. You are essentially forced to buy low, boosting future market returns. Many emergency physician partnerships have incorporated both a 401(k)/profit-sharing plan and a cash balance plan into their practices. Independent contractors without employees can also use this combination of accounts. An individual 401(k) is relatively easy to set up. A personal defined benefit plan is a little more complicated but still widely available from a number of firms at a fair cost. Because you are both the trustee and the participant, you will have even more control over your investments.

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Contribution limits to these plans vary based on a number of actuarial factors, such as the age of the participants. The older the participants, and the fewer years they will be in the plan prior to retirement, the more that can be contributed. Typical maximum contributions for emergency physicians range from $10,000 to more than $100,000 per year, all in addition to your 401(k) and IRA contributions.

Cash balance plans are a type of defined benefit plan that resembles a defined contribution plan. Emergency physicians interested in boosting retirement savings and minimizing their annual tax bill should give strong consideration to adding a cash balance plan on top of their existing 401(k) plan. A cash balance plan is a great option for those who wish to save for retirement and are already maxing out their 401(k)s and backdoor Roth IRAs.

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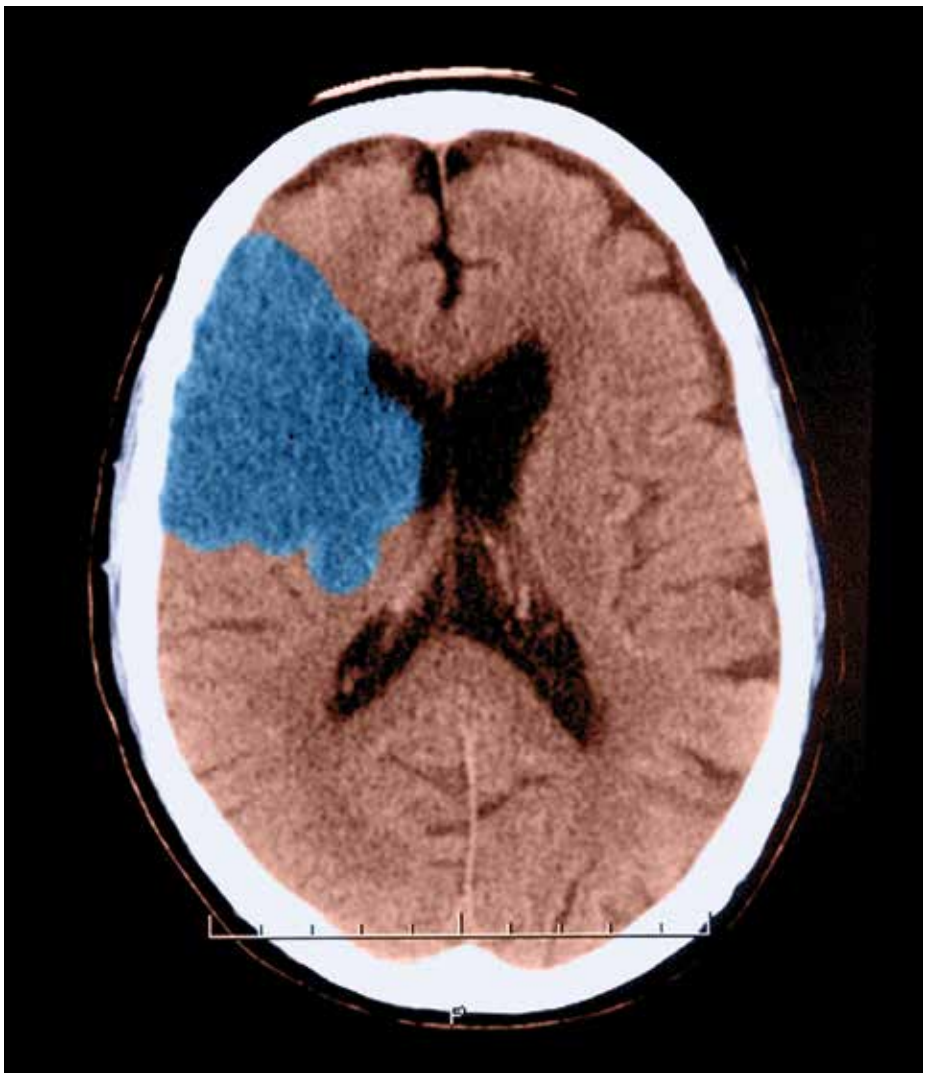
Putting all the tPA-related issues aside for a moment, let's talk about the next-generation of therapy: endovascular intervention. This is not a new innovation, as clinicians have been exploring this therapy in earnest since the early 2000s. Why are these devices of such great interest given the development of tPA? Because one of the best-kept secrets about tPA, the "clot buster," is that it doesn't bust clots. In the largest meta-analysis of angiographically confirmed intracranial occlusions, sustained early recanalization was achieved with tPA only 46.2 percent of the time.[1] Comparing this with the observed 24.1 percent spontaneous recanalization rate, tPA clearly has a maximal ceiling for benefit if only one in five additional patients achieved reperfusion. The aim of endovascular intervention is to overcome this practical limitation to the effectiveness of tPA.

