The first gathering of what would become Illinois Unidos, a consortium dedicated to addressing the impact of COVID-19 in the Latino community, is still vivid in the mind of Marina Del Rios Rivera, MD, MSc. “It was a Saturday in April [2020], and I remember how somber that meeting was when we recognized the magnitude of what was about to happen in our community,” she said.

An associate professor at the University of Illinois College of Medicine and an emergency medicine specialist at the university’s hospital, Dr. Del Rios Rivera was referring to not just the Chicago community that her hospital serves but also the disproportionately vulnerable Latino community in Illinois.

Born in Puerto Rico, the daughter of a father who worked a janitor and a mother whose education did not go beyond sixth grade, Dr. Del Rios Rivera acknowledges that as a physician, she has privilege—and she feels compelled to use it on behalf of those who do not. This has meant a decade of community service volunteer work in the Latino community for Dr. Del Rios Rivera—and in this instance, it felt especially important as Latino people in the United States are more likely to be infected with and die from COVID-19 than white people. Latino people also experience a disproportionate amount of COVID-related financial burdens, which may include work-hour reduc-
Your patients rely on you. Can you rely on your network?

FirstNet® is here for you so you can be there for them.

You need a network that works for you as you provide emergency care to your community. FirstNet is the network built for managing everyday communications and unexpected crises.

No throttling for FirstNet users anywhere in the U.S. and priority connectivity when and where you need it, are just a few reasons more than 16,000 agencies and organization have already joined FirstNet.

Organization-wide solutions and individual plans are now available. To learn more, visit FirstNet.com/healthcare.

©2021 AT&T Intellectual Property. FirstNet and the FirstNet logo are registered trademarks of the First Responder Network Authority. All other marks are the property of their respective owners.
ACEP Now
The Official Voice of Emergency Medicine

EDITORIAL STAFF
MEDICAL EDITOR
Jeremy Samuel Faust, MD, MS, MA, FACEP
jfaust@acep.org

EDITOR
Dawn Antoline-Wang
dantolin@wiley.com

ART DIRECTOR
Chris Whissen
christ@quillandcode.com

EXECUTIVE DIRECTOR
Susan Sedory, MA, CAE
ssedory@acep.org

CHIEF OPERATING OFFICER
Robert Heard, MBA, CAE
rheard@acep.org

 духовное руководство, ни реклама не несет обязательств по отношению к политике, не обязательно отражает мнение Американского колледжа по экстренной медицине, или Американского колледжа по экстренной медицине, и редакция не несет ответственности за любые последствия или убытки, связанные с содержанием в этом выпуске. Действие ACEP, его сотрудников, управляющих органов или любых других лиц, не обязательно отражает мнение Американского колледжа по экстренной медицине, или Американского колледжа по экстренной медицине, или редакции, а также действие рекламы не несет обязательств в отношении содержания или качества. ACEP, его органы управления, сотрудники и реклама не несут ответственности за любые последствия или убытки, связанные с содержанием в этом выпуске. Действие ACEP, его сотрудников, управляющих органов или любых других лиц, не обязательно отражает мнение Американского колледжа по экстренной медицине, или Американского колледжа по экстренной медицине, или редакции, а также действие рекламы не несет обязательств в отношении содержания или качества. ACEP, его органы управления, сотрудники и реклама не несут ответственности за любые последствия или убытки, связанные с содержанием в этом выпуске.

NEWS FROM THE COLLEGE

UPDATES AND ALERTS FROM ACEP

New Candidate for ACEP President-Elect

Christopher S. Kang, MD, FACEP, current Chair of the ACEP Board of Directors, has decided to run for ACEP President-Elect as a floor candidate. Dr. Kang joins Aisha T. Terry, MD, MPH, FACEP, current Secretary-Treasurer of the Board, on the slate to become ACEP’s next President. Elections will be held during ACEPs in Boston in late October. Look for candidate profiles in upcoming issues of ACEP Now.

Workforce Infographic Outlines Next Steps

Visit acep.org/workforce to stay updated on ACEP’s efforts to address the potential workforce oversupply. A new infographic diagrams ACEP’s next steps, and many sections and chapters have been hosting virtual town hall discussions to gather input and questions. This page will continue to be updated often with the latest developments.

ACEP Joins AMA Scope of Practice Partnership

ACEP recently joined the AMA Scope of Practice Partnership (SOPP). The SOPP believes patients deserve care led by physicians, and it helps state and specialty societies in opposing scope-of-practice expansion legislation. Go to www.amascopeofpractice.org to find an interactive health workforce mapper, education and training modules on non-physicians, issue briefs, and media tools from the Physician-led Team Care and the Truth in Advertising campaigns. These resources are available to physician members of the more than 100 national, state, and specialty medical associations in the SOPP. Visit acep.org/sopplateley where Executive Director Sue Sedory explains how ACEP plans to utilize this data moving forward.

Introducing Our First Resident Fellow

Cara Borelli, DO, has been selected as our first-ever ACEP Now resident fellow! Her one-year term begins in July 2021. Dr. Borelli will oversee the Resident Voice column while also contributing the resident perspective to the editorial board. Dr. Borelli is an emergency medicine resident at University of Texas Health San Antonio and a peer reviewer for the Journal of the American Osteopathic Association and the British Medical Journal Case Reports. Dr. Borelli recently interned with the Journal of the American Medical Association (JAMA) and is a contributor to REBEL EM.

Policy Statements Address Physician Compensation, Transparency

ACEP recently added or revised policy statements related to physician compensation, which can be viewed in full at acep.org/policystatement.

• The revised Compensation Arrangements for Emergency Physicians statement now includes a bullet addressing emergency physicians being provided detailed itemized reports of billing and collections in their name, reflecting the language in Amended Resolution 20(20) Billing and Collections Transparency in Emergency Medicine.

• The Emergency Physician Compensation Transparency statement, approved October 2020, details benchmarks that should be included to ensure physicians doing comparable work receive comparable compensation.

Emergency Physician Appointed to CDC Committee

Angela Lumha-Brown, MD, was appointed by the U.S. Secretary of Health to the Centers for Disease Control and Prevention (CDC) National Center for Injury Prevention and Control’s Board of Scientific Counselors (BSC), a federal advisory committee. The BSC works to achieve stakeholder and public engagement in CDC’s efforts and commitment to improve people’s health. CDC’s Injury Center BSC works with other institutions to study the causes and strategies related to the prevention of violence and injuries.

Registration Is Open for ACEP21 in Boston

ACEP is so thrilled to return to an in-person event for the 2021 Scientific Assembly in Boston. We can’t wait to see you! Visit acep.org/acep21 to register. Save $100 when you register for in-person before Sept. 21 with promo code OCTOBER21.

Peer Support Project Adds More Resources

Who can understand the unique stressors of being an emergency physician better than one of your peers? ACEP’s Peer Support Project was launched in September 2020 to help emergency physicians improve their peer support skills while also providing institutional resources for hospitals and employers who want to form local peer support programs. Visit acep.org/peer-support-project for a collection of articles related to individual and institutional peer support in emergency medicine.

WHAT ARE YOU THINKING?

SEND EMAIL TO ACEPNOW@ACEP.ORG

LETTERS TO ACEPNOW@ACEP.ORG

PUBLISHER
Lisa Dionne Lento
lidionne@wiley.com

ASSOCIATE DIRECTOR, ADVERTISING SALES
Steve Jezard
sjezard@wiley.com

INFORMATION FOR SUBSCRIBERS
Subscriptions are free for members of ACEP and SEMPA. Free access is also available online at www.acepnw.com. Paid subscriptions are available to all others for $310/year individual. To initiate a paid subscription, email cs-journals@wiley.com or call (800) 835-6770. ACEP Now (ISSN: 2333-259X print; 2333-2603 digital) is published monthly on behalf of the American College of Emergency Physicians by Wiley Periodicals LLC, 111 River Street, Hoboken, NJ 07030-5774. Periodical postage paid at Hoboken, NJ, and additional offices. Postmaster: Send address changes to ACEP Now, American College of Emergency Physicians, P.O. Box 619911, Dallas, Texas 75261-9911. Readers can email address changes and correspondence to acepnow@acep.org. Printed in the United States by Hears Print Solutions (HPS), Birming, OH. Copyright ©2021 American College of Emergency Physicians. All rights reserved. No part of this publication may be reproduced, stored, or transmitted in any form or by any means and without the prior permission in writing from the copyright holder. ACEP Now, an official publication of the American College of Emergency Physicians, provides indispensable content that can be used in daily practice. Written primarily by the physician for the physician, ACEP Now is the most effective means to communicate our messages, including practice-changing tips, regulatory updates, and the most up-to-date information on healthcare reform. Each issue also provides material exclusive to the members of the American College of Emergency Physicians. The ideas and opinions expressed in ACEP Now do not necessarily reflect those of the American College of Emergency Physicians or the Publisher. The American College of Emergency Physicians and Wiley will not assume responsibility for damages, loss, or claims of any kind arising from or related to the information contained in this publication, including any claims related to the products, drugs, or services mentioned herein. The views and opinions do not necessarily reflect those of the Publisher, the American College of Emergency Physicians, or the Editors, nor does the publication of advertisements constitute any endorsement by the Publisher, the American College of the Emergency Physicians, or the Editors of the products advertised.

The Official Voice of Emergency Medicine

JUNE 2021

Volume 40 Number 6

ACEPNOW.COM

ACEP Now
The pandemic is splitting in two. In the United States, case numbers have plummeted, thanks to a remarkable vaccine rollout. For the first time since the pandemic began, I didn’t see a single COVID-19 patient during my last shift in the New York City emergency department where I work. As emergency physicians, many of us spent the last year at the epicenter of this pandemic. We never want to be there again.

More than ever, people now recognize emergency physicians for our hard-earned frontline expertise. Colleagues, friends, and relatives are likely to ask you what we can do now to help bring the COVID-19 pandemic to an end worldwide so that the smallest number of people are harmed and we don’t end up facing a new wave of infections that are impervious to our vaccines.

The answer: We must keep advocating for public health, even though the greatest risk to our fellow Americans is, we believe, in the past.

While COVID-19 caseloads have declined in the United States, our colleagues in emergency departments around the world are being tested harder than ever before. In the last few weeks, there were more new COVID-19 cases worldwide than the entire first six months of the pandemic. Tragically, there will be more COVID-19 deaths in 2021 than in 2020.

Despite this, only 0.3 percent of all COVID-19 vaccines are going to low-income countries. The vast majority of doses are going to wealthy countries like the United States. Global vaccine inequity is profound. Approximately 75 percent of all vaccine doses administered have occurred in just 10 countries. Some countries have yet to receive a single dose to date.

Now that we’ve vaccinated a large percentage of the eligible population here, we need to think about how to help vaccinate the world.

President Joe Biden has vowed the United States, our colleagues around the world vaccinated. The United States has already made some laudable commitments. Recently, the White House announced it would send 20 million doses of the three Food and Drug Administration–authorized vaccines (Pfizer-BioNTech, Moderna, and Johnson & Johnson) abroad by the end of June. That comes in addition to 60 million doses of AstraZeneca vaccine (which is not currently authorized for use in the United States). Furthermore, the United States has been the largest financial contributor to COVAX, the global vaccine equity effort spearheaded by the World Health Organization.

