DROPERIDOL IS BACK
Here’s what you need to know
by EDWARD W. BOYER, MD, PHD

In 2001, when we had agitated patients in the emergency department, we’d give them intramuscular droperidol and everything would be fantastic. It also worked well for nausea and vomiting, and was a useful adjunct for headache treatment. But then because of concerns related to prolongation of the QT interval on ECG, the threat of torsades de pointes, and persistent shortages of the drug, the U.S. Food and Drug Administration (FDA) published a widely criticized warning that recommended a screening ECG prior to dosing, telemetry for two to three hours following administration, and a contraindication for patients with a long QT (with a cutoff at >440 ms for males, >450 ms for females). In short order, droperidol disappeared from hospitals in the United States, the United Kingdom, and many other places, despite the fact that other medications like haloperidol had the same theoretical risks and remained widely available. But now, injectable droperidol is back, courtesy of manufacturer American Regent. Much of the body of knowledge regarding the clinical use of droperidol has eroded over time, so here’s what you need to know:

Dosing and Benefits
First, droperidol at the 5–10 mg doses (intravenous [IV] or intramuscular [IM]) used for sedation and control of agitation is safe. Onset of action can be expected within 5–10 minutes IM, and a bit faster IV, though studies suggest full effects may not be apparent for up to 20–30 minutes, at which time re-dosing can be considered. IM haloperidol, on the other hand, works far more slowly than droperidol, often taking 20–30 minutes for onset. In fact, the main advantage of...
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NEWS FROM THE COLLEGE

ACEP4U: New Medicare Payment Codes
Visit acepnow.com for the full backstory explaining how ACEP’s 2018 RUC Advisors, Ethan Booker, MD, FACEP, and Jordan Celeste, MD, FACEP, worked with ACEP staff to present compelling data for an increase in emergency department evaluation and management codes.

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NEWS FROM THE COLLEGE

UPDATES AND ALERTS FROM ACEP

#ACEPDation Hits Membership Milestone
In August 2019, we reached 40,000 members for the first time in our history. We’re so proud to stand beside you. Here’s to the next 50 years! Customize your membership preferences at www.acep.org/membership.

Medicare Payment Rule Adjusts Value of EM Services
The Centers for Medicare & Medicaid Services (CMS), the agency responsible for running Medicare and Medicaid, recently issued its proposed Medicare physician fee schedule for 2020. CMS included a proposal to revalue the ED evaluation and management codes, the most commonly billed services for emergency physicians.

As the only EM organization represented on the AMA Relative Value Scale Update Committee (RUC), which develops values for physician service codes, ACEP advocated strongly for this revaluation. (Read the full story about how our regulatory and reimbursement teams advocated for the revaluation at ACEPnow.com.)

The RUC accepted our recommendations, and CMS is proposing to accept the RUC’s recommended values. If finalized, this revaluation would increase Medicare reimbursement for ED visit codes by approximately $137 million in 2020, when the policy becomes effective. The increased values would become the new standard for each year after that. Next month, ACEP Now will feature a detailed analysis of the CMS proposed rule and its implications for emergency medicine.

Stay updated on this proposed rule and other regulations that affect you on our regulatory blog, Regs & Eggs, at www.acep.org/regsandeggs.

ACEP Shares Opioid Resources with FDA
The U.S. Food and Drug Administration (FDA) is interested in the development of resources to reduce the use of opioids where alternatives exist, so ACEP shared its extensive opioid resources. To view those resources, visit www.acep.org/opioids. Our two opioid-related point-of-care tools—MAP (managing acute pain) and BUPE (buprenorphine)—are now available on our new app, emPOC, available through the Apple Store and Google Play.

ACEP Hosts Health Care IT Summit
In July, ACEP hosted thought leaders from health information technology (IT) for a one-day collaborative summit designed to foster important discussions about the future of health care IT in the acute care setting. More than 100 outside-the-box thinkers discussed both aspirational and immediately actionable ways to make health care IT more intuitive and functional for emergency physicians and their patients.

The Health IT Summit included prominent EM informatics experts and representatives from the CDC, the Office of the National Coordinator for Health Information Technology, the Veterans Health Administration, Cerner, Epic, and more, brainstorming about the future of care delivery and data sciences. What’s the ideal future state of health care IT, and how do we get there? How do data acquisition, artificial intelligence, data transparency, population health, quality initiatives, policy, advocacy, predictive modeling, and data-driven networks factor into future plans?

Working to Decrease Your Documentation Burden
On Aug. 12, ACEP responded to a CMS request for information on additional ways to reduce the administrative burden for health care providers through the “Patients over Paperwork” initiative. We asked CMS to take the following actions:

• Postpone the Appropriate Use Criteria program. Although we got a clarification to the exemption for emergency medical conditions, we need more time to educate our members and hospitals about when the exemption is applicable.

• Make electronic health records easier to use and increase the ability to receive and exchange information about our patients.

• Require hospitals to share clinical data with clinical data registries to fulfill Merit-based Incentive Payment System (MIPS) reporting requirements.

• Simplify MIPS requirements for hospital-based clinicians.

• Revise existing criteria for adding new codes to the list of approved telehealth services to make it easier to add emergency telehealth codes to this list.

• Implement emergency medicine–specific alternative payment models (APMs) and specifically adopt ACEP’s APM, the Acute Unscheduled Care Model.

Learn more about ACEP’s work to reduce your administrative burden at www.acep.org/ehr.

CORRECTION
In the “Meet the Board of Directors Candidates” article in our August issue, Dr. Gabor Kelen’s name was spelled incorrectly. ACEP Now apologizes for this error.
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Meet the Hosts

Gregory L. Henry, MD
- Former CEO of two emergency physician malpractice insurance companies
- Has reviewed in excess of 2,200 malpractice cases over the last 25 years as a risk management consultant
- Serves as a medicolegal consultant for numerous physician groups and hospitals
- Editor of the ACEP book Emergency Medicine Risk Management: A Comprehensive Review

W. Richard Bukata, MD
- Edited over 15,000 abstracts and wrote over 200 essays on EM-related topics while editor of Emergency Medical Abstracts
- As Medical Director of the Center for Medical Education has been involved with the production of over 600 Emergency Medicine courses since 1985
- Served as the Medical Director of a community hospital in Los Angeles for over 25 years
- Recipient of the ACEP Outstanding Contribution in Education Award

IUDs Gone Awry
HOW TO APPROACH PATIENTS WITH AN INTRAUTERINE DEVICE

by LANA SHAKER, MD; AND REBECCA GOETT, MD, FACEP, FAAHPM

The Case
A 23-year-old woman with no significant past medical history presents to your emergency department with one-day history of gradually worsening left lower quadrant (LLQ) abdominal pain. Her last menstrual period is unknown, as she reports she no longer has regular menstruation since having a Mirena intrauterine device (IUD) placed 18 months ago. She reports vaginal spotting a few days ago, which resolved. The pain is mild and intermittent without vomiting, diarrhea, fever, or dysuria. Her vital signs are blood pressure 108/68, heart rate 106, respiratory rate 16, oxygen saturation 99 percent, and temperature 98.7°F orally. On exam, she is tender to palpation in the LLQ.

Background
IUDs are a form of long-acting reversible contraceptive and one of the most effective reversible contraceptive methods.1 A summary of their actions and mechanisms is listed in Table 1.

Bottom line: As the popularity of IUDs has increased, the importance also increases for emergency care providers to understand the use and pathologies associated with IUDs. Given the increasing popularity of this method of contraception, we may see more IUD complications in the emergency department.2 Complications with IUDs include expulsion, method failure/unplanned pregnancy, uterine perforation, pelvic inflammatory disease, abdominal or pelvic pain, dysmenorrhea, and abnormal bleeding.3

Approach to Abnormal Uterine Bleeding, Abdominal/Pelvic Pain
In addition to the above IUD-specific complications, new onset of abnormal uterine bleeding and abdominal or pelvic pain should be evaluated similarly to that of non-IUD users with the differential diagnosis including:

- Complications of pregnancy
- Pelvic inflammatory disease
- Urinary tract infection
- Intra-abdominal processes
- Ovarian cyst or torsion
- Gynecologic malignancy

Initial management of the patient with abnormal uterine bleeding should include a pelvic examination (to attempt IUD string visualization) with a possible pelvic ultrasound to assess IUD location.4

Pregnancy with an IUD
When a patient with an IUD is determined to be pregnant, the first priority is to determine the location of the pregnancy. Women who become pregnant with an IUD in place are more likely to have an ectopic pregnancy.5

Interuterine Pregnancy: Determine the woman’s desire to continue or terminate the pregnancy, gestational age, IUD location, and whether IUD strings are visible.5 For women with an IUD desiring pregnancy continuation, IUD removal is recommended. Retained IUDs have increased risk of spontaneous abortion, septic abortion, chorioamnionitis, placental abruption, placenta previa, cesarean delivery, low-birth-weight infants, and preterm delivery especially.

If the strings are visible and the IUD can be easily removed from the cervical canal, it is recommended to do so; however, if the strings have retracted into the uterus, ultrasound-guided IUD removal may be performed by a specialist but may disrupt a wanted pregnancy. Patients will need to be counseled appropriately.6 After IUD removal, women who conceived with an IUD in place remain at high risk for complications compared to pregnancies conceived without an IUD.7 For women desiring pregnancy termination, the IUD can be removed prior to or during a medical abortion.5

Ectopic Pregnancy: Use of an IUD does not increase the absolute risk of ectopic pregnancy because it prevents pregnancy effectively. However, if pregnancy is suspected and confirmed with an IUD in place, the pregnancy is more likely to be ectopic.5 Point-of-care ultrasound can assist with rapid, accurate diagnosis of ruptured ectopic pregnancy. Pregnant patients with an empty uterus on ultrasound but without clear signs of ectopic pregnancy, such as extra-uterine gestational sac, adnexal mass, or free fluid, are classified as having a “pregnancy of unknown location” and require reliable follow-up until the pregnancy location can be confirmed.7

Pelvic Inflammatory Disease
Risk of pelvic inflammatory disease (PID) is elevated in the first three weeks following IUD insertion, before returning to baseline rates.8 IUD insertion is contraindicated in women with current purulent cervicitis or known chlamydial/gonorrheal infection until treatment is complete and symptoms have resolved.8 If PID is diagnosed in an individual with an IUD in place, Centers for Disease Control and Prevention (CDC) guidelines recommend leaving the IUD in place (outcomes are similar whether the IUD is removed or left in place).8 PID should be treated the same as in patients without IUDs in place and requires follow-up within 48 to 72 hours to assess for clinical improvement. If clinical improvement fails to occur, IUD removal should then be considered.8 There are currently no CDC recommendations on management of tubo-ovarian abscess in a woman with an IUD. Current protocols call for inpatient treatment with IV antibiotics, with consideration of IUD removal if clinical improvement is not observed.8

Expulsion
If expulsion is suspected, pelvic exam should be performed to assess for the IUD strings or a partially expelled IUD protruding out of the cervix.9 If the IUD and strings are not present, imaging such as an ultrasound, abdominal radiograph, or CT should be obtained for IUD localization and potential perforation. If the IUD cannot be located, it may have been fully expelled. See Table 2 for information on expulsion risk.