However, the initial foray into such technology produced what might best be described as killing machines. The initial devices, detailed in the Mechanical Embolus Removal in Cerebral Ischemia (MERCI) and Multi-MERCI trial results from 2005 and 2008, had high rates of complications just related to the procedure—arterial perforations and fracture of the stent-retrieval devices.[2,3] Coupled with high National Institutes of Health Stroke Scale (NIHSS) scores, patients undergoing these procedures had correspondingly high mortality. Over time, however, the devices and techniques improved yet to no avail. The 2013 literature produced a constellation of negative trials: Mechanical Retrieval and Recanalization of Stroke Clots Using Embolectomy (MR RESCUE), Intra-arterial Versus Systemic Thrombolysis for Acute Ischemic Stroke (SYNTHESIS), and Interventional Management of Stroke (IMS) III.[4–6] Like the earlier trials, these targeted patients with large-vessel anterior circulation occlusions, severe and disabling strokes for which recanalization with tPA is particularly poor. Fewer procedural complications occurred in these trials, but all three failed to show an additive benefit of endovascular intervention over standard therapy.



MEDICAL BODY SCANS / SCIENCE SOURCE

Ischemic stroke. This axial (cross sectional) CT of the head shows a classic appearance of an acute middle cerebral artery infarction (stroke) (shown here in blue). This patient showed a hyperdense MCA sign. This sign is indicative of thromboembolic occusion of the MCA.

What a Difference a Year Makes

The end of 2014 brought us the Multicenter Randomized Clinical Trial of Endovascular Treatment for Acute Ischemic Stroke in the Netherlands (MR CLEAN), the first major unambiguously positive trial of endovascular therapy versus usual care.[7] The trial randomized 500 patients with large-vessel anterior occlusions; 32.6 percent of patients achieved functional independence (modified Rankin Scale 0–2) in the endovascular cohort, compared with 19.1 percent with standard care, without any corresponding increase in intracranial hemorrhage or mortality. With a median NIHSS score of 18 and few favorable outcomes with standard care, these were clearly patients for whom alternative treatment options were worth investigating. The generally dismal outcomes of the selected patients almost certainly played a role in finally measuring a meaningful difference in outcomes. The other notable achievement in this trial, performed between 2010 and 2014, was the rate of recanalization of 75.4 percent with endovascular intervention, far exceeding the 32.9 percent occurring in standard care. Prior endovascular trials failed to demonstrate such a disparity in reperfusion, owing either to lower success rates with endovascular intervention or higher rates of success with tPA.

We can expect to see slow changes to regional stroke triage systems to incorporate the availability of endovascular interventions. Unfortunately, with any such innovation, enthusiasm is almost certain to lead to indication creep beyond the patients selected for recent trials.

While the most skeptical of us would take these results with a grain of salt, such reservations are not held by the true believers. More specifically, such reservations were not held by the manufacturer of the devices supplied to the ongoing endovascular trials. Upon publication of the MR CLEAN results, three sponsored trials—Endovascular Treatment for Small Core and Proximal Occlusion Ischemic Stroke (ESCAPE), Extending the Time for Thrombolysis in Emergency Neurological Deficits–Intra-Arterial (EXTEND-IA), and Solitaire With the Intention For Thrombectomy as PRIMary Endovascular Treatment (SWIFT PRIME)—used this opportunity to conduct unplanned interim analyses of their trials for efficacy.[8–10] The results, presented at the International Stroke Conference in February 2015, were universally positive. Indeed, not only were the results positive but the magnitude of favorable outcome differences was even more pronounced than in MR CLEAN. Patients receiving standard care achieved modified Rankin Scale 0–2 at rates ranging from 23 percent to 40 percent, while functional independence was achieved in the endovascular cohorts at rates ranging from 53 percent to 71 percent. Correspondingly, like MR CLEAN, these trials showed endovascular recanalization rates higher than prior trials, ranging from 74 percent to 94 percent.

Of course, as anyone who's been to Las Vegas knows, it helps to quit while you're ahead. There are major issues with performing unplanned analyses and early stoppage of trials. Termination of enrollment increases the confidence intervals around the primary outcome and the chance of a type I error (ie, that a treatment difference will be detected when none exists). Somewhat ameliorating the issue in this case, all three trials stopped early were similarly consistent in their findings, and therefore these results are probably as reliable as such evidence from sponsored clinical trials can be.