But we can and must do more.

What We Can Do

The pledge to donate 20 million doses by the end of June seems like a nice gesture, but in reality, it’s inadequate. Twenty million doses barely exceeds what the United States allocates to all of its states and territories in a single week, and it’s only a small fraction of the 1.3 billion doses for which the United States has secured supply contracts, more than any other country in the world.

We don’t need to wait until the end of June to do this. The United States is already sitting on a surplus stockpile, and the vaccine supply chain has been remarkably reliable in recent months. We should deploy these doses now, with a focus on getting our health care workers, colleagues around the world vaccinated. Already, 115,000 of our colleagues have died from COVID-19. Any further delay will only add to that grim toll.

You also may have heard of another move toward vaccine equity pertaining to intellectual property. In May, after mounting pressure, the Biden administration announced to the World Trade Organization that it would be enacting a temporary waiver on intellectual property protections—known as Trade-Related Aspects of Intellectual Property Rights (TRIPS) waivers—for coronavirus vaccines. This move fulfilled his campaign promise to not allow patent protections to stand in the way of expanding global vaccine supply and will make it easier for countries to expand their own domestic vaccine-manufacturing capabilities.

A waiver on vaccine intellectual property is important for increasing global vaccine supply, but even that is not sufficient in itself. Since October 2020, South Africa and India have argued that protections on proprietary formulas and technology are also inhibiting access to lifesaving therapeutics and vaccines. More than 100 countries have heeded their call and offered support.

To make an impact in the medium term, the United States must also help facilitate the transfer of technical know-how so that others can produce the vaccines themselves—instead of relying on handouts from wealthy countries. Unsurprisingly, pharmaceutical companies have vigorously resisted this, on worries that these tech transfers would impact financial returns from any future vaccines built on the same technology.

These are legitimate concerns. But seeing as the U.S. government bankrolled vaccine development in one case, and served as a guaranteed buyer in others, and many of our health care colleagues may otherwise not have access to a vaccine until 2022 or even 2023, now is hardly the time to prioritize the bottom line over public health priorities in a pandemic.

With an eye towards the future, the United States should help build manufacturing capacity in other countries where vaccine production capacity is limited or nonexistent. For example, in Africa there are 1.2 billion people but only 10 vaccine manufacturers. Only 1 percent of all vaccines administered on the continent are manufactured there.

The Africa Centres for Disease Control and Prevention (Africa CDC)—itself a product of a partnership of the African Union and the U.S. Centers for Disease Control and Prevention—recently announced plans to establish five new vaccine-manufacturing centers across the continent. At a recent summit hosted by the African union and Africa CDC, leaders committed to increasing the percentage of vaccines manufactured in Africa from 1 percent to 60 percent by 2040. The United States must be a partner in helping Africa achieve that goal.

As we start seeing friends and family again here in the United States and our emergency departments fill with our regular pre-pandemic patients, it will be all too easy to forget that the COVID-19 pandemic is still raging around the world.

Here in the United States, we like to point out how we’ve donated more money and more vaccine doses than any other country. Even if that’s true, the reality is that just doing more than others isn’t enough.

By donating surplus doses, supporting the transfer of the technical know-how needed to produce vaccines, and helping expand manufacturing capacity around the world, the United States can help end this pandemic and better prepare the world—and ourselves—for a safer future.

“A New Spin” is the personal perspective of the author and does not represent an official position of ACEP Now or ACEP.
Is it bacterial or viral meningitis?

Don’t guess – know in about one hour.

Quickly distinguishing between bacterial and viral meningitis means more than freeing up beds. It can be a matter of life or death. The BioFire® FilmArray® Meningitis/Encephalitis (ME) Panel uses the syndromic approach, which simultaneously tests for 14 of the most common causes of central nervous system infections in about an hour. These rapid results from the BioFire ME Panel help you get patients on targeted treatment sooner and avoid unnecessary admissions.

1 Test. 14 Targets. ~1 Hour.

Shorten time to diagnosis.

<table>
<thead>
<tr>
<th>Time to diagnosis–adult patients</th>
<th>Time to diagnosis–pediatric patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3-day reduction</td>
<td>4-day reduction</td>
</tr>
</tbody>
</table>

biofiredx.com


3 US FDA-cleared, CE-marked and not available for sale in all countries.
D**by JORDAN GRANTHAM**

D**id you know ACEP has 30 committees and 40 sections working year-round to advance emergency medicine?** Led by emergency physician volunteers, these groups focus on specific niches or clinical topics within the field and regularly produce new policies, webinars, and resources to benefit ACEP members. Here are a few recent highlights:

**New Clinical Policies: Opioids and Pneumonia**
The Clinical Policies Committee, led by Chair Stephen J. Wolf, MD, FACEP, has published two new clinical policies this year that can be viewed at acep.org/clinicalpolicies:

- **Critical Issues in the Management of Adult Patients Presenting to the Emergency Department with Community-Acquired Pneumonia** (October 2020)
- **Critical Issues Related to Opioids in Adult Patients Presenting to the Emergency Department** (June 2020)

**On deck:** The committee is currently drafting revisions to the appendicitis, acute heart failure syndromes, and mild traumatic brain injury clinical policies.

**Task Forces Address Sepsis, Excited Delirium**
In April, the multispecialty task force convened by ACEP in 2019 published its new sepsis guidelines, “Early Care of Adults with Suspected Sepsis in the Emergency Department and Out-of-Hospital Environment: A Consensus-Based Task Force Report,” in *Annals of Emergency Medicine*. The report covers principles of early sepsis recognition, initial care steps in the ED and out-of-hospital environments, titration of care, and related controversies. It has been endorsed by the American Academy of Emergency Medicine, the American College of Osteopathic Emergency Physicians, the American Osteopathic Board of Emergency Medicine, the Association of Academic Chairs of Emergency Medicine, the Council of Emergency Medicine Residency Directors, the Emergency Medicine Residents’ Association, the Emergency Nurses Association, the National Association of EMS Physicians, the Infectious Diseases Society of America, the Society for Academic Emergency Medicine, the Society of Critical Care Medicine, and the Society of Hospital Medicine. ACEP’s sepsis point-of-care tool, DART, was updated to reflect these new guidelines. Visit acep.org/sepsis for more information. The guidelines were authored by Donald M. Yealy, MD; Nicholas M. Mahr, MD, MS; Nathan I. Shapiro, MD; Arjun Venkatesh, MD, MBA; Alan E. Jones, MD; and Wesley H. Seif, MD, MPH.

**Up next:** The Excited Delirium Task Force is working on revisions to the 2009 White Paper Report on Excited Delirium Syndrome.

**Ultrasound Section Launches New and Improved Sonoguide**
A subcommittee of ACEP’s Emergency Ultrasound Section recently published work on the new Sonoguide: Ultrasound Guide for Emergency Physicians. Led by co-authors Dasia Esener, MD, MS, FACEP, and Gabriel Rose, DO, the Sonoguide was initially developed for those with little ultrasound experience, but it includes advanced concepts and skills as well. View the guide at acep.org/sonoguide.

**EM Lifestyle Series Kicks Off with Career Content**
ACEP’s Young Physicians Section and Online Education Committee are collaborating on E.M.L.I.F.E.R.S., a new content series focused on EM lifestyle concerns including career advancement, finances, life balance, parenthood, and more. Hosted by YPS Chair John Corker, MD, FACEP, and Chair-Elect Purneet Gupta, MD, FACEP, in collaboration with Simone Lawson, MD, the first episode provided tips for job hunting during a pandemic. The second episode was a deep dive into EM employment contracts that focused on how to identify red flags and deal breakers. View the series at acep.org/EM-life.

**EMPC Tackles Compensation, Staff Safety**
The EM Practice Committee, led by Chair Daniel Freess, MD, FACEP, has been reviewing, revising, and drafting policy statements. The following were approved by the Board at its April 2021 meeting and are available at acep.org/policystatements.

- The revised **Compensation Arrangements for Emergency Physicians** statement now includes a bullet addressing emergency physicians being provided detailed itemized reports of billing and collections in their name, reflecting the language in Amended Resolution 29(20) Billing and Collections Transparency in Emergency Medicine, among other edits.
- The revised **Cultural Awareness and Emergency Care** statement now references the role of implicit bias.
- The revised **Transition of Care for ED Patients** statement now includes new language emphasizing physician autonomy as defined by the prudent layperson standard.
- The revised **Emergency Department Planning and Resource Guidelines** statement now references the role of the emergency physician as the leader of the emergency department team. Language was added to address the level of patient literacy for understanding discharge instructions and family transport in private vehicles, to name a few.
- The revised **Emergency Physician Contractual Relationships** statement adds language to state emergency physicians are entitled to detailed itemized reports on a semiannual basis for what is billed and collected for their services. Language was added that emergency physicians shall not be asked to waive access to billing and collection reports. An existing section concerning the honoring of contractual agreements was expanded to include honoring contracts prior to the initiation of employment or in cases of deferred/delayed employment, such as that of a graduating resident.
- The revised **Emergency Physician Rights and Responsibilities** statement now includes addressing the provision of detailed itemized reports of billings and collections on a semiannual basis and more specific language related to due process before adverse action is taken related to employment or contract status, among other edits related to contract negotiations and restrictive covenant agreements.
- The revised **Non-Discrimination and Harassment** statement includes the role of implicit bias and the potential impact of cognitive load on bias.
- The new policy statement **Safer Working Conditions for Emergency Department Staff** addresses the importance of leadership promotion of safety, interior and exterior facility infrastructure, safety planning, reporting and training, written and posted behavioral standards, and the availability of equipment to prevent workplace injury.

**The revised Patient-Centered Medical Home Model statement emphasizes the importance of the patient-centered medical home providing timely care, integration of acute care services for patients to receive efficient evaluation, and recognition of the safety-net role of emergency medicine.**

**Diversity Section Addresses Vaccine Hesitancy**
Vaccine hesitancy has been front of mind this spring, so the ACEP Diversity, Inclusion & Health Equity (DIHE) Section produced both a webinar and a toolkit to equip clinicians with historical context and strategies to counsel patients on this important decision. The webinar “This is Our Shot: How EM Docs Can Empower Patients to End the Pandemic,” moderated by Tracy MacIntosh, MD, MPH, FACEP, and including panelists Ugo Ezenkwele, MD, MPH; Pilar Ortega, MD; and Robert Rodríguez, MD, is now available to watch on demand at ecme.acep.org. View the toolkit, led by DIHE Chair Andrea Green, MD, FACEP, and Merle Carter, MD, FACEP, at acep.org/covid-19-alert.

**New Smart Phrases, Disease Screening Statement**
ACEP’s Public Health and Injury Prevention Committee (PHIPC), led by Chair Antony Hsu, MD, FACEP, revised the smart phrase “Coronavirus Concern—Confirmed or Suspected” with the new title “Coronavirus Discharge—Confirmed or Suspected” and added a new smart phrase: “Monoclonal Antibodies for COVID-19 Infections.” View all of ACEP’s smart phrases at acep.org/smart-phrases.

