A Rational Approach to Aortic Dissection Diagnosis

How to make the diagnosis without breaking the bank

by ANTON HELMAN, MD, CCFP(EM), FCFP

It used to be said that missing the clinical diagnosis of aortic dissection was “the standard” as it is rare and often presents atypically. The diagnosis rate of aortic dissection changed with the landmark International Registry of Acute Aortic Dissection (IRAD) study in 2000, which deepened our understanding of the presentation. Nonetheless, aortic dissection remains difficult to diagnose, with one in six missed at the initial ED visit.

CONTINUED on page 17

The Facts About Abstral Tablets

With many fentanyl options available, do EPs need another?

by MICHELE KAUFMAN, PHARMD

Abstral is a sublingual (SL) dosage form of the pure opioid agonist fentanyl. It’s approved by the United States Food and Drug Administration (FDA) for managing breakthrough cancer pain in patients 18 years and older who are already receiving opioids and are opioid-tolerant to treat underlying persistent cancer pain. It is a schedule II controlled substance.

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3. Accidental ingestion, especially by children, can lead to a fatal fentanyl overdose. Ensure proper storage/disposal and keep out of children’s reach.
4. Concomitant use with CYP3A4 inhibitors (eg, macrolide antibiotics, azole antifungals, protease inhibitors, grapefruit juice) or discontinuation of CYP3A4 inducers (eg, carbamazepine, phenytoin, rifampin) can result in a fatal overdose.
5. Concomitant use with other central nervous system depressants, including benzodiazepines or alcohol, may lead to profound sedation, respiratory depression, coma, and death. Concomitant prescribing should be reserved for patients where alternative treatment options are inadequate, and limit dosages/durations to the minimum required.

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NEW COLUMN

PHARM 360

PLUS:
A clinical perspective on fentanyl from Howard K. Mell, MD, MPH, CPE, FACEP.
As a member of the Emergency Medical Service’s team, you know it is a race against time to ensure a positive health outcome for patients with STEMI. To support EMS and hospitals to achieve quality improvement and enhanced patient care, the ACTION Registry®—focusing exclusively on acute myocardial infarction patients—helps you and your partnering hospitals to measure performance in delivering guideline-driven treatments and care for AMI patients.

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**ACEP Leaders Working for You**

The ACEP leadership team work tirelessly to improve the field of emergency medicine. Here’s a selection of what they’ve done recently to ensure that emergency physicians have what they need so that emergency patients get what they need. Read the full leadership reports at acep.org/leadershipreport.

The Centers for Medicare & Medicaid Services (CMS) released the most current version of its proposed ED Patient Experience of Care (EDPEC) survey for feasibility testing. ACEP shared strong concerns with CMS on initial versions of EDPEC. Due to these efforts, the questions regarding pain have been changed to be much more appropriate to how care is delivered in the emergency department. CMS is testing this new version, and ACEP will monitor these efforts and provide feedback.

President-Elect Paul Kivela, MD, MBA, FACEP; members John Proctor, MD, MBA, FACEP, and Les Zun, MD, FACEP (representing the American Association for Emergency Psychiatry); and ACEP staff sat on the Joint Commission’s Technical Expert Panel on universal suicide screening in the emergency department. There was support for continuation of The Joint Commission standard that limits mandatory screening in the emergency department to those patients who present with suicidal ideation in spring 2018.

**OCTOBER ISSUE CORRECTIONS**

The editorial, “Cannabis: An Old Medicine Without a Package Insert” neglected to note that the author, Scott A. Bier, MD, FACEP, is CEO of Green Well, a Package Insert. ACEP Now apologizes for these errors.

**TOXICOLOGY Q&A**

JASON HACK, MD

**QUESTION:** Does this toxin cause miosis or mydriasis?

**ANSWER**

Scott D. Weinert, MD, FACEP

**ANSWER**

**ANSWER**

The beautiful flower has a dangerous secret.
Toxicology Q&A Answer

**ANSWER:** As an opioid, *Papaver somniferum* and its derivatives cause miosis.

**Background**
The class of drugs derived from opium poppy plants and their structurally related chemical compounds are called opioids. For hundreds of years, derivatives of opioids have been used medicinally for their analgesic, soporific, and antitussive effects, and they have been abused for their sedative and euphoric effects.

**Opium Poppy Growing and Harvesting**
According to Martin Booth’s 1999 book, *Opium: A History*, opium production from the plant varies depending on growing conditions, taking more than 2.5 acres of poppies to produce about 20 pounds of raw opium. Afghanistan is the world capital of opium.

When scratched, the pod of the plant (see photo on page 3) produces a milky latex called opium. This latex contains a variety of opioids, including codeine, morphiine, thebaine, and papaverine.

**Types**
These active drugs are either derived unchanged from the plant (ie, morphine, codeine, and papaverine) or are altered natural derivatives; are “semisynthetic” opioids (ie, heroin, oxycodone, hydromorphone, and oxymorphone); or are fully synthetic compounds (ie, methadone, meperidine, fentanyl, and diphenoxylate).

All work by interacting with receptors in the central nervous system, spinal cord, and peripheral nervous system. These effects are primarily a result of mu receptor agonism, but also from delta and kappa subtypes.

**Overdose**
In overdose, these medications cause unconsciousness and respiratory arrest leading to death. Cardiac symptoms can include palpitations, shortness of breath, syncope, bradycardia, hypotension, dysrhythmias, and cardiac arrest.

**Antidote**
There is an antidote, naloxone, that can be given for overdose. It binds to the opioid receptors, blocking their effects and reversing the central nervous system and respiratory depression. It can also precipitate opioid withdrawal, so naloxone should be administered carefully.

DR. HACK (Oleander Photography) is an emergency physician and medical toxicologist who enjoys taking photographs of beautiful toxic, medicinal, and benign flowers that he stumbles upon or grows in his garden. Contact him at ToxIRL@gmail.com.

OPIUM POPPY
*Papaver somniferum*

**COMMON NAMES:** *Papaver somniferum* has several common names, including opium poppy and breadseed poppy.
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I started off as the chief of emergency medicine at Grady Health System and was a faculty member at Emory University in Atlanta. I started that role in 1995. In 2001, I assumed the additional titles of deputy chief medical officer and deputy senior vice president of medical affairs for Grady; in 2003, I became the vice chairman for the department of emergency medicine for Emory University, and along the way, I went from assistant to associate to full professor. In 2013, I was asked by the new dean of the School of Medicine to assume the position of executive associate dean for Emory at Grady. I was in that role from July of 2013 until December of 2016, then I was offered the position to move here to Jacksonville.

KK: Marcus, let’s hear a bit about your background and how you’ve transitioned into your role.