It should also be noted all three of these trials utilized imaging-based selection criteria using preprocedure perfusion imaging.

CONTINUED *on page 18*

TIPS FOR BETTER PERFORMANCE

SPECIAL OPs

DR. WELCH is a practicing emergency physician with Utah Emergency Physicians and a research fellow at the Intermountain Institute for Health Care Delivery Research. She has written numerous articles and three books on ED quality, safety, and efficiency. She is a consultant with Quality Matters Consulting, and her expertise is in ED operations.

Come Into the Closet

A small change in patient flow can cause big changes in metrics and satisfaction

by SHARI WELCH, MD, FACEP

A group of 200 emergency department leaders (medical directors, nurse managers, and executives) met Feb. 24–26 in Orlando for the Innovations in ED Management 2015 conference. This annual conference, now in its 15th year, is a collaboration between the Emergency Department Benchmarking Alliance (EDBA), a nonprofit organization that collects and shares performance data and operational information among its nearly 2,000 hospital members, The Center for Medical Education, and The Center for Emergency Medical Education. Emergency medicine thought leaders presented information on the problems and solutions facing our specialty. One of the highlights was the poster competition where doctors and nurses shared their performance-improvement stories.

One such poster submission came from Bon Secours Maryview Medical Center, an emergency department in Portsmouth, Virginia, which treats 40,000 visits in a 21-bed unit with a seven-bed fast track. Unhappy with its metrics, the department looked at strategies to reduce its door-to-provider times and left without being seen (LWBS) rates and to improve both patient and staff satisfaction. Many of the national physician groups like TeamHealth, EMP, and CEP have been trialing the Provider in Triage (PIT) process around the country with growing success. The leadership at Maryview decided to trial this process, whereby the provider encounter would be moved to the front of an ED visit.

An old closet near the traditional triage area was identified as the perfect footprint for a PIT model. A leadership team, which consisted of Daniel Salomonsky, DO, Kip Wenger, DO, Andrea Lanier, RN, Beth King, RN, and Kathleen Grzeskiewicz, RN, went to work to redesign

Patients were evaluated initially in the old closet, now a proper intake space.

the intake process and the space to accommodate the new changes. After months of planning, construction, and staff training, the PIT process was rolled out in April 2014. Kudos to the leadership team because all too often new processes fail at implementation. Their success suggests that the rollout was impeccable.

Patients were evaluated initially in the old closet, now a proper intake space. Many patients could be dispositioned from this area without ever going to a patient room. The patients with time-critical conditions were seen by a provider and expedited to a room in the main ED. The measurements speak to their wonderful results.

Door-to-provider time 30.5 min. → 8 min.
LWBS 4.5% → .8%

Their success was immediately noted by the community and patient daily census, which had been stable at 115 patients per day for many years and jumped to 128 patients per day!

Would something like this work in your shop? Take a critical look at your facility. Can you hijack some space in the current footprint that, at minimal cost to the institution, will allow a revamping of your intake process and patient flow? When the Maryview leadership invited the community to "come into the closet," great things happened.

ENDOVASCULAR JUNGLE | CONTINUED FROM PAGE 17

Patients were required to have small underlying ischemic cores surrounded by a substantial penumbra supplied by collateral circulation. The astute academician will point out MR RESCUE also randomized 68 patients with penumbral patterns, and their outcomes were degraded by endovascular intervention. However, that trial was performed between 2007 and 2011, and the success rates with devices were much lower at that time.

Proponents of endovascular therapy and their sponsors are understandably elated by these results. We can expect to see slow changes to regional stroke triage systems to incorporate the availability of endovascular interventions. Unfortunately, with any such innovation, enthusiasm is almost certain to lead to indication creep beyond the patients selected for recent trials. These trials enrolled an average of a mere one to two patients per month, or about one in 100 patients screened. The long history of negative trials should also strongly caution us against resource intensive overuse beyond carefully selected patients. The most recent registry publication of patients selected just on the basis of expert practice, Systemic Thrombolysis in Patients With Acute Ischemic Stroke and Internal Carotid ARtery Occlusion (ICARO-3), showed no difference in favorable outcomes associated with endovascular intervention and substantially increased intracerebral hemorrhage.[11] Selection for endovascular intervention should be tightly restricted to patients resembling the recent trials to provide the most reliable potential benefit.

Despite a long and complicated history, there is finally cause for guarded optimism with regard to emergency interventions for stroke. Watch for changes coming to a hospital near you.