In April, the Board approved the PHIPC’s request to rescind the previous policy statement “HIV Testing and Screening in the ED” to be replaced with the new, more encompassing statement “Screening for Disease and Risk Factors in the ED.” View the new policy statement at acep.org/policystatements.

**Webinar Series Digs Deep into EMTALA**
The Medical-Legal Committee, led by Chair Rade Vukmir, MD, JD, FACEP, developed a new series around an oft-requested topic: EMTALA. This series, available to watch on-demand at acep.org/emtala-webinars, breaks this complicated law into digestible sections without losing the details. Webinar hosts included Dr. Vukmir; Michael Bresler, MD, FACEP; Keri Gardner, MD, MPH, FACEP; Hugh Hill, MD, JD, FACEP; and Robert Bitterman, MD, JD, FACEP.

- **Overview and Evolution**
- **Why EMTALA Is Actually GOOD for EM Physicians**
- **EMTALA and the Medical Screening Exam**
- **Minimizing Risk of EMTALA Violations During Transfers**
- **Managing Psychiatric Patients in the ED Under EMTALA**
- **The EMTALA Complaint Process**

**Diversity Section Addresses Vaccine Hesitancy**
Vaccine hesitancy has been front of mind this spring, so the ACEP Diversity, Inclusion & Health Equity (DIHE) Section produced both a webinar and a toolkit to equip clinicians with historical context and strategies to counsel patients on this important decision. The webinar “This is Our Shot: How EM Docs Can Empower Patients to End the Pandemic,” moderated by Tracy MacIntosh, MD, MPH, FACEP, and including panelists Ugo Ezenkwele, MD, MPH; Pilar Ortega, MD; and Robert Rodríguez, MD, is now available to watch on demand at ecme.acep.org. View the toolkit, led by DIHE Chair Andrea Green, MD, FACEP, and Merle Carter, MD, FACEP, at acep.org/covid-19-alert.

**New Smart Phrases, Disease Screening Statement**
ACEP’s Public Health and Injury Prevention Committee (PHIPC), led by Chair Antony Hsu, MD, FACEP, revised the smart phrase “Coronavirus Concern—Confirmed or Suspected” with the new title “Coronavirus Discharge—Confirmed or Suspected” and added a new smart phrase: “Monoclonal Antibodies for COVID-19 Infections.” View all of ACEP’s smart phrases at acep.org/smart-phrases.

In April, the Board approved the PHIPC’s request to rescind the previous policy statement “HIV Testing and Screening in the ED” to be replaced with the new, more encompassing statement “Screening for Disease and Risk Factors in the ED.” View the new policy statement at acep.org/policystatements.

**Webinar Series Digs Deep into EMTALA**
The Medical-Legal Committee, led by Chair Rade Vukmir, MD, JD, FACEP, developed a new series around an oft-requested topic: EMTALA. This series, available to watch on-demand at acep.org/emtala-webinars, breaks this complicated law into digestible sections without losing the details. Webinar hosts included Dr. Vukmir; Michael Bresler, MD, FACEP; Keri Gardner, MD, MPH, FACEP; Hugh Hill, MD, JD, FACEP; and Robert Bitterman, MD, JD, FACEP.

- **Overview and Evolution**
- **Why EMTALA Is Actually GOOD for EM Physicians**
- **EMTALA and the Medical Screening Exam**
- **Minimizing Risk of EMTALA Violations During Transfers**
- **Managing Psychiatric Patients in the ED Under EMTALA**
- **The EMTALA Complaint Process**

**MS. GRANTHAM is ACEP communications manager.**
EM Leaders to Reunite at LAC in July

ACEP’s first in-person event since the start of the pandemic is an opportunity for current and future leaders to join forces

by JORDAN GRANTHAM

ACEP’s Leadership & Advocacy Conference (LAC) holds two unique distinctions within the surreal world of “COVID time”: The April 2020 event was ACEP’s first to transition to a remote format, and the upcoming 2021 conference will be the first time ACEP members gather together beyond Zoom screens since March 2020. After a disconcerting year for our society that featured division and disagreement as a central theme, the time feels right for an event that was created to bring people together.

Averaging 400–500 attendees each year, LAC’s goal is to create more and better leaders who are equipped to advocate for the emergency medicine specialty. It’s small enough to create an intimate setting where attendees can really get to know one another, and the programming offers both introductory and deeper dives into health care policy. The pandemic saw emergency physicians stepping into leadership roles at every level, and now the voice and influence of emergency medicine have never been stronger.

A confluence of circumstances beyond the pandemic has made this year’s LAC a unique challenge for its planning team. It’s always a puzzle to schedule hundreds of Congressional meetings, but COVID precautions and security concerns lingering from the Jan. 6 attack at the U.S. Capitol have added some new wrinkles to the planning process. Washington, DC, began opening up its museums, libraries, and live entertainment venues in early May, a welcome update for those who like to attend LAC with their families in tow.

The LAC agenda has shaped up nicely and includes events for all career phases. In addition to the annual Health Policy Primer hosted by the Emergency Medicine Residents’ Association and ACEP’s Young Physicians Section, the popular National Emergency Medicine Political Action Committee (NEMPAC) reception will return for 2021. ACEP’s leaders will be on hand during LAC to host a town hall meeting focused on the future of the EM workforce, giving attendees a platform to discuss emergency medicine’s challenges with the leaders who are actively developing the strategies and solutions. Also new for 2021, a “Women in Health Policy” networking event is scheduled for Sunday, July 25.

For the Congressional meetings, discussions will center upon three main topics:

- **The Lorna Breen Health Care Provider Protection Act:** Named after the ACEP member tragically lost to suicide during the height of the pandemic surge in New York, this important legislation would provide support and protections for frontline health care personnel who face mental health challenges as a result of their work.
- **The Medicare reimbursement cliff:** Congress averted a significant cut to Medicare evaluation and management codes last December, but it was only a temporary fix. Without action, we will see these cuts enacted in January 2022.
- **The Mainstreaming Addiction Treatment (MAT) Act:** This important legislation would fully repeal the X-waiver requirement that continues to exist for clinicians to be able to provide buprenorphine as a treatment for substance use disorders. With opioid overdoses climbing again during the pandemic, the need for this legislation to be passed is urgent.

Registration is still open! Visit www.acep.org/LAC to secure your spot.

**LAC18 attendees mingle between educational sessions.**

Learn from the best. Hands-on eye irrigation training from the Morgan Lens.

Order your free training kit at morganlens.com or call 800.423.8659.

The Official Voice of Emergency Medicine

The Morgan Lens MorTan Inc.
WOMAN-OWNED SMALL BUSINESS

ORDER DIRECT & SAVE CALL FOR QUANTITY DISCOUNTS ©2021 MorTan, Inc., PO Box 8719, Missoula, MT 59807 USA

---

ACEPNOW.COM

JUNE 2021 ACEPNOW 7
Dr. Mark Rosenberg talks about the challenges ahead and how COVID-19 has reshaped emergency medicine

When Mark S. Rosenberg, DO, MBA, FACEP, assumed the ACEP presidency at ACEP’s last October, the pandemic was still the biggest challenge for emergency medicine. Now, in the eighth month of his term, U.S. vaccination numbers are rising, COVID-19 cases are falling, and we’re starting to consider the shape of the post-pandemic world.

Dr. Rosenberg recently emailed with ACEP Now Medical Editor in Chief Jeremy Faust, MD, MS, MA, FACEP, about his goals for the rest of his term and some of the challenges emergency medicine has ahead.

**JF:** The ACEP EM Physician Workforce of the Future report has turned a lot of heads. What’s the biggest area of concern you’ve heard about from members regarding its findings and recommendations?

**MR:** Our members are concerned about the impact of market consolidation, fragmentation, and health care economics on our specialty. They are frustrated that board-certified emergency physician hours and contracts have been eliminated in favor of more cost-advantaged physician assistant (PA) or nurse practitioner (NP) hours, at the detriment of patients and our workforce. They are aware of how the COVID-19 pandemic has exposed vulnerabilities that had been increasing in our health care system.

These concerns were clarified through the data in this report. External forces are reshaping our specialty, accelerating the pressures and the urgency of taking immediate steps to ensure and maintain a sustainable emergency medicine workforce.

**JF:** How do you respond to these concerns?

**MR:** First, we understand that, in the face of frustration and uncertainty, our members want solutions. That requires both listening and action. The framework offered by the ACEP Board is being used to engage all within the specialty of emergency medicine to work together to identify solutions to address this market-driven instability and improve the specialty for the future.

As for action, ACEP and our Task Force partners worked to uncover the data that analyzed and quantified the threats to our specialty’s future. That same methodical rigor is being applied now to ensure we move forward with data, focus, and intent.

I promise you that ACEP is committed to leading the charge to influence and support a landscape that sustains a balanced, fulfilled, and thriving workforce that continues to provide high-quality emergency care.

**JF:** As I have gotten to know you, you’re an incredibly upbeat, “make lemonade out of lemons” type of guy. What is one thing in this report that worries you in particular? What’s the steepest climb we have ahead?

**MR:** Emergency physicians chose a specialty that requires us to be there for our patients during some of their most challenging circumstances. We meet their uncertainty and fear with our expertise, experience, decisiveness, and compassion. Now, we must tap into these same strengths to navigate our own period of uncertainty.

Too many of our members and residents—and their families—are already directly affected by threats to the careers and livelihoods that they have worked so hard to build.

I believe the biggest challenge facing ACEP is our responsibility as the leading EM association to help all those we represent—from our newest residents to our most experienced senior physician leaders, from those who practice in busy Level I trauma centers to those who work in community hospitals in rural areas.

The breadth of perspectives in emergency medicine is one of our greatest strengths. We must ensure that we embrace this diversity as we align to protect the future of our profession while safeguarding the excellence of care our patients deserve.

We must not let the report’s findings divide us. There is not one magic solution or a simple, quick fix. These are complex, nuanced issues that will require all of us working together for many years....to not only address the potential oversupply but also to better position emergency medicine in the nation’s changing health care system.

**JF:** The opioid epidemic continues. Recently, the Biden administration announced that the X-waiver requirement for prescribing buprenorphine for opioid use disorder will no longer be necessary. Does that mean no more training coursework? What’s the upshot?

**MR:** The new guidelines are a welcome step toward reducing barriers and helping patients get access to this lifesaving treatment, and we are hopeful that Congress will take action to fully eliminate the X-waiver.

ACEP has been advocating for years to repeal this requirement, and we strongly support the Mainstreaming Addiction Treatment (MAT) Act, which would completely eliminate the outdated requirement.

Many emergency physicians have been seeing an uptick in opioid overdoses during the pandemic. ACEP members from across the country are eager to discuss the importance of ED access to this treatment with members of Congress, one of several important topics we will address with legislators during ACEP’s Leadership & Advocacy Conference in July.

**JF:** The emergency department should be a safe place for everyone, but we know doctors and nurses and our colleagues are victims of violence at work. What is being done on workplace safety?

**MR:** Emergency physicians go to work every day driven by their commitment to caring for patients, and we shouldn’t have to fear being attacked. Unfortunately, violent incidents that put health workers at risk are on the rise, even during the pandemic.

ACEP strongly supports the Workforce Violence Prevention for Health Care and Social Service Workers Act of 2021. This bipartisan bill will help strengthen workplace safety standards, enhance incident prevention, and allow you to focus more on patient care.