MM: Thank you for hosting this interview, Kevin. I am a native Virginian. I am currently in Charlottesville at the University of Virginia (UVA), and I’ve been here for 22 years. I grew up in a little paper mill town—Covington, Virginia—where fathers and uncles all typically worked in the paper industry, and I followed suit, going to NC State University to get degrees in the pulp and paper technology and chemical engineering. I became a production engineer and did some research in the paper industry.

After a major accident in the paper mill, I decided I no longer wanted to work with mechanical pumps or fluid dynamics, but I would like to take a shot at the human pump. So Eastern Virginia Medical School (EVMS) opened its doors in 1973; I applied—one of 1,200 applicants—and was granted admission to the school. I became one of 25 charter students, and the first African-American to graduate from EVMS. From there, I did my residency at Cincinnati General. I worked on the Navajo reservation as the general medical officer; the U.S. Public Health Services in Staten Island, New York; and then Allegheny General Hospital in Pittsburgh for 15 years in various roles. I progressed to vice chairman of emergency medicine [at the Medical College of Pennsylvania], and I was the interim director of the division of emergency medicine, department of surgery from 1995 to 1996. I was also acting chairman of the department of emergency medicine, Medical College of Pennsylvania, at the Hahnemann/Allegheny, campus from 1995 to 1996. I accepted the job as chairman of the department of emergency medicine at the University of Virginia in 1995. I came in as the first African-American chair in the UVA School of Medicine for any department. I’m currently the vice president and chief officer for diversity and equity for the entire university. I was honored with the Marcus L. Martin Distinguished Professorship of Emergency Medicine in the School of Medicine at UVA, which is the first endowed professorship in the department of emergency medicine at UVA. There are only three African-Americans with an endowed professorship named after them—Julian Bond, Thurgood Marshall, and Marcus Martin—so, wonderful company that I’m honored to be with.

KK: Lynne?

LR: I’ve actually had three careers in emergency medicine because I came out of residency on a clinical/administrative track. I was chief of emergency services at a public hospital quite early in my career. I had become a physician because I was committed to serving a community that had been traditionally underserved. So for me to return to my hometown, which is New York City, Harlem, to help run an emergency department for people in that community seemed to be fulfilling the reasons why I had become a physician. I was good at it. I think it was meaningful, but clinical operations, although I felt like what I was doing was very important, was not perhaps, as intellectually satisfying as something that was more on the academic side.

I got the opportunity to make a lateral transition from clinical operations into medical education at Mount Sinai as residency director to establish a residency program. That really came about through a personal connection with Shelley Jacobson, who had just been selected as the first chair of emergency medicine in the new department of emergency medicine at the medical school at Mount Sinai. He had been the director of the emergency depart-

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—Marcus L. Martin, MD, FACEP

ment when I was at Albert Einstein College of Medicine as a student and actually had a lot to do with my going into emergency medicine. It was really that personal connection that gave me the opportunity.

Then I got another opportunity offered to me, which was to do a midcareer fellowship in health services research, which gave me the tools to then make another lateral transition from graduate medical education into research.

KK: I’ll ask Leon first. Can you share some of the positive experiences and maybe some of the challenges that you encountered as you were starting to move into leadership roles?

LH: From a positive standpoint, I think I was fortunate and blessed to have two mentors early in my career, both of whom were white men, who were very supportive of my growth and development and were very out-front as it relates to making sure that there was improved or increased diversity in their respective departments. Initially, when I was at Henry Ford [for residency], my first advisor, Michael Tomlanovich, was the vice president of administration for the health system and had been the chair of the department when he was still a faculty member in the department. Mike was really the first person who started to help me guide my administrative career and think about combining academics, administration, and clinical care. He has been supportive always. I actually got my master’s degree while I was still working full-time, and Mike was very supportive.

Arthur Kellermann recruited me to Emory back in 1996–97, and I think Arthur has been a good, if not a great, role model with really trying to promote diversity in his leadership team. He had a very diverse leadership team—white, black, homosexual, heterosexual. I think he’s also been very promotive of my career and making sure that I could advance appropriately up through the ranks.

You know, there are negative things that have always popped up that people probably never notice. At Grady, for example, we have two medical schools that support the institution from a clinical standpoint, both Emory and Morehouse. Morehouse is a largely African-American medical school with a lot of history in terms of producing African-American physicians. One of the things that I always encountered was there were patients and sometimes even staff who could not assume that I was an Emory physician. Not to say that Morehouse is bad or Emory is bad, but the assumption was that, as an African-American male, I could only work for Morehouse. Those were just some of those little things we had, subtleties we had. I had to tell people, “Yep, I work for Emory, and I’m pretty qualified.”

When I got to most of a position, I was relatively young and African-American. I think there were subtle things about doubting my decision making or my thoughts around expertise in administration. Nothing overt, quite honestly. There were subtle looks or digs, people questioning, or occasionally people would try to go around you because they didn’t trust your judgement or believe you. The other thing is—and Marcus and Lynne will probably tell you the same thing—there’s always the challenge of, you’re African-American, you know what I mean, and you feel like sometimes you carry the weight of the race on you a little bit. You’re always trying to prove yourself, work extra-hard, and be twice as good but hoping that you’re doing things well so that people don’t condemn the race because you didn’t do something well.

KK: I appreciate you sharing that with us. Marcus, your perspective?

MM: Having role models, and a couple people come to mind right away—Glen Hamilton and Richard Levy, among others at the University of Cincinnati, were great role models—they got me involved on the national scene. Initially became president of the Society for Academ–

KK: Lynne, how about you?

LR: I always had the benefit, at least in terms of the people to whom I directly reported, of dealing with people who treated me fairly and valued the contributions that I could make. However, that was not always the case. I had so many experiences early on in high school and in college in dealing with more overt kinds of racism and bias. By the time I began my career as an emergency physician, I had a pretty well-developed tool set for dealing with that. I was fortunate; there were lots of people who helped me along the way, sometimes in very casual ways, but I really never had the kind of mentorship that I now try to give to the young faculty, fellows, and residents that I mentor. I think I understand very clearly the importance of mentorship because I largely built my career without it, and I think that made lots of things very difficult. I had to perhaps work harder, fight harder for opportunities that mentors might have had access to. I tried to do good work and kept trying to learn as much as I could. I was always very driven by making a difference as opposed to getting ahead, but I managed somehow to get ahead while I was making a difference. There’s some very interesting research that there is a cumulative effect to these microaggressions and the ways in which certain groups experience racism in this country that probably makes a substantial contribution to some of the differences in health statuses and some of the health disparities that we see. There is a different body of literature that looks at the more overt and explicit forms of racism, but I think the microaggressions are important to understand because they are so ubiquitous and constant for many of us. And I think if you are from a group where you have not experienced this kind of behavior, you really don’t appreciate the level of stress it adds to your everyday life. I think many of us have formulated defensive strategies to deal with it, but it takes energy. As the research continues to come out, it will be more and more clear how adversely these microaggressions affect people.
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Cerebral venous sinus thrombosis (CVST) is a type of stroke in which the venous channels of the brain become thrombosed, resulting in cerebral infarction in the areas corresponding to the thrombosis. CVST is uncommon. However, the epidemiology is difficult to determine. One consensus opinion indicates that there is an approximately one CVST stroke to every 62.5 arterial thrombotic strokes, while another states that CVST constitutes 0.5 percent to 1 percent of all strokes in young or middle-aged adults. It is more common in neonates and young persons, with the incidence decreasing as age increases. There is a female predominance, with roughly a 3:1 female-to-male ratio, which is consistent around the world. CVST is uncommon. How- ever, the epidemiology is difficult to determine. One consensus opinion indicates that there is an approximately one CVST stroke to every 62.5 arterial thrombotic strokes, while another states that CVST constitutes 0.5 percent to 1 percent of all strokes in young or middle-aged adults. It is more common in neonates and young persons, with the incidence decreasing as age increases. There is a female predominance, with roughly a 3:1 female-to-male ratio, which is influenced by gender-specific factors such as oral contraceptive use, pregnancy, puerperum, and hormonal replacement therapy. Also, women have a better prognosis when CVST is attributable to those factors.