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References

1. Rha JH, Saver JL. The impact of recanalization on ischemic stroke outcome: a meta-analysis. *Stroke.* 2007;38(3):967-973.
2. Smith WS, Sung G, Starkman S, et al. Safety and efficacy of mechanical embolectomy in acute ischemic stroke: results of the MERCI trial. *Stroke.* 2005;36(7):1432-1438.
3. Smith WS, Sung G, Saver J, et al. Mechanical thrombectomy for acute ischemic stroke: final results of the Multi MERCI trial. *Stroke.* 2008;39(4):1205-1212.
4. Kidwell CS, Jahan R, Gornbein J, et al. A trial of imaging selection and endovascular treatment for ischemic stroke. *N Engl J Med.* 2013;368(10):914-923.
5. Ciccone A, Valvassori L, Nichelatti M, et al. Endovascular treatment for acute ischemic stroke. *N Engl J Med* 2013;368(10):904-913.
6. Broderick JP, Palesch YY, Demchuk AM, et al. Endovascular therapy after intravenous t-PA versus t-PA alone for stroke. *N Engl J Med* 2013;368(10):893-903.
7. Berkhemer OA, Fransen PS, Beumer D, et al. A randomized trial of intraarterial treatment for acute ischemic stroke. *N Engl J Med* 2015;372(1):11-20.
8. Goyal M, Demchuk AM, Menon BK, et al. Randomized assessment of rapid endovascular treatment of ischemic stroke. *N Engl J Med.* 2015;372:1019-1030.
9. Campbell BC, Mitchell PJ, Kleinig TJ, et al. Endovascular therapy for ischemic stroke with perfusion-imaging selection. *N Engl J Med.* 2015;372(11):1009-1018.
10. Saver J, Goyal M, Bonafe A, et al. Solitare FR with the intention for thrombectomy as primary endovascular treatment for acute ischemic stroke. American Heart Association International Stroke Congress, Feb 2015; Nashville, Tenn.
11. Paciaroni M, Inzitari D, Agnelli G, et al. Intravenous thrombolysis or endovascular therapy for acute ischemic stroke associated with cervical internal carotid artery occlusion: the ICARO-3 study. *J Neurol.* 2015;262(2):459-468.

Q&A ABOUT OUR LITTLEST PATIENTS

KIDS KORNER

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.

C. Diff & Mono Tests

Two great examples of how kids aren't just little adults

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

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.

Spring often means baseball, warmth…diarrhea, and fever. Let's take a look at some fun topics on these last two.

Question. Are infants' intestines commonly colonized with *Clostridium difficile* bacteria, and if so, how should this impact testing decisions?

An early article by Cooperstock et al prospectively evaluated 107 healthy asymptomatic infants up to a year of age from well-baby clinics.[1] The infants' ages ranged from 1 to 52 weeks and included a wide range of socioeconomic groups. Evaluating stool samples by ELISA for *C. difficile* antigens, the authors found that 40 percent (43/107) of infants were asymptomatically colonized with *C. difficile*. Additionally, there were no significant differences in colonization when these infants were stratified by age (in weeks) or sex. Other older studies have also demonstrated a high incidence of asymptomatic colonization by *C. difficile* in infants.[2–4] The overall incidence of asymptomatic colonization in infants is reported to be as high as 60 percent to 70 percent.[5] Interestingly, in the study by Cooperstock et al, the overall incidence of colonization of breastfed infants versus formula-fed infants was 23 percent versus 62 percent ($P<0.001$), respectively.[1] This association has been identified in other studies as well.[4,5]

Recent studies continue to demonstrate asymptomatic colonization in infants and very young children. A recent 2012 cross-sectional study of two day cares by Rousseau et al demonstrated an asymptomatic *C. difficile* carriage incidence of 45 percent (38/85 total children).[6] Every carrier, except one, was <24 months of age. None of the patients had diarrhea at the time of sampling. The incidence of asymptomatic carriage was approximately 6 percent (1/17) in children 24–36 months old, which is similar to reported adult asymptomatic carrier values of *C. difficile*.[6]

A separate cross-sectional study in 1982 by Stark et al demonstrated an asymptomatic carrier incidence of 3 percent (1/37) in children ≥2 years.[2] In that same study, the asymptomatic adult carrier incidence was 3.6 percent. A different study in 1989 by Tullus et al prospectively followed 343 asymptomatic healthy clinic infants from birth to 18 months, finding that carriage at 18 months of age (3 percent) was similar to adult incidences.[4]

Summary: Infants are common asymptomatic carriers of *C. difficile*. This incidence of asymptomatic carriage is reported to be as high as 60 percent to 70 percent of infants. These asymptomatic carrier rates probably fall to adult comparable levels between 18 and 24 months of age, but the data are very limited. Consider this before ordering a *C. difficile* test on a 12-month-old infant in the future.

The overall incidence of asymptomatic colonization in infants is reported to be as high as 60 percent to 70 percent.