Perforation
Uterine perforation is a potentially serious complication of IUD use and can lead to invasion and migration to abdominal and pelvic organs. The IUD may be embedded in the myometrium or translocate through the uterus to the abdominal cavity. Migration to adjacent...
organs can lead to bowel obstruction, peritonitis, fistula formation, obstructive urethropy, and intrauterine adhesions.3

Primary perforation occurs during insertion and is typically associated with severe abdominal pain. Secondary perforation is a delayed event and can present as chronic abdominal pain, vaginal bleeding, missing strings, or even asymptomatic.7 The incidence of uterine perforation is estimated at between 0.2 and 3.6 per 1,000 insertions.3 Imaging for IUD localization should be performed with ultrasound, abdominal X-ray, and/or CT scan. Eighty percent of IUDs are found in the peritoneal cavity after perforation.7 There is no substantial difference in prevalence of perforation between levonorgestrel and copper IUDs; adhesions are more highly associated with copper IUDs.8 Risk factors for uterine perforation include breastfeeding, postpartum state, lack of experience by the health care provider performing insertion, extreme anteflexion or retroflexion of the uterus or uterine abnormalities, multiparity, nulliparity, history of cesarean delivery, and myomectomy.7 Patients may require hysteroscopy, cystoscopy, colonoscopy, laparoscopy, or exploratory laparotomy depending on IUD location.

Immediate Complications of the IUD Insertion Procedure

Some patients may develop pain with IUD insertion. Nulliparity and history of severe dysmenorrhea are associated with greater insertion-related pain.7 Some pain, such as cramping and changes in bleeding pattern, may be normal in the initial weeks after IUD placement. Some patients may develop vaso-vagal reactions with syncope, nausea, and/or vomiting. Because primary uterine perforation can occur during insertion and cause severe pain, these patients may need to be evaluated with pelvic examination and further imaging to assess IUD location and determine if primary perforation has occurred. IUDs can lead to irregular menstrual bleeding, which typically improves with time.7 For these patients, nonsteroidal anti-inflammatory medications are first-line therapies for treating dysmenorrhea and abnormal bleeding.7 Naproxen in particular has been shown to decrease pain and bleeding.4

IUD Removal in the ED

IUDs rarely require removal in the emergency department. Some circumstances do require this, including a partially expelled IUD causing pain and bleeding. The procedure for IUD removal is simple: Grasp the strings securely using ring forceps and apply gentle traction outward. If IUD removal with gentle traction and without resistance is unsuccessful, the procedure should be discontinued as the IUD may be embedded, perforated, or translocated. Such instances likely require hysteroscopy or laparoscopy for further evaluation.

Case Resolution

A point-of-care urine pregnancy test is positive. Pelvic examination shows a closed cervical os with IUD strings visible, no vaginal bleeding, and left adnexal tenderness. Point-of-care ultrasound shows an empty uterus, no free fluid, and possible left adnexal mass. The patient is taken to the operating room by ob-gyn for diagnostic laparoscopy, leading to the diagnosis of a left adnexal unruptured ectopic pregnancy. Salpingectomy is performed. The patient is discharged from the hospital and later decides to have her IUD removed as an outpatient because of anxiety related to possibility of developing a future ectopic pregnancy.

References


New Editor in Chief for ACEP Now

With our sincere gratitude, and on behalf of the entire emergency medicine community, we would like to thank Dr. Kevin Klauser, outgoing Editor in Chief of ACEP Now, for his dedication to the publication and for the many hours and positive influence he has had on it throughout his six year tenure.

Newly Appointed Editor in Chief

Jeremy Samuel Faust, MD, MS, MA

We are very pleased to welcome our newly appointed Editor in Chief, Jeremy Samuel Faust, MD, MS, MA, who will be an energetic and active new leader for ACEP Now.

Dr. Faust is well-established in the emergency medicine community, and has a breadth of experience with the publishing process through various roles he has held. We look forward to working with Dr. Faust to continue the success of our publication and fulfill our objective to serve as “the official voice of emergency medicine.”
ACEP Executive Director to Retire

Dean Wilkerson will step down in 2020; a search committee is looking for ACEP’s next director.

After more than 15 years as executive director of ACEP, Dean Wilkerson, one of only three individuals to hold the position, plans to retire in 2020.

“At this point in my life, I want more of what every person wants more of—time,” he said. “After 40 years of doing important but very stressful and time-consuming jobs, I want to step away and spend more time doing things that I never seem to have enough time to do. It just seems like the right time to let some other person come in and help ACEP continue to make progress.”

Mr. Wilkerson told the ACEP Board of Directors in early 2016 that he planned to retire when his current contract ended on July 31, 2020. Because he has had time to plan, the Board has retained a search firm and established a Search Committee that includes ACEP President Vidor E. Friedman, MD, FACEP; Association Strategies (assnstrategies.com) was selected to conduct a nationwide search for ACEP’s next executive director. A position specification should be available by early October. The goal is to have the new executive director start by June 2020.

“Over the past decade I have had the pleasure to work closely with Dean, he has been a great partner for ACEP for many years,” said Dr. Friedman. “Under Dean’s leadership the college has grown tremendously—both in terms of membership and the variety and quality of the services that ACEP provides to our members. We will do a thorough nationwide search to find his successor, who will have some big shoes to fill.”

A History of Accomplishments

When Mr. Wilkerson joined ACEP in 2004, the Board was looking for him to bring new approaches to advocacy for emergency medicine and emergency physicians. One of the first things Mr. Wilkerson did was reallocate $72,000 from other areas in ACEP’s budget to public relations and media advocacy.

The first 16 months on the job saw a whirlwind of activity in which he interacted with ACEP’s national leaders and chapters. Mr. Wilkerson attended the Michigan Chapter meeting and had dinner with ACEP founders John G. Wiegensstein, MD, and John A. Rupke, MD, listening to them regale the rapt dinner party with stories of the early days of ACEP.

“I fell in love with emergency physicians and their energy and enthusiasm,” he said. At the 2005 annual meeting in Washington, D.C., ACEP held a Rally on Capitol Hill. More than 4,000 emergency physicians, nurses, and paramedics participated in the event and it is believed to be the largest public advocacy gathering of a medical organization ever. Just months later, the First National Report Card on the State of Emergency Medicine was released with strong media coverage on network television, radio, and in major news publications. ACEP followed this Report Card in years with releases in 2009 and 2014 that helped drive ACEP’s advocacy agenda.

In 2009, on the heels of the second Report Card, a comprehensive media campaign called “Myths and Realities,” the lead-up to the passage of the Affordable Care Act, and other factors, Mr. Wilkerson was named #37 on the list of Top 100 Most Influential People in Health Care by Modern Healthcare magazine. “It was a great honor for me, but it was really a testimony to how active and effective ACEP members and staff are in so many areas,” he said.

The value of activity at the chapter level has been important to Mr. Wilkerson. He added $50,000 to the ACEP budget for state public policy grants in addition to ACEP’s traditional chapter grants. In 2008, ACEP started offering free member services for chapters, including a state public policy tracking service, chapter newsletters, website development, and more.

During his tenure, ACEP communications have continually evolved to suit changing member needs, with several comprehensive overhauls of our website; the daily customized news briefing, EM Today; and an embracing of social media with Twitter, Facebook, blogs, podcasts, videos, apps, and more. Mr. Wilkerson said he is proud of how ACEP has reengineered ACEP Now by increasing the clinical content of what was once known as ACEP News. Annals of Emergency Medicine has long been an excellent flagship publication of ACEP and has continued to gain prominence. His leadership is helping guide the early 2020 launch of ACEP’s second journal, an online-only open-access publication known as JACEP Open.

A Lasting Legacy

One of the most significant developments under Mr. Wilkerson’s leadership has been the creation of ACEP’s Clinical Emergency Data Registry (CEDR), what he describes as “an amazingly complicated enterprise.” It was started in 2014, and by 2016, CEDR began to gain traction and grow steadily. “CEDR will be a cornerstone asset of ACEP and the specialty for the foreseeable future as quality measurement and improvement continues to be of vital importance not only to the government but to all payers,” Mr. Wilkerson said.

Many clinical and practice resources were developed under Mr. Wilkerson’s leadership, including the Roaring Solutions Report distributed to all member hospitals by the American Hospital Association; the Geriatric ED Accreditation Program; the Emergency Medicine Practice Research Network (EMPRN), which captures important insights from more than 1,200 members; and, most recently, the EM point-of-care tools for use at the bedside.

As emergency medicine faced challenges from other specialties, Mr. Wilkerson led ACEP as it staked out ground to support its members. When anesthesiologists adopted a policy for sedation that was inappropriate for care in the emergency setting, ACEP adopted its own sedation policy that was far more applicable. As the critical care community has started to embrace a European standard for sepsis care that is not the standard of care in the United States, ACEP is now developing its own policy.

Part of his legacy is ACEP’s new headquarters, a three-story, 57,000-square-foot building that reflects the bold and progressive character of emergency medicine. Located near Dallas/Fort Worth International Airport, ACEP’s new facility has proved convenient and welcoming for a variety of EM organizations and affiliated companies.

“Being the chief executive of ACEP is a tremendous honor. We are more than just a professional medical society. To me, the mission of ACEP is a cause every bit as important as that of any philanthropic organization in the world,” Mr. Wilkerson said.