Prognosis
Approximately 5 percent of patients die during the acute phase (interval from symptom onset to diagnosis fewer than 48 hours). Predictors of mortality at 30 days are depressed consciousness, altered mental status, thrombosis of the deep venous system, right hemispheric hemorrhage, and posterior fossa lesions. The primary cause of death is transtentorial herniation. The following are also predictive of poor outcomes: central nervous system infection, malignancy, hemorrhage, Glasgow Coma Scale score less than 9 at admission, age greater than 37 years, and male gender. Complete recovery is expected in 75 percent of the entire cohort.

Background
Cerebral venous sinus thrombosis (CVST) is a type of stroke in which the venous channels of the brain become thrombosed, resulting in cerebral infarction in the areas corresponding to the thrombosis. CVST is uncommon. However, the epidemiology is difficult to determine. One consensus opinion indicates that there is an approximately one CVST stroke to every 62.5 arterial thrombotic strokes, while another states that CVST constitutes 0.5 percent to 1 percent of all strokes in young or middle-aged adults. It is more common in neonates and young persons, with the incidence decreasing as age increases. There is a female predominance, with roughly a 3:1 female-to-male ratio, which is influenced by gender-specific factors such as oral contraceptive use, pregnancy, puerperum, and hormonal replacement therapy. Also, women have a better prognosis when CVST is attributable to those factors.

Presentation
Presentation can vary greatly depending on the location and extent of the thrombosis. It can present just with findings suggesting increased intracranial pressure (eg, idiopathic intracranial hypertension), such as headache, vomiting, papilledema, and visual disturbances. Cranial nerve involvement may also be present and include such findings as facial weakness; deafness; visual deficits; or ocu- lomotor, abducens, or trochlear nerve palsies with paralysis of extracocular muscles or ptosis. Headache is the most common presenting symptom and is usually localized and gradual in onset. Focal deficits may occur bilaterally, and seizures may occur.

CVST can also present similarly to encephalopathy with multifocal signs, mental status change, stupor, coma, cognitive dysfunction, frontal lobe syndrome, etc.
Parenchymal brain lesions depend upon the location and number of occluded sinuses or veins. This can lead to cerebral edema, infarction, or hemorrhagic infarction, which may manifest with motor and sensory deficits, cranial nerve palsy, aphasia, and seizures. MRI plus magnetic resonance venography is considered the most sensitive modality. CT venography can be considered when MRI is unavailable or contraindicated. If diagnosed, screening for prothrombotic conditions is suggested as well. This typically prompts both neurology and hematological evaluation.

Prognosis
Approximately 5 percent of patients die during the acute phase (interval from symptom onset to diagnosis fewer than 48 hours). Predictors of mortality at 30 days are depressed consciousness, altered mental status, thrombosis of the deep venous system, right hemispheric hemorrhage, and posterior fossa lesions. The primary cause of death is transtentorial herniation. The following are also predictive of poor outcomes: central nervous system infection, malignancy, hemorrhage, Glasgow Coma Scale score less than 9 at admission, age greater than 37 years, and male gender. Complete recovery is expected in 75 percent of the entire cohort.

Natural Progression
Recanalization occurs in 40 percent to 90 percent of cases, most within four months. The highest rates are in deep cerebral veins and cavernous sinuses. The lowest rates are seen in the transverse or lateral sinuses. Recurrence rates for CVST are 2 percent to 4 percent, with increased risk in males, prothrombotic states, thombophilia, polycythemia, and patients with previous venous thromboembolism.

Management
The main treatment for CVST is anticoagulation. Unfractionated heparin and low-molecular-weight heparin are most commonly used. Patients will also require long-term anticoagulation with an oral anticoagulant, such as warfarin, with a goal international normalized ratio of 2.0. Recommendations include treatment for three months in patients whose CVST was due to a transient risk factor, six to
12 months in those with idiopathic CVST or mild thrombophilia (eg, heterozygous factor V Leiden or prothrombin G20210A mutation and high plasma levels of factor VIII), and indefinitely in those with recurrent CVST or severe thrombophilia (eg, antithrombin, protein C, or protein S deficiency; homozygous factor V Leiden or prothrombin G20210A mutation; antiphospholipid antibodies; or combined prothrombotic conditions). Endovascular mechanical disruption of clots and direct thrombolysis are usually reserved for patients failing anticoagulation. Symptomatic treatment of elevated intracranial pressure and herniation can be approached with traditional methods. There has been no evidence to support glucocorticoid use. Symptomatic and prophylactic usage of antiepileptics are recommended in patients with higher risk of seizure (eg, supratentorial lesion involvement) and seizure on presentation. Valproic acid is commonly used due to fewer drug-to-drug interaction with anticoagulants.

Case Resolution

Our patient was started on a heparin drip of 25,000 units in 500 mL 0.45% NaCl continuous infusion via our low-dose protocol without bolus and admitted to the neurology ICU, where she was bridged to warfarin and discharged five days later. On the evening of her discharge, the patient developed an acute five- to 10-minute episode of transient left arm stiffening, paraesthesias, uncontrolled cramping of her left fingers, and worsening of her left facial droop, which were thought to be focal seizures due to the location of her CVST in combination with a family history of seizure disorder. She was admitted to the neurology service overnight for observation and discharged on levetiracetam 750 mg every 12 hours. At three months postevent, the patient had no recurrence of seizures or stroke-like symptoms and remained compliant with her coumadin and levetiracetam.