The No Silence on ED Violence campaign, organized by ACEP and the Emergency Nurses Association in 2019, continues to share stories of health care provider physical and emotional injuries after workplace assaults. The campaign strives to build awareness while also providing resources and a peer network to support emergency health care professionals.

**JF:** The COVID-19 pandemic has taken a toll on emergency physicians but has also revealed problems that were already there. Can you tell us about the Lorna Breen mental health legislation?

**MR:** Dr. Lorna Breen’s legacy will extend long after this pandemic is over. The bill carrying her name will be a lifeline for emergency physicians who absorb extraordinary levels of grief, anxiety, and other stressors but feel their only option is to struggle in silence.

The bill authorizes funding for mental and behavioral health services for physicians, supports education campaigns to encourage healthier work conditions, and calls for Administration of your intent to prescribe buprenorphine and wait for their approval. ACEP is also getting some clarification on a 30-patient limit included in the guidelines to see how or if it would apply to emergency physicians.

These guideline changes are positive progress toward reducing barriers and helping patients get access to this lifesaving treatment, and we are hopeful that Congress will take action to fully eliminate the X-waiver.

ACEP has been advocating for years to repeal this requirement, and we strongly support the Mainstreaming Addiction Treatment (MAT) Act, which would completely eliminate the outdated requirement.

Many emergency physicians have been seeing an uptick in opioid overdoses during the pandemic. ACEP members from across the country are eager to discuss the importance of ED access to this treatment with members of Congress, one of several important topics we will address with legislators during ACEP’s Leadership & Advocacy Conference in July.

**JF:** If I’m going to use my editor’s privilege here to ask a question that interests me regarding tone policing and open dialogue. A couple years ago, ACEP Council voted to ban the use of the word “provider” in any official ACEP publication. The idea was to stop lumping emergency physicians and other clinicians into one basket because this one particular word is seen as somehow devaluing emergency physicians. I get that there’s a bigger debate about scope of practice, and that’s not what I’m asking about now. In your view, does the banning of certain buzzwords in our official publications—and I’m not talking about truly vulgar words—reflect well on us as a College, who we want to be, and how we want to foster debate and solve problems?

**MR:** I think my colleagues on the ACEP Council were focused specifically on ensuring that emergency physicians are identified in a way that acknowledges our role as the head of the team. I do not think it was intended as a restriction of speech but as a way to delineate the unique role we play.

The beauty of the ACEP Council is that each year we have the opportunity to rethink any and all positions, and I welcome a continued, evergreen discussion on ensuring the healthiest debate possible.
tion, unemployment, and inability to access government benefits due to citizenship status. Illinois Unidos was born on that day last spring when a group of community leaders from around the state met to address these challenges. Dr. Del Rios Rivera became a founding member and is now chair of the health and policy committee. The organization has grown to about 100 members who actively participate in task forces that meet biweekly between their bigger plenary meetings. Thousands serve the group as affiliated members of independent community service organizations. These include the primarily Latino-serving federally qualified health centers located in areas that might otherwise be health care deserts as well as advocacy organizations like the Latino Policy Forum and the Urban Health Program, some of whom do not. She also mentors medical students under the Hispanic Center of Excellence and the Great Cities Institute, which is part of University of Illinois at Chicago. And then there are members from work groups like Arise Chicago, which builds partnerships between faith communities and workers to fight workplace injustice through education, and Raise the Floor Alliance, which advocates for low-wage workers to achieve justice in Chicago. “Each of us have, in turn, another set of constituents that we respond to and advocate for,” she said.

Including Outreach in a Busy Schedule
In addition to her other roles, Dr. Del Rios Rivera is director of Social Emergency Medicine at the university. Most of her research is on resuscitation related to cardiac arrest, specifically focused on community preparedness and teaching bystander CPR and the proper use of automated external defibrillators. Her research also examines how geography plays a role in survival so that she and her colleagues can focus their efforts on communities with the highest risk of death. Her involvement with Illinois Unidos, she said, is like another full-time job. On top of that, she and her husband, a law professor now teaching from home, have two sons, 11 and 14, both doing hybrid schooling. While she used to do a lot of work from her office to minimize distractions, at the time of this interview she was trying to avoid the office as much as possible for infection control, so the family had to restructure their setup at home to ensure they each had adequate space to work. “You do what you have to do,” she said. “This is inconvenient, but I think that I’m, again, very privileged in that I have this flexibility. I feel for the parents that physically have to go to work and are also juggling having to help their children with online learning and making sure that they’re safe.”

Dr. Del Rios Rivera still works overnight shifts in the emergency department—“Sleep? What’s sleep?” she said—and continues her cardiac arrest research, now looking at national data sets and doing predictive modeling to understand how some communities manage cardiac arrest well versus communities that do not. She also mentors medical students through the Hispanic Center of Excellence and the Urban Health Program, some of whom assist with her COVID-19-related community service work specifically for the Latino community, like helping put together information sheets, delivering messaging, and engaging with communities.

Building Awareness Powered by Data
Dr. Del Rios Rivera became involved with Illinois Unidos after community members began organizing to look at the COVID-19 data in a different way. Since the Latino community knows her, they reached out when it became clear in April that Latino people were not being included in the narrative of disparities and cardiac arrest. “There seemed to be an absence of discussion of the crisis that was already occurring in our communities,” she said.

At that point, the City of Chicago and the State of Illinois were mostly providing over all rates of COVID-19 illness, with a recognition that the Black population in the state was being disproportionately affected. In La-
tino communities, however, there was also a high rate of illness and mortality, but it was not yet being discussed. The community’s fear, she said, was that there was undercounting and underreporting related to the way the state and the city were looking at the data.

“We have some data-savvy people that are community members who started looking at COVID-19 rates by ZIP code, and there was a recognition that there were predominantly Latino ZIP codes that had high rates of infection and high rates of mortality,” she said. She thought the first meeting of Illinois Unidos would be like a think tank to discuss what to do next. But it grew into weekly meetings to discuss ongoing issues like how to garner media attention, gather resources, and have conversations with Latino government officials in the state and City of Chicago.

“From that, we’ve learned we all have different expertise, and different leadership roles have arisen throughout the time of the pandemic,” she said.

The coalition has focused not only on getting bilingual and bicultural information on COVID-19 into the Latino community but also providing testing and personal protective equipment and advocating for resources to take care of COVID-19 survivors and their families, some of whom are of mixed status and include undocumented people who don’t typically qualify for resources.

Beyond COVID-19, Dr. Del Rios Rivera said the Latino community confronts problems of structural racism similar to those faced by Black and Native American communities, including redlining, food/pharmacy/health and hospital deserts, and people being left out of worker protections due to discrimination. “The additional piece with the Latino community, though, is the language component,” she said, “and the fact that many are not citizens, so they are treated worse because there’s no protections in place for people that don’t have the U.S. citizen badge.”

The silver lining, she said, is that the pandemic shined a light on existing problems and issues with infrastructure that needed to be fixed anyway. She is hoping the same model can be used not just for another possible pandemic but also to point to hot spots in all communities to improve conditions like heart disease, asthma, and diabetes. “I know that sometimes the community reaches out to us for expertise, but I actually find that I’ve learned a lot in this process,” Dr. Del Rios Rivera said. “I am certainly not an expert in community affairs, so a lot of this has been listening so you can be a voice to speak alongside other people rather than imposing your thoughts and beliefs on the community.”

---

**TOXICOLOGY Q&A**

**Feel the Burn**

by JASON HACK, MD, FACEP, FACMT

**Question:** What garden visitor made this mark?

**Answer:** TURN TO PAGE 12 TO FIND OUT
Surf and turf, anyone? And when I say “surf,” I am, of course, referring to our ocean-dwelling friends who “turf” water sport enthusiasts to the emergency department with their various bites and stings. Before we “dive” (last nautical pun—we promise) into part one of our two-part series on marine envenomations, let’s review general information and definitions.

**General Management for All Marine Injuries**

The vast majority of marine envenomations are completely benign in terms of long-term morbidity and mortality. Our goals in assessing these patients should be:

1. To evaluate and monitor for potential life threats;
2. To decrease risk for future infection; and
3. To reassure.

Pain is a big factor with marine envenomations. Surprisingly, some attempts to manage symptoms in benign cases can worsen the envenomation or lead to unnecessary prescribing of strong pain medications. Reassurance that this is a self-limiting event and that there is no evidence of a life-threatening condition is of utmost importance.

**Initial approach:** All wounds should be irrigated. What fluid is best? It’s easy to remember: seawater or saline for saltwater species; freshwater for freshwater species. Once irrigated, wounds should be explored for retained foreign bodies. Nematocysts, barbs, spines, and other foreign bodies can be removed manually (with gloves) using forceps, adhesive tape, rubber cement, or facial peels. If the injury is deep or extensive or there is concern for a foreign body, obtain X-ray imaging. If X-rays are negative or if there is concern for radiolucent material, ultrasound can be helpful.

**Treatment and management:** For deep wounds, especially those involving joints or body cavities, early surgical consultation may be necessary. Infections from marine-associated injuries tend to be polymicrobial. Wounds should be swabbed (special media or cultures may be needed), and all patients should be screened for tetanus vaccination status. Be aware of the potential for necrotizing fasciitis (sometimes caused by *Vibrio* species), which is associated with serious saltwater injuries, especially in patients with pre-existing liver disease. Avoid suturing deep puncture wounds due to the high risk of infection. Pain should be managed with nonsteroidal anti-inflammatory drugs, acetaminophen, opioids, and/or topica1

The following species-dependent topical measures may also be implemented:

- **Hot water immersion (HWI).** The injured area should be immersed in water that is 43–45°C (111–114°F) for 10–30 minutes, or until pain is controlled.
- **Vinegar.** 4–5 percent acetic acid solution should be applied to the injured area for at least 30 seconds. This treatment really only has evidence of benefit with the Australian box jellyfish. Studies with other species have actually shown it to encourage further nematocyte discharge.
- **Stingose.** A topical solution composed of 20 percent aluminum sulfadine and 1.1 percent surfactant, Stingose is used for pain control, venom removal via osmosis, and venom neutralization via denaturation of proteins and polysaccharides through interactions with the aluminum ion.2

**Note:** There is little danger in using fresh water, however, this may increase the patient’s pain due to increased nematocyte firing in certain species. It is always reasonable to attempt a small amount of vinegar initially and assess its effect.

**Antivenom**

Although the literature discusses antivenom indications and dosing, the availability of such agents can be a barrier. For example, the only location that has readily available marine antivenom is Australia (specifically, antivenom for stonefish and box jellyfish made by the Commonwealth Serum Laboratories). Both envenomation or antivenom administration can cause anaphylaxis, and this may initially be difficult to distinguish clinically. Signs include hypotension, bronchospasm, facial and airway swelling, pruritus, urticaria, nausea, vomiting, and diarrhea. Most reactions occur within 15–30 minutes and nearly all occur within six hours. A recipient of antivenom should be pretreated with 50–100 mg of IV diphenhydramine (1 mg/kg in children). The initial dose of antivenom should be administered no faster than one vial over five minutes. If antivenom is necessary and anaphylaxis develops, administer 0.1–0.2 mL aliquots of antivenom alternated with 0.03–0.1 mg IV doses of epinephrine. Alternatively, an epinephrine drip may be started and titrated to maintain a heart rate less than 150 beats/min.