Q: What is the sensitivity of a Monospot test in children?

The data are very limited on this topic. Approximately 90 percent of adults develop heterophile antibodies, identified by the Monospot test, following an acute Epstein-Barr virus (EBV) infection. Interestingly, though, only about 50 percent of children develop heterophile antibodies following an acute EBV infection.[7]

A study by Sumaya and Ench looked specifically at the rate of positive heterophile antibody responses in children with confirmed cases of EBV.[8] The authors evaluated heterophile antibody responses at different ages, stratifying the patients into the following age groups: <2 years, 2–3 years, and ≥4 years. In these age groups, positive heterophile antibody responses were demonstrated in 5.3 percent (1/19), 52 percent (13/25), and 83.6 percent (46/55) of children, respectively. In this single study, the production of heterophile antibodies was near reported adult levels at ≥4 years of age. Overall, children have a relatively poor heterophile antibody response to EBV compared to adults.

A study by Linderholm et al evaluated the sensitivity of a Monospot test in both children and adults.[9] The authors arbitrarily broke down the groups into ≤12 years and ≥13 years of age. The sensitivity of the Monospot to detect infectious mononucleosis in the 0–12 age group was 38 percent (3/8) compared to 86 percent in the ≥13 years group. It was a very small sample size, and there were only eight patients included in the sensitivity analysis. Overall, there was a poor sensitivity of the Monospot to detect EBV in children 0–12 years of age.

Only about 50 percent of children develop heterophile antibodies following an acute EBV infection.

Summary: Ultimately, the Monospot test shows poor sensitivity in children. The limited data that we have suggest that children don't make near-adult levels of heterophile antibodies until they are at least 4 years of age, resulting in poor Monospot sensitivity. In regard specifically to the Monospot test, the literature suggests that it is not a good test until they are ≥13 years old. For cases where it is important to diagnose mononucleosis and the patient is ≤12 years old, you may want to get the EBV antibody titers additionally or instead.

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References

1. Cooperstock M, Riegle L, Woodruff CW, et al. Influence of age, sex, and diet on asymptomatic colonization of infants with Clostridium difficile. *J Clin Microbial.* 1983;17(5):830-833.
2. Stark PL, Lee A, Parsonage BD. Colonization of the large bowel by Clostridium difficile in healthy infants: quantitative study. *Infect Immune.* 1982;35(3):895-899.
3. Bolton RP, Tait SK, Dear PR, et al. Asymptomatic neonatal colonization by Clostridium difficile. *Arch Dis Child.* 1984;59(5):466-472.
4. Tullus K, Aronsson B, Marcus S, et al. Intestinal colonization with Clostridium difficile in infants up to 18 months of age. *Eur J Clin Microbiol Infect Dis.* 1989;8(5):390-393.
5. Jangi S, Lamont JT. Asymptomatic colonization by Clostridium difficile: implications for disease in later life. *J Pediatr Gastroenterol Nutr.* 2010;51(1):2-7.
6. Rousseau C, Poilane I, De Pontual L, et al. Clostridium difficile carriage in healthy infants in the community: a potential reservoir for pathogenic strains. *Clin Infect Dis.* 2012;55(9):1209-1215.
7. Papesch M, Watkins R. Epstein-Barr virus infectious mononucleosis. *Clin Otolaryngol Allied Sci.* 2001;26(1):3-8.
8. Sumaya CV, Ench Y. Epstein-Barr virus infectious mononucleosis in children: heterophile antibody and viral-specific responses. *Pediatrics.* 1985;75(6):1011-1019.
9. Linderholm M, Boman J, Juto P, et al. Comparative evaluation of nine kits for rapid diagnosis of infectious mononucleosis and Epstein-Barr virus-specific serology. *J Clin Microbiol.* 1994;32(1):259-261.

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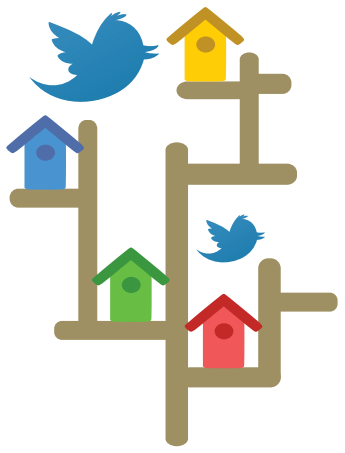
A Picture's Worth 1,000 Characters