References


DR. SINGH is assistant professor in the department of emergency medicine at Hartford Hospital/UConn School of Medicine in Farmington, Connecticut.

DR. PRENOVITZ is a third-year resident in the department of emergency medicine at Hartford Hospital/UConn School of Medicine.
When it comes to hand injuries, do you know what to tackle yourself, when to call the orthopedist or general plastic surgeon, and when to call a hand surgery specialist? ACEP Now Medical Editor in Chief Kevin Klauer, DO, EJD, FACEP, recently sat down with hand surgeon Scott D. Lifchez, MD, FACS, to shed some light on these questions and to explore the professional relationship between emergency physicians and hand surgeons.

Dr. Lifchez is associate professor of plastic surgery and orthopedic surgery, program director of the Johns Hopkins/University of Maryland plastic surgery residency program, and director of hand surgery at Johns Hopkins Bayview Medical Center in Baltimore. He’s also a member of the American Society for Surgery of the Hand (ASSH), the biggest national organization of hand surgeons in the United States, with about 2,500 to 3,000 active members who are certified in the subspecialty of hand surgery.

Here are some highlights from their conversation.

KK: Roughly how many graduates are coming out of hands fellowships every year?
SL: That number is around 150 per year.

KK: Tell me, from either your personal perspective or things that you’ve heard, what are some of the things that are frustrations about the emergency physician–hand surgeon relationship?
SL: I think there’s both the academic training institution perspective and then there’s the community perspective. I am mostly in an academic institution. The complaint we often get is the sometimes seemingly ultra-low threshold to call somebody with the rationale of, “oh, they need to learn how to do this because they are a resident in training,” or, “we’ve got 27 other things to do.” We sometimes will get some calls for a paronychia or a rule-out paronychia, or calls about a minimal-ly displaced boxer’s fracture that just needs a splint and a clinic visit. Those can be very frustrating. I want my residents to learn, but at the same time, they don’t need to see their twelfth one at two in the morning. From the community standpoint, I know that there’s certainly a higher level of intervention that the attending emergency physicians are willing to do. We need to make sure that the emergency medicine residents know, if they are in the community, they’re supposed to be reducing the metacarpal fracture. They’re supposed to be draining the paronychia, and they need to be able to do a straightforward distal radius reduction.

Another complaint I’ve heard is where the emergency physician will just put the patient in a splint, which was reasonable, but then they’ll bill the patient not only for the visit but for CPT codes for closed management of a fracture, which are supposed to be used for managing a fracture for 0 to 90 days. I think it’s totally appropriate if an emergency physician does the reduction, but if they’re just putting the patient in the splint and then somebody else is going to do all of the management, I think that’s not appropriate.

KK: From your perspective as a hand surgeon, in what ways, if any, can we improve care?
SL: I would start with just good-quality splint application. I know many emergency departments are big fans of Ortho-Glass because it’s so user-friendly, but it doesn’t always immobilize the fracture well. If it doesn’t get molded well, the fracture that started out in a good position may not stay there, and then a second intervention is needed. I see patients come into my office with a full-length aluminum-foam splint going from the fingertip to the distal forearm for metacarpal or finger tip injury. It is very uncomfortable for the patient, and either goes much longer than it needs to or the splint stops right where the fracture line is.

KK: What is your society’s perspective on the on-call physician’s responsibility under EMTALA, and how do your society and hand surgeons view that responsibility?
SL: Even within our society we don’t fully agree, so I can’t really say that we have a position on it. There are those who say once you’re on the schedule, you’re on the hook. There are those who say, “I’m on the hook to be called, but I have a right to say that I can’t do this.”

KK: It’s a frequent misconception that at least one follow-up visit is required under EMTALA. A lot of the care we provide in emergency medicine is uncompensated, and we are proud to deliver that care. How committed are hand surgeons to actually getting that patient a follow-up visit?
SL: If they have no insurance, we just take care of it. However, I understand the pressures in the community where the physician says, “Look, I’ve got to keep my lights on. I have to pay my office staff, and if I do too much of this care for free, I can’t provide care to anybody because I can’t even make an even bottom line.”

KK: What is the short list of those things that really need your level of expertise that can’t be handled by the general orthopedist or the general plastic surgeon?
SL: The obvious lead one would be digital amputations. For the most part, the generalists don’t do that or wouldn’t feel comfortable doing that. Some things that might be better treated by a hand surgeon are necrotizing infections of the hand and compartment syndromes of the hand. While in theory a hand surgeon might be better at handling them, the acuity may not allow enough time for the patient to get to the hand surgeon or the hand surgeon to get to the patient. Mangling injuries involving multiple tendons and/or multiple bones of the forearm, wrist, or hand are things that typically the general plastic surgeon or orthopedist is going to correctly say, “That’s beyond what I can do.”

KK: From an emergency transport or transfer standpoint, it’s probably just a small number that you would say, “Listen, I need to see them tonight.” What would some of those things be?
SL: The mangling injuries usually need to get to somebody who can give definitive care pretty quickly. Finger or thumb amputations also. The research says that if you get them within 24 hours, it’s the same as if you get them on within two hours, but understandably, it is a very high-end and anxiety-inducing injury for the patient, their family, and the initial provider who is seeing them.

KK: What about other specialized types of fractures, like Bennett’s or Rolando’s?
SL: Those often do not need to take a helicopter ride in the middle of the night. Those of the carpometacarpal (CMC) joint, Bennett, Rolando, perilunate injuries, and scaphoid injuries are probably best served by somebody with hand expertise. It gets a little contentious when we start talking about the distal radius. Hand surgeons generally believe that we do the best job, but orthopedists, or especially orthopedic traumatologists, will rightly say, “We take care of the most of these in the US, and we do a good job.” There’s some overlap, but I would agree that certain carpal bone injuries, especially those needing surgery and CMC joint injuries, often do need a hand surgeon.

KK: What is the other side of the phone: a hand surgeon’s thoughts on emergency care?
**PHARM 360**

**CLINICAL PERSPECTIVE**

**Can We Stop the Madness?**

*by HOWARD K. MELL, MD, MPH, CPE, FACEP*

Much has been written about the opioid crisis in America. Alternative medication regimens have been proposed. The lack of treatment centers has been lamented, and everyone from politicians to the lay public, insurance companies, and physicians have practically tripped over one another to point fingers of blame. What has not been identified as a problem is a lack of options for opioid analgesia, in terms of specific medications or routes of administration. This “lack of a problem” has not stopped drug companies from coming up with solutions.