“We are striving to provide access and help deliver the highest quality of emergency medical care possible. I fiercely advocate for emergency medicine and emergency physicians whenever I have the opportunity,” he said, adding, “An ACEP past president once paid me a real compliment when he said, ‘Dean wears ACEP underwear.’”
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ACEP NOW RESPONDS TO RECENT MASS SHOOTINGS

Lately, there seem to have been so many public mass shootings that the most recent one could be the cover story on every single issue of this magazine. We obviously can’t do that. What’s more, the stories are all roughly the same. The terrorist uses a weapon of war to kill and injure dozens, and emergency departments are put to the test. Heroes are lauded for their acts, which should never have been necessary in the first place. Could there be anything more nauseating than the fact that we have become collectively “bored” by these events? The news cycles are getting shorter because, frankly, we’ve grown accustomed to mass shootings.

When these catastrophes occur, though, it must spur some action. Inaction is the embodiment of cowardice and is not who we are. It seems unfathomable that, as of last fall, there was any doubt as to whether firearm safety was “in our face” as emergency physicians. We know it is. ACEP’s long-standing policy on “Firearm Safety and Injury Prevention,” was last revised in 2013 and embodies many sensible measures. The policy, printed below, takes a “yes, and” approach, rather than a “no, but” one.

Below is a summary of some of ACEP’s statements, and our ongoing efforts in this arena. Some revisions and additions are being made as I write this. Know about them and get involved.—Jeremy Samuel Faust, MD, MS, MA, Medical Editor in Chief of ACEP Now

OUR POLICY
ACEP abhors the current level of intentional and accidental firearm injuries and finds that it poses a threat to the health and safety of the public.

ACEP supports legislative, regulatory, and public health efforts that:
- Encourage the change of societal norms that glorify a culture of violence to one of social civility
- Investigate the effect of socioeconomic and other cultural risk factors on firearm injury and provide public and private funding for firearm safety and injury prevention research
- Create a confidential national firearm injury research registry while encouraging states to establish a uniform approach to tracking and recording firearm related injuries
- Promote access to effective, affordable, and sustainable mental health services
- Protect the duty of physicians and encourage health care provider discussions with patients on firearm safety
- Promote the development of technology that increases firearm safety
- Support universal background checks for firearm transactions
- Require the enforcement of existing laws and support new legislation that prevents high-risk and prohibited individuals from obtaining firearms by any means
- Restrict the sale and ownership of weapons, munitions, and large-capacity magazines that are designed for military or law enforcement use

UPDATE ON ACEP FIREARM SAFETY INITIATIVES
In response to the mass shootings in July, ACEP President Vidor Friedman, MD, FACEP, provided the ACEP membership with an update on ACEP’s firearm safety initiatives, including:
- Per a 2018 Council resolution, the Public Health & Injury Prevention Committee is considering updates to the Firearm Safety and Injury Prevention statement and will send its recommendations to the Board for review in September.
- The Emergency Medicine Foundation has partnered on research grants and ACEP made a contribution to the American Foundation for Firearm Injury Reduction in Medicine (AFFIRM), a nonprofit organization founded and led by emergency physicians working to end the epidemic of gun violence through research, innovation, and evidence-based practice.
- ACEP’s High Threat Casualty EMS Subcommittee recommended several action items that the Board will be considering.

Several key initiatives will be discussed or debuted at ACEP’s in Denver:
- A resolution has been submitted to the Council for consideration that will be discussed at the Council Meeting Oct. 25–26.
- The results of our Council Survey about a variety of policy positions related to gun injury prevention will be available by the Council Meeting.
- “Until Help Arrives,” our training program designed to help emergency physicians provide basic first-responder training in their communities, will launch at ACEP19.
- ACEP will host a preconference course on assessing threat and identifying patients at risk for causing harm entitled “Care Under Fire: EDs, Gun Violence, and Threat Assessment.”
- Find all of ACEP’s active shooter resources, including policy statements, podcasts, and more, at www.acep.org/activeshooter.

Become a Reviewer

Become a peer reviewer for the Journal of the American College of Emergency Physicians Open (JACEP Open), a new Open Access journal in the field. Reviewers are critical to the publishing process, helping to shape the credibility and reputation of the journal through evaluation of the quality, relevance, and merit of submitted papers. JACEP Open is seeking peer reviewers for a range of expertise in emergency medicine to ensure the journal is presenting novel, sound research that will positively impact the field.

Reviewer Benefits
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- Recognition for peer review contributions through Publons.

Reviewer Commitments
- Agree to return manuscripts in a timely manner, typically within two weeks time;
- Agree not to distribute manuscripts under review or to disclose information within the manuscript;
- Agree to review the first revision of a manuscript for which he/she provided the initial review.

If interested in serving as a reviewer, please email Martha Villagomez, mvillagomez@acep.org, and include with your message the following attachments in Microsoft Word or PDF:
- Current electronic resume or curriculum vitae;
- List of areas of expertise/focus that will help assign appropriate articles to reviewers;
- Brief statement outlining previous peer reviewing experience and why you are interested in reviewing for JACEP Open.

TOXICOLOGY Q&A

Look But Don’t Eat

by JASON HACK, MD, FACEP, FACMT

QUESTION: At what time of year should you watch for this lovely but toxic bloom?

CONTINUED on page 10
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**Toxicology Q&A Answer**

**QUESTION ON PAGE 8**

**ANSWER:** Late spring and early summer.

Iris (Greek for “rainbow”) is a group of flowers that come in a wide variety of striking color variations and is found in gardens around the world. They are erect herbaceous perennials notable for ornamental, large, unobstructed ruffled flowers that have a distinctive architecture—composed of three outer hanging sepals (falls) and three inner petals (standards) usually arched and erect. This sits on top of stiff green two- to three-foot stalks (scapes) that originate from leaf bundles (fans) of sword-like leaves. They open in late spring and early summer.

**Toxins and Symptoms**

There are more than 200 species of iris and related plants. The entire plant is toxic. The noxious compounds have been variously called irisin, irone, iridin, irisin, and irisin. The highest concentrations of toxins are found in the rhizomes (underground stems) and bulbs, while lesser amounts are found in the stems and flowers. Poisoning is primarily seen in inquisitive dogs and cats, but toxins can affect humans if they are exposed. Iris toxicity is generally mild in humans, but in pets and cattle, it can cause serious illness and death.

Symptoms of iris poisoning in pets vary in severity depending on amount of exposure and which part of the plant was ingested.

Consumption of the toxic compounds—resinoids and pentacyclic toxic terpenoids—will cause increased salivation, diarrhea, vomiting, decreased appetite, ulcers, and sores in the muzzles and lips of the animal as well as bleeding of the stomach and small intestine.

If toxicity occurs in humans, the most common symptoms are skin irritation from dermal exposure, nausea and vomiting, abdominal pain, and diarrhea in cases of substantial ingestion. There is no specific treatment. Supportive care is advised.

**Interesting Facts**

Orris (Iris pallida) has been used in the perfume and pharmacy industry for hundreds of years because irone emits a violet smell and serves as a fixative, causing perfumes to hold their scent longer. Extract of orris is found in gin, which is why some people are allergic to it. Iris dilutions are also listed as a homeopathic remedy for “sick headaches” that “begin with blurred vision.”

**References**


DR. HACK (OLEANDER PHOTOGRAPHY) is director of the division of medical toxicology at Brown University in Providence, Rhode Island. He enjoys taking photographs of beautiful toxic, medicinal, and benign flowers that he stumbles upon or grows in his garden. Contact him at ToxInRI@gmail.com.
MEET THE ACEP COUNCIL OFFICER CANDIDATES

COUNCIL SPEAKER

The following member is a candidate for ACEP Council Speaker.

Gary R. Katz, MD, MBA, FACEP (Ohio)

Current Professional Positions: Chief medical officer and emergency physician at Community EM Partners, Ohio; assistant professor, department of emergency medicine, The Ohio State University, Columbus

Internships and Residency: emergency medicine residency, Summa Health System, Akron, Ohio; emergency medicine internship, Summa Health System

Medical Degree: MD, Medical College of Ohio (1998)

Response

One of my guiding principles is that when I represent an organization, I do so in a manner that speaks for that collective opinion without distilling myself from or otherwise undermining the decision authority of that organization. For this reason, I will focus on my process for when I assert my personal opinion and when I would set that aside in the duty of the organization to which I serve.

The first step is making sure I've asserted my personal opinion at the appropriate time. To do this, I must assure I have actively participated in the deliberative process to the extent allowable. During discussion if I find that a recommended action is errant or shows poor judgment, then it is appropriate to raise those concerns to the appropriate body, be that subcommittee, chair, Council floor, or other administrative component of the organization.

However, if the organization has been thorough, fair, and fulfilled its duty as a deliberative body, once the final decision is made, my duty is to then represent that point of view. This must be completed without acting defensively or undermining the decision. This goes so far as to avoid distilling myself through statements such as, “While I don’t agree, the organization has decided to take [specified] action.” In a similar vein, I view it as inappropriate to recruit others to object to the decision on my personal behalf via backroom conversations, which is just another way to skirt one’s duty to properly represent a body’s position.

While a specific position may be at odds with my personal stance, it is important to remember that our organization has redundant processes to properly consider positions and share where we might individually disagree or agree. Through proper channels, it is always possible to reconsider, modify, or resolve decisions, but to do so, one must use the formal deliberative process to amend or rescind prior action. A highly functioning organization can employ these tasks for greater agility than blindly implementing past decisions under a changed or new construct.

COUNCIL VICE SPEAKER

The following members are candidates for ACEP Council Vice Speaker.

Kelly Gray-Eurom, MD, MMM, FACEP (Florida)

Current Professional Positions: chief medical officer and assistant dean for quality and safety; associate chair, director of clinical and business operations, and director of PA services department; professor, department of emergency medicine at the University of Florida/UF Health Science Center, Jacksonville

Internships and Residency: emergency medicine residency and internship, University of Florida Health Science Center

Medical Degree: MD, University of Vermont (1992)

Response

Emergency physicians sideline their personal views all the time. We are 24/7-365. Anyone, Anything, Anytime. At any given moment, we are called upon to provide care and compassion to people we don’t agree with and sometimes don’t like very much. We deal with administrators and consultants who have vastly different viewpoints. Yet usually, we find a way to put aside our personal views and simply do our jobs to the best of our ability. I am no different. I take deep breaths. I walk away. I face-palm at my desk. I try to ignore the unimportant differences that cause needless turmoil during the shift. Most of the time in the ED, I can just keep moving.