**Phylum: Cnidaria**

- **Class:** Cuboza (Cuboza species produce the highest morbidity and mortality of all Cnidaria.)

**Irukandji jellyfish (Carukia barnesi)**

**Location:** Northern and western Australia; cases of Irukandji-like syndrome have been reported in the southeast United States and Hawaii.

**Appearance:** Small bell that measures less than 2–3 cm in diameter with four tentacles measuring up to 1 m in length.

**Pathophysiology and Symptoms:** Most commonly causes local inflammation and erythema. Symptoms can progress to a sym patheticomimetic toxidrome-like presentation called Irukandji syndrome, which usually develops within two hours of envenomation and can last up to two days. This rare but serious complication manifests in diverse ways (including chest, abdominal, and back pain, myalgia/severe muscle spasm, headache, vomiting, and diaphoresis). In severe toxicity, exposure can lead to hypertensive crisis with nonspecific ECG abnormalities, elevated cardiac biomarkers, cardiogenic pulmonary edema, intracranial hemorrhage, and death.

**Management:** Manage pain with vinegar and HWI. IV magnesium sulfate (0.2 mmol/kg, max 10 mmol in adults) given as a bolus over 5–15 mins can be used for pain refractory to opioids, however, data are limited and efficacy has not been established. If there is concern for Irukandji syndrome, immediately obtain an ECG, followed by serial cardiac biomarkers, echocardiography, chemistry panel, and/or CT of the head without contrast. Hypertension should be treated with short-acting, titratable medications (eg, phenolamine, esmolol, nitropresside, nitroglycerin) due to potential for hypotension in the later stages of toxicity.

**Class:** Hydrozoa

**Portuguese Man-of-War (Physalia physalis and Physalia utriculus)**

**Location:** Atlantic, Indian, and Pacific Oceans

**Epidemiology:** Approximately 10,000 stings from *Physalia spp.* are recorded each year in Australia.

**Antivenom**

Although the literature discusses antivenom indications and dosing, the availability of such agents can be a barrier. For example, the only location that has readily available marine antivenom is Australia (specifically, antivenom for stonefish and box jellyfish made by the Commonwealth Serum Laboratories). Both envenomation or antivenom administration can cause anaphylaxis, and this may initially be difficult to distinguish clinically. Signs include hypotension, bronchospasm, facial and airway swelling, pruritus, urticaria, nausea, vomiting, and diarrhea. Most reactions occur within 15–30 minutes and nearly all occur within six hours. A recipient of antivenom should be pretreated with 50–100 mg of IV diphenhydramine (1 mg/kg in children). The initial dose of antivenom should be administered no faster than one vial over five minutes. If antivenom is necessary and anaphylaxis develops, administer 0.1–0.2 mL aliquots of antivenom alternated with 0.03–0.1 mg IV doses of epinephrine. Alternatively, an epinephrine drip may be started and titrated to maintain a heart rate less than 150 beats/min.
I like to think of myself as a fairly even-keeled person. I have a short list of hated things: root canals, traffic, wood rot, and the like. In the natural world, the list is even shorter, but it’s topped by a large margin by fire ants, who, in my opinion, designed to inflict misery and pain. I’ve yet to meet someone who takes a strong counterpart to this position, so if I’ve missed the boat, please let me know.

**Names**

Names include fire ants, Solenopsis invicta, red ants, and red imported fire ants (RIFAs). There are also black imported fire ants (BIFAs). The difference between the two (red and black fire ants) is largely academic, as they have similar biologies and behaviors. There are also hybrids of these two species.

**Anatomy**

Distinct attributes of the fire ant include a narrow wasp-like waist, or pedicel, that is composed of two segments (see white arrow). Workers vary in lengths between 1/8 and 1/4 inches. They have large biting mandibles with four teeth, and their antennae have 10 segments, ending in a two-segmented club. A sting is present at the tip of the rear segment (gaster). The body color is usually red to brown.

**History and Distribution**

Fire ants first entered the United States somewhere around 1918 in Alabama—brought north from South America in dumped ballast from ships. They immediately began to spread through the coastal Southeast and now infest most of that region of the United States. Northern migration of fire ants was thought to be limited by the colder climate because winter temperatures freeze the ground. Fire ants are omnivores and feed on almost anything—invertebrates, vegetables, fruits, and more. They also scavenge food for the colony and vigorously attack intruders to defend their mound. They do so by swarming in large numbers to attack any animal disturbing their nest. They instinctively climb vertical surfaces, including limbs. Although they are small, their sting and strength in numbers allow them to overwhelm and kill much larger prey.

Fire ants use their strong jaws to dig in and pinch human skin. This bite anchors the insect to the skin and acts as a pivot, allowing it to inject venom multiple times using its sharp stinger. A single ant stings an average of three times before removal.

**Care of the Fire Ant Sting**

- **The area should be washed with soap and cool water.**
- **Isolated local symptoms are managed with ice, anti-inflammatory medications, topical steroids, and antihistamines.**
- **Advise patients not to scratch or break the blisters, although from personal experience, this guidance is difficult to follow.**
- **Maintain vigilance for superinfection and the development of local infection.**

**Fire Ant Mounds**

Mounds do not have central entrance holes on the surface, which distinguishes them from other ant hills. The mounds have interconnected galleries and underground tunnels that can extend from the surface to 25 feet away from the mound.

**Colony Life**

Fire ants are social insects that nest in the soil in large colonies that contain 200,000 to 1,000,000 workers, although some super colonies have millions of individuals.

Fire ants spread by saltatory swarming. Reproductive male and female ants leave the mound en masse, fly into the air, and mate while airborne. The fire ant queens fall back to the ground, shed their wings, and start new colonies where they land.

Most of the ants in the colony are infertile female workers gathering food and caring for the colony—and all can sting. They are omnivores and feed on almost anything—invertebrates and vertebrates as well as plants and honeydew. There is usually one queen per colony, but some colonies have several that lay eggs.

**Attitude**

These ants are highly aggressive. They scavenge food for the colony and vigorously attack intruders to defend their mound. They do so by swarming in large numbers to attack any animal disturbing their nest. They instinctively climb vertical surfaces, including limbs. Although they are small, their sting and strength in numbers allow them to overwhelm and kill much larger prey.

Fire ants use their strong jaws to dig in and pinch human skin. This bite anchors the insect to the skin and acts as a pivot, allowing it to inject venom multiple times using its sharp stinger. A single ant stings an average of three times before removal.

**The Sting**

For an unlucky person who wanders onto a colony (or is photographing the nest), bites will happen! The immediate sensation of a fire ant sting is one of intense burning at the area of a raised red welt, which subsides after 30 to 60 minutes. Within 24 hours, the affected area will develop pimple-like areas filled with white pus, a characteristic only of fire ant attacks. These lesions rupture over two to three days and are accompanied with reoccurrence of itching, pain, and swelling. The wounds often scar.

Although most stings are merely painful and annoying, up to 16 percent of people can have anaphylactic reactions and require immediate treatment for life-threatening allergic symptoms.

**REGISTER TODAY! • ACEP.ORG/LAC**

Leadership & Advocacy Conference

**In-Person Event | July 25-27, 2021 | acep.org/lac**

Make Your Voice Heard on Capitol Hill with ACEP’s Leadership and Advocacy Conference (LAC)

LAC will return to an in-person event this July. This is your long-awaited chance to reconnect with your peers, advocate for your specialty, and engage with newly elected and long-standing members of Congress.

[Image]

**What Keeps You Up at Night?**

Emergency Physicians face challenges on every shift

- Resources you need to manage and stay protected during the pandemic
- Ensuring that care in the ED is provided by physician-led teams
- Psychiatric patients with nowhere to turn other than your ED
- Patients confused by their insurance coverage and when and where to seek care
- Shortages of essential medicines
- Distractions and risk of violence during your shift
- Job security and fair payment for your specialized care

The good news? ACEP’s political action committee, NEMPAC, is here to help.

We support legislators and candidates who promote bipartisan solutions to improve your practice environment so you can provide the best care to your patients.

With the support of ACEP members like you, the National Emergency Medicine PAC (NEMPAC) can secure a better future for emergency medicine.

We want you to rest easy. Join NEMPAC today.

**Contribute to NEMPAC today**

https://www.emergencyphysicianspac.org/donate-userinfo.aspx

**Contributions or gifts to NEMPAC are voluntary and are not tax deductible for federal income tax purposes. The amount given or refusal to donate will not benefit or disadvantage you. We are required to provide your employer name, your occupation, and to obtain an original signature of the ACEP member if contributing by credit card. NEMPAC encourages personal contributions. All non-personal contributions to NEMPAC will be used to defray costs of educational programs for NEMPAC and other activities permissible under federal law.”

**The Official Voice of Emergency Medicine**
Is it bacterial or viral meningitis?

Don’t guess – know in about one hour.

Quickly distinguishing between bacterial and viral meningitis means more than freeing up beds. It can be a matter of life or death. The BioFire® FilmArray® Meningitis/Encephalitis (ME) Panel uses the syndromic approach, which simultaneously tests for 14 of the most common causes of central nervous system infections in about an hour. These rapid results from the BioFire ME Panel help you get patients on targeted treatment sooner and avoid unnecessary admissions.

1 Test. 14 Targets. ~1 Hour.

Shorten time to diagnosis.

<table>
<thead>
<tr>
<th>Time to diagnosis–adult patients¹</th>
<th>Time to diagnosis–pediatric patients²</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3-day reduction</td>
<td>4-day reduction</td>
</tr>
</tbody>
</table>

biofiredx.com

managed as outpatients.1,23

Low-risk patients are typically classified as those with no hemodynamic instability, no significant cardiopulmonary comorbidities, and no evidence of significant myocardial strain or acute damage. Based on this, it is estimated that 30 to 50 percent of patients with acute PE diagnoses may be eligible for outpatient management.24 Are you discharging 30 to 50 percent of your acute PE cases? Doing so has advantages. Outpatient management is associated with lower costs—the median hospital cost among patients discharged from U.S. emergency departments with acute PE between 2016 and 2018 was $986 compared to $16,330 for those admitted to the hospital.25 Other benefits of outpatient management include reduced risk of hospital-acquired conditions and reduced hospital capacity strain.

Outpatient Management of Patients with Low-Risk PE Is Safe
Randomized trials and several observational studies demonstrate that patients with low-risk PE can be managed safely as outpatients.6–8 A systematic review of the outpatient management of PE found that both all-cause and PE-related mortality at 30 days was less than 1 percent among high-quality studies.9

Who Is Eligible for Outpatient Management?
Multiple protocols for the outpatient management of PE exist and typically integrate risk stratification scores as well as clinical and social factors. Commonly used risk stratification scores for outpatient management include the PE Severity Index (PESI), the Simplified PESI (sPESI), and the Hestia criteria (see Tables 1–3). The PESI and sPESI include vital signs and comorbidities that predict mortality following the diagnosis of PE. Those who have a PESI falling within Class I or II or an sPESI of 0 are potential candidates for outpatient management. In addition to clinical criteria, the Hestia criteria also incorporate medical or social reasons for admission. Validation studies found each of these scores can safely identify low-risk patients but may classify nonoverlapping proportions of patients. Importantly, in addition to having a low-risk PE, patients must lack other conditions requiring hospitalization, lack contraindications to anticoagulation, and be able to obtain medications promptly and attend a follow-up appointment.