One such company, AcelRx, began a push to market Dovia, a 30 mcg sublingual sublingual tablet (then called ARX-04), during the end of its phase III trial period in September 2016. In communications from AcelRx sent to several emergency physicians ahead of the ACEP16 conference, as well as several paramedics in advance of the 2016 EMS World Expo, the manufacturer extended an invite to attend a paid dinner “to discuss the science behind sublingual sufentanil,” present more comprehensive data from the recently completed phase three trials, as well as gain an understanding of the patient populations that might receive Dovia. For that reason, two ACEP members, one from the Trauma & Injury Prevention Section (Megan L. Ranney, MD, MPH, FACEP) and another from the EMS Section (myself), brought forward a resolution to the ACEP Council asking that the College actively oppose the FDA approval of ARX-04 for use in emergency medicine or EMS.

Why the concern? First, sublingual and transmucosal fentanyl already exist (eg, Actiq, Abstral, and Fentora). None of these agents is in widespread use in emergency medicine or in EMS. The “unmet need” cited by AcelRx doesn’t seem to exist. However, among the opioids in use in both emergency departments and the prehospital environment, there are already problems with diversion of drugs by addicted personnel. Why bring a fresh marketing campaign supporting a new formulation of a highly potent opioid that is easier to use and therefore abuse than existing drugs? Why allow a drug company to create a sense of need around a dangerous drug that isn’t actually meeting patients’ needs? What is the real benefit to emergency department or EMS operations to balance out the incredible risk this drug presents? For these reasons, the ACEP Council approved the resolution, and the Board has provided written testimony to the FDA opposing the approval of sublingual sufentanil.

Quoting ACEP’s letter to the FDA, “There are no data to indicate that pharmacokinetic failure of currently available narcotics via existing routes and formulations is a problem in EMS or emergency medicine.” So ask you, can we stop the madness?

**References**


**ABSTRAL TABLETS CONTINUED FROM PAGE 1**

Closely follow patients and observe for respiratory depression/sedation.

6. When prescribing, do not convert patients on a mcg per mcg basis from other oral transmucosal fentanyl product to Abstral; follow the dosing guide in the label.

7. Abstral exposes users to risks of abuse, addiction, and misuse, which can lead to overdose and death. Assess the patient’s risk before prescribing and monitor patients closely for these behaviors/conditions.

8. Prolonged Abstral use during pregnancy can lead to neonatal opioid withdrawal syndrome, which may be life-threatening if not recognized and treated.

**Drug Safety and Dosing**

The transmucosal immediate-release fentanyl (TIRF) risk mitigation and management strategy (REMS) is an FDA-required program designed to ensure informed risk-benefit decisions prior to beginning treatment and during treatment for appropriate TIRF medication use. This product’s REMS is to decrease the following risks: abuse, addiction, misuse, overdose, and serious medication error complications.

TIRF medicines are contraindicated in opioid-nontolerant patients. Serious adverse events, including deaths, in patients treated with some oral transmucosal fentanyl products have been reported. Deaths occurred as a result of improper patient selection and/or improper dosing. The substitution of a TIRF medicine for any other fentanyl medicine, including another TIRF medicine, may result in fatal overdose.

The initial Abstral dose is 100 mcg. Doses should be titrated to a tolerable dose that provides adequate analgesia. No more than two doses can be taken per breakthrough pain episode. Patients should wait at least two hours before treating another breakthrough pain episode. No more than four episodes of breakthrough pain per day should be treated with Abstral.

**Other Transmucosal Fentanyl Products**

- Abstral (fentanyl SL tablets), strengths: 100, 200, 300, 600, 800, and 1,200 mcg
- Actiq (fentanyl solid oral transmucosal) lozenges (brand and generic), strengths: 200, 400, 600, 800, 1,200, and 1,600 mcg
- Fentora (fentanyl buccal) tablet, strengths: 100, 200, 400, 600, and 800 mcg
- Lazanda (fentanyl) nasal spray, strengths: 100 and 400 mcg/mL
- Ondansetron (fentanyl buccal soluble film), strengths: 200, 400, 600, and 1,200 mcg
- Subsys (fentanyl SL) spray, strengths: 100, 200, 400, 600, and 800 mcg

**Price**

The cost of 32 Abstral SL tablets is approximately $1,678 (100 mcg), $2,108 (200 mcg), $2,578 (300 mcg), $3,041 (400 mcg), $3,916 (600 mcg), and $4,790 (800 mcg). Discount cards are available. Drugs.com offers a discount card whereby 32 Abstral 100 mcg cost about $1,469.

**References**


Q. What should the mix of stocks and bonds be in my retirement portfolio?

Unfortunately, the answer to this simple question is incredibly complex and doesn't even necessarily have a right answer. The short answer is, assuming future market returns resemble past market returns, you should invest as much of your portfolio in stocks as you can tolerate without selling low in a terrible bear market.

Unfortunately, explaining that sentence is going to take the rest of this article. The process of deciding how much of your portfolio to invest in what type of security, such as stocks, bonds, and real estate, is called asset allocation. It turns out that, in the long run, asset allocation (ie, determining the mix of risky assets such as stocks to less risky assets such as bonds) matters far more than individual security selection or your ability to time the market, so it is a great place to spend your limited financial planning time and effort.

The mix of assets determines both your long-term return as well as the volatility of the portfolio. Now, upward volatility rarely bothers investors—it’s the pesky downward volatility that represents losing the money you invested for retirement instead of spending it on a kitchen remodel. Let’s just focus on that. Vanguard, the only mutual fund company owned by its investors, put together a nice study of asset allocation models using data...
from 1926 to 2015 that gives an idea of the return and the maximum drawdown (the peak-to-trough decline during a specific period) you could expect in the past with a given stock-to-bond ratio. I summarize its data in Table 1. There are a few things that can be learned from Table 1. First, there is a general correlation between risk and return. If you were willing to tolerate the possibility of bigger losses, you experienced higher returns. The difference between earning a 10 percent return and an 8 percent return is not insignificant. Over 30 years, investing the same amount every year, a 10 percent return results in your nest egg, your retirement income, being 48 percent larger than what you would have with an 8 percent return. Second, there is no mix of stocks and bonds that eliminates the possibility of loss. Investing means losing money. If you invest, your portfolio will decline in value from time to time. This should be expected, but do your best to increase your ability to tolerate that volatility.

Finally, stocks are risky. While the worst year for a 100 percent stock portfolio was a 43.1 percent loss, that understates the way it feels. That figure comes from the loss of 43.1 percent. To put it another way, you extend the period to the bear market bottom. Unfortunately, most people don’t know that they can tolerate until they have invested through a nasty bear market, such as 2008–2009. There are many attending physicians in the workforce who have never done that. My advice is to pick an asset allocation that is less aggressive than what you think you can tolerate without selling out at a market bottom. Unfortunately, most people don’t know what they can tolerate until they have invested through a nasty bear market, such as 2008–2009. There are many attending physicians in the workforce who have never done that. My advice is to pick an asset allocation that is less aggressive than what you think you can tolerate, at least until you pass through your first bear and prove your risk tolerance to yourself. Don’t overestimate your ability to sleep well while hemorrhaging money.