Outside of the ED, it is harder. Social media and political advocacy in 2019 create entirely new levels of difficulty in the challenge of collaboratively finding common ground. Rapidly typing the first thing that pops into my inflamed brain when I see one of those posts is so tempting. The power is right there—a thumb click away. My view will be online for all to see. It is hard to step back from that adrenaline rush. When I start thinking, “Well, I will just tell them,” delete and scroll down has become my favorite self-centering trick. Wait, pause, and think it through. It doesn’t have the same immediate gratification, but it also doesn’t have the inevitable, “Ugh! What did I just do?”

Advocacy has a very different challenge because unlike social media, the people in the room can see me. Working across differences is critical to achieving our goals for ACEP and our EM physicians. I don’t agree with some of the people who are important to our advocacy efforts. I don’t always like their actions or their voting records. Mastering the poker face and reading the room have become key skill sets. A sense of humor doesn’t hurt either.

One of my DC representatives would take perverse delight in bad-mouthing my emergency department and my partners every time we entered their office. “You didn’t treat my constituent’s diabetes correctly. He had a blood sugar of 117, and you did nothing!” It was always a 15-minute browbeating from Dr. Google. They had no wish to be educated; they just wanted to start our conversations with the facts. “Well, I will just tell them!” delete and scroll down has become my favorite self-centering trick. Wait, pause, and think it through. It doesn’t have the same immediate gratification, but it also doesn’t have the inevitable, “Ugh! What did I just do?”

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Finding humor, having patience, picking the right moments, and knowing that it’s not a one-size-fits-all personal agenda are tools that will help me serve and facilitate discussions as Council Vice Speaker.

Andrea L. Green, MD, FACEP (Texas)

Current Professional Positions: emergency physician, American Physician Partners and Marshfield Clinic Eau Claire Center, Eau Claire, Wisconsin

Internships and Residency: emergency medicine residency, Howard University Hospital, Washington, DC; emergency medicine residency, Sparrow Hospital/University of Michigan, Lansing

Medical Degree: MD, University of Iowa College of Medicine (1979)

Response

✓ In the state of Texas, we breed big ideas and big points of view. When President of the Texas College of Emergency Physicians, of course I had to tackle big issues. I fought against the repeal of Texas tort reform statutes, shut down an effort by a teaching hospital that was trying to create an alternative board emergency medicine fellowship, was involved with efforts to address the issue of Medicaid expansion in our state, and started our chapter residency visit program. I do not shy away from jumping into issues with both feet. I am skilled at recognizing when and how to intervene, putting things in proper perspective, and the importance of creating win-win situations in a variety of settings. I have integrity and selflessness, and I unquestionably understand suspending your personal viewpoints on behalf of others.

A personal example was a situation that occurred when I was a member of a single-hospital, independent, democratic emergency physician group. Our group was requested to provide staffing for a new facility being developed by our hospital. The group initially indicated to the CEO a willingness to accept the additional contract. However, as time grew closer to opening the new facility, the group began to reconsider the financial risk and the work. Our group hired a consultant who did an extensive financial and risk assessment and provided data indicating that the risk was not as substantial as the group predicted. I was comfortable with the data presented and the assessment of the consultant. I felt that our group could be successful and was concerned about the potential negative impact on our group of changing our position so late in the process. I encouraged our group to move forward with the project. After multiple meetings with the consultant, the group took a vote deciding not to move forward and requested that I present their decision to the CEO. This decision was made about 90 days prior to the opening of the new facility. I met with the hospital CEO concerning the decision of our group. I discussed with him the financial, staffing, and risk concerns of our group. He was extremely displeased with being advised of this decision at 90 days prior to his grand opening. To prevent our group from losing their contract, I knew I had to problem-solve. I agreed to help him with an alternative plan to keep his opening on track, ultimately creating a win for our group, who continued enjoying their single contract for over 20 years.

Howard “Howie” K. Mell, MD, MPH, CPE, FACEP (Illinois)

Current Professional Positions: national re-serveist emergency physician, Vituity, Emery-ville, California

Internships and Residency: emergency medicine residency, Mayo Clinic School of Graduate Medical Education, Rochester, Minnesota

Medical Degree: MD, University of Illinois at Chicago College of Medicine at Rockford (2004)

Response

✓ I have served as a member of the Public Relations Committee and as a spokesperson for ACEP for the last nine years. In that time, I don’t think I’ve seen a single clinical issue as contentious as the use of tPA for acute ischemic stroke. There are strong opinions on both sides of the debate, and I’ve been known to make my opinion very clear—to say I’m skeptical is perhaps a bit of an understatement. At one point, I had an opportunity to take that skepticism public, perhaps even to reinvigorate the debate nationally. But instead, I put the College first and faithfully represented ACEP as a spokesperson.

In February 2013, ACEP published a controversial guideline entitled “Clinical Policy: Use of Intravenous tPA for the Management of Acute Ischemic Stroke in the Emergency Department.” This set off a firestorm. Almost immediately, a Council resolution was introduced asking that the policy be revisited and that a 60-day open comment period be included. Needless to say, the Council debate was spirited, lengthy, and at times downright heated. Many Councilors had significant questions about the data used to drive the conclusions, and we strongly disagreed with the determination that there was Level A (by ACEP’s rating scheme) evidence supporting the use of tPA. We strenuously argued to revisit the policy. That resolution was eventually passed by 75 percent of the Councilors. The policy would be revisited. The ACEP Board...
had a lengthy discussion regarding clinical policies in November 2013, and in January 2014, the Board approved specific direction and comments to the Clinical Policies Committee regarding implementation of the resolution.

When this occurred, many in the media (including some national news outlets) asked, “What happened [with ACEP’s policy]?” As an ACEP spokesperson, I was asked to handle some of these interview requests and to help come up with talking points regarding the controversy. This was an incredible opportunity to express my opinion to reporters, to explain the limitations of the data, and to describe the concerns shared by so many of my colleagues regarding the use of tPA in acute stroke. It might’ve been possible to drive the tPA question into the national health care discussion, especially considering the cost of the drug. However, it wouldn’t benefit ACEP to revisit the Council debate in the press. Putting the use of tPA to treat acute stroke into question in the public’s eye would only serve to confuse and even frighten patients, and ACEP didn’t have a recent clinical policy (at that point) to fall back on. So I helped craft a message that the debate on the resolution was a debate of methodology, about the rigor required for a Level A recommendation, and whether the meta-analyses used by the Clinical Policies Committee provided sufficient evidence. With this type of dry description and simple, but truthful, summation, most media outlets quickly lost interest. While I usually would wish to re-energize a debate about which I am passionate, that wasn’t my role.

**ACEP Now Wins Awards for Editorial Excellence**

ACEP Now has received several editorial awards:
- APEX Grand Award for “Two Accounts of Vegas Mass Shooting,” interviews with an emergency physician who treated victims of the 2017 mass shooting at the Route 91 Harvest country music festival in Las Vegas and a victim of the shooting.
- APEX Award of Excellence for “More Than Just ‘I Do,’” about an emergency physician and his partner’s journey to get married before same-sex marriage was legal nationwide.
- APEX Award of Excellence and EXCEL Gold Award for “Private Matters?” by Susan T. Haney, MD, FACEP, FFAEM, about her 20-year fight to keep her medical license after voluntarily reporting an adverse drug reaction related to chronic depression.

Read the winning articles at ACEPNow.com.

**The annual APEX Awards are given by Communication Concepts to recognize excellence in writing, digital content, graphic design, social media, public relations, and marketing. The annual EXCEL Awards are given by Association Media & Publishing to recognize excellence and leadership in non-profit association media, publishing, marketing, and communications.**

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**Available Nationwide**

**Rapid Reversal of Anti-FXa Activity within 2 Minutes**

following bolus administration in older, healthy volunteers on apixaban or rivaroxaban.12

**Select Important Safety Information**

**Thromboembolic and Ischemic Risks (continued)**

Monitor patients treated with ANDEXXA for signs and symptoms of arterial and venous thromboembolic events, ischemic events, and cardiac arrest. To reduce thromboembolic risk, resume anticoagulant therapy as soon as medically appropriate following treatment with ANDEXXA.

The safety of ANDEXXA has not been evaluated in patients who experienced thromboembolic events or disseminated intravascular coagulation within two weeks prior to the life-threatening bleeding event requiring treatment with ANDEXXA. Safety of ANDEXXA also has not been evaluated in patients who received prothrombin complex concentrates, recombinant factor VIIa, or whole blood products within seven days prior to the bleeding event.

**Re-elevation or Incomplete Reversal of Anti-FXa Activity**

The time course of anti-FXa activity following ANDEXXA administration was consistent among the healthy volunteer studies and the ANNEXA-4 study in bleeding patients. Compared to baseline, there was a rapid and substantial decrease in anti-FXa activity corresponding to the ANDEXXA bolus. This decrease was sustained through the end of the ANDEXXA continuous infusion. The anti-FXa activity returned to the placebo levels approximately two hours after completion of a bolus or continuous infusion. Subsequently, the anti-FXa activity decreased at a rate similar to the clearance of the FXa inhibitors.

Thirty-eight patients who received the Generation 1 product were anticoagulated with apixaban and had baseline levels of anti-FXa activity <500 ng/mL. Nineteen of these 38 (50%) patients experienced a >93% decrease from baseline anti-FXa activity after administration of ANDEXXA. Eleven patients who were anticoagulated with rivaroxaban had baseline anti-FXa activity levels >300 ng/mL. Four of the 11 patients experienced a >90% decrease from baseline anti-FXa activity after administration of ANDEXXA. Anti-FXa activity levels for patients who received the Generation 2 product were not available.

**Adverse Reactions**

The most common adverse reactions (≥5%) in patients receiving ANDEXXA were urinary tract infections and pneumonia.

The most common adverse reactions (≥3%) in healthy volunteers treated with ANDEXXA were infusion-related reactions.