Many protocols also incorporate cardiac biomarkers such as troponin and brain natriuretic peptide (BNP) levels, although the cutoff value for BNP is not consistent (<600 pg/mL has been suggested).26 The value of using CT or ultrasound evidence of right ventricular (RV) heart strain in the disposition decision is less clear. Some studies suggest that CT may overestimate RV strain, particularly if using an RV/LV ratio of 0.9 rather than 1.0.27

Treatment
DOACs have made it easier for patients to take anticoagulants and achieve reliable anticoagulation both as inpatients and outpatients. Rivaroxaban and apixaban are commonly used DOACs for PE and demonstrate similar safety and efficacy in real-world settings. Despite the ease of administration, how to use them for PE management promptly and attend a follow-up appointment.3

Table 1: Pulmonary Embolism Severity Index

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Points</th>
<th>Age in years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &gt;60 years</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Male sex</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Cancer</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Heart failure</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Chronic lung disease</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Pulse ≥110/min</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Systolic blood pressure &lt;100 mm Hg</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Respiratory rate ≥30/min</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Temperature ≤36°C</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Altered mental status</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Oxygen saturation &lt;90%</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

| Age >60 years | 1 |
| Cancer        | 1 |
| Chronic cardiopulmonary disease | 1 |
| Pulse ≥110/min | 1 |
| Systolic blood pressure <100 mm Hg | 1 |
| Oxygen saturation <90% | 1 |

Table 2: Simplified Pulmonary Embolism Severity Index

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &gt;60 years</td>
<td>1</td>
</tr>
<tr>
<td>Male sex</td>
<td>1</td>
</tr>
<tr>
<td>Cancer</td>
<td>1</td>
</tr>
<tr>
<td>Heart failure</td>
<td>1</td>
</tr>
<tr>
<td>Chronic lung disease</td>
<td>1</td>
</tr>
<tr>
<td>Pulse ≥110/min</td>
<td>1</td>
</tr>
<tr>
<td>Systolic blood pressure &lt;100 mm Hg</td>
<td>1</td>
</tr>
<tr>
<td>Respiratory rate ≥30/min</td>
<td>1</td>
</tr>
<tr>
<td>Temperature ≤36°C</td>
<td>1</td>
</tr>
<tr>
<td>Altered mental status</td>
<td>1</td>
</tr>
<tr>
<td>Oxygen saturation &lt;90%</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 3: Hestia Criteria

<table>
<thead>
<tr>
<th>Hestia Criteria</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemodynamically unstable</td>
<td>1</td>
</tr>
<tr>
<td>Thrombolysis or embolectomy needed</td>
<td>1</td>
</tr>
<tr>
<td>Active bleeding or high risk of bleeding</td>
<td>1</td>
</tr>
<tr>
<td>&gt;24 hours on supplemental oxygen needed to maintain oxygen saturation &gt;90%</td>
<td>1</td>
</tr>
<tr>
<td>Pulmonary embolism diagnosed during anticoagulant treatment</td>
<td>1</td>
</tr>
<tr>
<td>Severe pain needing intravenous pain medication &gt;24 hours</td>
<td>1</td>
</tr>
<tr>
<td>Medical or social reason for admission &gt;24 hours (infection, malignancy, no support system)</td>
<td>1</td>
</tr>
<tr>
<td>Creatinine clearance of &lt;30 mL/min</td>
<td>1</td>
</tr>
<tr>
<td>Severe liver impairment</td>
<td>1</td>
</tr>
<tr>
<td>History of heparin-induced thrombocytopenia</td>
<td>1</td>
</tr>
</tbody>
</table>

SCORING

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;65</td>
<td>Class I, very low risk</td>
</tr>
<tr>
<td>66–85</td>
<td>Class II, low risk</td>
</tr>
<tr>
<td>86–105</td>
<td>Class III, intermediate risk</td>
</tr>
<tr>
<td>106–125</td>
<td>Class IV, high risk</td>
</tr>
<tr>
<td>&gt;125</td>
<td>Class V, very high risk</td>
</tr>
</tbody>
</table>

References

Norman Residency is in a community-based hospital where we have the benefit of being the only residency program. This gives our residents the ability to do all the procedures and obtain tremendous experience. Our program director, Patrick Cody, DO, is also director of our hospital-based EMS. Our residents train in SWAT and learn to drive emergency response vehicles, and we host a statewide yearly EMS symposium. Additionally, our residents regularly exercise mass gathering training, serving as the game-day physicians in the stadium clinic at the University of Oklahoma football games. Starting in their second years, residents have the opportunity to moonlight in smaller emergency departments in underserved areas of our state.

A few other important traits of our program include our new ultrasound fellowship, our friendly ECG competition, and an emphasis on wellness with a yearly retreat to rejuvenate, reflect, and bond.

Trivia
Oklahoma averages 54 tornadoes a year. The famous 1996 film Twister was filmed across our state, including scenes in an auto body shop here in Norman.

—Angela Carrick, DO, FACOEP, FACEP, associate program director
Medical news consumers may have noted the arrival of intravenous cetirizine (Quzyttie). This second-generation “nonsedating” antihistamine was approved by the U.S. Food and Drug Administration (FDA) in October 2019. Since then, its defining trial has been published in the Annals of Emergency Medicine, and promotional material now shows up in some trade magazines.

Intravenous cetirizine is precisely what you envision it to be: a 10-mg dose of cetirizine hydrochloride in sodium chloride for injection. Likewise, it operates as expected: selective inhibition of peripheral H1 receptors. It is currently approved for treatment of acute urticaria, an indication currently treated by off-label use of the remaining family of first- and second-generation antihistamines. However, Pfizer and its second-generation cousins are available in oral formulation, availability for intravenous injection is restricted to diphenhydramine, while hydroxyzine is available for intramuscular use. An intravenous formulation of a selective H1 inhibitor therefore has potential advantages.

The Results

Among 262 patients randomized into roughly similar cohorts, there were ultimately no differences in this patient-reported outcome measure. Each group complained of an average “moderate” pruritus at baseline, and each displayed similar general declines in symptoms within an hour. Considering the almost identical clinical performance of each drug, the prespecified margin for statistical noninferiority was easily met.

The more interesting clinical information comes from the many secondary outcomes. Diphenhydramine, as a first-generation antihistamine, displays greater sedation and anticholinergic properties. These adverse effects can be particularly undesirable in an elderly population or in people who have to stay alert during the day or at work, for example. To this effect, the authors measured a “patient-rated sedation score” for each group, an ordinal clinical scale defined only in this trial. To little surprise, the sedation perceived by patients receiving diphenhydramine exceeded that of those given intravenous cetirizine. The mean level of sedation rose from baseline to “mild” in those receiving diphenhydramine, while those receiving cetirizine generally remained close to their baseline upon enrollment.

Other key secondary endpoints included physician assessment of urticaria, effectively treated patients, time spent at treatment centers, and short-term recidivism. The results were full of minor curiosities. Even though the patient-rated pruritus scores improved similarly for each intervention, nearly twice as many patients in the diphenhydramine group received a rescue agent of some kind. These agents were most frequently a steroid, whether prednisone, methylprednisolone, or dexamethasone. Then, oddly, despite this excess of patients receiving steroids in the diphenhydramine, short-term recidivism favored cetirizine. The reasons for follow-up visits were not reported, so it is difficult to determine whether these were related to treatment failure or other adverse effects. It is also possible, particularly in a small trial like this, that there are simply unmeasured differences between the groups.

Lastly, the authors focus on time spent at treatment centers, which is distinct from length of stay. This outcome captures the time from treatment administration to discharge rather than from emergency department or urgent care center arrival. Roughly speaking, there was an advantage to intravenous cetirizine of about 20 to 30 minutes over diphenhydramine, which has reasonable face validity. However, this difference was not statistically significant under their prespecified analysis plan, and it was found only in an ad hoc analysis designed after efficacy data were already known.


do we Add It to Our Toolbox?

Having summarized the high-level observations from this trial, it is reasonable to conclude, as the FDA reviewers did, that IV cetirizine is safe and effective. The more challenging question addresses its appropriateness. The justification for its use in acute urticaria is stated by the authors as “the parenteral route of administration is often preferred,” citing a generalist American Family Physician review article that, interestingly enough, does not actually include such a statement. There is no evidence IV agents provide superior treatment of urticaria than oral ones for this frequent condition. In fact, the most recent practice update from the immunology community does not specify any specific route of administration for the most effective treatment of urticaria.

To this large point, the original oral cetirizine pharmacokinetico pharmacological labeling information from Pfizer in 2002 described rapid onset of inhibition of histamine release reaching 95 percent effectiveness within one hour. Furthermore, the mean area under the concentration-time curve for the IV formulation is identical to that of the oral formulation. The obvious difference between the preparations is the IV form reaches a peak concentration of >300 percent the oral formulation and within minutes rather than an hour. The FDA reviewers, rather than commenting on a potential clinical benefit, focused instead on the safety profile of such a high serum level.

The bottom-line question: Does this product have a purpose? For its approved indication of acute urticaria, the most likely answer is almost never. Absent evidence to demonstrate the advantages of IV therapy over oral, the question asked by this trial is virtually moot, other than perhaps in patients unable to tolerate oral intake. For most patients, any rescue medications, such as H1 blockers or steroids, can just as easily be given by mouth. But what about the “time in treatment center”? As noted above, measuring this outcome obscures the practicalities of a busy emergency department, particularly the resources required by the logistics of the first tierbreaker, of course, is always cost. The wholesale acquisition cost of Quzyttie is reportedly $900 for a 10-mg vial, which, combined with additional nursing resource charges for intravenous access and medication administration, rapidly increases the total cost for an acute encounter. Conversely, if prudent avoidance of therapies lacking clear added value is important, then continued routine use of generic oral second-generation antihistamines will serve just as well.

The opinions expressed herein are solely those of Dr. Radecki and do not necessarily reflect those of his employer or academic affiliations.

References

2. FDA multidisciplinary review and evaluation (FDA-2014-14626-000) of cetirizine versus diphenhydramine for the treatment of acute urticaria (frequently referred to as Quzyttie). U.S. Food and Drug Administration website. Available at: https://www.fda.gov/media/133034/download; accessed May 18, 2021.

By Ryan Patrick Radecki, MD, MS

New Option for Urticaria

Does new IV medication offer benefits over current treatments?
How to Invest Without a Crystal Ball

No one knows the future, so investing should focus on managing risk

by JAMES M. DAHLE, MD, FACEP

Q. There are so many opinions out there among gurus and "talking heads" about what the stock market, interest rates, inflation, housing prices, and cryptocurrency are going to do in the future. I’m not sure who to listen to. Any advice?