There is another factor to consider. The data in Table 1 come from the past. Physicians in the evidence-based medicine era are all quite familiar with the limitations of retrospective data. The future does not necessarily have to resemble the past. The real risk of stocks is not that they will decline in value temporarily, but that they will decline in value permanently. While that risk is likely fairly low, it’s not zero. Owning some less risky assets in the portfolio is a good way to hedge against that unlikely possibility.

In addition, many investment authorities expect future returns, at least for the next decade, to be lower than the historical averages due to low interest rates and high stock valuations. While my crystal ball is cloudy about what the future holds for stock market returns or interest rates, it’s important to realize that if your retirement plan relies on your achieving historical rates of return to succeed, it may not be as robust as a plan as you think. You may need to save more, work longer, or even take more risk with your investments than you would like, knowing that the risk of running out of money in old age may be worse than the risk of losing money in the markets.

Asset allocation is a personal decision that you should make after careful consideration and in consultation with your advisors and those you care about. While there is little performance difference between a 60-40 portfolio and a 60-40 portfolio, you need to get your asset allocation in the right ballpark and then stick with it through thick and thin to reach your financial goals.

### Table 1: Historical Return and Maximum Drawdown from Stock-Bond Ratios

<table>
<thead>
<tr>
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<th>LONG-TERM ANNUALIZED RETURN</th>
<th>MAXIMUM HISTORICAL LOSS</th>
</tr>
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<tbody>
<tr>
<td>100-0</td>
<td>10.1%</td>
<td>-43.1%</td>
</tr>
<tr>
<td>80-20</td>
<td>9.5%</td>
<td>-34.9%</td>
</tr>
<tr>
<td>70-30</td>
<td>9.1%</td>
<td>-30.7%</td>
</tr>
<tr>
<td>60-40</td>
<td>8.7%</td>
<td>-26.6%</td>
</tr>
<tr>
<td>50-50</td>
<td>8.3%</td>
<td>-22.5%</td>
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<tr>
<td>40-60</td>
<td>7.8%</td>
<td>-18.4%</td>
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Source: Vanguard, personal.vanguard.com/investing/models/portfolio-allocation/

To make matters worse, if you succumb to that pressure and abandon your plan in the depths of a bad bear market, the results will be far worse than if you had just invested a little less aggressively in the first place. Thus, if you want the highest stock-to-bond ratio that you can tolerate without selling out at a market bottom. Unfortunately, most people don’t know what they can tolerate until they have invested through a nasty bear market, such as 2008–2009. There are many attending physicians in the workforce who have never done that. My advice is to pick an asset allocation that is less aggressive than what you think you can tolerate, at least until you pass through your first bear and prove your risk tolerance to yourself. Don’t overestimate your ability to sleep well while hemorrhaging money.

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The 2014 report is an extension of the survey process that began in 1992. It is used to identify trends in ED visits that are important for emergency department, hospital, and public health practitioners to understand. The 2014 data report is based on a sampling of 23,846 ED patient care reports from 283 emergency departments. National population counts were used to estimate utilization of ED services by populations.

The year 2014 saw the highest estimated volume of ED visits ever, an increase to 141.4 million compared to 130.4 million in 2013. The 20-year volume trend remains upward, at about 1.9 percent per year. ED utilization averages approximately 451 visits per 1,000 persons.

Reflecting the demographics of the American population, 15.4 percent of ED visits are from seniors older than age 65, and 19.6 percent are from pediatric patients (defined by the National Hospital Ambulatory Medical Care Survey [NHAMCS] as younger than age 15). An estimated 4.3 percent of ED visits were nonurgent, with the highest rates of these visits from pediatric patients.

High-utilizers continue to be nursing home residents, who accounted for about 2.5 million visits, with a utilization of 1,787 visits per 1,000 residents. About 30 percent of nursing home patients’ ED visits resulted in hospital admission (764,000), with an average length of stay in the hospital of 7.4 days.

The year 2014 was also the year that the Affordable Care Act placed insurance expansion into effect. It marks the first year in the CDC survey years that Medicaid and the Children’s Health Insurance Program (CHIP) accounted for the largest expected source of payment, at 36.9 percent. Next, was private insurance at about 34.6 percent of ED visits, with Medicare at 15.7 percent, and no insurance equaling 11.8 percent. Figure 1 reflects the trend in the payer mix over the years of CDC data collection. The trend continues for decreased use of emergency departments by patients who identified workers’ compensation as the source of payment, which is down to 0.8 percent. The most frequent payer type for admission to the hospital through the emergency department was Medicaid (48 percent), followed by private insurance (42 percent), Medicare or CHIP or other state-based program (22 percent), and no insurance (5.2 percent).

Injuries accounted for an estimated 40 million visits, or 28.3 percent of ED visits. The highest injury rates were in those age 75 and older. By comparison, in 2009, there were an estimated 45 million encounters for injuries. This trend reflects the success of many injury prevention programs, leading to an ED population distribution that is less injured and more ill. The leading causes of injury visits were falls (10.6 million visits, 25 percent of total injury visits) and motor vehicle traffic crashes (4 million visits, 9.6 percent of total injury visits). Self-inflicted injuries or poisonings accounted for 468,000 visits.

There are growing numbers of patient visits related to primary mental health issues. In about 1.6 million visits, a mental health provider saw the patient in the emergency department, and in about 1.2 million ED visits, the result was admission to the mental health unit of a hospital.

A total of 15.6 million ED visits resulted in hospital admission, transfer, or death. However, in 2014, the number of ED visits with a disposition of died in the emergency department is too low to be estimated. About 8 percent of all ED visits resulted in hospital admission. Placement in observation units, which occurred in 19.6 percent of total ED visits, is an important hospital quality indicator related to the readmissions to the hospital, but ED leaders must be aware of the baseline level of activity for this. In approximately 3.5 percent of visits (compared to 4.7 percent in 2013) resulting in hospital admission, the patient had been seen in the same emergency department within the prior 72 hours. About 3.6 percent of visits were made by patients who had been seen in the same emergency department in the preceding 72 hours, and the CDC estimates that 4.9 percent of ED visits were for follow-up.

The use of CT scanning appears to have plateaued, but MRI and other special imaging procedures like ultrasound are increasing.

There is a continuing growth in the percentage of overall hospital admissions presenting through the emergency department. The Emergency Department Benchmarking Alliance (EDBA) data survey finds that about 66 percent of hospital inpatients are processed through the emergency department. This clearly demonstrates that the emergency department is the “front door” of the hospital.