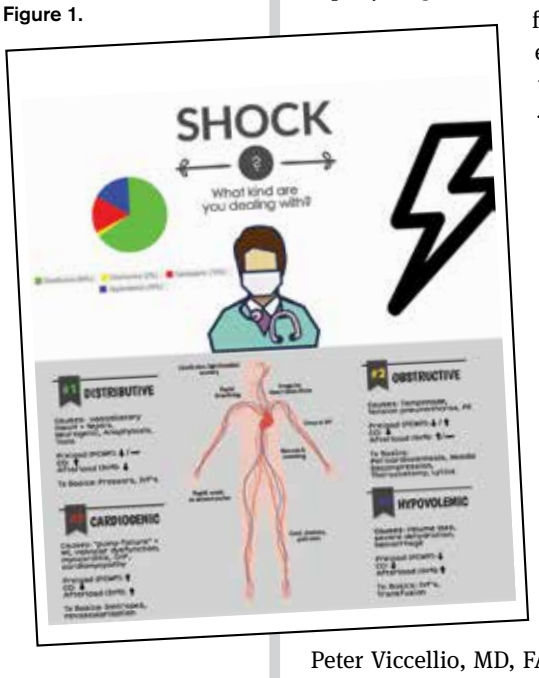


by JEREMY SAMUEL FAUST, MD, MS, MA

Even within the confines of 140 characters, much can be said. However, one of Twitter's great features is that it allows pictures in exchange for characters. When it comes to medical education, tweets with images seem to have special potential to go viral. EM educators like Salim Rezaie, MD, FACEP (@srrezaie), a physician in the division of emergency medicine and hospitalist medicine at the University of Texas Health Science Center at San Antonio, and Michelle Lin, MD (@M_Lin), associate professor of emergency medicine at the University of California, San Francisco, have turned the creation of succinct medical-education images into a form of high art, earning countless views and retweets. Last month, a new account called @EMinfographics popped up and caught my eye. This account is getting in on the act and has already posted a handful of excellent images that anyone can save to their smartphone photo album or desktop with a couple of touches or clicks. I frequently save these images in a "medical images" album on my phone for quick reference during shifts or when teaching. For this month's column, I'm highlighting some great images that showed up on my feed and that prove a great medical-education picture can be worth 1,000 characters.

@EMinfographics posted this image on shock (see Figure 1). On one slide, they've packed in important distinguishing features of the four major types of shock we have to rapidly diagnose and treat. It's a great image for teaching, and it's even a good reminder to the seasoned vet.

Figure 1.



Speaking of shock, Hilary Fairbrother, MD, MPH, FACEP (@hilaryfair), assistant director of undergraduate medical education at the Ronald O. Perelman Department of Emergency Medicine at New York University School of Medicine in New York, tweeted these two images (see Figure 2) from a lecture by Peter Viccellio, MD, FACEP, clinical professor and vice chair of emergency medicine at Stony Brook School of Medicine (who makes a cameo in the images), with the simple title "Epi drips for dummies." The first image is the recipe for making a 1 mcg/mL epinephrine drip, and the second gives two titration schemes. I've already used these images during my shifts.

Figure 2.

Davis Gattas, MD (@dgattas), an intensivist at the University of Sydney, tweeted this image (see Figure 3) from a hot-off-the-press *New England Journal of Medicine* article that suggests systemic inflammatory response syndrome (SIRS) may not be as accurate or useful as we previously thought.[1] The tweeted image did what all good #FOAMed (free open access medical education) should do: it inspired me to read a new primary literature paper that I otherwise would not have.

Figure 3.

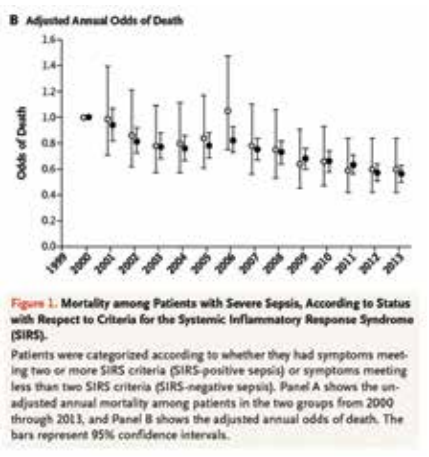


Figure 1. **Mortality among Patients with Severe Sepsis, According to Status with Respect to Criteria for the Systemic Inflammatory Response Syndrome (SIRS).**
Patients were categorized according to whether they had symptoms meeting two or more SIRS criteria (SIRS-positive sepsis) or symptoms meeting less than two SIRS criteria (SIRS-negative sepsis). Panel A shows the unadjusted annual mortality among patients in the two groups from 2000 through 2013, and Panel B shows the adjusted annual odds of death. The bars represent 95% confidence intervals.