**Immunogenicity**

As with all therapeutic proteins, there is the potential for immunogenicity. Using an electrochemiluminescence (ECL)-based assay, 145 Generation 1 ANDEXXA-treated healthy subjects were tested for antibodies to ANDEXXA as well as antibodies cross-reacting with Factor X (FX) and FXa. Low titers of anti-ANDEXXA antibodies were observed in 26/145 healthy subjects (17.9%). 3/9 (33.3%) were first observed at Day 30 with 10 subjects (14%) still having titers at the last time point (Days 44 to 48). To date, the pattern of antibody response in patients in the ongoing ANNEXA-4 study who received the Generation 1 product has been similar to that observed in healthy volunteers with 6% (6/98) of the patients having antibodies against ANDEXXA. None of these anti-ANDEXXA antibodies were neutralizing. No antibodies cross-reacting with FX or FXa were detected in healthy subjects (0/94) or in bleeding patients (0/18) to date. There is insufficient data to assess for the presence of anti-ANDEXXA antibodies for subjects who received the Generation 2 product.

To report SUSPECTED ADVERSE REACTIONS, contact Portola Pharmaceuticals, Inc. at 1-866-777-5947 or the FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

References:

Please see additional Important Safety Information on adjacent page and Brief Summary of fullPrescribing Information including Boxed Warning on following page.

**Coagulation Factor Xa (Recombinant), Inactivated-zhzo**

The Official Voice of Emergency Medicine
droperidol for agitated patients is precisely in those without IV access. IV haloperidol works fine for psychosis. But without an IV line in place, the delayed onset with IM haloperidol is not workable in the emergency department setting, which is why it is so often mixed with benzodiazepines ("5 and 2" just flies off the tongue; more on that later).

The FDA warning, which it bears noting has not been revised, uses 2.5 mg as its threshold for concern. But there is no good evidence to support this approach. True, some people who received droperidol have developed torsades but only after receiving absolutely gargantuan doses, totaling more than 300 mg. Droperidol's cardiovascular safety is supported by a series of studies that found none of the more than 1,200 agitated patients who received the drug developed torsades (see Table 1).2-4 Some patients did exhibit prolongation of the QT interval, but a substantial proportion of patients had additional reasons for prolonged repolarization. Although these data were collected in emergency departments, studies in prehospital and anesthesia settings have added heft to the finding that sedating doses of droperidol cause neither clinically significant QT prolongation nor torsades. In short, droperidol is safe.

Second, droperidol is a smarter choice for sedation than lorazepam. Clinical trials have demonstrated that agitated patients need additional doses of lorazepam five times more frequently than those receiving droperidol.5 In other words, while a patient may need only a single 5 mg dose of droperidol, a comparable patient may need 2 mg lorazepam—again and again and again and again. The issue here is one of pharmacodynamics. Physicians often recognize that lorazepam has a relatively short plasma half-life, but control of agitation is a pharmacodynamic effect. Lorazepam has slower central nervous system (CNS) penetration, so sedation is delayed. Because achieving sedation takes longer, clinicians often give additional doses of lorazepam before the previous dose has fully taken effect. The serial administration of lorazepam is a real problem. Sedation following parenteral lorazepam typically lasts six to eight hours, but sedation following repeat dosing can persist even longer, sometimes up to 24 hours.

Droperidol avoids the oversedation commonly seen in lorazepam (and other benzodiazepine) therapy. Droperidol, with its brisk CNS penetrance, sedates faster, so clinicians can “tune” the degree of behavioral control to a particular clinical scenario, eliminating frequently incorrect stacked dosing of benzodiazepines. This alone may help avoid an unnecessary hospitalization of a patient.

Table 1: Droperidol Safety Data

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Compiled by Brigham and Women’s Hospital Drug Safety Committee.

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Compiled by Brigham and Women’s Hospital Drug Safety Committee.
Meet webPOISONCONTROL
This internet-based poison control application offers trustworthy information to patients

by KELLY JOHNSON-ARBOR, MD, FACEP, FUHM, FACMT

Currently, almost 6,000 people call poison control centers every day. An additional 4,000 to 9,000 people per day experience a poison exposure but don't call because they don't like talking on the phone or waiting in phone queues, feel embarrassed or fear being judged, or don't want to scare their child who is listening nearby. Others just prefer to look online for health information and won't call poison control at all.

Meeting patients where they are, the National Capital Poison Center, in collaboration with other poison centers, has now developed webPOISONCONTROL (see Figure 1). webPOISONCONTROL is a fully automated, algorithm-driven online toxicology tool designed for public users and poison centers. The average time to complete a webPOISONCONTROL case is 2.6 minutes; since human interaction is not required, there is no need to pick up a phone or remain on hold when using the tool.

Online medical information is frequently inaccurate and even unsafe. Among the best ways to combat misinformation is to improve public access to free and accurate information. Case-specific and evidence-based, webPOISONCONTROL is available both online at www.poison.org (click on the orange “help” button) or by downloading a free mobile app (available on the App Store and Google Play).

This tool is not just for the lay user. Many traditional phone-based poison control centers have also begun to use webPOISONCONTROL as an adjunct resource, especially to determine ED triage thresholds and home treatment recommendations. Participating poison centers are provided enhanced accessibility to the program’s algorithms, triage rationales, and calculation functions. Although most webPOISONCONTROL cases are managed in the home setting, emergency physicians should be aware that patients who present to the emergency department may be there based on recommendations given by the program. These patients have done more than just “Googling their symptoms” and should be taken seriously.

There are currently more than 1,700 unique webPOISONCONTROL human toxicity algorithms ranging from pharmaceutical and over-the-counter medications to household products, bites, stings, and plants. The toxicity algorithms are created by U.S.-based toxicologists and reviewed by an expert panel prior to release.

While webPOISONCONTROL was created with the public user in mind, the platform is also helpful for emergency physicians as it includes toxicity information for rarely encountered substances that may be unfamiliar to many poison center specialists or medical toxicologists. After entering some basic data into the app (including patient age, sex, time of exposure, substance and amount; see Figure 2), webPOISONCONTROL can inform a user about whether toxicity is to be expected after exposure to, for example, a sip of lavender essential oil, ingestion of animal de-wormer tablets, or a catfish sting. Information regarding more commonly encountered toxic exposures (including prescription medications, laundry pods, and vitamins) is also available through webPOISONCONTROL.

The webPOISONCONTROL algorithms also provide information regarding common symptoms, expected durations of symptoms, and home treatment recommendations (see Figure 3). To ensure that the recommendations for each case are accurate, webPOISONCONTROL cases are audited daily by a team of toxicologists, and algorithms are updated when new information becomes available. Analysis of the results of cases managed by webPOISONCONTROL reveals similarities to cases managed by traditional poison centers; the majority of cases are managed in the home setting and without referral to a hospital, and most cases involve children younger than 6 years of age. Most users are in their 20s to 30s, and accessed webPOISONCONTROL on a mobile device.1 webPOISONCONTROL was not designed to replace traditional poison control centers; the program is currently limited to the management of single-substance exposures and is therefore unable to provide toxicity recommendations for patients who were exposed to multiple drugs. Additionally, patients who are at the extremes of age, are pregnant, or have underlying serious medical conditions are excluded from the webPOISONCONTROL algorithms. Users who admit to suicidal intent receive an automatic message to call poison control. Based on the information entered into the tool, webPOISONCONTROL may still provide users with a recommendation to call poison control for additional assistance. However, for a large percentage of users, webPOISONCONTROL will simply advise that serious toxicity is not expected and that on-site management is appropriate.

With the increasing use of the internet as a resource for medical advice, it is necessary for medical professionals to identify trustworthy and accurate internet-based medical advice platforms for patients to use. In the emergency medicine setting, patients should be encouraged to download the webPOISONCONTROL app for future use so that they can potentially avoid unnecessary emergency department visits for minor poisoning exposures.

Reference

DR. JOHNSON-ARBOR is a medical toxicologist and co-medical director at the National Capital Poison Center in Washington, D.C.
The Case of the Missing X-ray

Inconsistent record keeping and insufficient imaging complicate this malpractice case

by ERIC FUNK, MD

Patients often present to the emergency department with multiple symptoms that do not fit clearly into one specific chief complaint or diagnostic pathway. In these atypical situations that defy simple description, policies and algorithms are difficult to apply. But when patients suffer unexpectedly bad outcomes, plaintiff’s lawyers are quick to point out any deviation from hospital protocols. This medical malpractice case highlights these issues.

The Case

A 61-year-old man presented to the emergency department with multiple complaints. The triage note (see Figure 1) mentioned a sudden onset of feeling like his legs were “going to explode” and a vibrating sensation in his legs. Initial triage vitals showed a blood pressure of 169/81, pulse of 66 beats per minute, 18 respiration per minute, and a temperature of 96.1°F. The triage nurse listed the chief complaint as “chest pain” but later documented “chest pain to the physician. His past medical history was remarkable for history of aortic valve replacement, but he denied history of coronary artery disease or abdominal aortic aneurysm or other aortic syndrome.

The physician's examination noted a “very kind and cooperative” patient. His large abdomen made the exam difficult, but an aortic pulsation was detected and noted to be “concerning given this gentleman’s proportions.” The vascular exam in his lower extremities was “symmetrically diminished.” The cardiac exam noted a systolic click.

After taking a full history and exam, the physician documented a differential diagnosis that included a concern for abdominal aortic aneurysm, acute coronary syndrome, and renal colic. An EKG showed no acute signs of ischemia. An initial troponin level was negative. The patient medication list included warfarin, and his International Normalized Ratio was 2.8 in the emergency department. The complete blood count and metabolic panels were unremarkable. Given the history of anaphylaxis to contrast, a noncontrast CT scan of the patient’s abdomen was ordered. No abdominal aortic aneurysm or evidence of dissection was seen on CT (see Figure 2).

These results were reviewed, and the emergency physician admitted the patient to the hospital. To ensure a telemetry bed for the patient, he entered the hospitalization order under “chest pain.” The hospitalist was contacted, interviewed and examined the patient in person, and admitted him. A cardiologist consult was requested, and the cardiologist saw the patient several hours later on the floor. The cardiologist did not feel that this case was cardiac in nature but nonetheless recommended an EKG and a stress test for the following day.

When the hospitalist finished her shift, she signed out to the nurse practitioner (NP) covering the floor overnight. It was the NP’s first day at this job. During the sign-out, the hospitalist and NP received a call from the patient’s nurse that he had become hypotensive and looked unwell. They both immediately went to his bedside. A repeat EKG was ordered and was notable for borderline but suspicious ST-segment changes. Therefore, the hospitalist called the interventional cardiologist (a different cardiologist than who had initially completed the consult), and the patient was taken emergently to the cardiac catheter lab for what was presumed to be an acute coronary syndrome. In the cath lab, a large thoracic aortic aneurysm was discovered. Large hemothorax was also found. The cardiologist believed that there was an area of fistulization from the aneurysm into the pericardium. An immediate consult with a cardiovascular surgeon was obtained, but the patient went into cardiac arrest shortly thereafter. Resuscitative measures were attempted, but unfortunately, the patient did not survive. The family did not request an autopsy.