The data indicate that the emergency department is an important and valuable element of the health care system.
- There is a long-term trend that American emergency departments are seeing at least 2 percent more visits per year.
- More patients arrive with medical illnesses than injuries.
- More patients are elderly and arrive by EMS.
- For the first time, the largest group of patients being seen in the emergency department has Medicaid or CHIP insurance.
- The highest utilization rate of emergency services per population is by nursing home residents.
- Admission rates are falling except in the mental health group.
- About 3.5 percent of ED visits resulting in hospital admission were for patients who had been seen recently in the same emergency department.

By the Numbers

CDC notes ED volume increase on track through 2014

Figure 1: Percentage of ED Visits by the Major Payers Over the Years of the CDC Data Survey

Table 1. Estimated ED Visits

<table>
<thead>
<tr>
<th>YEAR</th>
<th>NHAMCS ESTIMATED ED VISITS (MILLIONS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>107.5</td>
</tr>
<tr>
<td>2002</td>
<td>110.2</td>
</tr>
<tr>
<td>2003</td>
<td>113.9</td>
</tr>
<tr>
<td>2004</td>
<td>110.0</td>
</tr>
<tr>
<td>2005</td>
<td>115.3</td>
</tr>
<tr>
<td>2006</td>
<td>119.2</td>
</tr>
<tr>
<td>2007</td>
<td>116.8</td>
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<tr>
<td>2008</td>
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<td>130.9</td>
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<td>2013</td>
<td>130.4</td>
</tr>
<tr>
<td>2014</td>
<td>141.4</td>
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</table>
While IRAD reported a painless aortic dissection rate of about 5 percent, a more recent study out of Japan reported that 17 percent of aortic dissection patients had no pain. These patients presented more frequently with a persistent disturbance of consciousness, syncope, or a focal neurological deficit. Cardiac tamponade was more frequent in the pain-free group as well.

The Concepts of "CP +1" and "1+ CP"

The intimal tear in the aorta can devascularize any organ from head to toe, including the brain, heart, kidneys, and spinal cord. Thus, 5 percent of dissections present as strokes, and these certainly are not the kind of stroke patients who should be receiving IVPA! An objective focal neurologic deficit in the setting of acute, unexplained chest pain (CP) has >LR of 33 for aortic dissection, almost diagnostic. Some of the CP + 1 phenomena to think about include: thoracoabdominal aortic dissection, acute quadriplegia, and lactic acidosis.

In addition to thinking of CP + 1, it may help to think backwards in time (1+ CP) and ask patients who present with end-organ damage if they had torso pain prior to their presentations of end organ damage. For example, ask patients who present with stroke symptoms if they had torso pain before the stroke symptoms.

Anyone under the age of 40 years who presents to the emergency department with unexplained torso pain should be asked if they have Marfan syndrome. In the IRAD analysis of those under 40 years, 50 percent of the aortic dissection patients had Marfan syndrome, representing 5 percent of all dissections. • Look. The patient doesn’t always know they have Marfan syndrome, so you need to look for arachnodactyly (elongated fingers), pectus excavatum (sternal excavation), and lanky limbs. • Listen. A new aortic regurgitation murmur has a surprisingly high >LR of 5. • Feel. Feel for a pulse deficit, which has a >LR of 2.5, much higher than that of interarm blood pressure differences. The patient’s blood pressure needs to be interpreted with caution and insight. Do not assume that the patient with a normal or low blood pressure does not have an aortic dissection.

We know from the IRAD data that only about half of patients are hypertensive at initial presentation. Patients with aortic dissections that progress into the pericardium, resulting in cardiac tamponade, are often hypotensive. Patients with dissection who have a wide pulse pressure should be considered preterminal and usually require immediate surgery.

There is a lot more to chest radiograph interpretation than looking for a wide mediastinum. One-third of chest radiographs in aortic dissection are normal to the untrained eye, and a common pitfall is to assume that if the chest X-ray is normal, the patient does not have an aortic dissection. There are about a dozen X-ray findings associated with dissection, but two of them are especially important: loss of the aortic knob and aortopulmonary window and the calcium sign. Look for a white line of calcium within the aortic knob, then measure the distance from there to the outer edge of the aortic knob. A distance >0.5 cm is considered a positive calcium sign, and a distance >1.0 cm is considered highly suspicious for aortic dissection. It is always wise to compare to an old film to see if there’s been an interval change.

Eighteen percent of patients with aortic dissection will have a positive troponin test, so if you suspect the diagnosis based on other clinical findings, don’t assume isolated acute coronary syndrome when the troponin comes back positive. Remember that fewer than one in 100 patients with a dissection will have aortopulmonary window and the calcium sign, and use POCUS to look for an intimal flap and pericardial effusion.

Don’t be misled by a troponin or D-dimer.

Thanks to David Carr for his expert contributions to the EM Cases podcast that inspired this article.

References


These three coronal reconstructions from contrast enhanced CT angiograms of the chest show an extensive dissection of the thoracic aorta. This is a De Bakey type I or Standard A aortic dissection.
The Annual Literature Highlights Episode: Part 2

Pulmonary problems, bleeding, evaluating pediatric injuries, and more

by RYAN PATRICK RADECKI, MD, MS

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ast month, I highlighted some of the most impactful, talked-about, or interesting articles published across the spectrum of medical journals from the past year. Here are a few more key studies from 2017. As always, it is impossible to cover every important article or to cover them in the detail they deserve. Let this serve as a jumping-off point into the maelstrom, but I always encourage you to visit the primary source before making changes to your practice.

Prevalence of Pulmonary Embolism Among Patients Hospitalized for Syncope

This controversial trial, PESIT, approached the issue of the prevalence of pulmonary embolism (PE) in syncope by mandating a D-dimer-based protocol for all patients admitted to the hospital with a diagnosis of syncope. Using their protocol, they found that nearly one in six patients were admitted diagnosed with PE. These data are not generalizable, as it does not appear an adequate emergency department workflow for PE was performed initially, and it does not account for the vast cohort of patients with likely benign causes who were discharged rather than admitted. ED discharges were excluded.

Yield of CT Pulmonary Angiography in Emergency Department When Providers Override Evidence-Based Clinical Decision Support

Perhaps your emergency department has jumped on the bandwagon of decision support for imaging in PE, where alerts pop up decrying your overuse and mandating formal risk stratification or D-dimer testing. This retrospective study looked at the imaging results when clinicians ignored these nagging prompts intended to shepherd them along the approved diagnostic pathway. In the pathway-adherent group, yield of CT pulmonary angiogram for PE was 11.2 percent, while yield in those who went off the rails was only 4.2 percent. While the pathway-adherent results are still unimpressive, the result of ignoring the decision-support is truly dismal and wasteful.