A. The CXO Advisory Group once looked at thousands of stock market predictions by dozens of financial gurus over a 15-year period. It found that the gurus (ie, public commentators) were only correct around 47 percent of the time; on average, an investor would have been better off simply flipping a coin. Gurus get paid for having an opinion, not for being correct. In fact, marketed properly, one good (or perhaps lucky) prediction can cement a commentator’s reputation for decades. However, the truth is that “nobody knows nuthin’.”

When investors realize there is no reliable source out there that will give them the future returns of various investments or the direction of interest rates, it can be an immensely freeing experience. All of a sudden, those investors realize they can control what they can control, such as how much they earn, how much they save, and their overall mix of investments.

Some people think they really can make good predictions. I propose an exercise. Get a notebook. Every time you have a prediction about the future performance of a particular investment, write it down. Be specific. Don’t just write, “I think Tesla will do well.” Write, “I think Tesla will outperform other large-growth companies by at least 3 percent over the next six months.” Do the same thing with interest rate projections, housing prices, inflation, and anything else that you think you can predict with any degree of accuracy. Circle back and see how many of your predictions turned out to be correct. Within a year or two, you will likely convince yourself that your crystal ball is just as cloudy as anyone’s. As investors, we are not always rational. Retrospectively, we believe it was much easier to predict the future than it was. Only honest evaluation of an exercise like this can reveal that bias.

So, What Should You Do?

There are many types of investments, or asset classes. These include various types of stocks, bonds, real estate, commodities, currencies, precious metals, and others. An investor need not invest in everything—and in fact, there are no “called strikes” in investing. If you do not like a particular investment, you can take a pass. There will be another “pitch” coming soon. However, every asset class is likely to have its day in the sun. These periods of time are usually preceded and followed by periods of underperformance. These investing cycles are natural and should not be a cause of worry to a long-term investor, especially since the cycles are far shorter than a typical investing career.

The natural inclination of an investor, unfortunately, is to “performance chase.” Investors, as a whole, pile into investments after they have done well and seem to bail out of investments just before they start doing well again. This results in buying high and selling low repeatedly. Done too often, this can prevent an investor from reaching even reasonably modest financial goals. One of the best ways to avoid performance chasing is to use a static asset allocation and rebalance periodically.

A static asset allocation means that you divide your portfolio among the various asset classes you wish to invest in and assign a percentage to each investment. Perhaps you have decided to invest 30 percent in U.S. stocks, 20 percent in international stocks, 25 percent in bonds, and 25 percent in real estate. Going forward, no matter how each of these asset classes perform, at the end of the year you rebalance the portfolio back to the original percentages. If bonds have had a particularly good year and stocks did poorly, perhaps your portfolio now consists of 25 percent U.S. stocks, 15 percent international stocks, 32 percent bonds, and 28 percent real estate. So you sell a little bit of real estate and a lot of bonds to get back to your original 30-20-25-25 asset allocation. The next year, perhaps international stocks do particularly well, so you sell some of that asset class at the end of the year and buy more U.S. stocks, bonds, and real estate.

In the early years, investors often do not actually need to sell the overperforming asset class. They can simply direct new contributions at the underperforming asset classes to keep the portfolio in balance.

Maintaining a static asset allocation and rebalancing periodically ensures that investors are constantly selling high and buying low—or at least not consistently doing the opposite. More important, investors are maintaining the level of desired risk in the portfolio. The best part of this approach is that it does not require investors to know anything about what is going to happen in the future to be successful. Investors are freed from trying to divine future performance. They are much less likely to mistakenly assume that past performance indicates future performance, an idea so bad that mutual funds are required by law to tell you that such guarantees can never be made.

Successful investors know that investing is a single-player game—themselves against their goals. They avoid making mistakes due to the fear of missing out (FOMO) and stick to their written financial plan. They know that reaching their goals depends far more on saving enough money and risk control than about “hitting home runs” with their investments. Just as lots of singles and doubles win baseball games, slow and steady saving into a periodically rebalanced static asset allocation leads to a life free of financial worry.
A Year of Coping with COVID

Q&A with Erik Anderson, MD

by BENJAMIN THOMAS, MD

Erik Anderson, MD, is an emergency and addiction medicine physician at Highland Hospital, the county hospital in Oakland, California, where he works in the addiction medicine clinic weekly. Additionally, he works at San Leandro Hospital, a community hospital in Alameda County.

BT: We are now a year into the pandemic. Tell me about the moment when the pandemic became real for you.

EA: I remember seeing the news reports about the coronavirus in China and how it was spreading to nearby countries. I thought it would be like SARS-CoV-1 and we would see what happens. I thought there’s no way that this would become a pandemic. I don’t think it was even on my radar that this would change our lives as we know it. It felt real to me when I started seeing the news in Italy of emergency docs giving reports of how overwhelming it was, the devastation, and how unbelievably out-of-a-movie things were there. I thought to myself, “Well, this is happening now. People need to get ready.” It felt like, from that point on, it was full steam ahead.

BT: Do you remember the first patient you saw with COVID-19?

EA: There were two patients that I remember when we first started testing people. It was midnight on an overnight shift when a woman came in with mild upper respiratory symptoms. She said, “There was a COVID-19 outbreak at my school.” Now, this was well before there were actually COVID outbreaks or clusters in our area. I thought to myself, “Oh my gosh. How did I not know about this? This is crazy.” I remember donning all the gear for the first time and looking at an instruction sheet on how to enter her room. In the end, we couldn’t even order a COVID test for her because at the time, we needed the Public Health Department’s approval. They weren’t convinced that there was a true outbreak there. So I had to go back in there and tell this poor, scared woman, “Sorry, the Public Health Department is not letting me order this test.” I remember that patient so clearly—just as clearly as the next patient I saw with coronavirus, who was a low-acuity, young, healthy patient with flu-like symptoms that ultimately went home and did fine. I remember, at the time, there was this whole thing with contact tracing when you see a COVID patient, and the hospital would track you down to tell you about a patient that you saw weeks ago who tested positive for COVID.

BT: Besides testing, were there any other obstacles you faced early in the pandemic when caring for COVID-19 patients?

EA: There was always so much discussion about who had enough testing and PPE for the weeks ahead. Working at a safety-net hospital always begged the question, Do we have enough of the resources that other places had? Early on, it was clear that big academic medical centers had more access to testing, and we had to figure out how to partner with these centers to help with our testing. So much of it felt unfair. We were caring for a very vulnerable patient population, and it didn’t feel like we had the same level of support as some of the places that had more resources. Things have not been equitable throughout the entire pandemic, and it has disproportionately impacted different health systems, communities, and patient populations. Whether it be testing or access to monoclonal antibodies, one of the biggest takeaways for me is how inequitably COVID hit various communities and health systems along the way.
BT: What’s been the impact of COVID-19 on the community and patient population at your hospital system?

EA: If we were to step back from the very beginning, at my health care system and across Northern California, we were seeing a lot of essential workers, particularly in the Latin(a) community, who were disproportionately impacted by COVID-19. Figuring out how to tailor interventions and education for that community was something that was going on early and still persists today. There is a significant indigenous Mayan community in Alameda County that has been tremendously affected by COVID, and there was essentially no COVID health information in the spring and summer of 2020 in any Mayan languages. There are these pockets of disparity among our patient populations that we do our best to navigate through. I do addiction medicine as well, and there has been a lot written about increasing overdose deaths during the pandemic. We were really worried early on when our patients stopped showing up to the emergency department and clinic. The fear was that people were using more drugs and using them alone in a period of isolation. You never want that. A lot of my work has been focused on addressing this and keeping people safe.

BT: How has COVID affected the way you approach patients?

EA: My spouse and I worked on the Navajo Nation before we moved back to California. One thing that was really important there was, when you walked into a room, you’d shake the hand of the patient. You’d also shake everybody’s hand who was in the room with the patient, often family members. It was an important thing that you greeted everybody by shaking their hand. Coming back to California, that was something that I continued to do. Now, there is this unseen barrier of germs and viruses and the physical barriers of masks and gloves that change a lot about the patient encounter. Pre-vaccine, there was this fear that anyone could have COVID-19, so I always need to have my guard up. Maybe that means you are standing farther away from the patient when normally you would be close to their bedside. I think that changes the dynamic of what patient and providers see and feel in a negative way.

BT: How has the pandemic affected your personal life?

EA: It’s been hard, like it has been for everybody else. My wife is a primary care physician in addiction medicine as well. That transition between pre-COVID and COVID seemed like it happened very fast. We were working the whole time, and that stress of keeping your family safe and finding ways to do that with childcare was difficult. Trying not to be sick was just something that we never thought about. Getting sick with a virus was just not that big a deal before. Just recently, we agreed that we should write a will. Having to go through that was so emotionally difficult with small kids at home. But things are getting better. As much of the night and day from pre-COVID to COVID, it’s getting pretty darn close in terms of the post-COVID vaccine era. While still stressful to be at work and wear an N95 all the time, the emotional burden of going to work is so much less after the vaccine. I can’t believe we did that for a whole year. Coming home, taking your clothes off outside, and taking a shower immediately, hoping you didn’t bring something home, was a totally bizarre and difficult thing for our profession.

BT: Where do you see us a year from now?

EA: A year from now, I think COVID will still be out there globally. I think we will be getting ready for our booster shots. There will be more ability to see people and socialize, but we will still be living with COVID in a manageable way.

BT: How do you see emergency medicine changing when COVID is over?

EA: It’s hard to imagine not wearing masks at work, at least for patient encounters. It’s almost hard to remember intubating somebody without a mask on, let alone without an N95. I can’t imagine intubating someone without eye protection and an N95 for a very long time. We weren’t doing that regularly before COVID. I’m interested in the public health interface of emergency medicine, and I think now we are going to be more aware of our role in population health. Before COVID, I was working a lot on HIV and hep-C screening in the emergency department, and that I think will become more easily understandable as a role of emergency medicine. On top of resuscitating patients, we have a part in public health and improving disparities in our communities. That’s what our specialty is.

BT: Any final thoughts?

EA: Even though our world has gotten smaller with COVID in terms of social distancing, it has been nice to feel closer with smaller groups of people. Our relationships with some people have grown this past year, given this shared experience. I hope that continues.
Bounceback Dilemma
Don’t be shy when evaluating a patient who has returned to the ED

by ERIC FUNK, MD

Bounceback visits provide an opportunity for emergency physicians to review a case again with a clear mind and fresh eyes. A renewed search for red flags in a patient’s presentation can help avoid a bad medical and legal outcome.

The Case
A 47-year-old woman underwent a Roux-en-Y gastric bypass. There were no immediate complications, and she had an uneventful course initially. Fifteen days later, she started to experience mild abdominal pain that worsened over the following two days.

She went to see a nurse practitioner (NP) at a local primary care office. The NP treated her with ceftriaxone and promethazine. The patient was instructed to immediately go to a nearby emergency department for evaluation. The emergency department was not affiliated with the hospital where she had the gastric bypass.

In the emergency department, she was evaluated by a physician. Her vitals showed a heart rate of 114 bpm, blood pressure of 141/74, 100 percent on ambient air, 28/min respirations, and temperature of 100.3°F. The note described left-sided abdominal pain with erythema and purulent fluid leaking from the incision site. There was extensive bruising on the left side of the abdomen.