The patient’s family subsequently contacted a law firm. After initial review, the family signed a contingency agreement agreeing to pay the law firm 40 percent of any settlement or verdict as well as all litigation expenses. The defendants included the emergency physician, hospitalist, first cardiologist, and hospital. The lawsuit was filed in federal court, but the physician and nurse both wrote that the patient denied chest pain. The doctor hospitalized the patient on telemetry status due to chest pain, despite writing that he did not have chest pain. These contradictions provide easy fodder for the plaintiff’s attorneys to support their claims of negligence, regardless of whether intermittent chest pain changed initial management (the patient ostensibly received the initial workup that he would have had whether or not he had active chest pain at the time of evaluation).

This patient did not receive a chest X-ray despite the conflicting reports of chest pain. To worsen the matter for the defense, the hospital had a written policy for chest pain patients that allowed the ED nurses to order certain tests, including a chest X-ray. The plaintiff suggested that the emergency physician was negligent in his work-up, given that even a simple triage protocol called for an X-ray to be ordered. Additionally, the CT that was ordered in the emergency department was indeed an abdominal CT only and did not include the chest. Therefore, no thoracic imaging was obtained prior to admission. Both sides eventually agreed to enter into binding arbitration with a neutral party, with
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—Maria Ramos-Fernandez, MD, MSc, FACEP, program director

TRIVIA

The Official Voice of Emergency Medicine
Avoid These Common Nerve Block Errors

by ARUN NAGDEV, MD; AND DANIEL MANTUANI, MD, MPH

In emergency medicine, the quality of pain management of the acutely injured patient has steadily matured over the past two decades. Instead of a strategy that leaned heavily on opioids, we have progressed to multimodal pathways that consist of various medications (opioids, ketamine, nonsteroidal anti-inflammatory drugs, acetaminophen, etc.) as well as ultrasound-guided nerve blocks (UGNBs). Our center has incorporated UGNBs into our practice for more than a decade to achieve optimal pain control, and most of our clinicians (including residents, physician assistants, and nurse practitioners) have become facile in ED-based blocks for numerous injuries. We have been fortunate to teach numerous clinicians the basics of UGNBs and allow them to develop comfort with the skill set needed for optimal acute pain management.

This series of articles—starting with the ultrasound-guided femoral nerve block—will discuss common errors that we have seen from our learners. We hope that these minor adjustments in technique will improve UGNB efficacy and spur more clinicians to incorporate these techniques into their armamentarium for optimal pain management.

The goal of the ultrasound-guided femoral nerve block is to offer partial pain control for acute hip fracture (including femoral neck and intertrochanteric fracture). A single injection block performed at the bedside can reduce pain by about 50 percent and decreases IV pain medication requirements. Some data suggest that early ultrasound-guided femoral nerve blocks in patients with hip fractures may improve functional outcomes.1-3

Technique
Classically, the femoral nerve sits just lateral to the femoral artery and is held in close approximation to the iliacus muscle by the fascia iliaca. Placing the ultrasound probe just below the inguinal crease with the probe marker aimed to the patient’s right allows clear visualization of relevant anatomy. The fascia iliaca (yellow dotted line) is the key structure to recognize when performing the block.

**Correct**

**Too Distal**

1. **Find the Fascia Iliaca**
2. **Needle tip under the Fascia Iliaca & far away from Femoral Nerve**

**Figure 1:** A. Drawing of the relevant sonoanatomy when performing an ultrasound-guided femoral nerve block. Note that the fascia iliaca keeps the femoral nerve right next to the iliacus muscle. B. Ultrasound image of the same anatomy. The fascia iliaca (yellow dotted line) is the key structure to recognize when performing the block.

**Figure 2:** Place the ultrasound probe (with the probe marker facing to the patient’s right/green circle) just under the inguinal ligament so that the relevant anatomy is clearly visualized.

**Figure 3:** The block needle enters from lateral to medial and deposits anesthetic under the fascia iliaca (away from the femoral nerve and artery).

**Figure 4:** Error 1: The ultrasound probe is too distal in the thigh. The femoral artery has split into the deep and superficial femoral arteries, making visualization of the fascia iliaca and iliacus muscle difficult.

Tips to improve efficacy with ultrasound-guided femoral nerve block

- Spread between the fascial plane and the iliacus muscle. With this technique, the needle stays far away from both the femoral nerve and artery, improving procedural safety (see Figure 3).
- To simplify the math, in a patient over 50 kg, you can safely deliver either 20 ml of 0.5% bupivicaine or 1% lidocaine.
The fascia iliaca (lateral to the femoral nerve) and inject anesthetic gently. For a nerve block, obtain clear sonoanatomy by proper probe positioning. Try to get your block needle just under the fascia iliaca and iliacus muscle difficult to identify.

The femoral artery and nerve bundle will be lateral to the inguinal ligament, visualization of the femoral artery will be difficult to locate. By keeping the probe parallel to the inguinal ligament so that the common femoral artery is clearly visualized (see Figure 4). To obtain the classic sonographic view needed for successful ultrasound-guided femoral nerve block, the clinician must image at the level of the common femoral artery while allowing anesthetic to be deposited under the important fascial plane (the fascia iliaca) (see Figure 6). Offering optimal multimodal pain control for acute injuries by integrating ultrasound-guided femoral nerve blocks is the core responsibility of the practicing emergency physician.

Conclusion
The ultrasound-guided femoral nerve block is an ideal single-injection block for emergency clinicians to incorporate into their practice. This technique as part of a multimodal approach to the pain management of the acutely injured patient is supported by literature and can be performed relatively easily at the bedside. Recognizing two common errors in probe placement can help the novice clinician find important sonoanatomy and perform the block with a high degree of confidence and accuracy. Our technique allows for the needle to be far away from the femoral nerve and artery while allowing anesthetic to be deposited under the important fascial plane (the fascia iliaca) (see Figure 6). Offering optimal multimodal pain control for acute injuries by integrating ultrasound-guided femoral nerve blocks is the core responsibility of the practicing emergency physician.

References
High-Sensitivity Troponins: The New Frontier

A paradigm shift in risk stratification of low-risk chest pain patients

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

The management of emergency department patients with chest pain continues to evolve. There was a time when everyone with nary but a thoracic twinge got admitted. Even many low-risk patients were admitted (either to an observation unit or an inpatient bed) for noninvasive cardiac testing. Others would get testing within 24 to 72 hours. However, this approach was and remains inefficient and costly. Most important, it has never been shown to definitively improve patient-oriented outcomes. We tend to underestimate the risks of admitting patients to the hospital as well as the risks of overdiagnosis (ie, false positives associated with noninvasive cardiac tests). With the recent introduction and use of sixth-generation high-sensitivity (hs) troponins, validation of the HEART Pathway (a clinical decision tool with an acronym that includes physician gestalt based on History, ECG features, Age of patient, traditional Risk factors for ACS, and initial Troponin) for both diagnosis and prognostication, and an ACEP clinical policy suggesting that stress testing should not be routinely done, the emergency management of the low-risk chest pain patient is undergoing a paradigm shift—for the better.1,2

Patients at low risk for acute coronary syndromes (ACS) are those who are hemodynamically stable, have no concerning features on history or examination, and do not have objective evidence of myocardial ischemia on initial ECGs and biomarker testing. Consensus guidelines further define the low-risk patient as having a less than 1 percent risk of a major adverse cardiac event (MACE) or death at 30 days’ follow-up, a threshold below which the harms inherent in further testing appear to outweigh any clinical benefit.4,5

Conventional Versus hs-Troponin

Conventional troponin assays use a reference limit at or near the 99th percentile of normal value, so any elevation above the reference level is, supposedly, consistent with myocardial injury. However, because these are binary assays (a test that gives a yes-or-no answer), some clinically important myocardial injury may not be initially detected at normal levels, thus necessitating serial troponin testing over 6 to 12 hours to achieve sufficient sensitivity. In contrast, hs-troponin assays should not be considered binary tests. In fact, by definition, 50 percent of healthy individuals have detectable hs-troponin concentrations at baseline. Hs-troponin assays detect much lower concentrations of serum troponin and with much greater precision. This means that hs-troponin assays can detect clinically significant (but also some tiny insignificant) rises and falls in troponin concentrations much sooner in an ED evaluation. Moreover, the accuracy of diagnosing myocardial injury more than merely increases with hs-troponin; the Fourth Universal Definition of Myocardial Infarction is met specifically by the presence of a value above the 99th percentile and a rise or fall in that value (in order to be considered acute). The key in utilizing the hs-troponin is both recognizing elevated values and observing a rising and falling pattern of hs-troponin (the “delta troponin”), rather than relying on a binary cutoff.

The “delta troponin” is defined as the change in troponin concentration between two assays performed a prespecified time interval apart. The National Academy of Clinical Biochemistry recommends using a dynamic change of 20 percent or more to define myocardial infarction in patients with baseline elevations in troponin.6 Note that this change can be an increase or a decrease, in which increasing troponin suggests an evolving myocardial infarction while decreasing troponin suggests a resolving one. However, the bulk of the literature suggests that an absolute delta (eg, 10 ng/L troponin T) rather than a relative change (eg, 20 percent) generally performs better.