Simplified Diagnostic Management of Suspected Pulmonary Embolism (the YEARS Study): A Prospective, Multicentre, Cohort Study

Have you ever felt backed into a corner by the test threshold for D-dimer? Some analyses have advocated doubling the cutoff in a low-risk population, and this prospective multicenter trial puts it into practice. Unless patients have hemoptysis, obvious clinical manifestations of extremity venous thromboembolism, or PE as the most likely diagnosis, it is safe to do so. Furthermore, no CT pulmonary angiography examinations were performed without first checking a D-dimer, another practice change from our traditional Wells’-based risk stratification.

Effect of Early Tranexamic Acid Administration on Mortality, Hysterectomy, and Other Morbidities in Women with Post-Partum Haemorrhage (WOMAN):

This prospective, multicentre, cohort study compared with the 46 percent who would have had a CT if PECARN recommendations had been followed. Effect of Abdominal Ultrasound on Clinical Care, Outcomes, and Resource Use Among Children with Blunt Torso Trauma: A Randomized Clinical Trial

It’s been known for quite some time the utility of the abdominally focused assessment with sonography for trauma (FAST) is primarily in the unstable patient. This clinical trial evaluated the utility of FAST in children who were clinically stable. As expected, FAST in a stable patient did not change any measured outcomes, and the ultrasound examinations resulted in both substantial false positives and false negatives. Routine ultrason sound should not be considered part of the standard clinical approach to the stable pediatric trauma patient.

That’s all we have for this year. Changes are, next year will similarly provide a steady stream of practice-evolving evidence—and we’ll be back at this again! ☑

References

I know about #FOAMed, but what are those other #Hashtags?

Trending: Medical Hashtags

A lot of hashtags come and go on Twitter, but some have true staying power. The #FOAMed hashtag, of course, is the most recognized hashtag in the emergency medicine Twitterverse and has been going strong since 2012. Typically, #FOAMed amasses between 1,000 and 1,500 tweets on any given day, and during conferences, the number skyrockets. If you were to only search Twitter for the #FOAMed hashtag, you’d still be drinking from a fire hose.

While the #FOAMed hashtag was supposed to help narrow down the Twitter noise into only “the good stuff” for people like emergency physicians, its popularity and ubiquity have made it a victim of its own success. As a result, subniche hashtags have sprouted up, and many of them feature consistently reliable, high-quality tweets about various areas of interest.

One of the most popular of these subniche hashtags is #PostItPearls. The idea is that a Post-it note can handle the same amount of information as a good lecture slide. The best part is that you can make a high-yield Post-it and share it with the resident you are working with. You can then stick it onto your desk or the side of your computer screen so that if Resident A happens to be sewing up an abrasion when you are teaching Resident B, Resident A can get in on some of the action later if they happen to see it. Even better, you can snap a photo of it on your phone and tweet it out, so thousands of learners can see it online. Noted emergency medicine educators such as Rob Cooney, MD, MEd (@EMEdU), and Michelle Lin, MD (@M_Lin), have been active contributors to the #PostItPearls movement. Dr. Cooney proves that the San Francisco Fire Department can have some fun with medical knowledge.

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Francisco syncope rule can fit on one Post-it (and so does the Ottawa ankle rule). Dr. Lin’s Post-it on the Rule of 150 for acetaminophen toxicity is permanently saved in the Post-it Pearls pictures folder on my phone. (The toxic dose of acetaminophen is 150 mg/kg, the four-hour toxic level is 150 µg/mL, and the first dose of the N-acetylcysteine antidote is 150 mg/kg.) Of course, Amal Mattu, MD, FACEP (@AmalMattu), is old-fashioned. He likes to tweet photos of the whiteboard teaching pearls from his shifts. However, as Anand Swaminathan MD, MPH (@EMSwami), mentioned in his post on the Core-EM blog about #PostItPearls, who the heck has a whiteboard in the emergency department anymore? So it’s back to good old paper and pen (or Sharpie, for maximal clarity).

#FOAMped
For those of us who see some but not enough children in our emergency departments: to feel up-to-date on the latest and greatest in pediatrics, the #FOAMped (and #FOAMpeds) hashtag can be helpful.

Pediatric emergency physician Sean Fox, MD, FACEP, FAAP (@PedEmMorsels), recently tweeted a link to his blog, PedEmMorsels.com, highlighting the management of the child with congenital adrenal hyperplasia presenting in shock. In short, treat the electrolyte imbalances, and give a bolus of IV hydrocortisone initially at 1–2 mg/kg. This blog is a great pediatric resource, covering topics from trampoline injuries to short videos demonstrating important pediatric procedures. Included is one on transtracheal jet ventilation, which,
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IN THE EVENT OF A PAYER AUDIT

by HAMILTON LEMPERT, MD, FACEP, CEDC

Question: I’ve received a payer audit. What does it mean, and what should I do?

Answer: The first thing to know is that you are not alone and there are resources to assist you. The next thing to know: Do not ignore the audit. It will not just go away. How you respond to a payer audit may vary, but you should respond. Audits are used by payers for many reasons, such as validating coding and recouping overpayments. You can usually contest the findings of an audit, but you should be aware of the rules and regulations governing how to respond to the payer and the timeline for each step in the process because they vary for each payer.

The ACEP Reimbursement Committee has published very complete resources addressing what audits are and how to deal with them. They can be found at http://bit.ly/2gHRswy (PDF).

ACEP, in association with the Physicians Advocacy Institute, has also published a toolkit specifically about dealing with audits. It can be found at http://bit.ly/2zclbsK.

DR. LEMPERT is chief medical officer, coding policy, at TeamHealth, based in Knoxville, Tennessee.
**The University of Chicago’s Department of Medicine, Section of Emergency Medicine, is seeking full-time faculty members to serve as Emergency Physicians as we prepare to open a new adult emergency department and establish an adult Level 1 Trauma Center. Academic rank is dependent on qualifications. Applicants are required to be board certified or board eligible in emergency medicine and to be eligible for Illinois licensure by the start of appointment. Responsibilities will include teaching in the educational programs sponsored by the Section and participation in scholarly activity. We seek candidates looking to develop an academic niche that builds upon our faculty expertise in basic and translational research, health equity and bioethics research, geriatric emergency care, global emergency medicine, medical education, prehospital medicine, aero-medical transport, and ultrasound. We host one of the oldest Emergency Medicine Residency programs in the country and serve as a STEMI receiving hospital, a Comprehensive Stroke Center, a Burn Center, and a Chicago South EMS regional resource hospital. The Adult ED has an annual volume of 65,000 and our Pediatric ED cares for 30,000 patients per year, including 1,000 level I trauma patients.**

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Those interested in a position or further information may contact Dr. Dick Kuo via email dckuo@bcm.edu or by phone at 713-873-7044. Please send a CV and cover letter with your past experience and interests.

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The Department of Emergency Medicine at Baylor College of Medicine in Houston, TX is seeking outstanding candidates for the position of Assistant/Associate Program Director.

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