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One of my own attendings at Mount Sinai Hospital in New York and Twitter newbie Amy Leuthauser, MD (@AmyLeuthauser), has vowed to "win" Twitter. So far, it's working. Her tweet is a picture that she took in the London Underground of an ad from the United Kingdom's National Health Service (NHS) designed to decrease unnecessary emergency department visits (see Figure 4), and it sparked quite the #FOAMed debate. The NHS sign discourages patients from using EDs for nonemergencies. The question is: is that a good strategy, or does it put the blame on patients instead of a bloated, outpatient system? That important debate played out on BoringEM, a blog by Brent Thoma, MD, emergency medicine resident at the University of Saskatchewan in Saskatoon, Canada, thanks to an excellent post he wrote on the topic (http://boringem.org/2015/03/26/keep-emergency-for-emergencies). It garnered many insightful comments by several #FOAMites, including Dr. Seth Trueger (@MDaware), Dr. Damian Roland (@Damian_Roland), EM physician assistant Patrick Bafuma (@EMinFocus), Dr. Nadim Lalani (@ERMentor), medical student Gerhard Dashi (@GerhardDashi), Dr. Rajiv Thavanathan (@rajivthala), me, and others. These top-notch, informed, nuanced, and varying opinions all stemmed from a tweet and a blog.

Figure 4.

Finally, in the wake of Leonard Nimoy's death, medical student and #FOAMed wunderkind, the future doctor Aidan Baron (@aLittleMedic), a student in Sydney, Australia, tweeted this image that should help you remember the dermatomal distribution of the brachial plexus once and for all (see Figure 5). In his tweet, Mr. Baron thanked whoever anonymously created this inspired image, but in turn, I thank him for bringing it to my Twitter feed. Live long and prosper, my friends, and may your brachial plexi be intact.

Figure 5.

Reference

1. Kaukonen KM, Bailey M, Pilcher D, et al. Systemic inflammatory response syndrome criteria in defining severe sepsis. *N Engl J Med.* March 17, 2015. [Epub ahead of print]

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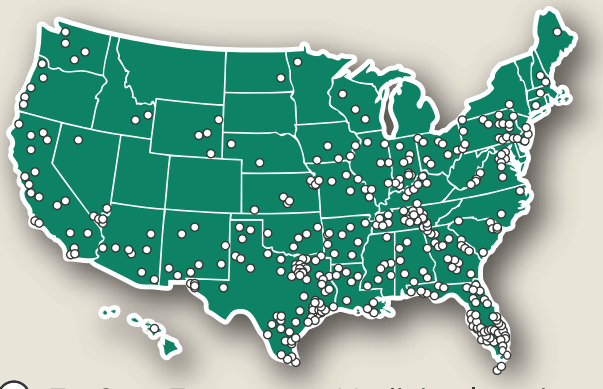

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Qualified candidates should submit a letter of interest and CV to:
Kendra Hall, Sr. Physician Recruiter, kbhall@ghs.org, ph: 800-772-6987.
GHS does not offer sponsorship at this time. EOE

GHS GREENVILLE HEALTH SYSTEM

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

Kevin Dunn:
kdunn@cunnasso.com

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Also Hiring for Assistant Director,
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This is a spectacular job. If you like small
towns, the outdoors or culture give me a call.

Contact: Alec Belman MD, 207-553-0160,
abelman@bhs1.org

The Division of Emergency Medicine at Washington University School of Medicine in St. Louis is seeking full time clinical physicians for a low volume ED affiliated with the school.

The Stats:

- More than 50 adult faculty physicians strong
- Adult specialty care patient facility
- Nationally ranked medical school and academic medical center with a history of innovation and discovery
- With 11,000 visits annually, this facility has been recognized as a Top Performer on Key Quality Measures by The Joint Commission.

Competitive salary, full university benefits; option to spend portion of clinical time in the flagship adult ED affiliated with the school; also includes opportunity for administrative responsibilities; outstanding signing options for exceptional candidates

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Washington University in St. Louis
School of Medicine

Coastal San Diego

Coastal San Diego emergency department seeking qualified, board-certified/eligible emergency medicine physician to join our independent, democratic group. Location is by the beach in Northern San Diego with year round outdoor life and outstanding schools.

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Forward CV to Teresa Riesgo
email: triesgo@tcemg.net
Phone: 760-439-1963

Ohio - Parma EM Director

4M Emergency is now seeking an excellent board certified emergency medicine physician with exceptional leadership skills to join our team at UH Parma Medical Center as the EM Director. This 39-bed ED has an annual volume of 41k, with 36 hours of physician coverage & 39 hours of independent midlevel coverage. UH Parma is a Stroke & Chest Pain Center and is pursuing Level III Trauma Center status. Located 11 miles from downtown Cleveland, Parma was recently recognized by Businessweek Magazine as one of the best places in Ohio to raise a family! Candidates are expected to demonstrate aptitude with both clinical and administrative leadership experiences.