Several rapid testing algorithms have been developed with very high sensitivity for ruling out myocardial infarction, in some cases with a single troponin at the time of ED arrival. A normal ECG and a single undetectable hs-troponin drawn three hours or more after the onset of symptoms rules out myocardial infarction at ED arrival in a third of patients.7 The ability to detect lower concentrations of troponin also enables rapid serial testing protocols that are independent of the timing of the patient’s symptoms. For example, two-hour serial testing algorithms have been derived and validated for hs-troponin T and hs-troponin I assays (which are similar molecules made by different manufacturers and with different reference ranges) that rule out myocardial infarction in 60 percent of patients and rule in myocardial infarction in 15 percent of patients, leaving only 25 percent of patients undifferentiated after a two-hour ED evaluation.8

Utilizing the HEART score with hs-troponins also lowers the number of patients considered low risk from 40 percent to 10 percent.1 The ability to detect lower concentrations of troponin also enables rapid serial testing protocols that are independent of the timing of the patient’s symptoms. For example, two-hour serial testing algorithms have been derived and validated for hs-troponin T and hs-troponin I assays (which are similar molecules made by different manufacturers and with different reference ranges) that rule out myocardial infarction in 60 percent of patients and rule in myocardial infarction in 15 percent of patients, leaving only 25 percent of patients undifferentiated after a two-hour ED evaluation.2

Utilizing the HEART score with hs-troponins also lowers the number of patients considered low risk from 40 percent to 10 percent.1

While theoretically the higher sensitivity of these troponin assays is expected to result in lower specificity and overdiagnosis of ACS, based on experience in Canada, where hs-tro-
hs-troponins have been widely adapted, the use of hs-troponins compared to conventional as-
says decreases length of stay and admissions without missing any additional myocardial infarctions.10

Which Patients Are Safe to Discharge?
Using a single undetectable hs-troponin af-
ter three hours of symptom onset or a nega-
tive delta two-hour hs-troponin regardless of symptom onset, in combination with normal
serial ECGs, not only rules out myocardial in-
farction in the vast majority of patients but
also lowers the posttest probability of 30-day
MACE to below 2 percent, a level below which
ancillary testing may cause more harm than
the risk of ACS itself.15

The addition of the HEART score to the
pathway lowers the predicted 30-day MACE
rate to less than 1 percent.16 Using this deci-
sion tool identifies patients considered safe
for early discharge. While the HEART score
was initially designed to predict the likelihood
of ACS in ED patients presenting with acute chest
pain, it has now been robustly validated using
both conventional and hs-troponin to predict
30-day MACE, leading to a 2018 ACEP Level B
recommendation for its use in patients being
evaluated for non-ST-elevation acute coro-
nary syndrome or suspected ACS.3

Which Delta HS-Troponin Is Best?
The one-hour delta troponin algorithms per-
form well; however, the rule-out delta and
rule-in delta are often different by only a few
nanograms, which may be within the varia-
tion of the assay itself.17 Consequently, mis-
classification on the basis of assay variation alone
across ACS algorithms. The studies validating one-
hour algorithms were done in ideal conditions
with samples being batch-tested on a single
analyzer with the same lot of reagents. In the
real world with multiple analyzers testing samples
together, assay variation is likely to be higher than observed in published studies.
With two-hour delta troponins, there is less
risk of misclassification from assay variation.
Three-hour algorithms have not been shown
to be any more accurate than two-hour algo-

Is Ancillary Testing After the Initial ED Visit Necessary?
With such a highly sensitive pathway using hs-
troponins and HEART score, ancillary testing
after the initial ED workup has come under
scrutiny. Exercise treadmill stress tests have a false-positive rate as high as 80 percent,
leading to unnecessary angiograms, cardiac
stents, and even bypass surgery.18 In ED pa-

tients with chest pain and no evidence of acute
myocardial infarction, stress testing is associ-
ated with higher rates of invasive procedures
without reductions in death or myocardial infarction.19

The 2018 ACEP clinical policy recommends
against routine use of ancillary testing prior to
dischARGE in low-risk patients in whom my-
cardial infarction has been ruled out.20 It argues
that limiting complex, expensive, and time-
consuming testing can reduce patient cost,
emergency department and hospital length of
stay, and patient anxiety caused by unnec-
esary stress testing and potentially false-pos-
itive results, once adequate acute myocardial infarction rule-out and risk stratification
have occurred.

The American Heart Association guide-
line recommends that hospital systems es-

minimize medicolegal risk.21 Sit down with
your cardiologists and hash this out so there
is an agreed-upon algorithm that makes sense
based on the literature. An algorithm for
low-risk chest pain patients that includes
hs-troponin and does not include routine an-
cillary testing is the most reasonable approach
based on the current body of literature. Ef-
forts should also be focused on patient edu-
cation so they understand their incredibly low
risk of MACE as well as the significant risks
of ancillary testing.

What’s the bottom line? A single undetect-
able hs-troponin after three hours of symp-

tom onset or a delta two-hour hs-troponin T
less than 4 ng/L plus normal serial ECGs and a
HEART score of 0–3 rules out acute myocardial
infarction and lowers the predicted 30-day
MACE to well below 1 percent, a threshold be-
low which ancillary testing may lead to more
harm than benefit. Does clinician judgment (ie, gestalt)
matter anymore? On one hand, gestalt is inherent
in part of the HEART score (“suspicious” his-
tory). However, data on how gestalt performs
out of the context of clinical decision tools are
emerging, so this remains an open question.22

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Best Option for Queasiness During Pregnancy?

Ondansetron and its association with congenital malformations

by KEN MILNE, MD

The Case
A 28-year-old woman presents with nausea and vomiting during pregnancy. She is at eight weeks’ gestation and frustrated that nothing has worked. She has tried ginger, acupressure, vitamin B6 with doxylamine, and dimenhydrinate. A friend in her prenatal class told her about ondansetron, but a quick Google search mentioned birth defects, and this scared her. She wants to know what else she could safely try.

Background
Nausea and vomiting in pregnancy is a very common and frustrating condition. In more than 30 percent of women, the symptoms can become clinically significant. The most common cause of hospitalization in early pregnancy is hyperemesis gravidarum.

The American College of Obstetricians and Gynecologists has published an algorithm for nausea and vomiting in pregnancy in a practice guideline (see Figure 1). It starts with nonpharmacological options like acupuncture with wrist bands (despite evidence of efficacy). Pharmacological options include vitamin B6 alone or in combination with doxylamine. The next step is adding dimenhydrinate, prochlorperazine, or promethazine. The algorithm then dichotomizes into no dehydration or dehydration with persistent symptoms. It is at this step when ondansetron is added as a possible treatment.

The evidence of fetal safety of ondansetron is conflicting. Studies in nonpregnant patients; however, off-label use is common. Obstetricians and other obstetric care providers should counsel patients and document discussions accordingly. Care should be exercised if multiple antiemetic medications are used simultaneously. Parallel use of some nonpharmacological options like acupressure may be considered.

Key Results: This observational study included 1,5 million women and 1.8 million pregnancies. The mean age was 24 years, and 5 percent were potentially exposed to ondansetron in the first trimester.

Persistent symptoms
Add the following:
- Dimenhydrinate, 50 mg (in 50 mL saline, over 20 min) every 4–6 h, intravenously
- Promethazine, 5–10 mg every 6–8 h
- Doxylamine, 25–50 mg orally every 4–6 h
- Chlorpromazine, 25–50 mg intravenously
- Promethazine, 12.5–25 mg every 4–6 h

Persistent symptoms
Add the following:
- Methylprednisolone 16 mg every 8 h, orally or intravenously
- Oral clefts diagnosis within 30 days after delivery
- Oral clefts: adjusted RR 1.24 (95% CI, 1.03–1.48)

Bottom Line
Ondansetron exposure in early pregnancy does not appear to be associated with an overall increased risk of fetal malformations, but there may be a small statistical increased risk of oral clefts.

Case Resolution
You advise her that metoclopramide is recommended to be used before ondansetron. If the nausea and vomiting do not improve, she is unable to tolerate oral intake, or she is losing weight. Thank you to Dr. Nick Papalia who is currently completing his obstetrics and gynecology residency at the University of Calgary in Alberta, Canada.

Remember to be skeptical of anything you learn, even if you heard it on the ‘Skeptics’ Guide to Emergency Medicine.

References
Engage Human Brain

A human connection is sometimes the best medicine we can give

by DAVID B. HANSEN, DO


Hrm


To get to work. Exam unremarkable. Talk to the mom. We’re concerned.


Hmm

Slow thinking. What is it about this kid? What could I miss that would potentially kill him? Other ingestions? Don’t think so. The workup was negative. Kidney damage? No, repeat labs were fine, and he has been urinating without difficulty. Cardiotoxicity? No, initial ECG and repeat were both normal, no QT prolongation. Legit suicide attempt or emotional reaction to a fight with his mother? I should dig into his history a bit.

Says here he was diagnosed with depression a year ago. He was started on escitalopram (Lexapro) but only took the one prescription. No refills since then. No other suicide attempts. No other hospitalizations. I get to talk a bit more.

Mom, is your son still taking Lexapro? No, he took it for the first month and then said he wouldn’t take it anymore. Didn’t like the way it made him feel. Any Lexapro in the house? No, he finished the initial prescription.

Patient, are you feeling depressed? No response. Have you seen a psychologist or counselor to talk through some stuff? Mom replies that there was a counseling session a year ago but nothing since then. Are you going to hurt yourself or others again? No way. Do you want to go to a psycho facility or go home? Home.


Hmm

No. Stop. Disengage physician brain. Engage human brain. We got lucky this go- around, and I don’t think this was a legitimate suicide attempt, but what happens next time? What if next time he reaches for Tylenol, takes the whole bottle, and wrecks his liver? Or reaches for aspirin, takes the whole bottle, fries his kidneys, or stops breathing? Or reaches for alcohol or cocaine or opioids? I’m glad that social work saw this patient, but he’s already proven reluctant to get and accept help for his depression. I’ve done my job as an emergency physician. Now let me see if I can do my job as a human being who knows a thing or two about depression.

I reenter the room and sit down next to the bed. I speak to the patient directly now, despite his previous taciturn responses. I turn off the doctor voice, lean in, look him in the eye, and begin again.

Listen to the patient. This is important. We got lucky today, and this attempt to hurt your- self doesn’t appear to have succeeded. We are ready to send you home from the ED, and we have a whole bunch of symptoms we want you to look out for, but in the meantime, we need to talk. You could have seriously hurt yourself today or even killed yourself. Even if you weren’t really trying to kill yourself, you could have still done so accidentally. And then what? Regardless of what you believe or what you have faith in, no one knows what happens when we die. Even the life we already have is not guaranteed for another minute. We’re lucky to be walking around this planet because life is the first and greatest gift that we will ever receive.

But you’ve got this thing, this condition, this tendency, this burden of depression in your life. I know because I have it, too. And I’m here to tell you now that it never goes away fully. There will be times when it’s just there, just lurking in your ear. There will be times when it’s screaming in your mind and drag- ging you underwater. There are ways you can manage it, and we’re better now than we ever were at treating it. But it will never fully leave you. It’s a part of you, just like it’s a part of me.