A postoperative drain was still in place. Labs and CT of the abdomen and pelvis with IV contrast were ordered. She was treated with morphine, ondansetron, and a 1-L normal saline bolus.

Lab results were notable for a leukocytosis of 15.9 k/uL with neutrophilic predominance (70.9 percent). She was slightly hypokalemic at 3.2 mmol/L.

The CT scan results are shown in Figure 1. The patient’s heart rate improved to 89 bpm. Her blood pressure remained stable, and her pain improved from 9/10 to 4/10.

The emergency physician then contacted the hospital where she had the gastric bypass. He was able to reach the surgeon who performed the operation. They reviewed the entirety of her results. The surgeon recommended that the emergency physician perform a bedside drainage of the infection at the incision site. The surgeon also said he would see her in the clinic in the next few days for reassessment. She was given prescriptions for sulfamethoxazole/trimethoprim and oral oxycodone.

The patient was discharged from the emergency department around 6 p.m.

About two hours later, the patient called 911 and returned to the emergency department for worsening abdominal pain. Her vitals at ED triage showed a heart rate of 132 bpm, blood pressure of 143/72, 100 percent on ambient air, and a respiratory rate of 37/min.

A new emergency physician saw the patient. He reviewed the previous notes and documented “CT scan earlier was fine.” It was noted that she had not yet filled the antibiotic prescription from the earlier visit.

The patient was treated with IV hydromorphone, oral sulfamethoxazole/trimethoprim, and oral oxycodone.

No further labs or imaging were ordered. The surgeon was not contacted again.

The patient’s heart rate climbed to 142 bpm. The emergency physician then discharged her with instructions to fill her prescriptions and remain NPO for 24 hours and that after that she “may have small pieces of toast!” The patient returned home with her husband. Four hours later he checked on her, and she was found deceased in bed.

An autopsy was done with results shown in Figure 2. The patient’s family filed a lawsuit against both emergency physicians, both hospitals, and the surgeon.

At deposition, the attorneys asked the second emergency physician if he felt he released an unstable patient in light of her last documented heart rate of 142 bpm. He responded, “She was not unstable in my opinion. She was alert, talkative, pleasant. Her pain had been relieved. She had a blood pressure of 130/80. She had a good sat. I wouldn’t call her unstable.”

In addition to a medical malpractice claim, the lawsuit specified an EMTALA violation as well.

The EMTALA claims were dismissed by the judge because the patient had not filled her prescriptions. While it is frustrating when patients return to the emergency department without following the instructions they were given at the time of the previous discharge, it doesn’t mean their bounceback visit can be dismissed. In fact, a return visit may be the last chance we have to prevent a catastrophic outcome.

On the second visit, there was documentation that the patient had not filled her prescriptions. When it is frustrating when patients return to the emergency department without following the instructions they were given at the time of the previous discharge, it doesn’t mean their bounceback visit can be dismissed. In fact, a return visit may be the last chance we have to prevent a catastrophic outcome.

The medical malpractice claims were settled out of court. The exact details are unknown, but a seven-figure settlement was reached.

Discussion
This case provides an example of the dangers of discharging patients with tachycardia. Discharging a patient with tachycardia is not universally contraindicated in cases where the tachycardia is relatively mild and the patient has a credible low-risk explanation. However, this patient met neither criteria. A heart rate of 142 bpm (with an upward trend) in the setting of recent gastric bypass was a recipe for disaster.

The defendant’s claim that the patient was not unstable with a heart rate of 142 bpm was misguided.

In addition to a medical malpractice claim, the lawsuit specified an EMTALA violation as well.

The EMTALA claims were dismissed by the judge because the patient had not filled her prescriptions. While it is frustrating when patients return to the emergency department without following the instructions they were given at the time of the previous discharge, it doesn’t mean their bounceback visit can be dismissed. In fact, a return visit may be the last chance we have to prevent a catastrophic outcome.

The second emergency physician clearly did not want to do any workup or bother the surgeon again. Instead of making one more phone call to transfer the patient, he ended up dragging his partner and the surgeon into a multiyear litigation process. Don’t follow in the footsteps of this physician and miss your final opportunity to reverse course and save a life.
Ultrasound-guided nerve blocks are becoming an integral aspect of multimodal pain management in emergency departments. Ultrasound guidance allows clinicians to visualize both the target structures (nerve and surrounding fascial planes) and the advancing block needle. In our experience teaching ultrasound-guided nerve blocks over the past 15 years, clear needle tip visualization is often the most difficult “micro-skill” to master. A misplaced needle can result in inadvertent vascular puncture or direct nerve injury. Here, we outline some practical techniques that allow learners to better visualize the needle tip during nerve blocks and improve success rates. These skills can elevate ultrasound-guided nerve blocks to become an essential element of your multimodal pain management of the acutely injured patient.

Proper Equipment Setup
Ideal clinician and patient positioning improves success when performing any emergency department procedure. This holds true for ultrasound-guided nerve blocks. Unfortunately, patient positioning can be difficult in the acutely injured patient, adding another challenge. We recommend adhering to basic ergonomic principles to ensure that the view of the needle and ultrasound screen remain in the same line of sight when performing a block.

The ultrasound screen positioning will vary depending on the block performed, but the general principle of keeping the ultrasound screen in line of sight is one of the keys to success. For example, when performing an ultrasound-guided femoral nerve block, we recommend placing the ultrasound screen contralateral to the site of injury (see Figure 1A). Conversely, for a patient with a palmar laceration, the ultrasound screen is placed on the ipsilateral side for a palmar laceration, the clinician has stabilized their nondominant hand during the block.

Optimal Hand and Transducer Positioning
Optimal hand stability during ultrasound-guided nerve blocks can be accomplished with a few simple techniques. The operator should hold the ultrasound transducer with their nondominant hand and rest the medial aspect of their palm to stabilize the probe (termed “anchoring”) (see Figure 2A). The operator can also use their fourth or fifth finger to further stabilize the probe against the patient. After skin puncture, alternating subtle transducer movements with gentle needle manipulation will allow the needle tip to come into view. If the needle is not already in view, close attention to tissue deformation with needle movement will give clues as to its location. If needle sight is lost, take a moment to look away from the display screen to visually inspect the transducer position on the skin and adjust its relationship to the needle’s path. The transducer can then be fanned or rotated to visualize the needle clearly (see Figure 3B).

Optimizing Needle Visualization by “Toeing In” the Transducer
Needle visualization during in-plane ultrasound-guided nerve blocks with a steep needle trajectory is particularly challenging. Adjusting the “angle of insonation” can produce a crisp, clear image of the needle as it travels toward its intended target.

The angle of insonation refers to the angle at which an ultrasound beam intersects the nerve block needle. The smooth, metallic surface of the needle effectively functions as a mirror for ultrasound waves, thus small changes to the angle of the needle greatly influence its visualization (see Figure 5). If the ultrasound beam is perpendicular to the needle (ie, angle of insonation of 90 degrees), the majority of ultrasound waves are reflected back toward the transducer, creating a bright, clear image of the needle (see Figures 3B and 4B). Unfortunately, deeper targets necessitate a steeper needle trajectory and therefore create a lower angle of insonation. The result is that the majority of ultrasound waves are reflected away from the transducer and the needle is poorly visualized (see Figures 3A and 4A).

To effectively raise the angle of insonation (and thereby optimize needle visualization), an operator may rock or “toe in” the ultrasound transducer (see Figure 5). This is best achieved by pressing one end (the “toe”) of

CONTINUED on page 22
Optimizing Needle Visualization by Hydrolocation and Hydrodissection

Hydrolocation and hydrodissection are additional techniques that help localize the needle tip during an in-plane ultrasound-guided nerve block.

Hydrolocation refers to a gentle yet rapid deposition of a small amount of normal saline to produce a small anechoic window, allowing better needle tip visualization. Hydrodissection uses this same fluid to dissect structures, classically fascial planes, when performing nerve blocks, providing confirmation of the proper location and fluid anesthetic placement.

During hydrolocation, as the clinician approaches the ideal location for anesthetic deposition, small aliquots of normal saline (<0.5–1 mL) are gently pushed (with the help of an assistant) to visualize the needle tip. If the sonographer is off-axis (ie, the transducer is not in-plane with the needle shaft and tip), the sonographer will not see anechoic fluid coming from the needle tip. The sonographer can adjust the needle or transducer, and the assistant can inject another small aliquot to confirm needle tip localization.

During hydrodissection, we recommend using the overlying fascial plane as an optimal landmark for needle tip placement and anesthetic deposition. Using aliquots of normal saline (2–5 mL), the goal is to clearly visualize the opening (expansion) of targeted fascial planes with an anechoic fluid (see Figure 6). Only then should an assistant gently infuse the anesthetic. If the clinician does not produce a clear anechoic pocket separating the targeted fascial planes, they are not in the desired space. Once the fascial plane is clearly opened with an anechoic normal saline, we recommend slowly and gently depositing anesthetic for optimal block success.2

References
Exciting opportunities at our growing organization

• Emergency Medicine Faculty Positions
• Pediatric Emergency Medicine Faculty Positions
• Vice Chair, Clinical Operations
• Vice Chair, Research

Penn State Health, Hershey PA, is expanding our health system. We offer multiple new positions for exceptional physicians eager to join our dynamic team of EM and PEM faculty treating patients at the only Level I Adult and Level I Pediatric Trauma Center in Central Pennsylvania.

What We’re Offering:
• Salaries commensurate with qualifications
• Sign-on Bonus
• Relocation Assistance
• Retirement options, Penn State University Tuition Discount, and so much more!

What We’re Seeking:
• Emergency Medicine trained physicians with additional training in any of the following: Toxicology, Ultrasound, Geriatric Medicine, Pediatric Emergency Medicine, Research
• Completion of an accredited Residency Program.
• BE/BC by ABEM or ABOEM

What the Area Offers:
We welcome you to a community that emulates the values Milton Hershey instilled in a town that holds his name. Located in a safe family-friendly setting, Hershey, PA, our local neighborhoods boast a reasonable cost of living whether you prefer a more suburban setting or thriving city rich in theater, arts, and culture. Known as the home of the Hershey chocolate bar, Hershey’s community is rich in history and offers an abundant range of outdoor activities, arts, and diverse experiences. We’re conveniently located within a short distance to major cities such as Philadelphia, Pittsburgh, NYC, Baltimore, and Washington DC.

FOR MORE INFORMATION PLEASE CONTACT:
Heather Peffley, PHR FASPR at: hpeffley@pennstatehealth.psu.edu

Penn State Health is committed to affirmative action, equal opportunity and the diversity of its workforce. Equal Opportunity Employer – Minorities/Women/Protected Veterans/Disabled.

JuNE 2021
ACeP NOW 23
We’re stronger together.

Physician ownership wins again!

VEP Healthcare increased its ability to keep patient care decisions in the hands of physicians by joining USACS, the largest physician-owned group in the country. VEP grew to 34 locations under a physician ownership model. They know our culture will be an extension of theirs. They can continue to count on having their voices valued, their backs covered, and the kind of camaraderie that can only come from loving what you do and who you work with. With VEP Healthcare on board at USACS, the best just got better.

OWN YOUR FUTURE JOIN USACS
Learn more at USACS.com