4M Emergency offers an extremely competitive compensation and benefits package including: signing bonus; incentive plan; family health, dental, and vision plan; 401k with 100% match up to 6% of earnings; malpractice with tail; paid life & long/short term disability; HSA contribution.

To learn more about our practice, please contact Erin Waggoner at (888) 758-3999 or ewaggoner@4Mdocs.com.

Moses Lake, Washington

Emergency Department Director

Wenatchee Emergency Physicians seeking BC/BP Emergency Physician for Leadership Position.

Fastest growing community in the sunshine part of the state. Great hunting, fishing & water sports with skiing one hour away.

Patient volume 17K. Single coverage with Midlevels 12 hours daily. ED being remodeled. Partnership track one year.

Competitive hourly rate plus Director stipend. Stable Democratic Group.

Wenatchee Emergency Physicians

Contact Michael Parnell MD at mparnell1@charter.net

Texas - Houston Area

Full-time and PRN openings for emergency physicians in Bellville, TX, just 1 hour from Houston!

Enjoy working with a dedicated, experienced nursing staff in this friendly community.

Open to Family Medicine physicians with Emergency Medicine experience, as well as EM-boarded physicians. The ED is undergoing a 3,500 square foot expansion. Flexible scheduling and paid malpractice.

At Emergency Service Partners, L.P, full-time doctors enjoy terrific partnership opportunity in a little as one year. You belong here!

Contact Renaldo Johnson at renaldo@eddocs.com and mention job # 241553-11.

Texas - San Antonio/Hill Country

****$25,000 Sign-On Bonus!****

Enjoy beautiful Texas Hill Country scenery; charming music, wine, and food festivals; fine dining; and a true community atmosphere in Kerrville—all within a short drive of exciting, multicultural San Antonio.

This modern ED features strong medical director leadership, mid-level support, and a track record of high patient satisfaction.

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Contact Lisa Morgan at lisa@eddocs.com and mention job #286521-11.

Southeast Alabama Medical Center

Excellent opportunity for full- or part-time ABEM/AOBEM BC/BP emergency medicine physician to join our well-established single hospital group.

Annual ED volume 60,000. Equitable scheduling with 7-day block off each month. 420-bed Level 2 trauma center serves 600,000+ as the area's regional referral center. Excellent subspecialty and hospitalist support.

Big city medicine in a congenial small-town community, low cost of living, excellent family-oriented quality of life. Active outdoor recreation area; beautiful Gulf beaches within 75 miles.

Current opportunities to teach medical students; be part of planning for future residency training.

Competitive hourly rate with productivity bonus and malpractice allowance. Educational loan repayment available.

Contact Sarah Purvis, SAMC Physician Recruiter sbpurvis@samc.org or 1-800-248-7047 ext. 8145

Texas - San Antonio

Texas' largest Emergency Medicine partnership announces new opportunities in the Alamo City!

Live and work in the nation's 7th largest city, offering numerous activities from major theme parks to championship pro basketball. The famed River Walk is a fun choice for dinner, boat rides, or leisurely strolls to entertain guests. Plus, the Mexican food and Texas barbecue are to die for!

Exceptional pay and low cost of living -- plus the opportunity to become a true partner in your practice -- make this an ideal position.

Contact Tania Dilworth at (512) 610-0376 or tania@eddocs.com.

UF UNIVERSITY of FLORIDA

UNIVERSITY OF FLORIDA
College of Medicine - JACKSONVILLE

The University of Florida Department of Emergency Medicine is recruiting motivated & energetic emergency physicians to **join our new UF Health – Northside Emergency Department in Jacksonville, Florida.**

Live and play at the beach. Work and learn with academic colleagues on the cutting edge of simulation, ultrasound, advanced airway management, critical care and wellness. Be part of a growing and supportive academic faculty that will work to help you establish your professional goals.

UF Health – Northside will begin as a 28 bed full-service, free-standing emergency department with six observation beds. There will be comprehensive radiology and laboratory services, and consultation will be available from all UF Health specialty and sub-specialty services. Phase 2 of this project will include the addition of 99 inpatient beds to this facility. This is a rare opportunity to get in on the ground floor of an exciting project, and take care of patients in a beautiful, state-of-the-art emergency department.

Join the University of Florida Faculty and earn an **extremely competitive community-based salary** as a UF assistant or associate professor **in a private practice setting**. Enjoy the full range of University of Florida State benefits including **sovereign immunity occurrence-type medical malpractice, health, life and disability insurance, sick leave, and a generous retirement package.**

All physicians are **ABEM / ABOEM Board Certified / Board Eligible**.

E-mail your letter of interest and CV to Dr. Kelly Gray-Eurom
Kelly.grayeurom@jax.ufl.edu

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