For 35 years, I somehow thought that I was the only one who felt this way or that I was weak for feeling this way. I was wrong then, and I now know none of those things are true. I have the benefit of a few years of age on you, and I’ve been dealing with this thing for long- er, and I’ve gotten pretty good at managing it. But it took time and work to get here. If you get help and work to make yourself better, then hopefully you will get to handle it, too. But I can promise you that if you try again to hurt yourself and you die, then your story ends there, and depression will have mastered you and not the other way around.

It may seem unfair that you have to deal with this. Maybe it is. But going through this trial of mental health can change you in posi- tive ways, too. It will deepenn your compass- ion. It will expand your empathy. It will give you the ability to someday have a conversa- tion with someone who needs your help. You will be someone who can understand when others can’t. And trust me, that ability to help someone in need is a great privilege.

I’m not your parent. Even if I were, I couldn’t truly make you do anything you did not want to do. But I encourage you strongly to get help. I can only do so much from the emergency department. It’s up to you how you want to handle this, but don’t squan- der the gift of life you have been given. Stay strong, not by going it alone but by getting help and working to get better.

I get a nod and a smile. I then discharge him home with the contact info for an ado- lescen psychiatrist and some other resources for follow-up.

Are we all merely worker drones in the emergency department, dispensing medical treatments that anyone with a degree and a couple shifts under their belt could deliver? Occasionally, it can feel this way. But what we do in the emergency department always matters a little and sometimes matters a lot.

It’s the best job in the world. We are all good at everything. But each of us is great at perhaps one or two things. Seize these opportuni- ties. Welcome them when they arise.


who—after receiving multiple doses of lorazepam—“just won’t wake up.” Using droperidol instead has the potential to de- crease lengths of stay for intoxicated patients who have tem- porarily become a belligerent threat to themselves and others in the emergency department.

Third, droperidol is a better choice for controlling agitation than haloperidol, which became the mainstay choice over the last 20 years during which droperidol was largely unavailable here. While haloperidol is a superab antipticotic, it is a lousy sedative. That’s why a sedative (such as lorazepam) is often needed for behavioral control—we’ve known since at least the 1970s that haloperidol alone simply doesn’t cut it—thus the “i” and “j” strategy that has become the reflexive approach for con- trolling the agitated ED patient. Single drug therapy is often safer than polypharmacy, an aphorism supported by studies pitting droperidol versus haloperidol or lorazepam, either alone or in combination. Data support not obtaining screening ECGs and continuous cardi-

vascular monitoring is not required. Droperidol was, in years past, the first-line therapy for sedation; the time has come for it to return to that status.

References

DR. BOYER is director of research and academic development at Brigham and Women’s Hospital and Associate professor of emergency medicine at Harvard Medical School in Boston.
Emergency physicians take care of patients 24-7-365. Yet we are not immune to life transitions and challenges, including personal and family medical and life events. For too long, family leave has been presented mainly as a women’s issue. In reality, it affects everyone. Today, families are created in various ways: biologically and via surrogacy, adoption, and fostering. Allowing time off only for biological mothers promotes the antiquated idea that caring for children is women’s work; this is both paternalistic and unfair to men (including same-sex male parents) who want to share the parenting load and be home during those special early weeks and months.

While we all hope to work for groups and organizations that understand this concept and voluntarily commit to practices that promote a fair workplace, it is also important to know the legal protections available for those who require family leave.

Workplace Discrimination Protections

Title VII of the Civil Rights Act of 1964 prohibits workplace discrimination on the basis of race, color, religion, sex (including pregnancy, gender identity, and sexual orientation), national origin, age (40 or older), disability, or genetic information. Title VII also applies to private and public colleges, universities, and employment agencies. When discrimination occurs, physicians have various options to address the problem. It can be reported internally to the organization, for instance with the assistance of human resources or employee-assistance programs. A formal charge can also be placed with the U.S. Equal Employment Opportunity Commission (EEOC). A full list of laws enforced by the EEOC can be found at www.eeoc.gov/laws/statutes/index.cfm.

In 1978, the Pregnancy Discrimination Act amended Title VII to prohibit discrimination on the basis of pregnancy. During employment interviews (and, later, during promotion or leadership decision making), inquiring about pregnancy status or future family plans or asking about children is illegal. Such inquiries can lead to civil lawsuits for discriminatory hiring practices. While some of these inquiries are well-intentioned attempts to get to know prospective employees better, some groups have illegally avoided hiring women who have or plan to have children. If the prospective employee brings up the topic, it may be discussed. There are other examples of inappropriate inquiries during interviews and the hiring process, and it is recommended that leaders provide guidelines and training to all personnel involved in the interview and hiring process. At a minimum, all personnel should be familiar with the topics that cannot be asked about during interviews.

Family and Medical Leave Act

The Family and Medical Leave Act (FMLA) allows up to 12 weeks off each year for family or medical reasons to eligible employees of companies with 50 or more employees. Personal serious health problems that preclude performance of the job are permitted leave. In addition, care of family members defined as spouse, child, and parent with serious medical illnesses is also protected under the law. Leave may be granted for childbirth, adoption, or foster placement. To be eligible, employers must have employed a minimum of 1,250 hours in the previous year. Employers are required to maintain employee health insurance benefits during the time taken for FMLA leave. This period includes pregnancy loss.

Additionally, depending on the state, women who give birth may be able to apply for paid sick leave or partial wage reimbursement covered by state temporary disability insurance. Women at high risk of miscarriage may be eligible for workplace accommodations under the Americans with Disabilities Act. The following website is a resource regarding legal protections and miscarriage: www.abetterbalance.org/resources/miscarriage-workplace-rights.

Know Your State Family Leave Protections

Several states have additional family leave laws. For example, California offers paid family leave that is funded through state disability insurance. Women at high risk of miscarriage may be eligible for workplace accommodations under the Americans with Disabilities Act. The following website is a resource regarding legal protections and miscarriage: www.abetterbalance.org/resources/miscarriage-workplace-rights.

Future Directions

Many of the current laws are not optimized for emergency physicians. For example, many emergency physicians work for groups with fewer than 50 employees, meaning that the protections under both the FMLA and the Affordable Care Act do not apply. For those who are employed in groups with 50 or more employees, the minimum of 1,250 hours of work required in the previous year can cause physicians to delay starting a family or preclude taking time off even for personal or family illness. Many physicians have already postponed starting a family as a result of the burdens around medical school and residency. Lastly, FMLA is unpaid leave. Lack of paid parental leave has been associated with poor parental and infant outcomes, including spontaneous abortion, preterm labor, infants who are small for gestational age, depression, and breastfeeding noncompliance. So while current laws provide some options for emergency physicians, there is much room for improvement.

There are some emergency medicine or...
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ASSEMBLY POINTS

References


See the full list of references at the end of the article.

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SEPTEMBER 2019 ACEP Now 25
LUMBAR PUNCTURES
by SCOTT PASICHOW, MD, MPH

Question: What do I need to know to bill for a lumbar puncture?

Answer: There are two types of lumbar puncture (LP) codes: diagnostic and therapeutic. When done for diagnosis, choose Current Procedural Terminology (CPT) 62270 (2.25 Relative Value Units [RVUs], $81.11 Medicare). When the diagnosis is already known and the LP is performed for therapeutic drainage reasons, CPT 62272 (2.43 RVUs, $87.60 Medicare) is the correct code choice. Another spinal injection code, CPT 62273, is available for epidural blood patch.

When documenting the LP procedure, note the position of the patient, site of entry, preparation technique, and any findings. It is also advisable to document the attempt even if it was unsuccessful, as these can be billed with the appropriate modifiers (eg, -52 or -53). Note the reason the procedure was unsuccessful, and document how much of the procedure was completed prior to termination. Especially note if a patient requested you stop the procedure, as this is a relevant distinction from being otherwise unable to obtain a sample. When you use ultrasound to assist in needle placement and images are saved, this can be billed separately as CPT 76942 (0.67 RVUs, $24.15 Medicare). Not all insurance providers will reimburse this as a separate procedure, so you should check with your local payers to see if this additional code is of value.

Brought to you by the ACEP Reimbursement Committee.

DR. PASICHOW is an emergency medicine resident at Rhode Island Hospital in Providence.
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The Department of Emergency Medicine at Baylor College of Medicine is seeking outstanding applicants for ultrasound faculty leadership positions as we expand our team. Available positions include Associate Ultrasound Director, Ultrasound Fellowship Director and Director of Undergraduate Ultrasound Medical Education. Applicants should be highly motivated to advance clinical ultrasound and possess an innovative and structured educational and administrative vision. The ideal applicant would work both independently and collaboratively in the development and implementation of ultrasound focused initiatives. Applicants should share our departmental values of service, education, leadership, and diversity.

The Department of Emergency Medicine at Baylor College of Medicine, a top medical school, is located in the world’s largest medical center, in Houston, Texas. The Baylor Emergency Medicine Residency was established in 2010, and we recently received department status in January 2017. Ultrasound specific educational programs exist for our residency (14 residents per year in a 3-year format), ultrasound fellowship, physician assistant fellowship and UME programs. We offer a highly competitive academic salary and benefits commensurate to academic level and experience.

Our academic program is based out of Ben Taub General Hospital and Baylor St. Luke’s Medical Center. Ben Taub-General Hospital is the largest Level I trauma center in southeast Texas with certified stroke and STEMI programs that sees nearly 100,000 emergency visits per year. Baylor St. Luke’s Medical Center is home to the Texas Heart Institute and, with freestanding Baylor St. Luke’s Emergency Centers, offers multiple additional practice sites for Baylor faculty. BCM has a collaborative affiliation with eight world-class hospitals and clinics in the Texas Medical Center. Three affiliations, along with the medical school’s preeminence in education and research, help to create one of the strongest emergency medicine experiences in the country. Those interested in a position or further information may contact Dr. Jennifer Carnell via email carnell@bcm.edu or by phone at 713-873-7045. Please send a CV and cover letter with your past experience and interests.

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The Henry JN Taub Department of Emergency Medicine was established in 2017. Baylor College of Medicine is a top medical school located in the world’s largest medical center in Houston, Texas. The Baylor Emergency Medicine Residency was established in 2010, and our residency program has grown to 14 residents per year in a 3-year format. We offer a highly competitive academic salary and benefits commensurate to academic level and experience.

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